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With the present edition, the total issue of PEARS' CYCLOPÆDIA is brought up to 1,300,000 copies, representing a popularity exceeding all previous records. Thirteen hundred thousand copies! It is difficult to conceive what such a vast aggregation of books represents in actual material of production. This single volume consists of 1,070 pages. The 1,300,000 copies weigh over 910 tons, and would require more than 40 miles of book shelving to accommodate them. Taking the pages themselves and laying them down singly, end to end, we should get a length of 75,130 miles, or about three times round the world.

Two main ideas have been kept in view in getting together this work—the providing in a concise yet comprehensive form, of not only the pith and substance of the information usually contained in a good Cyclopædia of many volumes, but the inclusion of a large number of what may be called “everyday subjects,” such as people are likely to require ready information upon at any moment.

The various articles are treated with as much fullness as space allows. In every instance the essential and latest facts are given; thus EACH EDITION IS PRACTICALLY A NEW WORK, supplying in a handy form a reliable book of reference dealing with all manner of subjects, serviceable alike to the man of business, the professional man, the student, the housewife—and of value to anybody and everybody.

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** We are deeply grateful for the patronage accorded to the volume; its popularity is our highest reward.*

THE EDITOR.

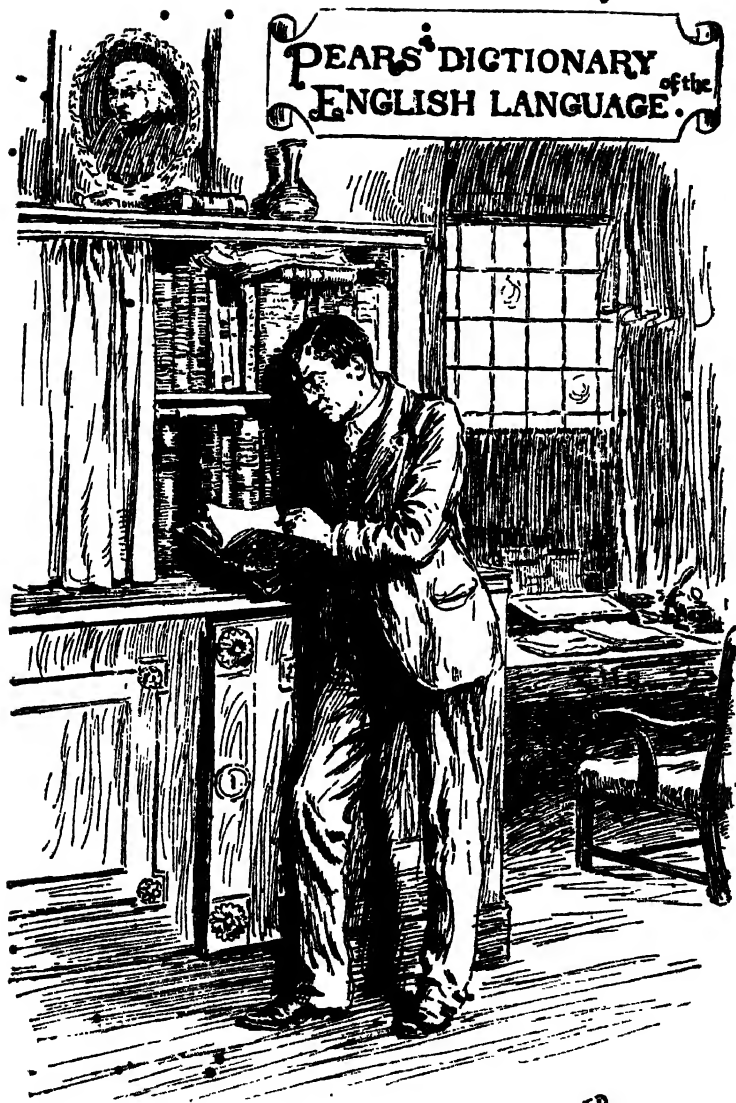


H.R.H. THE PRINCE OF WALES.
AS KNIGHT OF THE GARTER.

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Pears' New Dictionary of the English Language

EXPLANATIONS.

Arrangement.—The words are given in alphabetical order.

Spelling.—The most current form of English spelling is adopted.

Meanings.—The most usual meaning is given first, with variants following where necessary.

Pronunciation.—The pronunciation is given after each word, the different vowel-sounds being indicated by marks over them. Thus—

ā is pronounced as in day, mate.
 â is pronounced as in at, fan, fad.
 ē is pronounced as in arm, father, half.
 ē is pronounced as in eve, me.
 ě is pronounced as in elk, mend.
 ê is pronounced as in where, there.
 î is pronounced as in ice, tide.
 ī is pronounced as in pin, pit.
 ï is pronounced as in machine.

ō is pronounced as in old, bold.
 ô is pronounced as in odd, pot.
 ō is pronounced as in storm, stork.
 ŭ is pronounced as in mute, tube.
 ū is pronounced as in up, tub.
 ū is pronounced as in burn, urge.

th soft as in forth.
 th hard as in then.

Consonant pronunciations are for the most part unvarying.

Vowel sound-signs are repeated for convenience at the bottom of each page.

The pronunciation of short simple words was not deemed necessary to be given.

Accent.—The accented syllable of a word is marked thus: ' on the pronunciation spelling.

Grammatical Classification.—Immediately after each word its grammatical classification is indicated by the following abbreviations:—

adj. adjective.
 adv. adverb.
 con. conjunction.
 excl. exclamation.

n. noun.
 prep. preposition.
 pron. pronoun.
 v. verb.

A

Abacus, ab'a-kus, *n.* a counting board.
 Abaddon, a-bad-dun, *n.* the destroying angel.
 Abaft, *adv.* the stern part of a ship.
 Abandon, a-ban'dun, *v.* to forsake.
 Abandoned, a-ban'dund, *adj.* deserted; wicked.
 Abuse, a-bûs', *v.* to cast down; to humiliate.
 Abasement, a-bûs'ment, *n.* humiliation.
 Abash, a-bash', *v.* to cause shame.
 Abate, a-bât', *v.* to lessen.
 Abatement, a-bât'ment, *n.* reduction.
 Abatis, a-bat-is, *n.* a barricade of felled trees.
 Abattoir, a-bat-wâr', *n.* public slaughter house.
 Abb, *n.* yarn for warp.
 Abbeas, abb'ess, *n.* the head of a convent.
 Abbot, ab'ut, *n.* the head of an abbey.
 Abbreviate, ab-brê-vi-ât', *v.* to abridge; to shorten.
 Abdication, ab-di-kâ'shun, *n.* renouncing office.
 Abdomen, ab-dô'men, *n.* lower part of belly.
 Abduct, ab-duk't', *v.* to carry off by force.
 Abduction, ab-duk'shun, *n.* carrying off.
 Abele, a-bêl', *n.* the white poplar tree.
 Aberration, ab-êr-ê'shun, *n.* wandering from right.
 Avert, a-ber', *v.* to be accessory to.
 Abettor, a-bêt'or, *n.* an encourager.
 Aveyance, a-bâ'ans, *n.* held in suspense.
 Abhorrence, ab-hor'rêns, *n.* great hatred.

Abide, a-bîd', *v.* to wait for; to dwell.
 Abies, ab-îez', *n.* the silver fir.
 Ability, a-bîl'it-i, *n.* skill, power.
 Abiogenesis, ab-i-o-jen'e-sis, *n.* spontaneous genera-
 tion.
 Abjectness, ab-jekt'ness, *n.* low condition.
 Abjure, ab-jûr', *v.* to solemnly repudiate.
 Ablation, ab-lâ'shun, *n.* wearing away by water action.
 Ablution, ab-lû'shun, *n.* washing.
 Abnegate, ab-nê-gât', *v.* to renounce.
 Abnormal, ab-nôr'mal, *adj.* contrary to rule.
 Abolish, ab-ol'ish, *v.* to do away with.
 Abolition, ab-ol'ish'un, *n.* doing away with.
 Abominable, ab-om'in-âbl, *adj.* hateful.
 Abominate, ab-om'in-ât', *v.* to detest.
 Aboriginal, ab-o-rîj'in-al, *adj.* primitive, native.
 Aborigine, ab-o-rîj'in-êz, *n.* a country's first in-
 habitants.
 Abortion, ab-ôr't-shun, *n.* premature birth.
 Abortive, ab-ôr'tiv, *adj.* immature, untimely.
 Abound, a-bownd', *v.* to be plentiful.
 About, a-bowt', *prep.* near to, around.
 Abrade, ab-rîd', *v.* to rub off.
 Abreast, a-brêst', *adv.* in line.
 Abridgment, a-brîj'ment, *n.* shortened.
 Abroach, ab-rôch', *adv.* so as to let liquor escape.
 Abroad, a-brôd', *adv.* out-of-doors; in a foreign
 land.
 Abrogate, ab-rô-gât', *v.* to repeal, or annul.
 Abrupt, a-brupt', sudden.
 Abscess, ab'ses, *n.* a collection of pus or matter.

day; ât; ârm; êve; êlk; thêre; Ice; pîn; machine; bôl; pôt; stôrm; mûte; tûb; bûrn.

Abacind, ab-sin'd, *v.* to cut off.
Abascision, ab-siz'yun, *n.* cutting off.
Abascond, ab-sin'd, *v.* to secretly escape.
Abasce, ab-sin's, *n.* *adj.* not present; inattention.
Absent, absen't, *v.* to keep away.
Absentee, ab-sen'ti, *n.* one who is absent.
Absinth, ab-sin'th, *n.* a spirit with wormwood flavour.
Absolute, ab-sol'ut, *adj.* without condition.
Abagiteness, ab-so-lit'ness, *n.* completeness.
Abolition, ab-sol'yun, *n.* remission.
Abolitionism, ab-sol'yun-izm, *n.* government without re-
Abolish, ab-sol'v, *v.* to acquire. [striction].
Absonant, ab-so-nant, *adj.* not in harmony.
Absorb, ab-sor'b, *v.* swallow up.
Absorption, ab-sorp'shun, *n.* the act of absorbing.
Abstain, ab-stain, *v.* to refrain from.
Abstemious, ab-tes'ti-us, *adj.* to be moderate.
Absterge, ab-ster'shun, *v.* to cleanse.
Abstinent, abstin'ent, *adj.* abstaining from.
Abstract, ab-strakt', *v.* to remove; to condense.
Abstraction, ab-strak'shun, *n.* act of abstracting;
 absent-mindedness.
Abstruse, ab-troos', *adj.* difficult to comprehend.
Aburd, ab-eurd', *adj.* unreasonable.
Abundant, ab-un'dant, *adj.* plentiful.
Abuse, ab-uz, *v.* wrongful use.
Abut, a-but', *v.* to adjoin; to end.
Abutment, ab-ut'ment, *n.* that which adjoins.
Abys, a-bis', *n.* a bottomless gulf.
Acacia, a-kä'-shä, *n.* a leguminous plant.
Academy, a-kä'd-emi, *n.* a higher school; a society
 for the advancement of art or science.
Acadian, a-kä'di-an, *adj.* native to Nova Scotia.
Acantun, a-kant'un, *n.* a prickly plant; an
 architectural ornament.
Aculescent, ak-sul-es'ent, *adj.* without stalk.
Accede, ak-sed', *v.* to agree.
Accelerate, ak-sel'er-ät, *v.* to put on speed.
Accend, ak-sen'd', *v.* to kindle.
Accent, ak-sen't, *n.* voice emphasis.
Accentuation, ak-sen-tü-ä'shun, *n.* marking accents.
Accept, ak-supt', *v.* to receive or to agree to.
Acceptable, ak-supt'ä-bil, *adj.* agreeable.
Acceptance, ak-supt'äns, *n.* agreement; an accepted
Access, ak-ses', *n.* right of approach; increase. [bill].
Accessory, ak-ses'ö-ri, *adj.* additional; aiding.
Accession, ak-sesh'ün, *n.* succeeding to; increase.
Accident, ak-sid-ent, *n.* a chance occurrence.
Acclamation, ak-lam-ä'shun, *n.* shout of approval.
Acclimatise, ak-lim-at-iz, *v.* to become seasoned to a
 foreign climate.
Acclivity, ak-lev'i-ti, *n.* rising ground.
Accommodate, ak-om'ö-dät, *v.* to entertain; to adapt.
Accommodating, ak-om'ö-dät-ing, *adj.* obliging.
Accompanist, ak-um'pan-ist, *n.* that which goes along
 with; instrumental aid to vocal solo.
Accompany, ak-un'pan-i, *v.* to go with.
Accomplice, ak-un'pils, *n.* companion in crime.
Accomplish, ak-um'plish, *v.* to complete.
Accomplishment, ak-um'plish-mēt, *n.* special ability.
Accomp, ak-kom't, *n.* older form of word account.
Accord, ak-kör'it, *v.* in agreement.
Accordance, ak-kör'd-äns, *n.* in harmony.
Accordion, ak-kör'di-on, *n.* a keyed bellows instru-
Accost, ak-kost', *v.* to speak to. [mean-
Account, ak-kownt', *v.* to reckon; *n.* statement.
Accountable, ak-kownt'ä-bil, *adj.* responsible.
Accountant, ak-kownt'ant, *n.* one skilled in accounts.
Accoutre, ak-koo'ter, *v.* to equip.
Accoutrements, ak-koo'ter-ments, *n.* war equipments.
Accredit, ak-kred'it, *v.* to authorise.
Accretion, ak-kre't'shun, *n.* the process of growing.
Accrue, ak-kroo', *v.* being added.
Accumulate, ak-um'ül-ät, *v.* to pile together.
Accuracy, ak-kür-as-i, *n.* precise, correct.
Accurate, ak-kür-ät, *adj.* free from error.
Accursed, ak-kurs-ed, *adj.* under a curse; wicked.
Accuse, ak-kür-z, *v.* to blame; to charge.
Accustom, ak-kust'un, *v.* to render familiar.
Acc, äs, *n.* the one sign on dice, cards, etc.
Acquiescent, a-ses'ä-lüs, *adj.* headless.
Acquiesce, äs-ä-lüs, *n.* bitterness.

Acceatant, äs-ä-unt, *adj.* acid.
Acetify, äs-ä-ti-fi, *v.* to turn sour.
Acetophy, äs-ä-äp'ti-fi, *n.* treatment by acetic acid.
Acetous, Acetic, *adj.* a quality of sourness.
Acche, äk, *n.* continued pain.
Achievement, a-chiev'ment, *n.* something accom-
Acromatic, ak-ro-mat'ik, *adj.* colourless. [plished].
Acid, äs'id, *adj.* sour.
Acidify, äs'id-i-fi, *v.* to make acid. [strength of
Acidimeter, äs'id-i-m'it-er, *n.* instrument for taking
Acidulate, äs'id-ül-ät, *v.* to turn slightly sour.
Aciform, äs-i-form, *adj.* needle-shaped.
Acknowledgment, äk-nol'ej-ment, *n.* admission; com-
Acme, äk'mē, *n.* the supreme point. [fession].
Acne, äk'nē, *n.* pimple.
Acology, äk-ol-ö-gee, *n.* science of cures.
Acolyte, äk-ol-it, *n.* church attendant.
Acornite, äk-ö-nit, *n.* monk's hood.
Acorn, ä-körn, *n.* seed of the oak.
Acoustics, äk-ow'stik, *n.* science of sounds.
Acquaint, äk-wänt', *v.* to inform.
Acquaintance, äk-wänt'äns, *n.* knowledge; a friend
Acquiesce, äk-wi-äs', *v.* to agree to.
Acquirement, äk-wir'ment, *n.* something learned.
Acquaintiveness, äk-wiz-it-i-v-ness, *n.* desire to acquire.
Acquit, äk-wit', *v.* to release.
Acquittal, äk-wit'al, *n.* judicial release.
Acquittance, äk-wit'äns, *n.* a discharge.
Acree, ä-ker, ä-äso, *q. yd.*
Acrid, äk-rid, *adj.* biting.
Acrimony, äk-ri-mö-ni, *n.* bitterness of speech or
Acromiatic, äk-ro-mat'ik, *secret*: select. [thought].
Acrobat, äk-robat, *n.* dancer; vaulter; tumbler.
Acrony, äk-ro-ni, *n.* midnight, applied to stars,
 rising at sunset, setting at sunrise.
Acropolis, äk-ro-pol-is, *n.* a citadel.
Acrostic, äk-rost'ik, *n.* poem of which the initial
 letters of each line form a name. [of a play].
Act, äkt, *v.* to perform; to feign; *n.* deed; a section
Actinism, äk'tin-izm, *n.* chemical force of sun's rays.
Action, äk'shun, *n.* activity; battle; lawsuit.
Actionable, äk'shun-ä-bil, *adj.* liable to legal proceed-
Activate, äk-tiv-ät, *v.* to render active. [ings].
Actual, äk'tü-äl, *adj.* stage players.
Actuary, äk'tü-ä-ri, *n.* clerk; insurance officer.
Actuate, äk'tü-ät, *v.* to influence.
Aculeate, äk-ül-ä-ted, *adj.* pointed.
Acumen, äk-ü-men, *n.* quick perception.
Accuminate, äk-ü-min-ät, *adj.* taper pointed.
Acupressure, äk-ü-presh'ür, *n.* closing bleeding artery
Acute, äk-üt, *adj.* keen. [with needle].
Adage, äd'äj, *n.* proverb.
Adagio, äd-ä-jö, *adv.* slow movement in music.
Adamant, äd-a-mant, *n.* diamond; very hard stone.
Adamantine, äd-a-mant'in, *adj.* hard as adamant.
Adamic, äd-am'ik, *adj.* pertaining to Adam.
Adapt, äd-äpt', *v.* to fit.
Adaptable, äd-äpt'ä-bil, *adj.* that may be adapted.
Add, äd-ä, *v.* to put one thing to another.
Addenda, äd-ä-ä-nä, *n.* plural of addendum.
Addendum, äd-ä-n-dum, *n.* something to be added.
Adder, äd-ä-der, *n.* venomous snake.
Addicted, äd-äkt'ed, *adj.* devoted to.
Addition, äd-ä-shün, *n.* the act of adding.
Add'le, äd-ä-lä, *adj.* putrid; empty.
Add'le-headed, äd-ä-lä-head, *adj.* empty; trained.
Address, äd-ä-dress', *v.* to speak or write to.
Adduce, äd-ä-üs', *v.* to quote.
Adducible, äd-ä-üs'ä-bil, *adj.* that can be brought for-
Addemption, äd-ä-m'shun, *n.* revocation. [ward].
Adapt, äd-äp't, *n.* a proficient.
Adesquate, äd-ä-kwät, *adj.* sufficient.
Adhere, äd-ä-här', *v.* to stick to; to be unshaken.
Adher'ent, äd-ä-ä, *adj.* sticking to; *n.* a follower.
Adhesive, äd-ä-häs'iv, *adj.* sticky.
Adhibit, äd-ä-hib'it, *v.* to apply to; to use.
Adieu, äd-ä-ü, *adv.* farewell.
Adipocere, äd-i-pö-sär', *n.* fatty substance from animal
Adipose, äd-i-pöz, *adj.* fatty. [bodies].
Adit, äd-it, *n.* horizontal opening into mine.
Adjacent, äd-ä-jä-sent, *adj.* near.

äy; äk; ärm; äve; älk; thäre; pän; machine; böld; döy; störm; mäte; tüb; bärm.

Adjective, *ad-jec-tiv*, *n.* a noun qualifying word.
Adjoin, *ad-join*, *v.* next to.
Adjourn, *ad-jurn*, *v.* to postpone.
Adjudge, *ad-judj*, *v.* to decide; sentence.
Adjudicate, *ad-joo-d-i-kat*, *v.* judicial pronouncement.
Adjunct, *ad-junk-t*, *adj.* joined to; *n.* the thing joined.
Adjunctive, *ad-junk-tiv*, *adj.* joining.
Adjure, *ad-jur*, *v.* to charge on oath.
Adjust, *ad-just*, *v.* to regulate.
Adjustment, *ad-just-ment*, *n.* settlement.
Adjutancy, *ad-jut-an-si*, *n.* military post.
Adjutant, *ad-jut-ant*, *n.* military officer. [measurement.
Admeasurement, *ad-mezh-tur-ment*, *n.* result of
Administer, *ad-min-is-ter*, *v.* to manage. [ration.
Administration, *ad-min-is-trā-shun*, *n.* act of administering.
Administrator, *ad-min-is-trā-ter*, *n.* one who controls.
Admirable, *ad-mer-abil*, *adj.* worthy of approval.
Admiral, *ad-mer-al*, *n.* naval commander.
Admiralty, *ad-mer-al-ti*, *n.* board for conducting naval
Admire, *ad-mir*, *v.* to have in high regard. [affairs.
Admissible, *ad-mis-si-bil*, *adj.* allowable.
Admission, *ad-mish-un*, *n.* the thing admitted; leave
Admit, *v.* to let in; to concede. [to enter.
Admirer, *v.* to mix.
Admixture, *ad-mix-tur*, the thing added.
Admonish, *v.* to reprove.
Ado, *a-do*, *n.* fuss; difficulty.
Adobe, *a-dó-bá*, *n.* sun-dried brick.
Adolescence, *ad-o-lē-sens*, *n.* the time of youth.
Adopt, *a-dop*, *v.* to select or take up; to take another's
Adore, *a-dor*, *v.* to worship. [child and bring it up.
Adorn, *a-dorn*, *v.* to ornament or embellish.
Adrift, *a-drift*, *adj.* or *ad.* floating at random.
Adroit, *ad-raw-it*, *adj.* dexterous.
Adulation, *ad-u-lā-shun*, *n.* flattery.
Adulatory, *ad-u-lā-ter-i*, *adj.* fawningly.
Adulterant, *ad-ul-tēr-ant*, *n.* one of a coterie of party
Adult, *ad-ult*, *n.* mature. [leaders.
Adulterate, *a-dult-er-āt*, *v.* to mix with impurity.
Adultery, *a-dult-er-i*, *n.* marital infidelity.
Adumbrate, *ad-um-brāt*, *v.* to faintly shadow.
Adust, *a-dust*, *adj.* burnt up or scorched.
Advance, *ad-vans*, *v.* to go forward; promote.
Advantage, *ad-van-tāj*, *n.* superiority; gain.
Adverse, *ad-vēr*, *v.* to accede. [mas.
Advent, *n.* coming; the four weeks preceding Christ-
Adventist, *ad-vent-ist*, a believer in the second coming
 of Christ.
Adventitious, *ad-vent-ish-us*, *adj.* additional; casual.
Adventual, *ad-vent-ū-al*, *adj.* concerning Advent.
Adventure, *ad-vent-ur*, *n.* risk; enterprise; surprising
 incident. [other adverb.
Adversary, *ad-ver-sar-i*, *n.* a word modifying a verb, adjective, or
Adversary, *ad-ver-sar-i*, *n.* an enemy or opponent.
Adversative, *ad-ver-sā-tiv*, *adj.* contrary; opposed.
Adverse, *ad-vers*, *adj.* in opposition; contrary.
Adversity, *ad-vers-i-ti*, *n.* misfortune.
Advert, *v.* to refer to.
Advertency, *ad-ver-tēn-si*, *n.* attention to.
Advertise, *ad-ver-tiz*, *v.* to publicly notify.
Advertisement, *ad-ver-tis-ment*, *n.* public notification.
Advertiser, *ad-ver-tis-er*, *n.* one who advertises.
Advice, *ad-vīs*, *n.* counsel; notice.
Advise, *ad-viz*, *v.* to give counsel to.
Advisedly, *ad-vīs-ed-ly*, *adv.* deliberately.
Advocacy, *ad-vo-kā-si*, *n.* pleading.
Advocate, *ad-vo-kāt*, *n.* one who pleads for.
Advowee, *ad-vow-ē*, *n.* one possessing an advowson.
Advowson, *ad-vow-sun*, *n.* right of presentation to
Adynamic, *ad-din-am-ik*, *adj.* weak. [church living.
Adytum, *ad-i-tum*, *n.* sacred part of temple or church.
Axe or **Adze**, *n.* a carpenter's tool.
Ædile, *d-il*, *n.* Roman official having control of public
 buildings, markets, etc.
Ægis, *ē-jis*, *n.* shield; protection.
Ægrotat, *ē-grō-tāt*, *n.* certificate of illness.
Æolian, *ē-ō-li-an*, *adj.* acted on by the wind.
Æsop, *ē-sop*, *n.* a mix with wit.
Aerial, *ē-ri-al*, *n.* pertaining to the air.
Aerie, *ē-ri* or *ē-ri*, *n.* nest of bird of prey.
Aeriform, *ē-er-i-form*, *adj.* of the nature of air or gas.
Aerify, *ē-er-i-fy*, *v.* to combine or fill with air.

Aerodrome, *ē-ēr-ō-drōm*, *n.* a machine-flying course.
Aerolite, *ē-er-ō-lit*, *n.* meteoric stone.
Aeromancy, *ē-er-ō-mānsi*, *n.* divination by air. [ment.
Aerometry, *ē-er-ō-mē-tri*, *n.* science of air measure.
Aeronaut, *ē-er-ō-nawt*, *n.* professional balloonist.
Aeronautics, *ē-er-ō-naw-tiks*, *n.* the science of air
 navigation. [or planes.
Aeroplane, *ē-ēr-ō-plān*, *n.* a flying machine with plane
Aerostatics, *ē-er-ō-stat-iks*, *n.* the science of elastic
 fluids or air equilibrium.
Æsthetics, *ē-æt-het-iks*, *n.* science of taste and beauty.
Asable, *af-fā-bil*, *adj.* agreeable; easy mannered.
Asail, *af-fāir*, *n.* business; transaction.
Affect, *af-fekt*, *v.* to influence; to move; to pretend.
Affectation, *af-fek-tā-shun*, *n.* artificiality; pretence.
Affecting, *af-fek-tīng*, *adj.* moving; touching.
Affection, *af-fek-shun*, *n.* love, attachment.
Affer, *af-fēr*, *v.* to fix the market price of.
Affiance, *af-fī-āns*, *n.* pledge of marriage.
Affiant, *af-fī-ant*, *n.* one who swears to an affidavit.
Affidavit, *af-fī-dā-vit*, *n.* declaration on oath.
Affiliate, *af-fī-lē-āt*, *v.* to adopt.
Affinity, *af-fīn-i-ti*, *n.* kinship; attraction.
Affirm, *af-firm*, *v.* to assert positively; to declare.
Affirmation, *a-firm-ā-shun*, *n.* what is affirmed.
Affix, *af-fiks*, *v.* to add; affix, *n.* word ending.
Affluence, *af-flū-ēns*, *n.* wealth; abundance.
Afflux, *af-flūx*, *n.* a flowing to.
Afford, *af-ford*, *v.* to yield; to be able to bear cost.
Afforest, *af-for-est*, *v.* to set apart as forest land.
Affranchise, *af-fran-shiz*, *v.* to emancipate; to free.
Affrap, *af-frap*, *v.* to strike.
Affray, *af-frā*, *n.* a brawl or fight.
Affret, *af-fret*, *n.* a frivolous onset.
Affright, *af-frīt*, *v.* to frighten.
Affront, *af-frunt*, *v.* to insult; to meet face to face.
Affusion, *af-fū-shun*, *n.* act of pouring on or sprinkling.
Affy, *af-fy*, *v.* to pledge; to betroth.
Afield, *a-fēld*, *adj.* on the field.
Aflame, *a-flām*, *adj.* flaming.
Afloat, *a-flōt*, *adj.* floating; at sea.
Afoot, *a-foot*, *adv.* on foot; stirring.
Aforesaid, *a-for-said*, *adj.* before mentioned.
Afraid, *a-frād*, *adj.* in fear.
Aft, *adj.* stern of a vessel; behind.
Aft'ermath, *n.* the second mowing.
Aftermost, *af-ter-mōst*, *a /j* hindmost.
Afterpiece, *af-ter-pēs*, *n.* piece given after a play.
Afterthought, *af-ter-thawt*, *n.* later reflection.
After-wit, *adj.* wit too late.
Agape, *a-gāp*, *adv.* gaping with wonder.
Agapæ, *ag-a-pē*, *n.* early Christian love feasts.
Agaric, *ag-ar-ik*, *n.* of the mushroom genus.
Agate, *ag-āt*, *n.* a precious stone.
Agave, *a-gāv*, *n.* the American aloë.
Age, *āj*, *n.* measure of human life; mature years.
Agency, *ā-jen-si*, *n.* business of an agent.
Agenda, *ā-jen-dā*, *n.* note of things to be done.
Agent, *ā-jent*, *n.* a person who acts for another; any
 natural force.
Agglomerate, *ag-glōm-er-āt*, *v.* to mass together.
Agglutinate, *ag-glōo-tin-āt*, *v.* to make adhere.
Aggrandize, *ag-gran-diz*, *v.* to exalt; to enlarge in
 power.
Aggregate, *ag-grāt*, *v.* to please.
Aggravate, *ag-grā-vāt*, *v.* to provoke; to make worse.
Aggragate, *ag-grā-gāt*, *v.* to collect; *n.* the sum total.
Aggressive, *ag-grē-siv*, *adj.* making the first attack.
Aggressor, *ag-grēs-or*, *n.* one who makes the first
 attack.
Aggrieve, *ag-grēv*, *v.* to pain.
Aghast, *ag-hast*, *adj.* horrified.
Agile, *ā-jil*, *adj.* quick, nimble.
Agio, *ā-jio*, *n.* the difference between nominal and
 real money. [charge on land.
Agist, *ā-jist*, *v.* to take cattle for debt; *n.* a public
 agitator, *ā-jit-āt*, *v.* to disturb; to discuss.
Agitate, *ā-jit-āt*, *v.* to disturb; to discuss.
Agitator, *ā-jit-āt-ōr*, *n.* one who excites public atten-
 tion.
Aglet, *ā-jlet*, *n.* tag, laco, or string. [loop.
Aglow, *ā-glo*, *adj.* warm, glowing.

dāy; āt; ārm; ēve; ēlk; thēre; Ice; plin; machine; bold; pōt; stōrm; mūte; tūb; būrn.

Agñali, ag'nāl, *n.* a whidow.
Agñate, ag'nāt, *adj.* related on the paternal side.
Agñise, ag'niz, *v.* to acknowledge.
Agno'men, *n.* an additional surname.
Agñistic, ag'nō'st'ik, *n.* one who believes only in Agor, ag'or, *adj.* alert. [material evidences].
Agony, ag'o-ni, *n.* extreme pain.
Agñisulz, ag'nī'sulz, *adj.* connected with land.
Agñi'riaulam, ag'nī'ri-ai-lam, *n.* movement for equal division of lands.
Agree, a-grē, *v.* to concur; to be of the same mind.
Agreeable, a-grē-āb, *adj.* pleasant; favourable to.
Agriculture, a-grī-cul'tūr, *n.* the art of land cultivation.
Agñikulz, ag'nī-kul'ūr-ist, *n.* one who follows agriculture.
Agrimony, ag'rī-mun-i, *n.* a plant of the rose order.
Aground, a-grown'd, *adj.* stranded.
Ague, ē'gu, *n.* a shivering fever.
Ague, a-hēd, *adj.* in advance.
Aid, ād, *v.* to assist.
Aidmān, ād'mān, *adj.* dūh-kong, an officer who conveys a
Aigrette, ā'gret, *n.* a small heron. [general's orders].
Ailment, ā'ilmēt, *n.* affliction, disease.
Aim, ām, *v.* to point at with weapon; to endeavour.
Air, ār, *n.* the atmosphere; the fluid we breathe.
Airing, ā'ring, *n.* exposure to the air. [a vessel].
Airmen, ā'r-men, *n.* men for pumping the air from a vessel.
Airy, ā'rī, *adj.* open to the air; light; unsubstantial.
Aisle, āl, lateral division of any part of a church;
Aī, āi, *n.* a small island. a [passage between pews].
Akin, a-kīn, *adj.* related.
Alabaster, ā-lab-as'tēr, *n.* a kind of gypsum.
Alacrity, ā-lak-rī-tē, *n.* readiness; willingness.
Alacred, ā-lak-rēd, *adj.* in the fashion.
Alarm, a-lārm, *n.* notice of danger; surprise and fear.
Alarum, ā-l'rum, *n.* contrivance by which a clock rings loudly at a given hour.
Alarmist, ā-larm'ist, *n.* one who causes alarm.
Alb, *n.* a clerical vestment.
Albeit, āl-bīt, *conj.* notwithstanding.
Albino, āl-bī-no, *n.* human being or animal with white skin and hair and pink eyes.
Album, āl'būm, *n.* white tablet used by the Romans; book for extracts, etc.
Albumen, āl-bū'men, *n.* white of eggs. [the bark].
Albumum, āl-bū'n-ūm, the white parts of wood below the bark.
Alcaeus, āl-kā-ēus, *n.* a poetising the poet Alcaeus.
Alcohol, āl'kō-īn, *n.* pure chemistry.
Alcohol, āl'kō-hīn, *n.* occult intoxicating spirit.
Alcoran, āl-kō'ran, *n.* the Koran.
Alcove, āl'kōv, *n.* a recess.
Alert, āw'ler, *n.* a tree of the birch genus.
Alderman, āl'dēr-mān, *n.* a civic dignitary.
Ale, āl, *n.* malt beverage. [tion].
Alembic, āl-em'bīk, *n.* ancient vessel used in distillation.
Alexandrine, āl-ex-ān'drin, *n.* rhymed verse in lines of twelve syllables.
Alert, āl-ēr't, *adj.* ready, watchful.
Alfalfa, āl-fā'fā, *n.* species of grass.
Algebra, āl'jē-brā, *n.* arithmetic by symbols.
Algerine, āl'jē-reen, *adj.* pertaining to Algeria; *n.* a native of Algeria.
Alias, āl'ī-las, *adv.* otherwise; *n.* an assumed name.
Alibi, āl'f-bī, *n.* plea that a person was elsewhere when in place named.
Alien, āl'ē-n, *adj.* foreign.
Alienate, āl'ē-nāt, *v.* to transfer; *adj.* estranged.
Alight, āl'īt, *v.* to descend from.
Alike, āl'īk, *adj.* resembling.
Aliment, āl'ī-mēt, *n.* nourishment; support.
Alimony, āl'mun-i, *n.* money allowed for support of separated wife.
Allegiance, āl'jē-šā, *adj.* such part of a number that will not divide it without a remainder.
Al'kabest, *n.* the universal solvent of alchemy.
Alkali, āl'kā-lī, *n.* a substance which neutralises and combines with an acid.
Alkaline, āl'kā-līn, *adj.* possessing the properties of alkali.
Alkal, āl'kā-l, *n.* the name for God. [an alkali].
Alley, āl'ē-ī, *n.* to lighten, relieve, or calm.
Allegation, āl'ē-g'ā-shun, *n.* an assertion.
Allege, āl'ē-jē, *v.* to assert.

Alligance, al-lî-jî-*lîns*, *n.* duty to head of State.
 Allegory, al-lî-jî-*gô*, *n.* a figurative description.
 Allegro, al-lî-jî-*grô*, *adv.* a quick movement in music.
 Alimentary, al-lî-jî-*er-lî*, *adv.* solely.
 Alleviate, al-lî-jî-*er-lî*, *v.* to lighten, or mitigate.
 Alloy, al-lî-jî, *n.* walk or narrow passage.
 Allot, al-lî-jî, *v.* to divide with satisfaction. [garlic.
 Allotment, al-lî-jî-*er-lî*, *n.* a portion.
 Allotment, al-lî-jî-*er-lî*, *n.* pertaining to allotment or
 Alliance, al-lî-jî-*er-lî*, *n.* being allied; marriage.
 Alligator, al-lî-jî-*er-lî*, *n.* a large amphibious animal.
 Alliteration, al-lî-jî-*er-lî*, *n.* the repetition of the
 same letter at the beginning of successive words.
 Allocation, al-lî-jî-*er-lî*, *n.* the act of placing or
 assigning.
 Allocation, al-lî-jî-*er-lî*, *n.* formal address.
 Allodial, al-lî-jî-*er-lî*, *adv.* held free from superior.
 Allopathy, al-lî-jî-*er-lî*, *n.* orthodox medical practice.
 Allotment, al-lî-jî-*er-lî*, *n.* the act of allotting; part
 Allow, al-lî-jî, *v.* to permit.
 Allowance, al-lî-jî-*er-lî*, *n.* the thing allowed; a stated
 portion of money granted.
 Alloy, al-lî-jî, *v.* to mix a superior metal with an inferior.
 Alloyage, al-lî-jî-*er-lî*, *n.* the act of mixing metals.
 Allude, al-lî-jî, *v.* to refer to.
 Allurement, al-lî-jî-*er-lî*, *n.* enticing.
 Allusion, al-lî-jî-*er-lî*, *n.* a slight mention.
 Alluvial, al-lî-jî-*er-lî*, *n.* matter deposited by water.
 Alluvion, al-lî-jî-*er-lî*, *n.* land made by the washing up
 of sand and earth by the sea.
 Ally, al-lî-jî, *v.* to form a union or treaty.
 Alma-mater, al-lî-jî-*er-lî*, *n.* college where educated.
 Almanac, al-lî-jî-*er-lî*, *n.* calendar of days, weeks, and
 months.
 Almond, al-lî-jî-*er-lî*, *n.* fruit of the almond tree.
 Almoner, al-lî-jî-*er-lî*, *n.* one who distributes alms.
 Almonry, al-lî-jî-*er-lî*, *n.* place where alms are dis-
 pensed.
 Almost, al-lî-jî-*er-lî*, *adv.* nearly.
 Alms, al-lî-jî, *n.* gifts to the poor.
 Aloe, al-lî-jî, *n.* a semi-tropical plant.
 Alone, al-lî-jî, *adv.* single, solitary.
 Aloo, al-lî-jî, *adv.* alone, by oneself.
 Aloud, al-lî-jî-*er-lî*, *adv.* loudly.
 Alp, al-lî-jî, *n.* a high mountain. [wool of alpaca.
 Alpaca, al-lî-jî-*er-lî*, *n.* Peruvian sheep: cloth made from
 Alpachorn, al-lî-jî-*er-lî*, *n.* horn of Alpine cowherd.
 Alpenstock, al-lî-jî-*er-lî*, *n.* Alpine climbing staff.
 Alpha, al-lî-jî, *n.* the first letter of the Greek alphabet.
 Alphabet, al-lî-jî-*er-lî*, *n.* a series of letters of a language.
 Alpine, al-lî-jî-*er-lî*, *adv.* pertaining to Alps.
 Already, al-lî-jî-*er-lî*, *adv.* previously.
 Alsatian, al-lî-jî-*er-lî*, *n.* pertaining to Alsatia.
 Altar, al-lî-jî, *n.* an elevated place where sacrifices
 were offered; communion table.
 Alter, al-lî-jî, *v.* to make different; to change.
 Alterable, al-lî-jî-*er-lî*, *adv.* capable of being altered.
 Alternative, al-lî-jî-*er-lî*, *adv.* possessing power to alter.
 Alternate, al-lî-jî-*er-lî*, *v.* to dispossess.
 Alteration, al-lî-jî-*er-lî*, *n.* contention.
 Alternate, al-lî-jî-*er-lî*, *v.* to follow by turns.
 Alternately, al-lî-jî-*er-lî*, *adv.* in turns.
 Alternative, al-lî-jî-*er-lî*, *adv.* a choice of two things.
 Althaus, al-lî-jî-*er-lî*, *n.* a building.
 Altimeter, al-lî-jî-*er-lî*, *n.* instrument for measuring
 heights.
 Alto, al-lî-jî, *n.* male voice of high pitch.
 Altruism, al-lî-jî-*er-lî*, *n.* acting for others.
 Aluminous, al-lî-jî-*er-lî*, *adv.* containing alum.
 Alumnus, al-lî-jî-*er-lî*, *n.* one educated at a college.
 Alvine, al-lî-jî-*er-lî*, *n.* of or from the belly.
 Amain, al-lî-jî-*er-lî*, *adv.* with main force.
 Amalgam, al-lî-jî-*er-lî*, *n.* a combination of differing
 elements.
 Amalgamate, al-lî-jî-*er-lî*, *v.* to blend.
 Amantiss, al-lî-jî-*er-lî*, *n.* one who writes to
 dictation; a secretary.
 Amaranthus, al-lî-jî-*er-lî*, *n.* a species of plants with
 richly colored flowers.
 Amass, al-lî-jî-*er-lî*, *v.* to collect in large numbers.
 Amathestic, al-lî-jî-*er-lî*, *adv.* union of rays of light.
 Amateur, al-lî-jî-*er-lî*, *n.* a non-professional.
 Amative, al-lî-jî-*er-lî*, *adv.* relating to love.
 Amatory, al-lî-jî-*er-lî*, *adv.* pertaining to love; affect-
 uous.
 Amaze, al-lî-jî-*er-lî*, *n.* total blindness without
 cause.

. dăy ; ăt ; ârm ; ẽve ; ẽlk ; thẽr● ; ıce ; pın ; machine ; bõld ; põt ; stõrm ; mũite ; tũb ; bũrn.

Anodyne, an'-o-dīn, *n.* a medicine that relieves pain.
Anoint, an'-o-int', *v.* to spread with ointment or oil.
Anomalous, an-on'-a-lus, *adj.* irregular; contrary to
anomaly, an-on'-a-li, *n.* irregularity. [rule].
Anon, a-non', *adv.* immediately, instantly.
Anonymous, an-on'-i-mus, *adj.* without name.
Anorexy, an'-o-rek-sī, *n.* without appetite.
Anserine, an-ser'-in, *adj.* pertaining to geese; silly.
Answer, an'-sər, *v.* to reply to.
Answerable, an-ser'-a-bl, *adj.* accountable; able to be
Ans, a-small insect. [answered].
Antagonist, an-tag'-o-nist, *n.* an opponent; one who
 contends with another.
Antagonistic, an-tag-o-nis'tik, *adj.* opposed.
Antalgic, an-tal'jik, *adj.* in reduction of pain.
Antarctic, an-tark'tik, *adj.* opposite the arctic; the
 south polar region.
Antiarthritic, an-ar-thrit'ik, *adj.* against gout.
Ante, an'tē [*prefix*], before.
Antecedent, an-tē-sē'dent, *adj.* previous in time.
Antechamber, an-tē-chām-ber, *n.* small room leading
 to a larger.
Antedate, an-tē-dāt, *v.* to assign to an earlier date.
Antediluvian, an-tē-dil'-u-vi-an, *adj.* before the Flood.
Antelope, an-tē-lōp, *n.* a hollow-horned ruminant.
Antenne, an-tē-nē, *n.* feelers of insects, crustaceans, etc.
Antepenult, an-tē-pen-ul't, *n.* the last syllable but two
Anterior, an-tē'-ri-or, *adj.* prior, before. [of a word].
Antevenient, an-tē-vē-ni-ent, *adj.* preceding.
Anthem, an'them, *n.* a song of praise; [ing] pollen.
Anther, an'ther, *n.* the top of a flower stamen, contain-
Anthology, an-thol'-o-jī, *n.* a collection of flowers,
 poems, hymns or epigrams.
Antholite, an-tho-lit, *n.* a fossil flower. [carbon].
Anthracite, an-thra-sit, *n.* coal composed mostly of
Anthrax, an'thraks, *n.* an infectious disease caused
 by bacilli, common in sheep and cattle.
Anthropography, an-throp-og'-rā-fī, *n.* the science of
 the distribution of the human race.
Anthropology, an-throp-ol'-o-jī, *n.* the science of man.
Anthropoid, an-thro-poid, *adj.* resembling man.
Anthropomorphism, an-throp-o-morf-izm, the ascrib-
 ing of human form to the Deity.
Anthropophagy, an-thro-pof'-ā-jī, *n.* cannibalism.
Anti, an'ti, *adv.* against, opposed.
Antibiliary, an-ti-bil'yus, *adj.* against biliousness.
Antic, an'tik, *adj.* odd; grotesque.
Antichrist, an'ti-krist, *n.* an opposer of Christ and
Anticipate, an-tis'-i-pāt, *v.* to forestall. [Christianity].
Anticlimax, an-ti-kli'maks, *n.* the opposite of climax.
Antidote, an-ti-dōt, *n.* a counteracting substance.
Antifebrile, an-ti-feb'rīl, *adj.* against fever.
Antimony, an-ti-mun'-i, *n.* a brittle crystalline metal.
Antimacassar, an-ti-ma-kās'er, *n.* a loose covering for
 chairs.
Antinomianism, an-ti-nō-mī-an-izm, *n.* the doctrine
 that Christians are freed from obligation to moral
Antipathy, an-ti-pā'ti, *n.* dislike; repugnance. [law].
Antiphony, an-ti-fō-nī, *n.* singing or chanting in
 alternation. [from coal tar products].
Antipyrin, an-ti-pī-rīn, *n.* a white powder obtained
Antipodes, an-ti-pō-dēz, *n.* inhabitants of the opposite
 side of the globe. [one properly elected].
Antipope, an-ti-pōp, *n.* a pope chosen in opposition to
Antiquarian, an-ti-kwā'-ri-an, *n.* pertaining to antiqui-
 ties. [evidence].
Antiquary, an-ti-kwā'-ri, *n.* one who studies ancient
Antiquated, an-ti-kwā'ted, *adj.* old or out of fashion.
Antique, an-tik', *adj.* ancient.
Antiquity, an-tik'-wīt-i, *n.* times long past.
Antiscorbutic, an-ti-skōr-bū'tik, *adj.* a remedy for
 scurvy.
Antiseptic, an-ti-sep'tik, *adj.* against putrefaction.
Antithesis, an-ti-thē-sis, *n.* opposition.
Antithetic, an-ti-thē'tik, *adj.* opposite; opposed.
Antitype, an-ti-tip, *n.* corresponding to a type.
Antler, an'tler, *n.* the branch of a stag's horn. [upon].
Anvil, an'vil, *n.* an iron block for hammering metal.
Anxious, an'ksh-us, *adj.* uneasy; doubtful; concerned.
Any, an', *adv.* one indefinitely.
Apex, ā-pēs, *n.* the highest artery.
Apace, ā-pās, *adv.* quickly.

Apace, ā-pēs, *adv.* separate.
Apathetic, ap-a-thet'-ik, *adj.* without feeling.
Apathy, ap'a-thi, *n.* indifference.
Ape, āp, *n.* monkey.
Apertent, ap'er-tent, *adj.* opening; purgative.
Aperture, ap'er-tūr, *n.* an opening.
Petalus, ā-pet'-ā-lus, *adj.* without petals.
Apex, ā-pēs, *n.* the top or point of anything.
Aphelion, ā-fē'l-i-on, *n.* the point of a planet's orbit
 most distant from the sun.
Aphonia, ā-fō'nī-ā, *n.* dumbness.
Aphorism, ā-fō-riz-m, *n.* a brief statement of a
 scientific principle; a pithy saying or maxim.
Apiary, ā-pi-ār-i, *n.* place where bees are kept.
Apiculture, ā-pi-kul-tūr, *n.* bee keeping.
Apocalypse, ā-pōk'-ā-lips, *n.* the last book of the
 New Testament.
Apocrypha, ā-pōk'rīf-ā, *n.* doubtful or uninspired
 religious writings.
Apocryphal, ā-pōk'rī-fal, *adj.* of doubtful origin.
Apodal, ap'-o-dal, *adj.* without feet.
Apogee, ā-pō-jē, *n.* the point of an orbit most distant
Apoglyph, ā-pō-graf, *n.* a sun-dial. [from the earth].
Apollyon, ā-pō-lī-on, *n.* Satan.
Apologetic, ā-pō-lō-jet'ik, *adj.* exculpating.
Apologise, ā-pō-lō-jiz, *v.* to utter regret for.
Apologue, ā-pō-lōg, *n.* a fable or parable.
Apoplexy, ā-pō-plek'sī, *n.* loss of control.
Apostasy, ā-pōst'-ā-sī, *n.* abandonment of faith.
Apostate, ā-pōst'-āt, *n.* one who forsakes his religion.
Apostatis, ā-pōst'-āt-iz, *v.* to fall away from.
Apostle, ā-pōst'l, *n.* one sent to preach a doctrine.
Apostrophe, ā-pōst'rōf, *n.* breaking away from the
 current of speech to address some person apart.
Apothecary, ā-pō-thē'tik-ār-i, *n.* one who deals in drugs.
Apothecian, ā-pō-thē'e-in, *n.* a short, pithy saying.
Apotheosis, ā-pō-thē-ō-si-s, *n.* a deification or glorifica-
Appal, ā-pawl', *v.* to terrify with terror. [ston].
Appare, ā-pān', *n.* a provision for younger sons;
 an adjunct or attribute.
Apparatus, ap-pā-rā'tus, *n.* instruments or materials.
Apparel, ap-pār-el, *n.* body covering; dress.
Apparent, ap-pār-ent, *adj.* visible; evident.
Apparition, ap-pār-ish'un, *n.* a ghastly appearance.
Apparitor, ap-pār-ī-tor, *n.* a court official.
Appreach, ap-pēch', *v.* to accuse.
Appeal, ā-pēl', *v.* to call upon; to remove to a higher
Appear, ā-pēr', *v.* to become visible. [court].
Appearance, ap-pēr-āns, *n.* the act of appearing; out-
Appease, ā-pēz', *v.* to pacify; to allay. [ward show].
Appellant, ap-pel'ant, *n.* one who appeals.
Appellate, ap-pel'āt, *adj.* pertaining to appeals.
Appellative, ap-pel'ā-tiv, *n.* a name general to all of
 the same kind.
Append, ap-pend', *v.* to attach one thing to another.
Appendage, ap-pen'dij, *n.* something attached.
Appendicitis, ap-pen-di-sit'is, *n.* inflammation of the
 vermiform appendix.
Appendix, ap-pend'iks, *n.* a supplement.
Appertain, ap-pēr-tān', *v.* to connect with, or belong to.
Appetite, ap-pi'tit, *n.* desire for food; hunger, thirst.
Appetizing, ap-pet-iz'ing, *adj.* tempting to the
 appetite.
Applaud, ap-plawd', *v.* to praise by hand-clapping or
Applause, ap-plawz', *n.* loud praise. [cheering].
Apple, ā-pl, *n.* fruit of the apple tree.
Applicant, ap-plik'āns, *n.* one who applies. [applied].
Applicable, ap-plik-ā-bl, *adj.* that which may be
Applicant, ap-plik-ant, *n.* one who applies. [applied].
Apply, ap-pli, *v.* to put to; to study; to administer.
Appoggiatura, ap-pod-jā'tū-ra, *n.* the introduction of
 notes of embellishment in a melody.
Appoint, ap-pōint', *v.* to fix; to settle; to equip.
Appportionment, ap-pōr-shun-ment, *n.* share of propor-
 tion allotted.
Apposite, ap-pō-sit, *adj.* in agreement with.
Apposition, ap-pō-zish'un, *n.* the act of apposing.
Appraisal, ap-priz'al, *n.* valuation.
Appraise, ap-prāz', *v.* to value. [mated].
Appreciable, ap-prē-shi-able, *adj.* that can be esti-
Appreciate, ap-prē-shi-āt, *v.* to properly esteem; to
 advance the price of.

day; ā; arm; ēve; ēlk; there; ice; pin; machine; bold; pot; storm; mite; tub; bura.

Apprehend, ap-prē-head', *v.* to seize; to know; to fear.
Apprehensive, ap-prē-hen'siv, *adj.* quick to notice; fearful.
Apprentice, ap-pren'tis, *n.* one bound to learn a trade.
Appropriate, ap-prī-kāt, *v.* to bask in the sun. [or art.
Apprise, ap-prīz', *v.* to inform.
Approach, ap-prōch', *v.* to draw near.
Approbation, ap-prō-bā'shun, *n.* sanction, approval.
Approbate, ap-prō-prī-āt, *v.* to take as one's own.
Appropriation, ap-prō-prī-ā'shun, *n.* suitability.
Appropriation, ap-prō-prī-ā'shun, *n.* application to special use.
Approval, ap-prōo'val, *n.* the act of approving.
Approve, ap-prōov', *v.* to like; to sanction.
Approximate, ap-prōks'im-āt, *adj.* about or near.
Appurtenance, ap-pūr'tē-nans, *n.* that which belongs to something else.
Apricot, ā'prik-ot, *n.* a stone fruit of the plum order.
Apron, ā'prun, *n.* a protective piec e of cloth or leather worn in front.
Apropos, ap-ro-pō', *adv.* appropriately; in reference to.
Apse, aps, part of the choir of a church.
Ap't, ap't, *adj.* ready; adaptable.
Apteral, ap'ter-al, *adj.* wingless.
Apterous, ap'ter-us, *adj.* without wings.
Apteryx, ap'ter-iks, *n.* a wingless New Zealand bird.
Ap'titude, ap'ti-tūd, *n.* fitness.
Apyretic, ap-ri-et'ik, *adj.* feverless.
Aquafortis, āk-wā-fōr'tis, *n.* nitric acid. [colour.
Aquamarine, āk-wā-mā-rēn', *n.* the beryl; *adj.* sea.
Aquarium, āk-wā'rī-um, *n.* a place for keeping aquatic animals and plants in.
Aquatic, āk-wō'tik, *adj.* pertaining to water.
Quatint, āk-wā-tint, *n.* copper etching.
Aqueduct, āk-wā-dikt, *n.* an artificial channel for the conveyance of water.
Aqueous, āk-wō-us, *adj.* watery; deposit left by water.
Aquiferous, āk-wīf'er-us, *adj.* water-bearing.
Aquiline, āk-wī-lin, *adj.* curved like the eagle's beak.
Arabic, ār'ā-bik, *adj.* relating to the language of the Arabs; ar'ā-bil, suitable for ploughing. [Arabs.
Arbitrator, ār'bi-trā'tor, *n.* one chosen to decide a dispute.
Arbitrator, ār'bi-trā'tor, *n.* (same as arbitrator).
Arbitrament, ār'bi-trā-ment, *n.* the decision of the arbitrator or arbitrator.
Arbitrary, ār'bi-trer-i, *adj.* despotic; wilful.
Arbitrate, ār'bi-trāt, *v.* to act as arbitrator.
Arbour, ār'būr, *n.* an enclosed seat or recess in a garden.
Arbutus, ār'būt, *n.* strawberry tree.
Arc, ārk, *n.* a segment of a circle.
Arcadian, ārk-ā'dian, *adj.* pastoral.
Arcanum, ārk-ā-num, *n.* a secret or mystery.
Arch, ē, a curved construction over an open space; *adj.* roguish, cunning.
Archæology, ārk-ē-ō-lō-jī, *n.* the science of antiquities.
Archangel, ārk-ān-jel, *n.* something obsolete.
Archangel, ārk-ān-jel, *n.* a superior angel.
Archbishop, ārch-bish'op, *n.* the higher form of
Archdeacon, ārch-dē-kān, *n.* a chief deacon. [bishop.
Archer, ārch'er, *n.* one who shoots arrows.
Archetype, ārk'tēp, *n.* an original model.
Archiepiscopal, ārk-ēp-ī-skō-pal, *adj.* pertaining to an archbishopric.
Archipelago, ārk-ē-pel-ā-go, *n.* a group of islands.
Architect, ārk'tekt, *n.* a designer of buildings.
Architecture, ārk'tekt'ūr, *n.* the science of building.
Architrave, ārk'trāv, *n.* the part surrounding a door or window. [the records themselves.
Archives, ārch'ivs, *n.* repository for public records; also
Archness, ārch'ness, *n.* cunning.
Arctic, ārk'tik, *adj.* relating to the north polar regions.
Arcuate, ārk'kū-āt, *adj.* bent like a bow.
Ardent, ār'dent, *adj.* passionate; earnest.
Arduous, ār'dū-us, *adj.* difficult; laborious.
Area, ā'rī-ā, *n.* surface; an open space.
Arecas, ār-ē-kā, *n.* a nut-bearing palm. [are given.
Arena, ā-rē-nā, *n.* place or floor where public exhibitions
Arenaceous, ār-nā'se-us, *adj.* dry, sandy, arid.
Areola, ā-rē-ō-lā, *n.* a small area.
Arenometry, ār-ē-on-ō-mē-trī, *n.* science of measuring spe-
Argent, ār-jent, silver or silver-like. [cise gravity.
Argillaceous, ār-jil-ā'shē-us, *adj.* of the nature of clay.

Argol, ār'gol, *n.* the crust that forms on wine vessels and from which tartaric acid is obtained.
Argon, ār'gon, *n.* a constituent element of the atmosphere. [valuable product.
Argosy, ār'go-sī, *n.* a ship of olden times laden with
Argue, ār'gu, *v.* to try to convince by speech.
Argument, ār'gu-ment, *n.* the proof or reason ad-
Argus, ār'gus, *n.* a quick-eyed person. [venced.
Argute, ār'gūt, *adj.* keen; shrill.
Arian, ā'rī-an, *n.* pertaining to Arius, who denied
Arid, ār'id, *adj.* dry; parched. [Christ's divinity.
Aries, ā'rī-ēs, *n.* the first sign of the zodiac, the Ram.
Arise, ā-rīz', *v.* to rise up.
Aristarch, ār-is-tārk, *n.* a severe critic, from Aristar-
Aristate, ā-ris-tāt, *adj.* having awns. [chus.
Aristocracy, ār-is-tōk'rā-sī, *n.* nobility.
Aristocrat, ār-is-tōk'rāt, *n.* one of the aristocracy.
Arithmetic, ār-ith-mē'tik, *n.* the science of numbers.
Arik, ā-rik, *n.* a chest or coffer; a floating vessel.
Aries, ār-is, *n.* earnest money.
Armada, ār-mā'dā, *n.* a fleet of warships. [of war.
Armament, ār-mā-ment, *n.* armed forces; munitions
Armillary, ār-mil-lār-i, *adj.* in rings or circles.
Arminal, ār-min'l-an, *n.* a believer in the doctrine of
Arminius, ār-min'us, *n.* a follower of Calvin's theory of pre-
Armistice, ār-mis-tis, *n.* a truce. [destination.
Armour, ārm'ur, *n.* defensive arms or dress; plating
of warships. [family arms.
Armorial, ārm'ō'rī-al, *adj.* pertaining to armour, or
Armoury, ārm'ō-rī, *n.* the place in which arms are
made or stored.
Arm-pit, ārm'pīt, *n.* the hollow under the shoulder.
Arms, ārmz, *n.* weapons of war.
Army, ār'mī, *n.* body of men trained for war.
Army-corps, ār'mī-kōr, *n.* a complete division of an
army.
Aroma, ā-rō-mā, *n.* odour.
Arack, ār'ārk, *n.* an Eastern fermented juice.
Arraignment, ār-rān'ment, *n.* a calling to account.
Arrangement, ār-rān'ment, *n.* the act of putting in
Arrest, ār-rēst, *v.* to detain; to bring to a stop.
Arras, ār'ras, *n.* a kind of tapestry.
Array, ār'rā, *n.* order, dress.
Arrears, ār-rērs, *n.* what is left behind; unpaid dues.
Arrest, ār-rēst, *v.* to seize; to attract the attention.
Arrive, ā-riv', *v.* to get to a place.
Arrogant, ār-rō-gant, *adj.* overbearing.
Arrogate, ār-rō-gāt, *v.* to make claim.
Arrodisement, ār-rōd'is-ment, *n.* a section of a
French geographical department.
Arsenal, ār'se-nāl, *n.* place for naval stores, or for
their manufacture.
Arsenic, ār'se-nik, *n.* a mineral poison.
Arson, ār'son, *n.* wilful burning.
Art, ārt, *n.* skill in painting, music, etc.
Artery, ār'ter-ē, *n.* a blood-vessel conveying blood
from the heart; a main thoroughfare.
Artesian, ār-tē'zi-an, *adj.* applied to wells made by
sinking a shaft in the ground until water is reached.
Artful, ārt'ful, *adj.* clever, cunning.
Arthritis, ār'thris, *n.* joint inflammation, gout.
Artichoke, ār'ti-chōk, *n.* an eatable plant.
Article, ārt'ikl, *n.* a distinct element or part; a clause
of a document; a literary composition.
Articulate, ārt'ikū-lāt, *adj.* clear, distinct; *v.* to
join; to sound distinctly.
Artifice, ārt'is-ēs, *n.* the work of an artificer; a trick.
Artificer, ārt'is-ēs-er, *n.* a workman.
Artificial, ārt'is-fish'al, *adj.* not natural.
Artillery, ār-til'ēr-i, *n.* the heavier weapons of war; the
Artisan, ārt'i-zan, *n.* a mechanic, [men who work them.
Artist, ārt'is-tā, *n.* one who practices an art.
Artless, ārt'less, *adj.* simple, unadorned.
Aryan, ā'rī-an, *adj.* pertaining to the main body of
the Indo-European races.
Asafetida, ās-āf-ē'tī-dā, *n.* a gum-resin.
Asbestos, ās-bes'tōs, *n.* an incombustible mineral
Ascend, ās-send', *v.* to climb or mount. [substance.
Ascendancy, ās-send-en-sī, *n.* having control.
Ascertain, ās-sēr-tēn, *v.* to obtain information of.
Asce'tic, ās-ē'tik, *n.* one who denies himself ordinary
worldly pleasures.

day; āt; ārm; ēve; ēlk; there; ice; pln; machine; bōld; pūt; stōrm; mūte; tūb; būrn.

Asceticism, as-se-tik-izm, *n.* the practice of self-denial.

Ascidians, as-sid-i-ans, *n.* a class of molluscs.

Ascribe, a-skrīb, *v.* to assign, or impute.

Ascription, a-skrīb-shun, *n.* act of ascribing.

Asseptic, a-sep-tik, *adj.* not liable to putrefy.

Ashamed, a-shāmd, *adj.* made to feel shame.

Ashes, āsh-ēz, *n.* burnt remains.

Ashlar, āsh-lēr, *n.* plain dressed stone.

Aside, a-sīd, *adv.* on one side, apart; *n.* words said

Asinine, as-i-nin, *adj.* ass-like. [to oneself.]

Ask, v. to inquire, or seek.

Askance, a-skāns, *adv.* sideways.

Askew, ā-skū, *adv.* crooked, obliquely.

Asparagus, as-par-ā-gus, *n.* a culinary plant.

Aspect, as-pekt, *n.* view, appearance, situation.

Aspen, as-pen, *n.* the trembling poplar.

Asperity, as-per-it-ē, *n.* harshness.

Asperse, as-pēr-s, *v.* to slander.

Asperion, as-per-shun, *n.* slander.

Asphalt, as-falt, *n.* a bituminous substance used for

Asphyxia, as-fik-si-ā, *n.* suffocation. [paying.]

Aspirant, as-pir-ant, *n.* one who aspires.

Aspirate, as-pir-it, *v.* to utter with full breath.

Asquint, a-skwin't, *adj.* quincially.

Assail, as-sāl, *v.* to attack.

Assailant, as-sā-lant, *n.* one who attacks.

Assassin, as-sā-in, *n.* one who suddenly murders.

Assassinate, as-sā-in-it, *v.* to suddenly kill.

Assay, as-sā, *v.* to assess the elements of metal in an

Assayer, as-sā-er, *n.* one who assays. [ore or alloy.]

Assemblage, as-sen-blī, *n.* a gathering of persons or

Assemble, as-sen-blī, *n.* the art of assembling; the

Assent, as-sent, *v.* to agree. [persons assembled.]

Assert, as-sert, *v.* to declare.

Assess, as-ses, *v.* to fix a sum, tax, or value.

Assessment, as-ses-ment, *n.* act of assessing; valuation.

Assessor, as-ses-er, *n.* one who assesses.

Assets, as-sēs, *n.* property or things divisible of a

deceased person or debtor.

Assertion, as-sev-er-shun, *n.* solemn declaration.

Assiduity, as-sid-ū-it-ē, *n.* diligence, application.

Assiduous, as-sid-ū-us, *adj.* unwearied. [transfer.]

Assign, as-sin, *v.* to participate; to appoint; to

Assignment, as-sin-ment, *n.* the thing assigned,

document of transfer.

Assimilate, as-sim-il-it, *v.* to become like.

Assimilation, as-sim-il-it-shun, *n.* rendering similar.

Assimilative, as-sim-il-it-iv, *adj.* having the power of

assimilation.

Assistant, as-sis-tant, *n.* one who helps; lending aid.

Assize, as-siz, *v.* to assess; *n.* a statute of regulation

of prices, etc.; county sittings of judges.

Assizer, as-siz-er, *n.* an officer of weights and measures.

Associate, as-so-shi-it, *v.* to join with; *n.* companion.

Assonance, as-sōn-āns, *n.* of kindred sound. [partner.]

Assort, as-sort, *v.* to separate into classes.

Assortment, as-sort-ment, *n.* a collection of things

Assuage, as-swāg, *v.* to soften, reduce, allay. [selected.]

Assuagement, as-swāg-ment, *n.* abatement.

Assuetude, as-wē-tud, *n.* habit.

Assume, as-sūm, *v.* to take for granted. [rogant.]

Assuming, as-sūm-ing, *adj.* haughty, affected, ar.

Assurance, as-sūr-āns, *n.* confidence; insurance.

Assure, as-sūr, *v.* to make certain.

Assurak, as-ter-āk, *n.* a star sign (?) in printed

matter, referring to a note at foot or in margin.

Asterism, as-ter-izm, *n.* group of small stars.

Asteroid, *n.* one of the inferior planetary bodies.

Asthma, as-tma, *n.* an affection of the breathing organs.

Asthmatic, as-tma-tik, *adj.* pertaining to asthma.

Astir, a-ster, *prep.* in motion; out of bed.

Astonish, as-tōn-ish, *v.* to cause surprise.

Astound, as-tōund, *v.* to amaze.

Astragal, *n.* semicircular moulding round a column.

Astral, *adj.* pertaining to stars.

Astriction, as-trik-shun, *n.* a contraction or restriction.

Astringent, as-trin-ent, *adj.* binding, contracting.

Astrology, as-trol-ō-jī, *n.* star-worship.

Astrology, as-trol-ō-jī, *n.* the science of prediction by

the position of the stars.

Astronomy, as-trōn-ō-mī, *n.* the study of the stars.

Assiduousness, as-sid-ū-ness, *n.* craftiness, cleverness.

Assunder, a-sūn-dēr, *adv.* separately.

Asylum, as-flū-m, *n.* a place of refuge.

Asymmetry, a-sim-ē-trī, *n.* want of proportion.

Asymptote, a-sim-tōt, *n.* a line that gradually nears a

curve but never touches it. [teristics.]

Atavism, at-ā-vizm, *n.* recurrence of ancestral charac-

Atelier, at-ē-ryā, *n.* studio or workshop.

Atellan, ā-tē-lan, *n.* disbeliever in God.

Athenism, ā-thē-nizm, *n.* temple of learning.

Atheology, a-thē-ō-lō-jī, *n.* contrary to theology.

Athlete, ā-thlēt, *n.* contender in muscular feats.

Athletic, ā-thlēt-ik, *adj.* concerning athletics.

Athwart, ā-thwārt, *prep.* across. [Atlantic Ocean.]

Atlantic, ā-tlan-tik, *adj.* pertaining to Atlas or to the

Atlas, ā-tlās, *n.* a collection of maps; the upper part

of the vertebral column.

Atmosphere, at-mōs-fēr, *n.* the air.

Atom, at-om, *n.* the unit of material substance.

Atomic, at-om-ik, *adj.* pertaining to atoms.

Atone, ā-tōn, *v.* to make reparation for.

Atrocious, ā-trō-shus, *adj.* abominable, wicked. [ious.]

Atrabilious, ā-trā-bil-ūs, *adj.* melancholic, acrimo-

Atrium, ā-tri-um, *n.* the entrance hall of a Roman

temple.

Atrophy, ā-trof-ē, *n.* a stoppage of functional action.

Attach, at-tach, *v.* to bind to; to connect; to seize.

Attaché, ā-tā-shē, *n.* a junior diplomatist.

Attack, ā-tak, *v.* to assault.

Attain, ā-tān, *v.* to obtain; to reach. [of civil rights.]

Attainder, ā-tān-dēr, *n.* the act of attaining; deprival

Attendant, ā-tān-dēr, *n.* condition of attendant.

Attenuate, ā-tē-nū-ē, *v.* to mix in right proportion;

Attempt, ā-temp, *v.* to try. [to adapt.]

Attend, ā-tend, *v.* to accompany; to be present.

Attendant, ā-tend-ant, *adj.* accompanying; *n.* one

who attends. [ful.]

Attentive, ā-tent-iv, *adj.* courteous; solicitous; care-

Attenuate, ā-tē-nū-ē, *v.* to make thin; to lengthen out.

Attenuation, ā-tē-nū-ē-shun, *n.* act of attenuating.

Attic, ā-tik, *n.* elegant; pertaining to Athens;

Atticism, ā-tik-sizm, *n.* dry wit. [garret.]

Attire, ā-tir, *v.* to dress; to array.

Attitude, ā-tit-ūd, *n.* posture; position.

Attorney, ā-tūr-nī, *n.* a lawyer; one who acts for

Attract, ā-trakt, *v.* to draw; allure. [another.]

Attraction, ā-trak-shun, *n.* act of attracting. [tion.]

Attractive, ā-trak-tiv, *adj.* alluring; open to admira-

Attribute, ā-trīb-ūt, *v.* to assign or ascribe.

Attribute, ā-trīb-ūt, *n.* a characteristic.

Attrition, ā-trī-shun, *n.* friction.

Attune, ā-tūn, *v.* to put in tune.

Auburn, ā-wūrn, *adj.* reddish-brown.

Auction, ā-wū-shun, *n.* a public sale.

Audacious, ā-wā-dā-shus, *adj.* bold, impudent.

Audacity, ā-wā-dā-shi, *n.* daring, dashing.

Audible, ā-wā-dā-shi, *adj.* to be heard.

Audience, ā-wā-dēns, *n.* assembly of listeners; the

act of hearing; a ceremonial interview.

Audit, ā-wīd, *n.* an inspection of accounts.

Auditor, ā-wīd-er, *n.* one who audits; a hearer.

Augean, ā-wē-ān, *adj.* difficult; filthy.

Auger, ā-wē-er, *n.* a carpenter's boring tool.

Augment, ā-wē-ment, *v.* to add to.

Augur, ā-wū-er, *n.* a diviner.

Augury, ā-wū-er, *n.* an omen.

August, ā-wūst, *n.* the eighth month.

August, ā-wūst, *adj.* imposing, majestic.

Aulic, ā-wūk, *adj.* connected with a royal court.

Aunt, ānt, *n.* father's or mother's sister.

Aural, ā-wūl, *adj.* connected with the ear.

Aurelia, ā-wū-ē-lī-ā, *n.* chrysalis of an insect.

Aureola, ā-wū-ē-lī-ā, *n.* halo of golden colour.

Auric, ā-wūk, *adj.* pertaining to gold.

Auricula, ā-wūk-ū-lā, *n.* a kind of primrose.

Auricular, ā-wūk-ū-lār, *adj.* by hearing or report.

Auriculate, ā-wūk-ū-lāt, *adj.* ear-shaped.

Auriferous, ā-wūf-er-ūs, *adj.* gold-bearing.

Ausert, ā-wūst, *n.* an ear specialist. [light.]

Aurora Borealis, ā-wū-rā bō-rē-ē-līs, *n.* the northern

• dāy; āt; ārm; ēve; ēlk; thērē; Joe; pīn; machine; bōld; pōt; stōrm; rāte; rūb; būrn.

Auspices, aw's-pis-er, *n.* patronage; protection.
Auspicious, aw's-pish-us, *adj.* of good omen.
Austere, aw-stēr', *adj.* stern; haughty; severe.
Austerity, aw-stēr'-it-i, *n.* severity of manner.
Austral, aw's-tral, *adj.* southern.
Authentic, aw-then-tik, *adj.* genuine.
Authenticate, aw-then-tik-ā, *v.* to give validity to.
Authenticity, aw-then-tis-it-i, *n.* the quality of being authentic. [books.]
Author, aw'-hur, *n.* one who originates; a writer of.
Authoritative, aw-thor-it-ē-tiv, *adj.* having proper authority.
Authority, aw-thor-it-i, *n.* legal right. [sanction.]
Authorization, aw-thor-iz-ā-sh'n, *n.* to sanction by authority.
Authorize, aw-thor-iz, *v.* to sanction. [authority.]
Autobiography, aw-to-bi-og'-raf-i, self-written biography. [steam, electricity, or petrol.]
Auto-car, o'to-kār, *n.* a road vehicle propelled by Autocrat.
Autocrat, aw-to-krat, *n.* an absolute ruler.
Autocratic, aw-to-krat'-ik, *adj.* in the manner of an Autocrat.
Autograph, aw-to-graf, *n.* one's own writing. [autocrat.]
Auto-da-fé, aw-to-dā-fé, *n.* act of faith; the punishment inflicted on heretics by the Inquisition.
Automatic, aw-to-mat'-ik, *adj.* self-acting; *n.* a motor-car.
Automaton, aw-ton'-ā-ton, *n.* a self-moving machine.
Automobile, aw-to-mō-bil, or o-to-mō-bil, *adj.* self-moving; a motor-car. [government.]
Autonomous, aw-ton'-nus, *adj.* pertaining to self.
Autumn, aw'-tūn, *n.* the fall of the year.
Auxiliary, aw-g-zil'-i-er, *adj.* subsidiary.
Avail, ā-vā', *v.* to be of use; to take advantage of.
Avalanche, ā-vā'-lan-sh, *n.* a falling mass of snow or ice.
Avarice, ā-vā'-ris, *n.* keen desire of money or property.
Ave-Maria, ā-vā-mā'-rī-ā, *n.* the salutation to the Virgin.
Avenaceous, ā-ven-ā'-shus, *adj.* in the nature of oats.
Avenge, ā-venj', *v.* to take vengeance upon.
Avenue, ā-venyū, *n.* an approach; a tree-bordered road; a main thoroughfare.
Avert, ā-ver', *v.* to avert.
Average, ā-ver-ij, *n.* the mean value.
Averment, ā-ver-ment, *n.* a positive assertion.
Averse, ā-vers, *adj.* contrary to; disliking.
Aversion, ā-ver-shun, *n.* dislike; hatred; repugnance.
Avert, ā-ver', *v.* to divert or prevent.
Aviary, ā-vi-er-i, *n.* a place for keeping birds.
Aviate, ā-vi-āt, *v.* to fly by aeroplane.
Avidity, ā-vi-dit-i, *n.* eagerness.
Avizandum, ā-viz-an-dum, *n.* private consideration.
Avocation, ā-vō-kā'-shun, *n.* occupation.
Avoid, ā-void', *v.* to shun; to escape from.
Avoidance, ā-vōid'-āns, *n.* the act of shunning.
Avoidupois, ā-void-yū-pōiz, *n.* weights system in which 16 oz. go to the pound.
Avoch, ā-vowch', *v.* to assert.
Avow, ā-vow', *v.* to declare.
Avowedly, ā-vow'-ed-ly, *adv.* openly.
Avuncular, ā-vung-kū-lar, *adj.* relating to an uncle.
Awail, ā-wā', *v.* to wait for.
Awaken, ā-wā'-ken, *v.* to rouse from sleep; to excite.
Award, ā-wōrd', *n.* a judgment or decision. [interest.]
Aware, ā-wā', *adj.* conscious.
Away, ā-wā', *adv.* onward.
Awful, ā-wū'-ful, *adj.* dreadful; causing awe.
Awkward, āwk-wōrd, *adj.* clumsy.
Awl, *n.* a tool for making holes in leather.
Awon, *n.* a husk or beard of grain.
Awning, āwn'-ing, *n.* a covering from the sun.
Awry, ā-wī', *adj.* twisted; distorted.
Axillary, āks-il-er-i, *adj.* relating to the armpit.
Axiom, āks-i-om, *n.* a self-evident truth. [volves.]
Axia, āks-i-s, *n.* the point or line on which a thing revolves.
Axle, āks-il, *n.* the rod on which a wheel revolves.
Ayah, ā-ya, *n.* an Indian woman servant.
Āy, or **Aye**, ī, *adv.* yea, or yes.
Azole, ā-zō'l, *adj.* lifeless.
Azotic, ā-zō'tik, *adj.* nitrogenous.
Azure, āzh-ūr, *adj.* sky-blue.
Asymous, ā-si-mus, *adj.* unfermented.

B

Babbie, bab'-bl, *v.* childish prattle; murmuring sounds.
Babel, bā'-bl, *n.* confused sounds.

dāy; ā; ārm; ēve; ēik; thēre; īce; pīn; machine; bōld; pōt; stōrm; mūte; tūb; būrn.

Baby, bā-bī, *n.* an infant.
Babyliah, bā-bī-līsh, *adj.* babylonic.
Baccarat, bak-ar-ā', *n.* a card game.
Bacchanalia, bak-an-ā'-li-ā, *n.* drinking revels.
Bacchanalian, bak-an-ā'-li-an, *adj.* pertaining to drunken feasting.
Bachelor, batch-el-or, *n.* an unmarried man.
Bacillus, ba-sil-us, *n.* disease germ. [slandered.]
Backbite, bak-bit, *v.* to slander in the absence of the backer.
Background, bak-ground, *n.* the back of a scene or picture; obscurity.
Backslide, bak-slīd, *v.* to lapse from faith or principle.
Backward, bak-wērd, *adv.* towards the back or past.
Badge, bādj, *n.* something worn or carried as distinguishing mark.
Badinage, bad'-n-āzh, *n.* banter, chaff.
Baffle, baf'-l, *v.* to hinder.
Bag, *n.* a sack or pouch.
Bagatelle, bag-ā-tel', *n.* a mere nothing; a game with board, balls, and cue. [luggage.]
Baggage, bag'-ij, *n.* an army's necessaries; personal baggage.
Bagpipe, bag-pip, *n.* a wind instrument, blown with Ball.
Ball, bāl, *n.* security for an accused person. [air bag.]
Bailee, bā-lee, *n.* one who holds goods in trust.
Bailie, bā'li, *n.* a Scotch municipal officer.
Bailiff, bā'lif, *n.* a court official.
Bailiwick, bā'li-wik, *n.* a bailiff's territory.
Bait, bāt, *n.* food to line fish, temptation.
Baise, bāiz, *n.* coarse cloth used for coverings.
Bake, bāk, *v.* to cook by heat or oven.
Bakery, bak'-ur-i, *n.* a bakehouse.
Balance, bal'-āns, *n.* a weighing apparatus; amount required to equalise two sides of an account.
Balance-sheet, bal'-āns-shēt, *n.* summary of accounts.
Balcony, bal'-kūn-i, *n.* projecting portion of a building.
Bald, bāld, *adj.* hairless; surrounded by railing.
Balderdash, bal'-der-dash, *n.* senseless talk.
Baldrick, bal'-drik, *n.* a soldier's sash.
Bale, bāl, *n.* package or bundle; *v.* to throw out.
Baleen, bā-len, *n.* whalebone. [water.]
Balize, bal-iz, *n.* coast signal-post. [disappo.]
Balk, bawk, *n.* a beam or rafter; *v.* to check, to halt.
Bawl, bawl, *n.* any round substance; an assembly of ball players.
Bawle, baw'-le, *n.* a simple game.
Ballast, bal'-ist, *n.* weight added to a ship of light cargo to keep her steady. [stage dance.]
Pallet, bal'-lā, *n.* a dance with pantomimic action; a Ballistite.
Ballistite, bal'-is-tit, *n.* an explosive powder.
Balloon, bal-loon', *n.* an inflated bag of paper or silk that floats in the air.
Ballot, bal'-it, *n.* a voting ticket; secret voting; *v.* to ballot.
Balm, bām, *n.* an ointment. [select by balloting.]
Balmy, bām'-i, *adj.* fragrant, soothing. [an ointment.]
Balsam, baw'-sām, *n.* a genus of herbaceous plants;
Balustrade, bal-us-trād', *n.* a row of balusters.
Bamboo, bam-boō', *n.* a hollow Asiatic reed.
Bamboozle, bam-booz'-l, *v.* to confuse.
Ban, *n.* proclamation of banishment; *v.* to banish.
Banal, ban'-l, *adj.* trifling, absurd. [lands.]
Banana, ban'-ā-nā, *n.* a nutritious fruit of tropical land.
Band, band', *n.* any material used to bind things with; a body of musicians; a company associated for any set purpose. [poses.]
Bandage, band'-ij, *n.* strip of cloth for binding purposes.
Bandana, band-an-ā', *n.* an Oriental handkerchief of silk or cotton.
Bandbox, band-boks, *n.* a light receptacle for hats.
Bandit, band'-it, *n.* a robber, an outlaw. [etc.]
Bandoleer, band-do-ler', *n.* ammunition belt.
Bandoline, band-do-lin, *n.* hair stiffening substance.
Bandrol, band-rōl, *n.* small banner borne on a lance.
Bandy, bag'-d, *n.* a bent club used in a ball game; crooked.
Bandy-legged, band'-l-egd, *adj.* having crooked legs.
Bang, *n.* a sudden blow. [take root.]
Banjan, ban'-jān, *n.* an Indian tree whose branches are used to order into exile.
Banisher, ban'-is-ter, *n.* same as baluster. [order.]
Banjo, ban'-jo, *n.* a stringed instrument of the guitar.
Bank, bank', *n.* a mound; a place where money is deposited. [current all money.]
Bank-note, bank-nōt, *n.* note issued by a bank and

Bankrupt, bank'rupt, *n.* one who becomes insolvent.
Bankruptcy, bank'rupt-si, *n.* the condition of being bankrupt.
Banner, ban'ar, *n.* a military flag. [bankrupt.]
Bannock, ban'ok, *n.* a cake made of oatmeal.
Banns, bans, *n.* proclamation of intended marriage.
Banquet, ban'ket, *n.* a feast.
Banshee, ban'she, *n.* an Irish female fairy.
Bantam, ban'tam, *n.* a variety of small fowl.
Banger, ban'ter, *n.* railway.
Bantling, ban'ting, *n.* an infant.
Baptism, bap'tizm, *n.* a religious ceremony by sprinkling of or immersion in water.
Baptist, bap'tist, *n.* one who believes in baptism.
Baptistry, bap'tis-ti-ri, *n.* the place where baptisms are performed. [be intercepted or toll taken.]
Bar, bār, *n.* a rod or bolt; barriers where passage can be barred.
Barb, bārb, *n.* a jagged point.
Barbarian, bar-bā'ri-an, *n.* a savage.
Barbarism, bar-bēr-izm, *n.* savage life.
Barbarous, bar-bēr-us, *adj.* savage, cruel.
Barbecue, bar-bi-kew, *v.* to roast whole.
Barber, bar'bār, *n.* one who shaves and dresses hair.
Hard, bārd, *n.* a poet, a singer.
Bardic, bārd'ik, *adj.* pertaining to bards.
Bare, bār, *adj.* uncovered.
Barefaced, bār'fāst, *adj.* with face uncovered; im-
Barege, bar-āzh, *n.* a light silky fabric. [pudent.]
Bargain, bār'gin, *n.* a contract; a favourable pur-
Barge, bārj, *n.* a flat-bottomed boat. [chase.]
Baritone, bār'i-tōn, *n.* voice between tenor and bass.
Bark, bārk, *n.* the rind of a tree.
Barley, bār'li, *n.* grain from which malt is made.
Barleycorn, bār'li-korn, *n.* a barley grain.
Barn, bārn, *n.* building for storage of grain, etc.
Barrel, bār'naki, *n.* a shellfish that sticks to ships' bottoms and rocks; irons put on horses' noses to keep them quiet.
Barometer, bar-om'ē-tēr, *n.* an instrument for measur-
 ing the pressure of the atmosphere. [of Pears.]
Baron, bār'un, *n.* the lowest title of rank in the House
Baronage, bār-un-āj, *n.* the whole of the barons.
Baronet, bār'ō-net, *n.* the lowest British hereditary
Baronetcy, bār-un'et-si, *n.* rank of baronet. [title.]
Barony, bār'un, *n.* the territory of a baron.
Barouche, bār-roosh, *n.* a four-wheeled carriage.
Barque, bār'k, *n.* a small ship.
Barrack, bār'uk, *n.* a building for soldiers. [river.]
Barrage, bār-āj, *n.* an artificial bar for deepening a
Barratry, bār-rā-trē, *n.* fraudulent practices in conuec-
Barrel, bār'ul, *n.* a cylindrical cask. [tion with ships.]
Barrenness, bār'un-ness, *n.* unfruitfulness.
Barricade, bār'ik-kād, *n.* temporary fortification.
Barrier, bār'ī-tur, *n.* a defence; a boundary.
Barister, bār'is-tur, *n.* a member of the legal bar.
Barrow, bār'rō, *n.* a one-wheel hand cart.
Bar-shot, bār'shot, *n.* a bar with a shot at both ends.
Barter, bār'tur, *v.* to exchange.
Basalt, bās-aw'it, *n.* an igneous rock.
Basalisk, bās-ō'lik, *adj.* pertaining to basalt.
Base, bās, *n.* foundation; the chief ingredient.
Base-ball, bās-bawl, *n.* an American game of the
 rounders.
Basement, bās'ment, *n.* the lowest storey of a building.
Basin, bās'aw, *n.* a Pasha.
Basinful, bās'ful, *adj.* shy.
Basil, bās'il, *n.* an aromatic plant.
Basilisk, bās'il-isk, *n.* a fabulous dragon with fiery
 eyes; a tropical lizard.
Basin, bās'in, *n.* an open dish; a dock.
Basin, bās'is, *n.* foundation.
Basin, bās'is, *v.* to lie in the sun.
Basket, bās'kē, *n.* a receptacle made of cane or
Basket, bās'kē-net, *n.* a light kind of cradle. [rusher.]
Basoon, bās-ōon, *n.* a wind instrument. [in low relief.]
Bas-relief, bās-ri-leef, *n.* figures sculptured or carved
Basard, bās'tard, *n.* a child born out of wedlock.
Baste, bāst, *v.* to beat; to form fat over meat. [1789.]
Bastille, bās'tēl, *n.* an old Paris prison destroyed in
Bastinado, bās'tinā-dō, *v.* punishment by beating the
 sole of the feet. [forthed building.]
Bastion, bās'ti-on, *n.* a tower at the angles of a

Bat, *n.* a winged animal with a mouse-like body.
Bateau, bā-to', *n.* a Canadian river boat.
Batch, *n.* a set; a collection of things.
Bathos, bā'thos, *n.* ludicrous writing or speech.
Baton, bā-ton, *n.* a conductor's wand; a staff or
 a truncheon.
Battalion, bāt'al-yun, *n.* a body of soldiers.
Batten, bāt'ten, *v.* to get fat.
Batter, bāt'er, *v.* to beat; *n.* ingredients beaten into
Battery, bāt'er-i, *n.* an equipment of cannon. [paste.]
Batting, bāt'ting, *n.* sheets of cotton fibre. [ants.]
Battle, bāt'l, *n.* a combat of troops or other contest.
Battledore, bāt'dōr, *n.* a bat for playing shuttlecock.
Battlement, bāt'lment, *n.* an embasured wall.
Battue, bāt-too, *n.* game driving for convenience of
 Bauble, baw'til, *n.* a trifle; a plaything. [shooting.]
Bawd, *n.* a procurer or procuress.
Bay, bā, *adj.* reddish-brown colour; an inlet of the
 sea; the space between two columns.
Bayadere, bā-i-dār, *n.* a Hindu dancing-girl.
Bayonet, bā-i-onet, *n.* a stabbing instrument fixed to the
 muzzle of a rifle.
Bayou, bā-yoo, *n.* outlet of lake or river.
Bay-window, bā'win-dō, *n.* a projecting window.
Bazaar, bā-zār, *n.* an oriental market place; a fancy
 Beak, bēk, *n.* the shore. [fair.]
Beacon, bē'kun, *n.* a signal fire on a hill.
Bead, bēd, *n.* a little pierced ball through which a
 string can be threaded.
Beardroll, bēd'rōl, *n.* a list of names.
Beardman, bēd'man, *n.* formerly an official employed
Beagle, bē'gl, *n.* a small hound. [to pray for others.]
Beak, bēk, *n.* a bird's bill.
Beaker, bē'ker, *n.* a drinking cup.
Beam, bērn, *n.* a supporting piece of timber or iron.
Bean, bēn, *n.* the name of several varieties of plants
 whose pods are seeds.
Beard, bēd, *v.* to support or endure.
Beard, bēd, *n.* the hair of the chin.
Bear-garden, bārgard-un, *n.* the place where bears
 are confined; a noisy assembly.
Bearing, bāring, *n.* behaviour attitude.
Beast, bēst, *n.* any four-footed animal; a vulgar
 person. [to strike.]
Beatitude, bē-at'it-ud, *adj.* making blessed or happy.
Beatitude, bē-at'it-ud, *n.* act of beatifying.
Beatitude, bē-at'it-ud, *v.* to render blessed.
Beatitude, bē-at'it-ud, *n.* divine happiness.
Beau, bō, *n.* a man of fashion; a dandy, a lover.
Beau-ideal, bō-dē'al, *n.* an ideal standard of
 excellence.
Beauteous, bē'ut-us, *adj.* abounding in beauty.
Beautiful, bē'ut-ful, *adj.* fair; pleasing; admirable.
Beautify, bē'ut-fi, *v.* to render beautiful.
Beauty, bē'ut, *n.* a combination of attractive qualities.
Beaver, bē'ver, *n.* an amphibious rodent.
Be calm, bē-kām, *v.* to inake calm.
Because, bē-kawz, *adv.* and *conj.* by reason of.
Beacon, bē'kun, *v.* to signal to.
Becloud, bē-klo'ud, *v.* to make dim by clouds.
Bed, *n.* a place to sleep on; a garden plot.
Bedchamber, bēd'chām-ber, *n.* sleeping room.
Bedding, bēd'ing, *n.* materials for the bed.
Bedlamite, bēd'lām-i, *n.* a lunatic.
Bedridden, bēd'rīd-n, *adj.* confined to bed.
Bedstead, bēd'stēd, *n.* frame of a bed.
Bee, *n.* a honey-making insect.
Beech, bēch, *n.* a forest tree with smooth bark.
Beechen, bē'chun, *adj.* beechlike.
Beef, *n.* ox or cow flesh.
Beef-eater, bēf'ē-tur, *n.* a yeoman of the guard.
Bee-hive, bē'hiv, *n.* receptacle for keeping bees.
Beer, bēr, *n.* liquor made from barley and hops.
Beet, bēt, *n.* a plant used for food and sugar making.
Beetle, bētl, *n.* a well-known insect; a wooden mallet.
Beetles, bēvs, *n.* cattle.
Befitting, bē'fit-ing, *adj.* suitable.
Befogged, bē-fog'd, *adj.* obscured in fog; confused.
Befool, bē-fool, *v.* to deceive, or make look foolish.
Before, bē-for, *prep.* in front of or in presence of.
Beget, bē-ge't, *v.* to produce or generate.
Beggar, bēg'ar, *n.* one who begs.

dāy; āt; arm; five; ēik; there; ice; pin; machine; bold; pōt; storm; mātē; tūb; bārn.

Beggary, beg'-ar-ee, *adj.* mean, poor.
Beggarly, beg'-ar-ly, *n.* poverty.
Begins, bi-'gin, *v.* to commence.
Beguilement, bi-'guil-ment, *n.* allurement.
Begum, be-'gum, *n.* an Indian princess.
Begunk, bi-'gunk', *v.* to deceive.
Behalf, bi-'hâf, *n.* favour or benefit.
Behave, bi-'hâv, *v.* to bear or conduct properly.
Behaviour, bi-'hâv-i-or, *n.* conduct; good manners.
Behind, bi-'hind, *adv.* off the head.
Behest, bi-'hest, *n.* command.
Behind, bi-'hind, *prep.* at the rear of.
Behoof, bi-'hoof, *n.* benefit.
Behove, bi-'hoov, *v.* to be fit for.
Bejan, be-'jan, *n.* a freshman of certain Scotch universities.
Belknown, bi-'lôn, *adj.* known.
Belabour, bi-'lâ-br, *v.* to beat.
Belated, bi-'lâ-ted, *adv.* too late.
Belaud, bi-'lâw'd, *v.* to praise.
Belch, belch, *v.* to void wind by the mouth.
Beleaguer, bi-'lê-gur, *v.* to besiege.
Belfry, bel-'fri, *n.* tower where bells are kept.
Belgravian, bel-'grâv-i-an, *adj.* fashionable.
Belle, bi-'lê, *v.* to contradict; falsify.
Bellef, bi-'lêf, *v.* to make small.
Belladonna, bel-'lâ-don-nâ, *n.* the deadly nightshade.
Belle, bêl, *n.* a beautiful woman.
Belles-lettres, bel-'lê-t'r, *n.* choice literature.
Bellicose, bel-'kôs, *adj.* contentious.
Belligerent, bel-'jî-ur-ent, *adj.* carrying on warfare;
n. a fighting war.
Bell-metal, bel-'metl, *n.* metal from which bells are
 made.
Bellow, bel-'ô, *v.* to cry out violently.
Bellows, bel-'ôz, *n.* an instrument for blowing the fire.
Bell-wether, bel-'wê-thr, *n.* the leader of a flock of sheep.
Belly, bel-'i, *n.* the lower part of the body.
Belong, bi-'lông, *v.* to pertain to.
Below, bi-'lô, *prep.* beneath.
Bench, benç, *n.* a long seat.
Bencher, bench-ur, *n.* a senior member of one of the
 Inns of court.
Bend, v. to curve.
Beneath, bi-'nêth, *prep.* under, or lower.
Benedict, ben-'dik-t, *n.* a newly married man.
Benediction, ben-'dik-shun, *n.* a blessing.
Benefaction, ben-'fak-shun, *n.* a good deed.
Beneficed, ben-'fî-sed, *adj.* having a benefice.
Beneficent, ben-'fî-sent, *adj.* charitable.
Beneficial, ben-'fî-sh'ul, *adj.* advantageous.
Beneficiary, ben-'fî-sh'ur-l, *n.* one who enjoys or
 expects to enjoy an estate held in trust.
Benefit, ben-'fî-t, *n.* a favour.
Benevolent, ben-'êv-ô-lent, *adj.* charitable; generous.
Benight, bi-'nî-t, *v.* to plunge into darkness.
Benighted, bi-'nî-t'ed, *adj.* overtaken by night; ignorant.
Benignity, ben-'îgn-î-ti, *n.* kindness.
Benison, ben-'î-sun, *n.* blessing.
Bent, *n.* tendency; bias; *adj.* curved.
Benzoin, ben-'zô-in, *n.* an aromatic gum.
Bepraise, bi-'prâ-z, *v.* to praise excessively.
Bequeath, bi-'kwê-th, *v.* to will personal property.
Bequest, bi-'kwê-st, *n.* the thing bequeathed; bequest.
Bereavement, bi-'rê-ment, *n.* the state of being be-
 rieved.
Berry, ber-'i, *n.* fruit with naked seeds.
Berth, bêrt, *n.* a sleeping place on board ship.
Beryl, ber-'il, *n.* a precious stone.
Beseech, bi-'sêch, *v.* to implore.
Beseeming, bi-'sê-mîng, *n.* worthy.
Beset, bi-'sê-t, *v.* to besiege; to assail.
Besetting, bi-'sê-tîng, *adj.* perplexing.
Beshrew, bi-'shroo', *v.* to curse.
Beside, bi-'sid, *prep.* near.
Besides, bi-'sidz, *prep.* in addition.
Besiege, bi-'sê-j, *v.* to lay siege to.
Besmead, bi-'smê-d, *v.* to becloud.
Besook, bi-'sook, *v.* to render sottish.
Besoon, be-'soon, *v.* to sweep implement.
Bespeak, bi-'spêk, *v.* to engage beforehand.
Best, *adj.* supremely good.
Bestial, bes-'tî-âl, *adj.* bestial; rude.
Bestir, bi-'stê-r, *v.* to become active.
Bestowal, bi-'stow-âl, *n.* the act of bestowing.

Bestrew, bi-'stroo', *v.* to scatter loosely.
Bet, *n.* a wager.
Betake, bi-'tâk, *v.* to take oneself to.
Bethink, bi-'thîng', *v.* to recall.
Betimes, bi-'tî-mîs, *adv.* in good time.
Betoken, bi-'tô-k'n, *v.* to give sign of.
Betray, bi-'trâ, *v.* to deceive.
Betrayal, bi-'trâ-âl, *n.* act of betraying.
Better, bet-'r, *adj.* comparative of good.
Betwixt, bi-'trîth', *v.* to become affianced.
Betwixtment, bi-'trîth-ment, *n.* improvement.
Between, bi-'twên, *prep.* in the middle of.
Bevel, bev-'ul, *n.* a slanting edge.
Beverage, bev-'er-îd-j, *n.* liquid refreshment.
Bevy, bev-'i, *n.* a brood, flock or company.
Bewail, bi-'wâ-l, *v.* to mourn.
Bewilder, bi-'wîl-dê-r, *v.* to perplex.
Bewitching, bi-'wîch-îng, *adj.* charming.
Bewray, bi-'îd, *v.* to accuse.
Bey, bâl, *n.* a Turkish governor.
Beyond, bi-'yond, *prep.* farther; out of reach.
Bezels, bez-'l, *n.* the setting of a precious stone.
Besique, bi-'zêk, *n.* a card game.
Bias, bi-'âs, *n.* a leaning to one side.
Bib, bi-'b, *n.* a cloth placed beneath an infant's chin.
Bible, bî-'bl, *n.* the Old and New Testaments.
Biblical, bî-'bî-lik-âl, *adj.* relating to the Bible.
Bibliography, bî-'bî-ô-grâ-f-i, *n.* knowledge of books.
Bibliolatri, bî-'bî-ô-lâ-trî, *n.* superstitious regard for
 the Bible.
Bibliomaniac, bî-'bî-ô-mâ-nî-ak, *n.* a person possessed
 with a mania for books.
Biceps, bi-'sêp, *n.* the muscle of the upper part of the
 arm.
Bicker, bik-'r, *v.* to contend querulously.
Bicorn, bi-'kôr-n, *adj.* double-horned.
Bicycle, bi-'sîkl, *n.* a two-wheeled cycle.
Bid, v. to propose; to offer.
Bide, bîd, *v.* to wait for.
Bident, bi-'den-t, *n.* with two teeth.
Bidet, bi-'dê-t, *n.* a small horse.
Biennial, bi-'ên-î-âl, *adj.* every two years.
Bier, bêr, *n.* carriage or frame for conveying the dead.
Bifacial, bi-'fâ-shî-âl, *adj.* having two similar faces.
Bifidate, bi-'fîd-ât, *adj.* cloven in two.
Bifurcation, bi-'fûr-kâ-shun, *n.* two-forked division.
Bifurcated, bi-'fûr-kâ-sh'ed, *adj.* large.
Bignam, bi-'gî-nî, *n.* being doubly married.
Bight, bit, *n.* a small bay.
Bigot, big-'ut, *n.* a blind supporter.
Bigotry, big-'ô-trî, *n.* excess of zeal.
Bilateral, bi-'lâ-têr-âl, *adj.* with two sides.
Bilbo, bi-'bô, *n.* a rapier.
Bile, bil, *n.* a bitter fluid secreted by the liver.
Blige, blî, *n.* the part that bulges.
Billous, blî-'us, *adj.* affected by bile.
Bilingual, bi-'ling-wâl, *adj.* concerning two languages.
Bill, *n.* a hatchet; a bird's beak; an account.
Billet, blî-'et, *n.* a small log; a little note.
Billards, bi-'lâ-rds, *n.* a table game with cue and balls.
Billions, blî-'ô-n, *n.* a million millions.
Billow, blî-'ô, *n.* a sea wave.
Bimamorous, bi-'mâ-n'us, *adj.* pertaining to the human
 Gimetallism, bi-'mê-t'al-î-zm, *n.* a monetary system in
 which silver and gold are on equal footing.
Binary, bi-'nâr-î, *adj.* two-fold.
Bind, bind, *v.* to fasten together.
Binnacle, bî-'nî-k'l, *n.* the case in which the ship's com-
 pass is placed.
Binocular, bi-'nô-k'û-lêr, *adj.* two-eyed.
Binomial, bi-'nôm-î-âl, *adj.* consisting of two parts.
Biogenesis, bi-'ô-jen-'ê-sîs, *n.* natural generation.
Biograph, bi-'ô-grâf, *n.* an apparatus by which photo-
 graphed objects are shown in motion.
Biography, bi-'ô-grâ-f-i, *n.* personal history.
Biology, bi-'ô-lô-jî, *n.* the science of life.
Bipartite, bi-'pâr-tî-t, *adj.* having two at a birth.
Bipartite, bi-'pâr-tî-t, *adj.* in two equal parts.
Biped, bi-'pêd, *n.* a two-footed animal.
Bipinnate, bi-'pîn-'at, *adj.* two-winged.
Biplane, bi-'plân, *n.* a flying machine with two planes.
Biquadratic, bi-'wôd-râ-tî-k, *n.* a twice-squared quantity.

dây; ât; ârm; êve; êlk; thêre; îce; pîn; machine; bôld; pôr; stôrm; mîtte; tûb; bân.

Birchen, *bîrsh'en*, *adj.* made of birch.
Bird, *berd*, *n.* a feathered animal.
Birdseye, *berd'si*, *n.* a kind of tobacco.
Biretta, *bîr-et'ta*, *n.* a square cap worn by ecclesiastics.
Birl, *berl*, *v.* to spin round.
Birth, *berth*, *n.* the act of bearing offspring.
Biscuit, *bîs'kit*, *n.* small cake of dried bread.
Bisect, *bî-sekt'*, *v.* to divide into two parts.
Bisecton, *bî-sek'shun*, *n.* division into two.
Bishop, *bîsh'up*, *n.* an ecclesiastic having direction of a diocese.
Bismuth, *bîz'muth*, *n.* a reddish-white metal.
Bison, *bî'son*, *n.* a wild animal of the buffalo species.
Bistre, *bîs'ter*, *n.* a warm brown pigment.
Bisulcate, *bî-sul'kat*, *n.* a salt of sulphuric acid.
Bite, *bît*, *v.* to seize with the teeth.
Bitters, *bî'terz*, *n.* extract of bitter herbs. [stances.]
Bitumen, *bî-tû'men*, *n.* inflammable mineral substance.
Bivalve, *bî-valv*, *n.* an animal with two shells.
Bivouac, *bî-voo'ak*, *n.* soldiers camping at night in the field.
Bizarre, *bîz'ar*, *adj.* odd, extravagant. [open.]
Blab, *v.* to tell secrets.
Black, *blak*, *adj.* the darkest colour; obscure; malignant.
Blackball, *blak'bawl*, *v.* to reject on a ballot. [nant.]
Black-cattle, *blak'kati*, *n.* oxen, bullocks and cows.
Blackguard, *blak'gârd*, *n.* vulgar fellow.
Blackleg, *blak'leg*, *n.* a swindler: a man who works for wages against which others have struck.
Blackletter, *blak'leter*, *n.* old English type.
Blackmail, *blak'mail*, *n.* forced tribute: hush money.
Black-rood, *blak'rod*, *n.* a Parliamentary official.
Blacksmith, *blak'smith*, *n.* a worker in iron.
Bladder, *blâdr*, *n.* the bag which holds the urine.
Blade, *blâd*, *n.* a leaf of grass; the cutting part of a knife.
Blaine, *blân*, *n.* a boil. [knife.]
Blame, *blâm*, *v.* to censure, to find fault with.
Blamable, *blâm'abl*, *adj.* deserving of blame.
Blanch, *blansh*, *v.* to whiten.
Blanc-mange, *blân-mangzh'*, *n.* a jelly prepared with flour and milk.
Blasphemy, *blas'fem*, *n.* flattery.
Blasphemy, *blas'fem*, *n.* empty: without marks: vacant.
Blanket, *blangk'et*, *n.* a woollen bed covering.
Blare, *blâr*, *v.* to make a loud noise.
Blasphemy, *blas'fem*, *n.* to swear.
Blasphemy, *blas'fem*, *n.* profane speaking.
Blast, *n.* a gust of wind.
Blatant, *blât'ant*, *adj.* noisy.
Blate, *blât*, *adj.* awkward, bashful.
Blatter, *blât'ter*, *v.* to prate: *n.* a clash of words.
Blazon, *blâzon*, *v.* to publicly notify.
Blazony, *blâz-on-ri*, *n.* the drawing of coats of arms.
Blanch, *bleach*, *v.* to whiten.
Black, *blêk*, *adj.* cold, cheerless.
Blackness, *blêk'ness*, *n.* the condition of being black.
Blair, *blêr*, *adj.* dim, blurred.
Blat, *blêt*, *v.* a sheep's cry.
Bleb, *n.* a blister.
Bleed, *blêd*, *v.* to loose blood.
Blemish, *blêm'ish*, *n.* defect, stain.
Bleish, *blêsh*, *v.* to shrink or frown.
Bleed, *v.* to mix.
Bless, *v.* to invoke happiness upon.
Blessing, *blêss'ing*, *n.* a wish for happiness.
Blether, *blêth'er*, *v.* to talk nonsense; garrulous non-sensical.
Blethronism, *blêth'un-izm*, *n.* water divination. [sense.]
Blight, *blît*, *n.* a withering disease in plants.
Blind, *blînd*, *adj.* without sight.
Blindfold, *blînd'fold*, *adj.* with the eyes bandaged.
Blindside, *blînd'sîd*, *n.* the side on which a person is not risk.
Blisk, *v.* to wink.
Bliss, *n.* supreme happiness.
Blisters, *blîs'ter*, *n.* a watery bubble on the skin.
Blithe, *blîth*, *adj.* gay, happy.
Blizzard, *blîz'ard*, *n.* a severe snowstorm.
Bloated, *blô'ted*, *adj.* puffed out.
Bleater, *blô'ter*, *n.* a cured herring.
Blot, *n.* a drop of liquid.
Block, *n.* a mass of wood or stone: an obstruction.
Blockade, *blôk'ad*, *n.* a state of siege.
Blockhead, *blôk'hêd*, *n.* a stupid person.

Block-system, *blôk'sîst-em*, *n.* a signalling method by which two trains cannot be in one section at once.
Blonde, *blônd*, *n.* a fair-complexioned person.
Blood, *blôd*, *n.* the red life fluid of men and animals; descent, relationship. [stained, murderous.]
Bloody, *blôd'i*, *adj.* of the nature of blood; blood-bloom, *v.* to come into flower; to flourish.
Bloomer, *blôom'er*, *n.* a style of dress invented by Mrs. Bloomer.
Bloomery, *blôom'er-i*, *n.* a forge for iron.
Blot, *n.* a stain; an obliteration.
Blotch, *blôtch*, *n.* a spot on the skin.
Blotter, *blôt'ter*, *n.* a blotting book.
Blouse, *blôuz*, *n.* a loose outer bodice.
Blow, *n.* a knock; a sudden calamity; a current of air.
Blower, *blô'er*, *n.* a machine for creating air blasts.
Blow-pipe, *blô'pîp*, *n.* a pipe through which air is blown.
Blubber, *blub'ur*, *n.* the fat of whales. [blown.]
Bludgeon, *blud'jun*, *n.* a cudgel.
Blue, *blôo*, *n.* sky-colour.
Blue-book, *blôo'book*, *n.* Parliamentary papers.
Blue, *blôo*, *n.* delirium tremens.
Blue-stocking, *blôo'stock'ing*, a literary lady of letters.
Bluff, *bluf*, *adj.* blustering. [pedantic style.]
Blunder, *blun'der*, *v.* to make an error; *n.* a mistake.
Blunderbuss, *blun'der-bûs*, *n.* an old-fashioned hand-gun.
Blunt, *adj.* rough-edged. [gun.]
Blur, *blûr*, *n.* a stain, spot, or blemish.
Blurt, *v.* to speak abruptly.
Blushing, *blush'ing*, *n.* the act of turning red.
Bluster, *blus'ter*, *v.* to swagger noisily; *n.* boastfulness.
Boa, *bô*, *n.* a garment of fur or feathers worn round the neck by ladies.
Boar, *bô-er*, *n.* a male hog. [the neck by ladies.]
Board, *bawrd*, *n.* a thin sheet of timber: food.
Boarder, *bawrd'er*, *n.* a person who is boarded.
Boast, *bôst*, *v.* to brag.
Boat, *bôt*, *n.*
Boatswain, *bô'sun*, *n.* ship's petty officer.
Bob, *v.* to move jerkily up and down.
Bobbin, *bôb'in*, *n.* a reel on which thread is wound.
Bobtail, *bôb'tâl*, *n.* a short tail.
Bocking, *bôk'ing*, *n.* a game.
Bode, *bôd*, *v.* to foreshadow.
Bodge, *bôj*, *v.* to do deficient work.
Bodice, *bôd'is*, *n.* a woman's garment covering the bust.
Boding, *bôd'ing*, *n.* an omen. [bust.]
Bodkin, *bôd'kin*, *n.* instrument for pricking holes.
Body, *bôd'i*, *n.* the human frame; the middle part of an animal.
Bodyguard, *bôd'i-gârd*, *n.* a personal guard. [animal.]
Boggle, *bôg'l*, *v.* to hesitate, or start.
Boggy, *bôg'i*, *adj.* marshy.
Bogus, *bô'gus*, *adj.* sham.
Bohea, *bô'hê*, *n.* a Chinese tea.
Bohemian, *bô'hê-mi'an*, *n.* and *adj.* a person of irregular habits.
Boil, *v.* to heat to bubbling point. [lar habits.]
Boisterous, *bôis'ter-us*, *adj.* turbulent; noisy; wild.
Bold, *adj.* daring.
Boll, *lôl*, *n.* a pod or seed vessel.
Bolster, *bôl'ster*, *n.* a long pillow.
Bolt, *n.* a bar; an arrow; a thunderbolt; *v.* to fasten.
Boltus, *bôl'us*, *n.* a large pill. [with a bolt.]
Bomb, *bôm*, *n.* an explosive projectile.
Bombardment, *bôm-bard'ment*, *n.* attacking with bombs.
Bombast, *bôm'bast*, *n.* pompous language.
Bombazine, *bôm-bâ-zîn*, *n.* a twilled fabric.
Bombastic, *bôm-bast'ik*, *adj.* inflated.
Bonanza, *bôn-an'za*, *n.* a rich mine.
Bond, *n.* that which binds; connecting link; a document covenanting to pay.
Bondage, *bôn'dij*, *n.* captivity.
Bondaman, *bôn'da'man*, *n.* a slave or surety.
Bone, *bôn*, *n.* substance of the skeleton.
Bonfire, *bôn'fir*, *n.* an open-air fire.
Bonnet, *bôn'et*, *n.* a head covering.
Bonny, *bôn'i*, *adj.* handsome; pleasing.
Bonus, *bô'nus*, *n.* a sum in excess of the usual interest.
Bony, *bô'nî*, *adj.* thin of flesh.
Bonze, *bônz*, *n.* a Buddhist priest.
Booby, *bôo'bi*, *n.* a stupid fellow. [gethef.]
Book, *book*, *n.* written or printed matter bound together.
Book-keeping, *book'keep'ing*, *n.* the art of accounts.
Bookmaker, *book'mâk'r*, *n.* one who bets by a system.

day; âr; ârm; ðe; ðik; there; ðe; pîn; machine; bold; pôr; stôrm; môte; tûb; bûrn.

Bookworm, *hook'wurm*, *n.* a man devoted to reading.
Boom, *n.* a sail-bearing pole; *v.* a rush.
Boomerang, *boom'er-ang*, *n.* a missile used by Australian natives.
Boon, *n.* gift, benefit.
Boor, *n.* a rough peasant.
Boorish, *boor'ish*, *adj.* awkward.
Boot, *n.* a covering for the foot and lower part of leg.
Booth, *n.* a covered temporary erection.
Bootjack, *boot'jak*, *n.* an instrument for taking off boots.
Bootless, *boot'less*, *adj.* useless.
Boot-tree, *boot-tree*, *n.* a last.
Booty, *boot'i*, *v.* plunder.
Border, *baw'der*, *n.* an edge, margin, or boundary.
Bore, *bör*, *v.* to pierce; *n.* one that wears.
Soreal, *bö'rial*, *adj.* relating to the north wind.
Born, *baw'n*, *v.* brought into life.
Bo, *v.* a corporate town.
Borrow, *bor'ow*, *v.* to obtain on loan.
Boscage, *bos'kad*, *n.* thick woodland.
Bosh, *n.* nonsense.
Bosky, *adj.* woody.
Bosom, *bos'am*, *n.* the breast.
Boss, *n.* manager or foreman.
Bossy, *bos'i*, *adj.* knobby.
Botany, *bot'ani*, *n.* the science of plants.
Botch, *n.* a swelling; badly performed work.
Both, *adj.* and *pron.* the two.
Bother, *both'er*, *v.* to perplex.
Bottle, *bot'l*, *n.* a vessel for holding liquid.
Bottle-holder, *bot'tle-hol'der*, *n.* a prize-fight official.
Bottom, *bot'am*, *n.* the lowest part.
Bottomry, *bot'am-ri*, *n.* mortgage of a ship.
Boudoir, *boud-waw'r*, *n.* a lady's private room.
Bough, *baw*, *n.* a branch of a tree.
Bougie, *bou'hee*, *n.* a medical instrument for distending contracting parts.
Boulder, *boul'der*, *n.* a large stone.
Boulevard, *boul'vair*, *n.* a promenade bordered with haunts.
Bounce, *baw'n*, *v.* to rebound; *n.* swagger.
Bound, *baw'nd*, *v.* to leap; held together; *n.* limit.
Boundary, *baw'n'der-i*, *n.* a defined limit.
Boulder, *baw'den*, *adj.* obligatory.
Bounty, *baw'n'ti*, *n.* a gift.
Boquet, *bou'kät*, *n.* a bunch of flowers.
Bougeois, *bur'jois*, *n.* a kind of printing type.
Bourn, *baw'n*, *n.* a limit or goal.
Source, *boorse*, *n.* an exchange.
Bout, *baw't*, *n.* a turn or round.
Bow, *bow*, *adj.* connected with cattle.
Bow, *v.* to bend; to submit.
Bowels, *baw'elz*, *n.* the entrails.
Bower, *baw'er*, *n.* a shady recess.
Bowling, *baw'lin*, *n.* a domestic game; a wooden ball.
Bowline, *baw'lin*, *n.* a certain ship's rope.
Bowsprit, *baw'sprit*, *n.* a spar at the head of a ship.
Bowstring, *baw'string*, *n.* the string of a bow; string used in Turkey for strangling criminals.
Box, *boks*, *n.* a tree of very hard wood; a crate.
Boxer, *boks'er*, *n.* one who boxes with gloves or fists.
Boy, *n.* a male child.
Boycott, *bay'kot*, *v.* to refuse dealings with.
Boynood, *baw'nood*, *n.* the state of being a boy.
Braccate, *brak'at*, *adj.* having feathered feet.
Brace, *bräs*, *n.* what draws together; a carpenter's.
Bracelet, *bray'let*, *n.* a wrist ornament.
Brachial, *brak'ial*, *adj.* connected with the arm.
Bracken, *brak'en*, *n.* fern.
Bracket, *brak'et*, *n.* a support fastened to the wall.
Brackish, *brak'ish*, *adj.* saltish.
Brad, *n.* a small nail.
Brag, *v.* to boast.
Braggadocio, *brag-ga-dö'si-ö*, *n.* a boaster.
Bragart, *brak'ert*, *n.* a boaster.
Bráimán, *brá'mán*, *n.* a Hindu priest.
Brail, *bräl*, *v.* to plait; *n.* plaited cord.
Brain, *brän*, *n.* the centre of the nervous system; the brain.
Brake, *bräk*, *n.* a contrivance for slackening the speed.
Bramble, *bram'bl*, *n.* a prickly shrub.
Brän, *brän*, *n.* the refuse of grain.
Branchial, *brang'ki-al*, *adj.* with branches.
Brand, *bränd*, *n.* a piece of burnt wood; a particular.
Brandish, *brand'ish*, *v.* to wave or flourish.

Brandy, *brand'i*, *n.* a spirit distilled from wine.
Brank, *v.* to prance or strut.
Brasier, *brä'zier*, *n.* a vessel for holding fire.
Brass, *n.* an alloy of copper and zinc.
Brattice, *brat'is*, *n.* a wooden partition.
Bravado, *brä-vä'do*, *n.* a swagger.
Brave, *bräv*, *adj.* courageous.
Bravery, *brä-ver-i*, *n.* courage.
Bravo, *brä'vo*, *n.* a hired assassin.
Bravura, *brä-vü'ra*, *n.* florid music.
Brawl, *n.* a noisy quarrel.
Brawny, *braw'ni*, *adj.* strong, muscular.
Brazy, *bräk'si*, *n.* a sheep's fleece.
Bray, *brä*, *v.* to pound; *n.* a donkey's cry.
Braze, *bräz*, *v.* to solder.
Brazen, *brä'zan*, *adj.* pertaining to brass; impudent.
Breach, *bräch*, *n.* an opening; law breaking.
Bread, *bräd*, *n.* food made from flour or meal.
Breadth, *bräd'th*, *n.* width.
Break, *bräk*, *v.* to sup; to crush; to time.
Breakage, *bräk'ij*, *n.* the action of breaking.
Breaker, *bräk'er*, *n.* a wave that breaks on the shore.
Breakfast, *bräk'fast*, *n.* the morning meal.
Breakwater, *bräk'waw-ter*, *n.* an erection to break the force of water.
Bream, *bräm*, *n.* a small fresh water fish.
Breast, *bräst*, *n.* the part of the body next below the breastwork.
Breastwork, *bräst'work*, *n.* an entrenchment.
Breach, *bräch*, *n.* the air passing through the lungs.
Breech, *bräch*, *v.* to resurge.
Breed, *v.* brought forth; brought up.
Breach, *bräch*, *n.* the hind part of a thing.
Breeches, *bräch'es*, *n.* a garment worn by men on the lower limbs.
Breeching, *bräch'ing*, *n.* part of a horse's harness.
Breach-loader, *bräch'lö'der*, *n.* a fire-arm loaded at the breech.
Breed, *bräd*, *v.* to generate, to train.
Breeding, *bräd'ing*, *n.* the act of producing, bringing.
Breeze, *brüz*, *n.* a wind.
Briem, *bräm*, *n.* an ancient Irish judge.
Briem, *bräm*, *n.* a piece of brother.
Brevet, *brä'vet*, *n.* extra rank above an officer's pay.
Breviary, *brä've-ri*, *n.* book of the Roman service.
Brevier, *brä've-ri*, *n.* a kind of printing type.
Brevity, *brä've-ti*, *n.* shortness.
Brew, *broo*, *v.* to make a liquor.
Brewery, *broo'er-i*, *n.* a brew-house.
Bribe, *brüb*, *n.* a corrupt gift.
Brickbat, *bräk'bat*, *n.* a piece of brick.
Bridal, *brid'al*, *n.* a marriage.
Bride, *brüd*, *n.* a woman about to be or newly married.
Bride-cake, *brüd'käk*, *n.* wedding cake.
Bridegroom, *brüd'groom*, *n.* a man about to be or newly married.
Bridesmaid, *brüd'mäid*, *n.* a woman who attends the bride.
Bridewell, *brüd'well*, *n.* a prison.
Bridge, *brüd*, *n.* a structure spanning a river, stream, or canal.
Bridle, *brüd'l*, *n.* an instrument worn on horses' heads.
Bridoon, *brüd'oon*, *n.* a light saddle.
Brief, *bräf*, *n.* short statement of case for counsel.
Brier, *brä'er*, *n.* a prickly shrub.
Brig, *brig*, *n.* a two-masted vessel.
Brigade, *brig'id*, *n.* a body of troops.
Brigadier, *brig-a-dier*, *n.* an officer in command of a brigade.
Brigand, *brig'and*, *n.* a robber.
Brigantine, *brig'an'ten*, *n.* a small two-masted vessel.
Bright, *brät*, *adj.* shining, cheerful, lustrous.
Brill, *n.* a fish.
Brilliant, *brä'lyant*, *adj.* glittering, sparkling, splendid.
Brink, *n.* the brink of a stream or lake; the edge of a cliff.
Brimful, *bräm'fööl*, *adj.* completely full.
Brimstone, *bräm'ston*, *n.* sulphur.
Branded, *bränd'ed*, *adj.* marked with spots or streaks.
Brine, *brän*, *n.* salt water.
Bunk, *brängk*, *n.* the edge.
Briny, *brin'i*, *adj.* salty.
Brisk, *adj.* quick, active.
Brisket, *bräs'ket*, *n.* the part next to the rib.
Bristle, *bräs'tl*, *n.* short, stiff hair.

day; ät; äm; äve; älk; there; ice; pin; machine; bölj; püt; störm; müte; tüb; bäm.

- Cacao**, ka-kä'ō, *n.* a tropical plant bearing seeds from which cocoa and chocolate are made.
- Cache**, kash, *n.* a hiding-place.
- Cachexy**, ka-kek'si, *n.* an impoverished body or mind.
- Cachinnation**, kak-in-ä'shun, *n.* loud laughter.
- Cachou**, ka-shoo', *n.* a sweetmeat. [fowl.]
- Cackle**, kak'l, *n.* peculiar noise made by geese and cackles.
- Cacothetes**, kak-ö-thet's, *n.* a strong propensity.
- Cacography**, ka-kög'rafi, *n.* bad spelling.
- Cacophony**, kak-öf-ö-ni, *n.* discordant sounds.
- Cactus**, kak'tus, *n.* a hard prickly plant.
- Cad**, kad, *n.* a low fellow.
- Cadaverous**, ka-da-ver-üs, *a. tj.* ickily-looking.
- Caddie**, kad'i, *n.* a golf attendant.
- Caddy**, kad'i, *n.* a small box.
- Cade**, kad, *n.* a barrel.
- Cadence**, kä'dens, *n.* rhythmical fall of the voice.
- Cadet**, kä-det', *n.* a younger son; a naval or military cadet.
- Cadge**, kadj, *v.* to beg. [student.]
- Cadi**, kä'di, *n.* a Mahomedan judge.
- Caducean**, ka-dü'se-an, *a. tj.* like Mercury's wand.
- Caducous**, ka-dü's, *adj.* falling early.
- Caesum**, kä'sum, *n.* a pile of stones.
- Caesur**, kä'sur, *n.* a low fellow.
- Caesure**, kä'sör, *v.* to coax by flattery.
- Caesury**, kä'sör-ri, *n.* wheeling language.
- Cake**, käk, *n.* bread baked in a small pice; any flattened small mass.
- Calamity**, ka-lam'i-ti, *n.* misfortune.
- Calash**, ka-lash', *n.* a wheeled vehicle with folding top.
- Calcareous**, kal-kä're-üs, *adj.* containing chalk.
- Calamine**, kal'mi-ni, *v.* to whiten with.
- Calculation**, kal-kü-lä-shun, *n.* calculation to chalky.
- Calculus**, kal-kü-lüs, *n.* the mineral chalk powder.
- Calculable**, kal-kü-lä-bl, *adj.* capable of calculation.
- Calculate**, kal-kü-lät, *v.* to reckon.
- Calculator**, kal-kü-lät-ör, *n.* one who calculates.
- Calculus**, kal-kü-lüs, *n.* stone, *v.* advanced branch of mathematics.
- Caldron**, kal'drön, *n.* large kettle for boiling liquor.
- Calendar**, kal'en-där, *n.* table of days, months, etc.
- Calender**, kal'en-där, *n.* a press for dressing cloth.
- Calends**, kal'ends, *n.* the beginnings of the months.
- Calif**, käf, *n.* a young cow.
- Calibre**, kal'i-brer, *n.* size, strength.
- Calico**, kal'i-ko, *n.* cotton cloth.
- Caligraph**, kal'i-graf, *n.* a writing machine.
- Caligraphy**, kal'i-gräfi, *n.* penmanship.
- Calipers**, kal'i-pers, *n.* compasses.
- Caliphate**, kal'i-fat, *n.* the office of caliph.
- Calisthenics**, kal-is-then-iks, *n.* athletics.
- Call**, käw, *n.* the point of a horse-shoe; *v.* to fill up.
- Call**, käw, *v.* to cry out, to put a short rest, to name.
- Calliope**, kal-i-ö-pe, *n.* the muse of poetry.
- Calloes**, kal'üs, *a. tj.* unfeeling.
- Callow**, kal'ö, *a. tj.* featherless; beardless.
- Calm**, käm, *adj.* quiet, still.
- Calomel**, kal-ö-mel, *n.* a compound of mercury and chlorine.
- Caloric**, kal-ö-rik, *n.* heat.
- Calorific**, kal-ö-rik, *adj.* causing heat.
- Calotype**, kal-ö-tip, *n.* a kind of photography.
- Calumet**, kal'um-et, *n.* the pipe of peace.
- Calumniate**, kal'um-i-ät, *v.* to slander.
- Calumniator**, kal'um-i-ät-ör, *n.* a slanderer.
- Calumny**, kal'um-ni, *n.* a slanderous statement.
- Calvinism**, kal'vin-iz-m, *n.* the doctrines of Calvin.
- Calyx**, kal'iks, *n.* the outer cup of a flower.
- Cam brian**, *adj.* connected with Wales.
- Cambric**, kam'brik, *n.* fine linen.
- Camel**, kam'el, *n.* a humped Asiatic or African.
- Cameo**, kam'ë-ö, *n.* a gem carved in relief [animal].
- Camera**, kam'erä, *n.* apparatus for taking photographs.
- Camisade**, kam'i-sä-d, *v.* a night attack. [graphs]
- Camlet**, kam'let, *n.* a fine cloth.
- Camomile**, kam-ö-mil, *n.* a bitter plant.
- Camp**, kam, *n.* place where troops pitch their tents.
- Campaign**, kam-pän-i, *n.* a plan; military operations.
- Campanile**, kam-pän-ä-lä, *n.* a bell-tower.
- Campanology**, kam-pän-ö-lö-jä, *n.* the art of bell-making, or bell-ringing. [army.]
- Camp-follower**, kam'foll-ö-er, *n.* one who follows an army.
- Camphine**, kam-feen', *n.* rectified oil of turpentine.
- Camphorated**, kam'for-ä-ted, *adj.* imbued with camphor.
- Can**, kan, *v.* to be able; *n.* a vessel for holding liquids.
- Canal**, kä-näl, *n.* an artificial waterway.
- Canard**, kä-när', *n.* a false story.
- Canary**, ka-nä-ri, *n.* a yellow bird; canary colour.
- Cancel**, kan'sel, *v.* to erase.
- Cancellated**, kan'sel-ä-ted, *adj.* reticulated.
- Cancer**, kan'ser, *n.* a malignant tumour.
- Candelabrum**, kan-del-ä-brun, *n.* frame for branching.
- Candescence**, kan-des-ens, *n.* a white heat. [lights]
- Candid**, kan'did, *adj.* frank; ingenious.
- Candidate**, kan'did-ät, *n.* one who offers himself.
- Candle**, känd'l, *n.* a wax or tallow substance with a wick for lighting.
- Cane-brake**, kän-bräk, *n.* a thicket of canes.
- Canine**, ka-nin', *adj.* relating to the dog.
- Canister**, kan-is-ter, *n.* a box of wood or tin.
- Canker**, kang'ör, *n.* anything that corrupts gangrene.
- Cankerous**, kang'er-üs, *adj.* corroding.
- Canker-worm**, kang'er-wern, *n.* a worm that cankers.
- Cannel**, kan-el, *n.* bituminous coal. [plants]
- Cannibal**, kan-i-bal, *n.* a savage who eats human flesh.
- Cannon**, kan'on, *n.* a large war gun.
- Cannonade**, kan'on-ä-d, *n.* an attack with cannon.
- Canny**, kün'i, *adj.* shrewd, knowing.
- Canoe**, ka-nö, *n.* a small boat.
- Canon**, kan'on, *n.* a church dignitary, a law or regulation.
- Canon**, kan yun, *n.* a gorge or ravine. [lation]
- Canonical**, kan-on-ik-äl, *adj.* according to canon.
- Canonicals**, kan-on-ik-ä-ls, *n.* regulation clerical attire.
- Canonise**, kan'on-iz, *v.* to enroll among the saints.
- Canonist**, kan-on-ist, *n.* one versed in canon law.
- Canon-law**, kan'on-law, *n.* ecclesiastical law.
- Canopy**, kan'ö-pi, *n.* an overhead covering.
- Canorous**, kan'ö-rus, *adj.* musical.
- Cant**, känt, *n.* hypocritical speech.
- Cantaloupe**, kan'tä-lö-p, *n.* a kind of melon.
- Cantankerous**, kan-täng'ker-üs, *adj.* perverse.
- Cantata**, kan'tä-tä, *n.* a kind of composition.
- Canteen**, kan'ten', *n.* a soldier's tavern; a soldier's.
- Canter**, kan'ter, *v.* an easy gallop. [thinner vessel.]
- Cantharides**, kan'tä-rid-ës, *n.* Spanish flies.
- Cantic**, kan'ik, *n.* a church song.
- Cantilever**, kan'ti-lä-ver, *n.* projection for bearing.
- Canto**, kan'to, *n.* a division of a poem.
- Canon**, kan'ton, *n.* a division of a province. [bridge.]
- Cantonment**, kan-ton'ment, *n.* troops' quarters.
- Cantrip**, kan'trip, *n.* a wild antic.
- Canvas**, kan'väs, *n.* a coarse cloth.
- Canvass**, kan'väs, *v.* to solicit votes; to sift; to div.
- Caoutchouc**, kaw'tshuk, *n.* india-rubber. [cuss]
- Capable**, kä-pä-bl, *adj.* possessing ability.
- Capacious**, kä-pä'shüs, *adj.* having capacity of holding.
- Capacitate**, kä-pä-sit-ät, *v.* to qualify.
- Cap-a-pie**, kä-pä-pi, *adv.* from head to foot.
- Cape**, käp, *n.* a shoulder-covering; a point of land.
- Caper**, käp'er, *v.* to skip round, *n.* the pickled bud of the caper shrub.
- Captas**, kä-pi-äs, *n.* a writ of arrest.
- Capitulary**, kä-pä'ter-i, *adj.* with the fineness of hair.
- Capital**, kä-pä'täl, *adj.* chief, principal; *n.* a chief city money invested.
- Capitalise**, kä-pä'täl-iz, *v.* to convert into capital.
- Capitalist**, kä-pä'täl-ist, *n.* one who owns capital.
- Capitally**, kä-pä'täl-i, *adj.* finely.
- Capitation**, kä-pä'tä-shun, *n.* the numbering of heads.
- Capitol**, kä-pä'töl, *n.* the temple of Jupiter at Rome; the Congress house in the United States.
- Capitular**, kä-pä'täl-är, *n.* a statute of an ecclesiastical chapter; a member of chapter.
- Capitulate**, kä-pä'tä-lät, *v.* to yield.
- Capon**, kä'pon, *n.* a young castrated cock.
- Caprice**, kä-pris', *n.* a changeful mood.
- Capricious**, kä-prish'üs, *adj.* changeable.
- Capricorn**, kä-prik-örn, *n.* one of the zodiac signs.
- Capstan**, käp'stan, *n.* an apparatus for winding cable.
- Capsular**, käp'sül-är, *adj.* capsule-like.
- Capsule**, käp'sül, *n.* a seed vessel.
- Captain**, käp'tän, *n.* a chief officer.
- Caption**, käp'shun, *n.* an arrest.
- Captious**, käp'shüs, *adj.* critical.

day; ät; ärm; äve; älk; thäre; ice; pin; machine; böld; pöt; störm; müte; tüb; bürn.

Captive, kap'ti-vāt, *v.* to fascinate; to subdue.
Captive, kap'tiv, *n.* a prisoner.
Captivity, kap-tiv-i-ti, *n.* imprisonment.
Capture, kap'tūr, *n.* an arrest.
Capuchin, kap-u-chin', *n.* a Franciscan monk.
Carnocle, kar'ā-kōl, *n.* a lynx.
Carafe, ka-raf, *n.* a water bottle.
Caramel, kar'a-mel, *n.* burnt sugar. [pure gold.
Carat, kar'at, *n.* a weight of four grains: 1-24th part of
Caravan, kar'a-van, *n.* a company of travellers.
Caravanserai, kar'a-van-sar-i, *n.* a rude wayside inn.
Caravel, kar'a-vel, *n.* a light, galleon-placed ship.
Caraway, kar'a-way, *n.* an aromatic plant.
Carbazotic, kar-ba-zot'ik, *adj.* consisting of carbon
Carbine, kar'bin, *n.* a short musket. [and azote
Carbon, kar'bon, *n.* an element of which charcoal is a
 pure example.
Carbonise, kar'bon-iz, *v.* to make into carbon.
Carboy, kar'boi, *n.* a glass bottle in frame.
Carbuncle, kar'bung-g'l, *n.* a bright red precious stone.
Carcase, kar'kas, *n.* a dead body.
Card, kār'd, *n.* a piece of pasteboard; *v.* to comb.
Cardiac, kar'di-ak, *adj.* pertaining to the heart.
Cardinal, kar'di-nal, *adj.* principal; *n.* a dignitary of
 the Church of Rome; an American bird.
Care, kār, *n.* anxiety; responsibility.
Careen, ka-rēn, *v.* to move a ship on to her side.
Career, ka-rēr, *n.* a course; a mode of life; *v.* to move
Carress, ka-res', *v.* to fondle. [rapidly.
Caret, ka'ret, *n.* a sign denoting a word left out.
Cargo, kār-go, *n.* freight.
Caricature, kar'ik-ā-ūr, *n.* an exaggerated likeness.
Caries, kār'i-s, *n.* decayed bone.
Carillon, kar'i-lon, *n.* a chime of bells.
Carinate, kar'in-āt, *adj.* keel-shaped.
Cariole, kar'i-ōl, *n.* a light vehicle.
Carious, kar'i-ūs, *adj.* decayed
Carmelite, kar-mel-i-t, *n.* a monk of the Carmel order.
Carmin, kar'in-in, *n.* crimson colour.
Carriage, kār'rij, *n.* a slaughter
Carnal, kār-nal, *adj.* sensual.
Carnation, kar'n-ā-shun, *n.* a favourite flower; flesh
Carroll, kar'rol, *n.* a fine chalcadony. [colour.
Carnival, kār-ni-val, *n.* open-air revelry
Carnivorous, kar-ni-ver-ūs, *adj.* flesh-eating.
Carol, kār'ul, *n.* a song; *v.* to sing.
Carotid, ka-ro'tid, *adj.* pertaining to the arteries of
Carousal, ka-roo'zal, *n.* a drinking bout. [the neck.
Carouse, ka-rowz', *v.* to revel
Carp, kār-p, *v.* to cavil; *n.* a common fish. [hundreds.
Carpenter, kār-pen-ter, *n.* a worker in timber for
Carriage, kār'ij, *n.* a vehicle; behaviour.
Carrier, kār'ier, *n.* one who conveys goods for the
Carrier, kār'ion, *n.* putrid flesh. [public.
Carrot, kār'ot, *n.* an edible root.
Cart, kār't, *n.* a sprungless two-wheeled vehicle.
Cartage, kār'taj, *n.* price of carting.
Carte, kār't, *n.* a card
Carte-blanc, kār'ti-blānch', *n.* blank paper; freedom
 to do what one pleases.
Carte-de-visite, kār'ti-de-vi-sit', *n.* a small photo-
Cartel, kār'tel, *n.* a challenge [graph
Cartesian, kār-tēz-yan, *adj.* relating to the philosophy
Cartilage, kār'ti-lāj, *n.* gristle [of De-scartes
Cartography, kār'to-grā-fī, *n.* the science of map mak-
Cartoon, kār-toon', *n.* a large sketch or design. [ing.
Cartrouche, kār-toosh', *n.* a cartridge case
Cartridge, kār'trij, *n.* a paper-covered charge for a
Caruncle, kār-ung-k'l, *n.* a fleshy excrescence. [grun.
Carve, kār-v, *v.* to cut.
Cascade, kār's-kād, *n.* a waterfall.
Cass, kās, *n.* a box. [hardening to malleable iron.
Cashehard, kās'hārd-en, *v.* to give a steel surface
Cass-knife, kās'rif, *n.* a knife kept in a case.
Casement, kās'mēt, *n.* a bomb proof chamber.
Casement, kās'mēt, *n.* window frame.
Casern, ka-sem', *n.* a down lodging for troops.
Cash, kash, *n.* money.
Cashier, kash-ēr, *n.* a cash-keeper; *v.* to dismiss.
Cassimere, kash-mēr, *n.* cloth made from Cashmere
Casing, kās'ing, *n.* covering [goat's wool.
Casino, kas'i-no, *n.* a public assembly room.

Cask, kask, *n.* a small barrel.
Casket, kas'ket, *n.* a small case.
Castigation, kas-ā-shun, *n.* the act of nullifying.
Cassia, kas'ya, *n.* a plant.
Cassimere, kas-i-mēr, *n.* fine twilled cloth.
Cassock, kas'ok, *n.* a black clerical robe.
Cast, kast, *v.* to throw or fling.
Castanet, kast-a-net', *n.* a time-tapping instrument
 held in the hand by dancers.
Cast, kast, *n.* class distinction.
Castellan, kast-el-an, *n.* the governor of a castle.
Castellated, kast-el-ā-ted, *adj.* castle-like.
Caster, kast'er, *n.* a small wheel on legs of furniture.
Castigate, kast'ti-gāt, *v.* to beat; *v.* to chastise.
Castigation, kas-ti-gā-shun, *n.* the act of castigating
Castig-vote, kast'ig-vot, *n.* a chairman's deciding
 vote when other votes are equal.
Castle, kās'l, *n.* a fortified mansion.
Castrametation, kas-tra-mēt-ā-shun, *n.* camping.
Castrate, kas'trāt, *v.* to deprive of generative power.
Casual, kas'h'i-ū-al, *adj.* occasional, accidental.
Casualty, kas'h'i-ū-al-ti, *n.* an accident.
Casulist, kas'ul-ist, *n.* a student of canon law.
Casus, kas'us, *n.* the science of conscience.
Cat, kat, *n.* a domestic animal.
Cataclysm, kat'a-kli-sm, *n.* a deluge; a revolution.
Catacomb, kat'a-kōm, *n.* a subterranean burying place
Catacoustics, kat-a-koo's-tiks, *n.* the science of echoes
Catafalque, kat'a-falk', *n.* a bier.
Catalepsy, kat'a-lep-si, *n.* an atrophy of the limbs.
Catalogue, kat'a-log, *n.* a list.
Cataplasma, kat'a-plas-ma, *n.* a poultice.
Catapult, kat'a-pult, *n.* an apparatus for throwing
 stones, arrows, etc.
Cataract, kat'a-rakt, *n.* a great waterfall.
Catarri, kat'ār', *n.* discharge of mucus.
Catastrophe, kat-as'tro-fī, *n.* a calamity.
Catch, katch, *v.* to seize; *v.* to clutch; *v.* to overtake; *n.* a
 tripping song for several voices. [offered for sale
Catchpenny, katch'pen-i, *n.* something worthless
Catchup, katch'up, *n.* a flavouring sauce; also ketchup.
Catch-word, katch'wōrd, *n.* an off-repeated word.
Catechetical, kat-ek'ti-kal, *adj.* pertaining to cate-
Catechise, kat'kiz, *v.* to question. [chism.
Catechism, kat'ek-i-zm, *n.* a religious summary.
Catechu, kat'e-shoo, *n.* a substance obtained from
 trees and used in tanning
Catechumen, kat-e-kū-men, *n.* one who is taught the
 principles of Christianity.
Categorical, kat-e-gō-rī-kal, *adj.* positive.
Category, kat'egō-rī, *n.* a class or order.
Catena, kat'ē-na, *n.* a connected series.
Caterer, kat'ēr-er, *n.* a chain-like.
Cater, kāt'er, *v.* to provide for.
Caterpillar, kat'er-pul-er, *n.* a grub.
Caterwaul, kat'er-wawl, *n.* a cat's cry.
Catfish, kat'fish, *n.* a large sea fish.
Catgut, kat'gut, *n.* string made from animals' intest-
Cathartic, kat'h-ārt'ik, *adj.* purgative [time.
Cathedral, kat'h-ē-dral, *n.* the church to which a bishop
 is attached. [to Roman Catholics
Catholic, kat'h-ō-l'ik, *adj.* general, orthodox; relating
Catholicism, kat'h-ō-l'is-zm, *n.* universality; Roman
 Catholic doctrine.
Catholicity, kat'h-ō-l'is-i-ti, *n.* liberality of view.
Catholicon, kat'h-ō-l'ik-on, *n.* a general remedy.
Catkin, kat'kin, *n.* a tuft of small unisexual flowers
Catseye, kat'si, *n.* a species of quartz.
Catspaw, kat's-paw, *n.* a dupe.
Cattle, kat'l, *n.* animals of pasture.
Caucus, kaw'kus, *n.* a private political body
Caudal, kaw'dal, *adj.* pertaining to the tail.
Cauld, kaw'd, *n.* a suet drink.
Caul, kaw'l, *n.* a membrane covering the head of some
 children when born.
Cauliflower, kaw'l-flō-wr, *n.* a kind of cabbage.
Cauline, kaw'lin, *adj.* from the stem.
Causality, kaw-zā-l'i-ti, *n.* the working of a cause
Causative, kaw-zā-tiv, *adj.* expressing cause.
Cause, kaw-z, *n.* motive; lawsuit.
Causeway, kaw-z'way, *n.* a raised pathway.
Causic, kaw's'ik, *adj.* burning.

Hay; āi; ārm; ēv; ēlk; thēre; īge; pīn; machine; bōld; pōt; stōrm; mīte; tūb; bōrn.

Cauterize, kaw'ter-iz, *v.* to burn with caustic.
Cautery, kaw'ter-i, *n.* a burning with caustic.
Cautious, kaw'shūn, *n.* heedfulness.
Cautious, kaw'shūs, *adj.* wary. [horseback.
Cavalcade, kav'al-kād, *n.* a procession of people on
Cavalier, kav'al-ēr, *n.* one in attendance on a lady; a
Cavalry, kav'al-ri, *n.* horse soldiers. [knight.
Cave, kāv, *n.* an underground opening.
Caveat, kā'v-i-āt, *n.* a formal notice.
Cavern, kav'ern, *n.* a hollow in the ground; a cave.
Cavernous, kav'er-nūs, *adj.* hollow.
Caviare, kav'i-ār, *n.* food made from salted roes.
Cavil, kav'il, *v.* to make trifling objections.
Caw, kaw, *n.* the cry of a crow.
Cayenne, kā-ēn', *n.* red pepper.
Cazique, ka-zēk', *n.* an Indian chief.
Cease, sēs, *v.* to stop.
Ceaseless, sēs'les, *adj.* without ceasing.
Cede, sēd, *v.* to yield.
Cedilla, se-dil'ā, *n.* a mark under the letter c, to in-
Cedrate, sē'drāt, *n.* citron. [dicate the soft sound.
Ceiling, sē'ling, *n.* the roof of a room.
Celandine, sel'an-din, *n.* swallow-wort.
Celebrant, sel'e-brant, *n.* an officiating priest.
Celebrate, sel'e-brāt, *v.* to commemorate.
Celebrity, sel-ch'i-rit-i, *n.* fame; an eminent person.
Celerity, sel'er-it-i, *n.* swiftness.
Celery, sel'er-i, *n.* a kitchen vegetable.
Celestial, sel'es-ti-āl, *adj.* heavenly.
Celestine, sel'es-tin, *n.* mineral.
Celibacy, sel'i-bā-si, *n.* the unmarried state.
Cell, sel, *n.* a small room; a small hollow place.
Cellar, sel'ar, *n.* a room below the ground floor.
Cellarage, sel'er-ij, *n.* cellar space.
Cellular, sel'yū-lar, *adj.* containing cells.
Celluloid, sel'yū-loid, *n.* an elastic material obtained
 from pyroxilin.
Celt, *n.* one of a primitive race now represented by the
 Bretons, the Welsh, the Irish, and the Scotch
 Highlanders.
Celtic, sel'tik, *adj.* according to Celtic customs.
Cement, se-ment', *n.* cohesive substance.
Cemetery, sem'i-ter-i, *n.* burying ground.
Cenacle, sen'akl, *n.* a supper-room. [where.
Cenotaph, sen'o-taf, *n.* monument to one buried else-
Censor, sen'ser, *n.* pan in which incense is burnt.
Censor, sen'sor, *n.* one who examines books, plays, or
 papers, for the protection of public morals.
Censorious, sen-sō'ri-ūs, *adj.* expressing censure.
Censurable, sen-sū-rā-bl, *adj.* blameworthy.
Censure, sen'sūr, *n.* blame.
Census, sen'sūs, *n.* the numbering of the people.
Centaur, sen'tawr, *n.* a mythological monster, with a
 man's head and a beast's body.
Centenary, sen'tin-ār-i, *n.* a hundred.
Centennial, sen'ten-ī-āl, *adj.* hundredth anniversary.
Centesimal, sen'ten-si-āl, *adj.* hundredth.
Centifolius, sen-ti-fō'l-i-ūs, *adj.* hundred-leaved.
Centigrade, sen'ti-grād, *adj.* possessed of a hundred
 degrees.
Central, sen'trāl, *adj.* pertaining to the centre.
Centralisation, sen-trāl-i-zā'shūn, *n.* concentration of
 Centre, sen'tr, *n.* the middle. [government.
Centrifugal, sen-trif'yū-gal, *adj.* tending from centre.
Centripetal, sen-trip'it-āl, *adj.* with a force unelling
 centrewards.
Centuple, sen'tū-pl, *adj.* hundredfold.
Centurion, sen-tū'r-i-on, *n.* the captain of a Roman
 Century, sen'tū-ri, *n.* a hundred. [hundred.
Cephalic, se-fal'ik, *adj.* pertaining to the head.
Ceraceous, ser-s'chūs, *adj.* wax-like.
Ceramic, se-ran'ik, *adj.* relating to fine pottery.
Ceramics, ser-an'iks, *n.* fine pottery.
Cerate, sē'rāt, *n.* a waxy compound.
Cereal, sē're-āl, *adj.* relating to grain; *n.* grain.
Cerebral, ser'e-brāl, *adj.* pertaining to the brain.
Cerebration, ser-e-brā'shūn, *n.* brain-action.
Cerement, ser-ment, *n.* grave clothes.
Ceremonious, ser-e-mō'n-i-ūs, *n.* outward form.
Ceremonious, ser-e-mō'n-i-ūs, *adj.* with ceremony.
Ceremony, ser-e-mō-n-i, *n.* a formal rite or function.
Cerography, ser-og'raf-i, *n.* the art of writing on wax.

Certain, ser'tin, *adj.* sure.
Certainty, ser'tin-ti, *n.* fixed state; without doubt.
Certificate, ser-tif-i-kāt, *n.* written proof. [writing.
Certify, ser'ti-fi, *v.* to make known; to declare.
Certiorari, ser-she-o-rā'ri, *n.* writ for removal of pro-
 ceedings to a higher court.
Ceritude, ser'ti-tūd, *n.* certainty.
Cerulean, ser-yū-l'an, *adj.* dark blue.
Cervical, ser'vik-āl, *adj.* pertaining to the neck.
Cespitious, ser'pit-ūs, *adj.* tufted, tufty.
Cessation, ses-sā'shūn, *n.* ceasing.
Cession, ses'hūn, *n.* a giving up.
Cesspool, ses'pool, *n.* pool in which drainage matters
 Cesure, sē'zūr, *n.* a breaking off. [are collected.
Chaconne, shak-on', *n.* an old slow dance.
Chafe, chāf, *v.* to rub against.
Chaff, chāf, *n.* husk; badinage.
Chaffer, chāf'er, *v.* to bargain.
Chafing-dish, chāf'ing-dish, *n.* a heated metal dish in
 which hot vands are served.
Chagrin, sha-grēn', *n.* annoyance, vexation.
Chain, chān, *n.* a connection of links; a train of
 Chan, chān, *n.* a seat for one person. [sevents.
Chairman, chār'man, *n.* a presiding officer; one who
 presides at a meeting.
Chaise, shāz, *n.* a light open vehicle. [orler.
Chalcedony, kal-sed'ō-ni, *n.* a mineral of the quartz
 Chaldrion, chaw'drion, *n.* a measure of 30 bushels.
Challenge, chāl'ēn, *n.* a cup.
Challenge, chāl'ēn, *v.* to defy, to invite to a contest.
Challengeable, chāl'ēn-ā-bl, *adj.* in state to be chal-
 lengeable.
Chalybeate, kal'ib'e-āt, *adj.* containing iron. [leached.
Chamber, chām'ber, *n.* an upper room.
Chamberlain, chām'ber-lin, *n.* an officer of state.
Chambermaid, chām'ber-mād, *n.* a bedroom servant.
Chameleon, kam'e-l'ē-on, *n.* a lizard that changes its
 Chamber, chām'fer, *n.* a bowl. [colour.
Chamois, shā-mōi, *n.* a kind of antelope.
Chamomile, kam'ō-ni-l, *n.* a bitter plant.
Champ, chāmp, *v.* to claim.
Champagne, sham-pān', *n.* a sparkling French wine.
Champaign, sham-pān', *n.* open country.
Champion, cham'pi-on, *n.* a defender; a contestant
 who has defeated all others of the same class.
Chancel, chān'sel, *n.* the eastern part of a church.
Chancellor, chān'sel-or, *n.* a judge or state official.
Chancery, chān'ser-i, *n.* a high court.
Chandelier, shān-de-lēr', *n.* a branching framework
 Chandelier, chān'del-er, *n.* a general dealer. [for lights.
Change, chānj, *n.* alteration; petty cash; *v.* to alter;
Changeable, chānj'ā-bl, *n.* fickle. [to exchange.
Changing, chānj'ing, *n.* a child changed for another.
Channel, chān'el, *n.* a passage; sea current; strait.
Channelled, chān'ld, *adj.* in channel form.
Chanticleer, chān'ti-klē'r, *n.* a cock.
Chaos, kā'ūs, *n.* confusion.
Chaotic, kā'ō'tik, *adj.* confused.
Chap, chāp, *v.* to crack.
Chapel, chap'el, *n.* a place of worship.
Chapman, shāp's-rōn, *n.* one who protects a lady.
Chapiter, chap'it-er, *n.* the head of a column.
Chaplain, chap'lān, *n.* a clergyman appointed to special
 Chapman, chap'man, *n.* a dealer. [duties.
Chapter, chap'ter, *n.* a division of a book.
Char, chār, *n.* a small fish.
Character, kar'ak-ter, *n.* a sign or distinctive mark;
 moral qualities.
Characterize, kar'ak-ter-iz, *v.* to describe by special
 Charade, shā-rād', *n.* a kind of riddle. [qualities
Charcoal, shār'kūl, *n.* charred wood.
Charge, chārj, *v.* to accuse; to set a price.
Chargeable, chārj'ā-bl, *adj.* liable to be charged.
Chargeless, chārj'less, *adj.* without charge.
Charger, chārj'er, *n.* a war horse.
Charily, chār'li, *adj.* warily.
Chariot, chār'iot, *n.* a vehicle.
Charitable, chār'it-ā-bl, *adj.* benevolent.
Charity, chār'it-i, *n.* generosity; kindness.
Charivari, shār'iv-ā-ri, *n.* wild tumult.
Charlatan, shār'lāt-an, *n.* a quack; a pretender.
Charlatanism, shār'lāt-an-iz-m, *n.* pretence.
Charm, chārm, *n.* fascination; *v.* to fascinate.

day; āt; ārm; ēve; ēlk; there; Ice; pln; machine; bold; pūt; stōrm; mūte; tūb; būrn.

Charnel-house, *char'nel-hôws*, *n.* a place for the bones.
Chart, *chârt*, *n.* a map of the sea. [of the dead.]
Charter, *châr'ter*, *n.* a deed conferring rights.
Chartist, *châr'tist*, *n.* one who professes chartism.
Charwoman, *char'woom-an*, *n.* a woman hired by the
Chary, *châr'i*, *adj.* cautious. [day for domestic work.]
Chase, *châs*, *n.* a vehicle; *v.* to pursue; *v.* to hunt.
Chasm, *kazm*, *n.* a cleft.
Chaste, *châst*, *adj.* pure; virtuous.
Chasten, *châs'ten*, *v.* to punish; *v.* to purify.
Chastise, *chas'tiz*, *v.* to punish.
Chastity, *chas'tit-i*, *n.* purity.
Chasuble, *chaz'ul-bl*, *n.* an ecclesiastical vestment.
Chat, *chat*, *v.* to talk; *n.* talk.
Château, *shâtô*, *n.* a castle.
Châtelain, *shât'ê-lân*, *n.* a lady's chain ornament
Chattel, *chat'l*, *n.* property.
Chatter, *chat'er*, *v.* to talk idly; *n.* idle talk.
Chatty, *chat'i*, *adj.* talkative.
Chauffeur, *shôf'êr*, *n.* a motor-car driver.
Chauvinism, *shô'vin-izm*, *n.* extravagant patriotism.
Cheap, *chêp*, *adj.* inexpensive.
Cheat, *chêt*, *v.* to deceive; *v.* to defraud.
Check, *chek*, *v.* to restrain.
Checker, *chek'êr*, *v.* to variegate.
Checkers, *chek'erz*, *n.* game of draughts.
Checkmate, *chek'mât*, *n.* defeat.
Cheek, *chêk*, *n.* side of face; impudence.
Cheektooth, *chêk'tôoth*, *n.* a molar.
Cheer, *chêr*, *n.* comfort, good things; meat and drink;
Cheerful, *chêr'ful*, *adj.* lively. [*v.* to comfort.]
Cheerless, *chêr'les*, *adj.* gloomy.
Cheese, *chêz*, *n.* food made from curdled milk.
Chef, *shêf*, *n.* a head cook.
Chemical, *ken'ik-al*, *adj.* relating to chemistry
Chemise, *shên'êr*, *n.* a woman's undergarment
Chemistry, *ken'is-tri*, *n.* the science of substances.
Cheque, *chêk*, *n.* an order on a bank.
Cherish, *chêr'ish*, *v.* to treat kindly; *v.* to nourish.
Cheroot, *shê-root*, *n.* a cigar without point.
Cherry, *chêr'i*, *n.* a fruit.
Chersonese, *ker'sô-nêz*, *n.* a peninsula.
Cherub, *chêr'ub*, *n.* a winged spirit.
Cerberus, *chêr'ê-bûs*, *adj.* angelic.
Cerberus, *chêr'ê-bûs*, *n.* plural of cherub
Chest, *chêst*, *n.* (See "Sports and Pastimes")
Chest, chest, *n.* a large box; the thorax.
Chestnut, *chêst'nû*, *n.* a forest tree; the nut the roof
Chival-glass, *shê'val'g-lâs*, *n.* a large mirror on a
Chivalier, *shê'val'êr*, *n.* a cavalier [france.]
Cheviot, *chê'v-i-ot*, *n.* a kind of kid-skin leather
Cheviot, *chê'v-i-ot*, *n.* a kind of cloth.
Chew, *chôo*, *v.* to masticate
Chiaro-oscuro, *kyâr'ô-skyû-rô*, *n.* light and shade.
Chicane, *shê'kân*, *v.* to trick.
Chicanery, *shê'kân'êr-i*, *n.* trickery.
Chicken, *chik'en*, *n.* a young fowl.
Clude, *chid*, *v.* to censure; *v.* to blame.
Chieftain, *chêf'tân*, *n.* the head of a clan.
Chiffonier, *shif'ô-nêr*, *n.* a decorated cupboard.
Chilblain, *chil'blân*, *n.* a local inflammation.
Child, *chîl*, *n.* a son or daughter.
Child's-play, *chîl'd's-plâ*, *n.* something easy.
Childhood, *chîl'd'hôod*, *n.* infancy
Chill, *chîl*, *n.* coldness; *v.* to depress.
Chime, *chim*, *n.* the sound of bells.
Chimera, *kim'ê-ra*, *n.* a fabulous monster.
Chimerical, *kim'ê-rik-al*, *adj.* wild.
Chimney, *chim'nî*, *n.* a channel for letting out smoke.
Chimpanzee, *chim pan'zê*, *n.* a large kind of ape.
China, *chî'na*, *n.* porcelain.
Chincough, *chin'kof*, *n.* whooping-cough
Chine, *chîn*, *n.* the spine.
Chink, *chîngk*, *v.* to jingle.
Chintz, *chîntz*, *n.* glazed calico.
Chip, *chip*, *v.* to cut off small piece.
Chirographer, *ki-rô'grâ-fer*, *n.* a professor of writing.
Chirography, *ki-rô'grâ-fî*, *n.* penmanship.
Chirologist, *ki-rô'lô-jist*, *n.* a talker by hand-signs.
Chirology, *ki-rô'lô-jî*, *n.* talking by hand-signs.
Chromatry, *ki-rô-mat'ri*, *n.* fortune-telling.
Chiro-podist, *ki-rô-pô-dist*, *n.* a hand and foot doctor.

Chirp, *chîrp*, *n.* a bird-note.
Chirrup, *chîr'up*, *n.* sound made by birds and insects.
Chisel, *chîz'l*, *n.* an iron or steel tool.
Chit, *chît*, *n.* a babe.
Chivalrous, *shiv'al-rus*, *adj.* gallant.
Chivalry, *shiv'al-ri*, *n.* the feudal knightly system;
Chive, *chîv*, *n.* a small bulb. [courtesy.]
Chloral, *klô'ral*, *n.* a colourless oily liquid.
Chlorate, *klô'rât*, *n.* an acid salt.
Chloric, *klô'rik*, *adj.* of or from chlorine.
Chlorine, *klô'rin*, *n.* a kind of gas.
Chlorite, *klô'rit*, *n.* a soft green mineral.
Chloroform, *klô'rô-fôrm*, *n.* a volatile liquid used as an
Chlorosis, *klô'rô'sis*, *n.* green sickness. [anesthetic]
Chocolate, *chok'ô-lât*, *n.* a preparation made from cacao
Choice, *chôis*, *adj.* select. [choice.]
Choir, *kwîr*, *n.* a body of singers.
Choke, *chôk*, *v.* to throttle or obstruct.
Choke-damp, *chôk'damp*, *n.* gas which accumulates.
Choler, *kol'er*, *n.* anger; bile.
Cholera, *kol'er-a*, *n.* an infectious disease.
Choleric, *kol'er-ik*, *adj.* angry; petulant.
Chop, *chop*, *v.* to cut suddenly; *n.* a piece of meat.
Choral, *ko'ral*, *adj.* pertaining to a chorus.
Chord, *kord*, *n.* union of sounds
Chorister, *kor'is-ter*, *n.* a member of a chorus.
Chorus, *ko'rus*, *n.* a company of singers; a piece of
Chouse, *chôws*, *v.* to cheat. [music sung in unison]
Chowder, *chow'dêr*, *n.* a compound of fish and biscuits
Chrestomathy, *krês-tô-mâ-thî*, *n.* selections from
Chrim, *krî'm*, *n.* holy oil. [foreign languages]
Christen, *krîs'en*, *v.* to baptize.
Christendom, *krîs'en-dô-m*, *n.* the regions where Chris-
Christian, *krîs'ti-an*, *n.* a believer in Christ.
Christianity, *krîs'ti-an'it-i*, *n.* the religion of Christ
Christmas, *krîs'mas*, *n.* festival to commemorate the
Christmas box, *krîs'mas-bôks*, *n.* a Christmas present.
Chromatic, *krôm'at-ik*, *adj.* pertaining to colours
Chromite, *krôm'it*, *n.* a mineral compound.
Chromo-lithograph, *kyô-mô-lith'ô-graf*, *n.* a litho-
graph in colours.
Chronic, *krôn'ik*, *adj.* lasting; deep-seated.
Chronicle, *krôn'ikl*, *n.* a record.
Chronological, *krôn-ô-lô-jik-al*, *adj.* in or of time
Chronology, *krôn-ô-lô-jî*, *n.* the science of time.
Chronometer, *krôn-ô-mê-têr*, *n.* a time-measuring
Chrysanthemum, *krîs-an-thê-mum*, *n.* a genus of
large flowering plants.
Chrysolite, *krîs-wîl*, *n.* a precious stone.
Chub, *chub*, *n.* a small plump river fish.
Chubby, *chul-i*, *adj.* short and plump.
Chuck, *chuck*, *n.* the cluck of a hen
Chuckle, *chuck'l*, *n.* a low laugh, the cry of a hen.
Chuffy, *chuf'i*, *adj.* surly.
Chum, *chûm*, *n.* a comrade.
Chump, *chûmp*, *n.* an end of wood.
Chunk, *chûnk*, *n.* a short bit of wood.
Church, *chûrch*, *n.* an edifice devoted to worship.
Churchman, *chûrch'mân*, *n.* a member of a church
Churchwarden, *chûrch'wârd-en*, *n.* a church official
Churl, *chûrl*, *n.* a clown; a rude fellow.
Churlish, *chûr'lish*, *adj.* rude.
Churn, *chûrn*, *n.* a machine used for butter making.
Chyle, *shîl*, *n.* a fluid drawn from food while in the
Chyme, *kim*, *n.* food pulp in the stomach. [digestion]
Cicatrice, *sîk'â-trîz*, *v.* to add the formation of a cic-
atrix, *sîk'â-trîx*, *n.* a scar over a wound. [trix]
Cicerone, *chîch-er-ô-nî*, *n.* a guide.
Cider, *sî-dêr*, *n.* a beverage made from apples
Cigar, *sî-gâr*, *n.* tobacco leaves rolled for smoking
Cigarette, *sîg-âr-êt*, *n.* tobacco enclosed in paper for
smoking.
Cillary, *sîl'êr-i*, *adj.* pertaining to the eyes.
Cilice, *sîl'is*, *n.* hair-cloth.
Cimolite, *sîm'ô-lî-t*, *n.* a kind of clay.
Cincture, *sîngk'tûr*, *n.* a girdle.
Cinder, *sîn'dêr*, *n.* refuse of burned coal.
Cinematograph, *sî-nê-mat'ô-graf*, *n.* an apparatus for
exhibiting "animated photographs"

day; ât; ârm; êve; êlk; there; 'tee; pîn; machine; bold; pôt; stôrm; mûte; tûb; bûrn.

Cinerary, sin'er-er-ā, *adj.* relating to ashes.
Cingalese, sing'ga-lēs, *n.* native of Ceylon.
Cinnamon, sin'a-men, *n.* a spice. [petalea flower.
Cinquedillo, sing'k'foll, *n.* an architectural term for a "ve.
Cipher, si-fer, *n.* in arithmetic *o.* nothing.
Circana, ser-sē'an, *adj.* infatuating.
Circinate, sir-sin-āt, *adj.* rolled from apex to base.
Circle, sirk'l, *n.* within a circumference; *v.* to move
Circlet, sirk'let, *n.* a small circle. [round.
Circuit, sirk'it, *n.* a district.
Circuitous, sir-kū'ti-us, *adj.* roundabout.
Circular, sirk'ul-ār, *adj.* round; *n.* a note sent round.
Circulate, sirk'ul-āt, *v.* to spread.
Circulation, sirk'ul-ā'shun, *n.* the act of circulating; number of copies sold of a newspaper or periodical.
Circumambient, sir-kum-am'bl-ent, *adj.* going round.
Circumcise, sir-kum-siz, *v.* to cut off the foreskin.
Circumference, sir-kum-fer-ens, *n.* the outer circle, or area of a thing. [vowel (A).
Circumflex, sir-kum-fleks, *n.* sound sign over a
Circumfluent, sir-kum-fli-ent, *adj.* flowing around.
Circumlocution, sir-kum-lo-kū'shun, *n.* roundabout.
Circumrotary, sir-kum-rō'tar-i, *adj.* going round.
Circumscribe, sir-kum-skrīb, *v.* to limit, to enclose.
Circumspect, sir-kum-spekt, *adj.* prudent, cautious.
Circumstantial, sir-kum-stan'shal, *adj.* in detail.
Circumstantial, sir-kum-stan'shals, *n.* incidentals.
Circumvallation, sir-kum-val-ā'shun, *n.* a surrounding wall.
Circumvent, sir-kum-vent', *v.* to deceive; to outwit.
Circus, sirk'us, *n.* a circular building for entertain-
Circus, sirk'us, *n.* woolly clouds. [ments.
Circline, sir-sin-ā'shun, *n.* on this side of Alps.
Circulant, sir-sin-ā'shun, *n.* on this side of Alps.
Cist, sist, *n.* a stone tomb.
Cistercian, si-s'er-si-an, *n.* an order of monks.
Cistern, si's-tern, *n.* a receptacle for water.
Citadel, sit'ā-del, *n.* a city fortress.
Citation, si-tā'shun, *n.* a sumn'ns; a quotation.
Cite, sit, *v.* to quote; to summon.
Citizen, si-ti-zen, *n.* a resident of a city.
Citrate, si-trāt, *n.* a salt.
Citric, si-trik, *adj.* acid.
Citron, si-tron, *n.* fruit.
City, sir'ī, *n.* a large town.
Civet, si-vet, *n.* a perfume from the civet-cat.
Civic, si-vek, *adj.* relating to a city.
Civil, si-vil, *adj.* non-military, secular.
Civilian, si-vil-i-an, *n.* one engaged in civil pursuits.
Civility, si-vil-i-ti, *n.* politeness.
Civilization, si-vil-i-zā'shun, *n.* state of being civilized.
Civilize, si-vil-iz, *v.* to refine.
Civilly, si-vil-i, *adv.* politely.
Claim, klām, *v.* to demand; *n.* the thing claimed.
Claimant, klām'ant, *n.* one who claims.
Clairvoyance, klār-voi-āns, *n.* supposed mesmeric power of divining things.
Clairvoyant, klār-voi-ant, *n.* one who practices clair-
Clam, klām, *n.* a small bivalve shell-fish. [voyance.
Clamant, klām'ant, *adj.* loud calling.
Clamber, klām'ber, *v.* to climb.
Clammy, klām'i, *adj.* moist; sticky.
Clamour, klām'or, *n.* uproar.
Clamp, klāmp, *n.* iron or timber fastening contrivance.
Clan, klān, *n.* a family; a tribe.
Clandestine, klān-des'tin, *adj.* secret.
Clang, klāng, *n.* a sharp sound.
Clangour, klāng'or, *n.* a harsh sound.
Clank, *n.* a short, sharp sound, as of a chain.
Clannish, klān'ish, *adj.* clan-like.
Clapper, klāp'er, *n.* a bell tongue.
Clap-trap, klāp'trap, *n.* tricky speech.
Claqueur, klāk'er, *n.* a member of a claque.
Claret, klār-et, *n.* red wine.
Clarify, klār-i-fai, *v.* to make clear.
Clarion, klār-i-on, *n.* a kind of trumpet.
Clarinet, klār-i-to-net', *n.* a reed instrument.
Clash, klāsh, *v.* to collide.
Clashing, klāsh'ing, *n.* a collision; opposition.
Clasp, klāsp, *v.* to clutch; to grasp; to embrace.
Clasper, klāsp'er, *n.* that which clasps. [gether.
Class, klās, *n.* a group; an order; scholars taught to-

Classic, klās'ik, *adj.* pertaining to the ancient litera-
 ture of Greece and Rome; of the best literature.
Classification, klās-i-fik-ā'shun, *n.* forming into classes.
Classify, klās-i-fai, *v.* to arrange according to classes.
Clatter, klāt'er, *n.* a rattling noise.
Clause, klāwz, *n.* a paragraph.
Claustal, klāw'tral, *adj.* secluded.
Clavate, klāv'at, *adj.* club-shaped.
Clavicle, klāv'ikl, *n.* the collar-bone.
Clavier, klāv'i-er, *n.* a musical keyboard.
Claw, klaw, *n.* nail of an animal; *v.* to scratch.
Clay, klā, *n.* a kind of earth.
Clayey, klā-yi, *adj.* made or covered with clay.
Clean, klēn, *adj.* free from dirt.
Cleanse, klēns, *v.* to make clean.
Clearance, klēr'ans, *n.* the act of clearance or removal.
Clearing, klēr'ing, *n.* land cleared from wood.
Clearing-house, klēr'ing-hows, *n.* a place of banking or business exchange.
Cleave, klēv, *v.* to hold fast; to separate by force.
Cleaver, klē-er, *n.* one who cleaves; a butcher's [chopper.
Cleft, klēft, *n.* a crack; a fissure.
Cleg, klēg, *n.* the horse-fly.
Clematis, klēm-ā'tis, *n.* a creeping plant.
Clemency, klēm-en-si, *n.* leniency.
Clement, klēm-ent, *adj.* gentle; merciful.
Clerestory, klēr-stō-ri, *n.* the upper row of windows in the nave of churches.
Clergy, klēr'ji, *n.* ministers of a church.
Clergyman, klēr'ji-man, *n.* a church minister.
Clerical, klēr'ikal, *adj.* connected with clerking.
Clerk, klār-k, *n.* a clergyman; a person employed in
Clever, klēv'er, *adj.* able; skilful. [an office.
Clew (see Clue).
Client, klī-ent, *n.* one for whom a lawyer or other pro-
Cliff, klif, *n.* a precipice. [fessional man acts.
Climacteric, klī-mak'ter-ik, *n.* a critical time.
Climate, klī-māt, *n.* atmospheric condition.
Climatic, klī-mat'ik, *adj.* pertaining to climate.
Climatology, klī-mat-ol-ō-jī, *n.* the science of climates
Climax, klī-maks, *n.* a culmination.
Climb, klīm, *v.* to ascend.
Clime, klīm, *n.* climate; country.
Clinch, klīnch'er, *n.* one who clinches.
Cling, klīng, *v.* to hold to.
Clinic, klīn'ik, *adj.* relating to a bed; *n.* the teaching of surgery at the bedside.
Clinker, klīng'k'er, *n.* scales of oxide of iron.
Clio, klī-o, *n.* the muse of history.
Clip, klīp, *v.* to curtail; to cut with scissors.
Clipper, klīp'er, *n.* a fast sailing vessel; one who clips.
Clique, klīk, *n.* a party or group of persons.
Cloak, klōk, *n.* an outer garment; that which con-
Clock, klok, *n.* a time-keeper [ceals; *v.* to conceal.
Clockwork, klok'werk, *n.* clock machinery.
Clod, klod, *n.* a lump of earth.
Clolster, klōi'ster, *n.* a covered arcade of a monastic
Clonic, klōn'ik, *adj.* spasmodic. [institution.
Close, klōs, *adj.* shut, confined, narrow; *n.* a small
 field; *v.* to make close.
Closet, klōs-et, *n.* a small private room.
Closure, klōs'ur, *n.* the act of closing.
Clot, klōt, *n.* coagulated matter.
Cloth, klōth, *n.* textile material.
Clothe, klōth, *v.* to dress.
Clothes, klōthz, *n.* attire, raiment.
Clothier, klōth'ier, *n.* a maker or vendor of cloth,
Clothing, klōth'ing, *n.* garments.
Cloud, klōwd, *n.* visible vapour.
Cloud-capt, klōwd'kapt, *adj.* capt with clouds.
Cloudy, klōwd-i, *adj.* made dark by clouds; gloomy.
Clough, klōuf, *n.* a valley.
Clout, klōwd, *n.* a piece of material used for mending; [a blow
Clove, klōv, *n.* a spice.
Cloven, klōv'en, *adj.* divided, split.
Clover, klōv'er, *n.* a species of grassy plants
Crown, klōwn, *n.* a rustic; a fool.
Clownish, klōwn'ish, *adj.* clown-like.
Cloy, klōi, *v.* to satiate.
Club, klub, *n.* a heavy stick; an association.

dāy; āt; ārm; ēve; ēlk; thēre; ice; pln; machine; bōld; pūt; stōrm; mūte; tūb; bārn,

Club-footed, klub'foot-ed, *adj.* with deformed feet.

Club-law, klub'law, *n.* mob government.

Clue, klū, *n.* thread; link of connection.

Clump, klump, *n.* a cluster of trees.

Clumsy, klum'si, *adj.* awkward, ill-shaped.

Cluster, klus'ter, *n.* a bunch.

Clutch, kluch, *v.* to seize; to grip.

Clyster, klist'er, *n.* a liquid injection.

Coach, koch, *n.* a large carriage; *v.* to bring forward.

Coadjutor, kō-ad-jū'tor, *n.* a helper.

Coagulate, kō-ag-ū-lāt, *v.* to thicken.

Coagulation, kō-ag-ū-lā'shun, *n.* curdling; clot.

Coagulum, kō-ag-ū-lum, *n.* the thing coagulated.

Coal, kōl, *n.* a combustible mineral substance.

Coalesce, kō-al-ēs, *v.* to unite.

Coalition, kō-al-ish'un, *n.* the act of uniting.

Coarse, kōrs, *adj.* gross, unrefined.

Coarseness, kōrs'ness, *n.* roughness.

Coast, kōst, *n.* shore.

Coaster, kō'ster, *n.* a coasting vessel. [the coast.]

Coast-guard, kōst-gārd, *n.* a body of men who guard

Coat, kōt, *n.* an outer garment; *v.* to cover.

Coax, kōks, *v.* to persuade.

Cob, kōb, *n.* a horse for heavy weights; a head of

Cobalt, kōb'alt, *n.* a metal; a blue pigment. [maize.]

Cobble, kōb'l, *v.* to mend.

Coble, kōb'l, *n.* a small boat.

Cobra, kō'bra, *n.* a serpent.

Cobweb, kōb'web, *n.* the web of the spider.

Cocciferous, kōk-sif'er-us, *adj.* bearing berries.

Coccyx, kōk'siks, *n.* the lower bone of the vertebral column. [of Spanish flies.]

Cochineal, koch'i-nēl, *n.* scarlet dye-stuff consist-

Cochineary, kōk-i'rī, *adj.* of spiral form.

Cockade, kōk-ād, *n.* a badge worn in the hat.

Cockaigne, kōk-ān, *n.* a fabled land of delight.

Cockatoo, kōk-a-too', *n.* a kind of parrot.

Cockatrice, kōk-a-tris, *n.* a fabulous serpent.

Cockereel, kōk'er-el, *n.* a young cock.

Cocket, kōk'et, *n.* a Customs-house seal.

Cock-eye, kōk'ī, *n.* a squinting eye.

Cock-horse, kōk'hōrs, *n.* a roeking-horse.

Cockle, kōk'l, *n.* a ribbed bivalve.

Cock-loft, kōk-loft, *n.* a loft near the roof.

Cockney, kōk'nī, *n.* a Londoner.

Cockpit, kōk'pit, *n.* a place for cock-fights; a room or the wounded on a war ship.

Cockroach, kōk'roch, *n.* black beetle. [hoat]

Cockswain, kōk'swān, *n.* a petty officer who steers a

Cocoa, kō'kō, *n.* the seed of the cacao tree; the beverage from the prepared seed.

Cocoon, kō-koon', *n.* silken sheath spun by silkworms.

Cod, kōd, *n.* a common sea-fish.

Codex, kō'deks, *n.* a code.

Codger, kōd'jer, *n.* a common fellow.

Codicil, kōd-i-sil, *n.* supplement to a will.

Codification, kōd-i-fik-ā'shun, *n.* the act of codifying.

Codify, kōd-i-fī, *v.* to classify laws.

Coefficient, kō-ēf-i-sh'ent, *n.* that which acts together with another thing.

Coequal, kō-ē-kwāl, *adj.* jointly equal.

Coerce, kō-ērs', *v.* to compel.

Coercive, kō-ē'siv, *adj.* possessing power of coercion.

Co-essential, kō-ēs-en'shāl, *adj.* like in essence.

Coeval, kō-ē-val, *adj.* of the same age; contemporary.

Coexist, kō-ēg-ist, *v.* existing together.

Coextensive, kō-ēk-sen'siv, *n.* extending equally.

Coffee, kōfē, *n.* powdered coffee tree berries; the

Coffer, kōf'er, *n.* a chest. (beverage made therefrom.)

Coffin, kōf'in, *n.* case in which bodies are buried.

Cog, kōg, *n.* the tooth of a wheel.

Cogency, kō'jen-si, *n.* convincing power.

Cogent, kō'jent, *adj.* convincing.

Cogitate, kōj'i-tāt, *v.* to reflect.

Cogitation, kōj-i-tā'shun, *n.* meditation.

Cognate, kōj-ni-ak, *n.* brandy.

Cognate, kōj-nāt, *adj.* of similar kind.

Cognition, kōg-nish'un, *n.* the state of being cognate.

Cognition, kōg-nish'un, *n.* sure knowledge. [tion.]

Cognizance, kōn'i-zans, *n.* judicial or private recogni-

Cognizant, kōn'i-zant, *adj.* possessing knowledge of.

Cognomen, kōg-nō-men, *n.* a surname; a nickname.

Cohabit, kō-hab'it, *v.* to live as married people.

Cohabitation, kō-hab-it-ā'shun, *n.* the act of living

Cohesit, kō-ār, *n.* joint heir. [together.]

Cohere, kō-hēr, *v.* to stick together.

Cohesive, kō-hē'siv, *adj.* connected; consistent.

Cohesive, kō-hē'siv, *adj.* of sticking quality.

Cohort, kō'hōrt, *n.* a body of soldiers.

Coiffure, kōif'ūr, *n.* a head-dress.

Coil, kōil, *v.* to wind; *n.* a ring of rope.

Coin, kōin, *n.* money; *v.* to invent, stamp.

Coinage, kōin'ij, *n.* the money currency.

Coincide, kōin-sid', *v.* to agree with.

Coincidence, kō-in-sid-ēns, *n.* act of coinciding.

Coise, kōk, *n.* fuel made from coal.

Colation, kō-lā'shun, *n.* straining. [winged insects.]

Coleoptera, kōl-ē-op'ter-a, *n.* a species of double-

Colic, kōlik, *n.* a severe pain in the bowels.

Collaboration, kōl-ab-o-rā'shun, *n.* united labour

Collapse, kō-laps', *n.* a breakdown; failure.

Collar, kōler, *n.* a thing worn about the neck.

Collate, kōl-āt, *v.* to bring together.

Collateral, kōl-lāt'er-al, *adj.* parallel.

Collation, kōl-ā'shun, *n.* the act of collating; reprint.

Colleague, kōl-ēg, *n.* one associated with others.

Collect, kōl-ekt, *v.* to get together.

College, kōl'ij, *n.* an educational institution.

Collegiate, kōl-ē-jāt, *adj.* relating to a college.

Collet, kōl'et, *n.* the prominent part of a ring.

Collier, kōl'er, *n.* a coal miner.

Colliery, kōl'i-er-j, *n.* a coal mine.

Colimation, kōl-im-ā'shun, *n.* the line of sight.

Collision, kōl-izh'un, *n.* state of being crashed together.

Collocation, kōl-b-ā'shun, *n.* the act of arranging.

Collop, kōl'op, *n.* a slice of meat.

Colloquialism, kōl-ō-kwī-al-izm, *n.* a familiar phrase.

Colloquy, kōl-ō-kwī, *n.* conversation.

Collusion, kōl-ū'shun, *n.* a secret understanding.

Collusive, kōl-ū'siv, *adj.* with collusion.

Colluvies, kōl-ū'vī-ēz, *n.* filth.

Colon, kōlon, *n.* the punctuation mark (:).

Colon, kōlon, *n.* part of intestines.

Colonel, kōr-nal, *n.* a commanding officer.

Colonisation, kōl-on-l-ā'shun, *n.* the act of colonizing.

Colonnade, kōl-o-nād, *n.* a range of columns.

Colony, kōl-ō-nī, *n.* a dependent country; a settlement.

Colossal, kōl-ō'sāl, *adj.* gigantic.

Colossus, kōl-ō'sus, *n.* a colossal statue.

Colossus, kōl-ō'sus, *n.* a gigantic statue.

Colour, kōl'ēr, *n.* hue; appearance.

Colourable, kōl'ēr-ābl, *adj.* seemingly fair.

Colour-blind, kōl'ēr-blīnd, *adj.* blind as to certain

Colporteur, kōl'port-er, *n.* a pedlar of tracts. [colours.]

Colt, kōlt, *n.* a young horse.

Colter, *n.* the front iron of a plough.

Column, kōl'um, *n.* an upright support of a building;

n. a row of printed lines.

Colure, kōl'ūr, *n.* one of two intersecting circles.

Colza, kōl'zā, *n.* a plant from whose seeds colza oil is

Coma, kō'mā, *n.* sleep; stupor. [unraptured]

Comatose, kōm-a-tōz, *adj.* drowsy. [the hau]

Comb, kōm, *n.* a toothed instrument for straightening

Combat, kōm'bat, *n.* an encounter; a fight; a struggle.

Combatant, kōm'ba-tant, *n.* one who enters into com-

Combative, kōm'bat-iv, *n.* quarrelsome. [bat.]

Combine, kōm-bin', *v.* to unite.

Combustible, kōm-bus'tibil, *adj.* capable of burning.

Combustion, kōm-bus'ti-yūn, *n.* burning.

Comedian, kōm-ē-dī-an, *n.* an actor.

Comedy, kōm'i-dī, *n.* a humorous play.

Comeliness, kōm'i-ness, *adj.* pleasing.

Comely, kōm'ly, *adj.* graceful.

Comestibles, kōm-est'i-bilz, *n.* eatables.

Comet, kōm'et, *n.* a nebulous heavenly body with a

Comfort, kōm'fīt, *n.* a sweetmeat. [tail.]

Comfort, kōm'fūr, *n.* enjoyment, ease; *v.* to cheer.

Comfortable, kōm'fūr-ābl, *adj.* feeling comfort.

Comic, kōm'ik, *adj.* mirthful.

Comical, kōm'ik-āl, *adj.* funny.

Comity, kōm'i-ti, *n.* courtesy.

Comma, kōm'ā, a punctuation mark (,). [to lead.]

Command, kōm-mānd', *v.* to order; to take charge of;

day; āt; ārm; ēve; ēlk; thērē; pīc; pīn; machine; bōld; pōt; stōrm; mīte; tīb; bōrn.

Commandant, kom-mān'dant, *n.* an officer giving command. [the chief general]
Commander, kom-mān'der, *n.* one who commands;
Commandment, kom-mān'dment, *n.* a precept.
Commemoration, kom-mem'ō-rā'shun, *n.* a celebration.
Commemorative, kom-mem'ō-rā-tiv, *adj.* tending to
Commence, kom-mens', *v.* to begin. [celebrate]
Commend, kom-mend', *v.* to praise. [praise]
Commensurate, kom-mens'-ūr-āt, *adj.* of equal mens-
Comment, kom'ment, *n.* note of explanation; remark.
Commentary, kom'ment-ār-ē, *n.* comment.
Commentator, kom-men-tā-tur, *n.* one who makes
 comments. [trade]
Commerce, kom'mers, *n.* international or individual
Commercial, kom-ē-sh'āl, *adj.* relating to commerce.
Commolation, kom-in-ā'shun, *n.* denunciation
Commingle, kom-ing'l, *v.* to blend.
Commiseration, kom-iz-er-ā'shun, *n.* pity. [of an army]
Commissariat, kom-mis-ār-iat, *n.* victualling department
Commissary, kom-mis-ār-ē, *n.* one having charge
Commission, kom-mish'un, *n.* act of committing; a per-
 mission; kom-mis'sh'n, *n.* a unit. [percentage]
Commit, kom-itt', *v.* to charge, to entrust.
Commitment, kom-itt'ment, *n.* commitment.
Committee, kom-tē-ē, *n.* a body charged with direction
 or investigation. [dress]
Commode, kom-mōd', *n.* a sideboard; a box. a head-
Commodious, kom-mō-di-ūs, *adj.* roomy; conven-
Commodity, kom-mō-dī-tī, *n.* article, profit, convenience.
Commodore, kom-mō-dor, *n.* a naval officer.
Common, kom-mun, *adj.* ordinary, *n.* open land.
Commonage, kom-mun-j, *n.* right of pasturage.
Commonalty, kom-mun-āl-tī, *n.* the general body of the
Commoner, kom-mun-er, *n.* one of the people. [people]
Commonplace, kom-mun-plās, *n.* an ordinary saying.
Commons, kom-munz, *n.* House of Commons.
Commonwealth, kom-mun-wēl, *n.* the common good
Commonwealth, kom-mun-wēl-th, *n.* the government of
 a free state; the public good.
Commotion, kom-mō'shun, *n.* disorder, confusion, ex-
Commune, kom-mun, *v.* to converse. [citement]
Communicant, kom-mū-ni-kant, *n.* a partaker of the
 Holy Communion
Communicate, kom-mū-ni-kīt, *v.* to impart. [municate]
Communicative, kom-mū-ni-kā-tiv, *adj.* inclined to com-
Communism, kom-mū-ni-izm, *n.* mutual intercourse.
Communist, kom-mū-ni-izm, *n.* the theory of equal
 rights in property [public]
Community, kom-mū-ni-tī, *n.* a body of persons; the
Communtation, kom-mū-tā'shun, *n.* exchange, sub-
 stitution. [another]
Commute, kom-mūt', *v.* to exchange one thing for
Communital, kom-mū-tū-āl, *adj.* mutual.
Compact, kom-pakt, *n.* an agreement; a league.
Compact, kom-pakt, *adj.* close, fine.
Companion, kom-pān-yun, *n.* an associate.
Companionable, kom-pān-yun-ābl, *adj.* sociable.
Company, kom-pān-ē, *n.* persons assembled together.
Comparable, kom-per-ābl, *adj.* that may be compared.
Comparative, kom-pār-ā-tiv, *adj.* by comparison.
Compare, kom-pār, *v.* to examine one against another.
Comparison, kom-pār-is-on, *n.* the act of comparing.
Compart, kom-pār-t, *v.* to divide.
Compartment, kom-pār-t'ment, *n.* a separate division.
Compass, kom-pas, *n.* a circle; space; calculate
 needle; *v.* to obtain; to surround. [circles]
Compasses, kom-pas-es, *n.* an instrument for drawing
Compassion, kom-pas-sh'on, *n.* commiseration, sym-
 pathy, pity. [agrecing or harmonising]
Compatibility, kom-pat-i-bil-ē-tī, *n.* the quality of
Compatible, kom-pat-i-bl, *adj.* consistent with.
Compatriot, kom-pā-tri-ot, *n.* of the same country.
Compeer, kom-pēr, *n.* to appear in court by another.
Compeer, kom-pēr, *n.* an equal, companion.
Compel, kom-pel', *v.* to force.
Compellation, kom-pel-ā'shun, *n.* style of address.
Compendious, kom-pen-di-ūs, *adj.* brief, short.
Compendium, kom-pen-di-um, *n.* summary, abridge-
Compensate, kom-pens-āt, *v.* to recompense. [inuit]
Compensation, kom-pen-sā'shun, *n.* recompense.
Compete, kom-pet', *v.* to strive. [live upon]
Competence, kom-pi-tens, *n.* a sufficiency; enough to

Competent, kom-pi-tent, *adj.* able, suitable, sufficient.
Competition, kom-pē-tish'un, *n.* rivalry.
Competitor, kom-pet-ē-tor, *n.* one who competes.
Compilation, kom-pi-lā'shun, *n.* act of compiling, or
 work compiled.
Compile, kom-pil', *v.* to collect; to gather from books.
Compiler, kom-pil'er, *n.* one who compiles.
Complacence, kom-plā'sens, *n.* satisfaction, pleasure.
Complacent, kom-plā'sent, *adj.* with willingness.
Complain, kom-plān, *v.* to grumble; to lament.
Complainant, kom-plā-nant, *n.* one who complains; a
 plaintiff.
Complaint, kom-plānt', *n.* a complaining; fault-finding.
Complaisant, kom-plā'sant, *adj.* obligingness.
Compliment, kom-pli'ment, *n.* ready to please.
Complimentary, kom-pli'men-tal, *adj.* fulfilling up.
Complex, kom-pleks, *adj.* intricate. [pearance]
Complexion, kom-plek'shun, *n.* colour; general ap-
Complexity, kom-pleks-ē-tī, *n.* state of being com-
Compliant, kom-pli'ant, *adj.* yielding. [plex]
Complicate, kom-pli-kat', *v.* to render confused
Complication, kom-pli-kā'shun, *n.* an entanglement.
Complicity, kom-pli-sē-tī, *n.* being an accomplice
Compliment, kom-pli'ment, *n.* an expression of regard.
Complimentary, kom-pli'men-tal, *adj.* expressing
 praise.
Compline, kom-plin, *n.* the last canonical service of
Complot, kom-plot, *n.* a conspiracy. [the day]
Comply, kom-pli, *v.* to agree, to yield.
Component, kom-pō-nent, *n.* an element.
Comport, kom-pōrt', *v.* to agree. [agreed with]
Comfortable, kom-pōrt-ābl, *adj.* capable of being
Compose, kom-pōz', *v.* to originate in music, art, or
 literature; to settle. [author; a musician]
Composer, kom-pō-z'er, *n.* one who composes; an
Compos mentis, kom-pōs men-tis, *adj.* phrase, sane.
Composite, kom-pō-zit, *adj.* made up of parts.
Composition, kom-pō-zish'un, *n.* a mixture, a thing
 written or composed
Compositor, kom-pō-z-ēr, *n.* one who sets type.
Compost, kom-pōst, *n.* a mixture of soil or plaster.
Composure, kom-pō-zh'r, *n.* calmness.
Compotation, kom-pō-tā'shun, *n.* a carousal.
Compound, kom-pō-wid', *v.* to mix; to settle.
Compound, kom-pō-wid', *n.* a mass; a mixture.
Comprehend, kom-prē-hend', *v.* to understand.
Comprehensible, kom-prē-hens-ē-bl, *adj.* that may be
 understood.
Comprehension, kom-prē-hen'shun, *n.* intelligence to
 understand.
Comprehensive, kom-prē-hens-iv, *adj.* extensive.
Compress, kom-pres, *v.* to force together, to con-
 centrate.
Compression, kom-pres'h-un, *n.* the act of compressing
Compress, kom-prē'sh, *n.* the act of compressing.
Comprise, kom-priz', *v.* to include.
Compromise, kom-prō-miz, *n.* an agreement by
 mutual concession.
Comptroller, kom-trō'l-er, *n.* one who controls.
Compulsion, kom-pul'shun, *n.* force.
Compulsive, kom-pul'siv, *adj.* coercive.
Compulsory, kom-pul'sō-rē, *adj.* compelling.
Compunctious, kom-punk'shun, *n.* remorse, misgiving.
Computable, kom-pūt-ābl, *adj.* calculable.
Computation, kom-pūt-ā'shun, *n.* calculation.
Comrade, kom-trād, *n.* companion.
Con, kon, *v.* to study. [learn]
Conarium, kon-ār-ē-um, *n.* the pineal gland of the
Concensation, kon-kat-i-ā'shun, *n.* united links
Concave, kon-kāv, *n.* a co-operating curve.
Concave, kon-kāv, *adj.* curved, as applied to the inner
 or hollow side of an object.
Concavity, kon-kāv-ē-tī, *n.* being concave.
Conceal, kon-sēl', *v.* to hide.
Cede, kon-sēd', *v.* to surrender; to admit.
Conceit, kon-sēr, *n.* excessive self-esteem.
Conceited, kon-sēr-ēd, *adj.* vain. [being conceited]
Conceivableness, kon-sēv-ābl-ness, *n.* capability of
Conceive, kon-sēv', *v.* to form; to understand.
Concentrate, kon-sen-trā, *v.* to bring close together;
 to compress.

day; ät; ärm éve; älk; there; ice; pln; machine; böld; pör; störm; müte; tüb; bürn.

Concentration, kon-sen-trā'shun, *n.* the act of bringing together.

Concentric, kon-sen-trik, *adj.* with a common centre.

Concept, kon-sept, *n.* an idea; a notion.

Concern, kon-sern, *v.* to relate to.

Concert, kon-sert, *n.* a musical entertainment; union.

Concert, kon-sert, *v.* to plan.

Concerted, kon-sert-ed, *adj.* planned, arranged.

Concertina, kon-sert-si-na, *n.* a musical instrument, with bellows.

Concession, kon-sesh'un, *n.* a conceding; the thing

Conch, kongk, *n.* a shell. [conceded.]

Conchoid, kong-koid, *n.* a plain curve.

Conchology, kong-kol-o-ji, *n.* the science of shells.

Concierge, kong-si-erzhi, *n.* a janitor.

Conciliar, kon-sil-i-er, *adj.* relating to a council.

Conciliate, kon-sil-i-at, *v.* to gain favour.

Concise, kon-sis, *adj.* terse, short.

Concision, kon-sish'un, *v.* mutilation.

Conclave, kon-klov, *n.* meeting-place of cardinals.

Conclude, kon-kliud, *v.* to finish.

Conclusion, kon-kliu'shun, *n.* end, inference.

Conclusive, kon-kliu'siv, *adj.* final.

Concoct, kon-kokt, *v.* to make up.

Concoction, kon-kok'shun, *n.* a mixture; a plot.

Concomitant, kon-kom-it-ant, *adj.* joined with.

Concord, kon-kord, *n.* harmony.

Concordance, kon-kord-ans, *n.* accord; an index to

leading passages of a book.

Concordant, kon-kord-ant, *adj.* harmonious.

Concordat, kon-kord-at, *n.* a treaty between the Pope

and some secular power.

Concourse, kon-kors, *n.* an assembly of people

Concrete, kon-kret, *adj.* brought together under one

Concubine, kon-kubi-n, *n.* a mistress. [pass]

Concur, kon-kur, *v.* to go together, to agree. [unass]

Concurrence, kon-kur-ens, *n.* union; agreement. [unass]

Concurrent, kon-kur-ent, *adj.* running together. [unass]

Concussion, kon-kush'un, *n.* a violent clashing together.

Condemn, kon-dem, *v.* to blame; to declare guilty.

Condemnation, kon-dem-nā'shun, *n.* the act of con-

demning.

Consensation, kon-den-sā'shun, *n.* consolation.

Consense, kon-sens, *v.* to conspire.

Consenser, kon-sens-er, *n.* one who, or that which,

conspires.

Condescend, kon-dē-send, *v.* to be affable to inferiors.

Condescending, kon-dē-send-ing, *adj.* courteous to

inferiors. [unass]

Condign, kon-din, *adj.* adequate. [unass]

Condiment, kon-dim-ent, *n.* seasoning; arrangement.

Condition, kon-disi-un, *n.* the existing state; rank.

Conditional, kon-disi-un-al, *adj.* depending on con-

dition.

Conditioned, kon-kish'un-al, *adj.* possessing a certain

Condole, kon-dol, *v.* to sympathize. [quality]

Condolence, kon-dol-ens, *n.* sympathy to one in grief.

Condonation, kon-do-nā'shun, *n.* forgiveness.

Condone, kon-don, *v.* to forgive.

Condonor, kon-don-er, *n.* a large culture.

Conduce, kon-dus, *v.* to contribute.

Conductive, kon-di-u'siv, *adj.* inducing.

Conduct, kon-duk, *n.* behaviour.

Conduct, kon-duk, *v.* to guide; to lead. [manager]

Conductor, kon-duk-tor, *n.* one who conducts; a

Conduit, kon-dut, *n.* a channel for conducting water.

Cone, kon, *n.* a pointed substance with a circular

base, fruit of cone shape.

Confabulation, kon-fab-u-lā'shun, *n.* a familiar chat.

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Confabulation, kon-fab-u-lā'shun, *n.* a familiar chat.

Confessor, kon-fes'-or, *n.* a priest who hears con-

fessions. [confided.]

Confidant, kon-fid-ant, *n.* one to whom secrets are

Confide, kon-fid, *v.* to trust; to tell privately.

Confidence, kon-fid-ens, *n.* trust, belief.

Confident, kon-fid-ent, *adj.* sure, positive.

Confidential, kon-fid-en'shal, *adj.* in confidence.

Configuration, kon-fig-u-rā'shun, *n.* external outline

Confine, kon-fin, *n.* border, limit.

Confine, kon-fin, *v.* to imprison; *n.* a "lying-in." [iron]

Confinement, kon-fin-ment, *n.* imprisonment, deten-

Confirm, kon-firm, *v.* to make certain, to sanction.

Confirmatory, kon-firm-at-er-i, *adj.* confirming.

Confiscate, kon-fis-kat, *v.* to annex; to attach.

Confiscation, kon-fis-kā'shun, *n.* the act of taking

over or annexing.

Conflagration, kon-fag-rā'shun, *n.* a destructive fire.

Conflict, kon-flikt, *n.* struggle, contest.

Conflict, kon-flikt, *v.* to oppose; to contend.

Confluence, kon-flu-ens, *n.* a flowing together.

Confluent, kon-flu-ent, *adj.* joining, merging.

Conflux, kon-fluks, *n.* a flowing together.

Confound, kon-fownd, *v.* to confuse; to abash.

Conform, kon-form, *v.* to render similar; to adapt.

Conformable, kon-form-ābl, *adj.* suitable.

Conformation, kon-form-ā'shun, *n.* special shape.

Conformity, kon-form-i-ti, *n.* likeness.

Confraternity, kon-frā-tern-i-ti, *n.* a brotherhood.

Confront, kon-frunt, *v.* to face. [Conclutus]

Confucianism, kon-fu-si-an-izm, *n.* the doctrines of

Confuse, kon-fuz, *v.* to bewilder; to abash. [fused]

Confusion, kon-fu'shun, *n.* the condition of being con-

Confutation, kon-fu-tā'shun, *n.* the act of confuting.

Confute, kon-fut, *v.* to disprove.

Congrat, kon-grā, *n.* leave of absence; *v.* taking leave

Congre'ehere, kon-grā'del-er, *v.* permission to elect.

Congress, kong-jri, *v.* to freeze.

Congregation, kon-jel-ā'shun, *n.* the act of congregat-

Congener, kon-jen-er, *n.* of the same nature.

Congenial, kon-jen-i-ā-l, *adj.* similar in spirit.

Congenital, kon-jen-i-tal, *adj.* so born.

Conger, kong-ger, *n.* a large sea eel.

Congeries, kon-jer-i-ēs, *n.* a collection of particles

Congest, kon-jest, *v.* to accumulate. [glghu]

Conglobulate, kon-glob-u-lat, *v.* to collect into a

Conglomerate, kon-glom-er-at, *adj.* gathered in a

mass.

Conglutination, kon-glū-tin-ā'shun, *n.* a sticking to

Congru, kong-goo, *n.* a black China tea. [ether]

Congratulate, kong-rat-u-lit, *v.* to express gladness

on some happy event.

Congregate, kong-grē-gat, *v.* to assemble.

Congregation, kong-grē-gā'shun, *n.* an assembly.

Congregationalism, kong-grē-gā'shun-al-izm, *n.* the

independent form of worship. [legislative body]

Congress, kong-gres, *n.* a conference, the U.S.

Congruity, kong-grū-i-ti, *n.* suitability.

Congruous, kong-grū-us, *adj.* suitable.

Conic, kon-ik, *adj.* in the form of a cone.

Cones, kon-iks, *n.* the cone section of geometry.

Conifer, kon-if-er, *n.* cone-bearing plants.

Coniferous, kon-if-er-us, *adj.* cone-bearing.

Conjectural, kon-jekt-ū-rā-l, *adj.* involving supposition.

Conjecture, kon-jekt-ūr, *n.* a guess, *v.* to surmise.

Conjoin, kon-join, *v.* to unite.

Conjoint, kon-joint, *adj.* united.

Conjugal, kon-jū-gal, *adj.* relating to marriage.

Conjugate, kon-jū-gāt, *v.* to express the parts of a

Conjunct, kon-jungkt, *adj.* conjoined. [verb]

Conjunction, kon-jungk'shun, *n.* a meeting; a connect-

ing word.

Conjuncture, kon-jungkt-ūr, *n.* combination of events.

Conjuration, kon-jū-rā'shun, *n.* enchantment.

Conjure, kon-jur, *v.* to practice sleight-of-hand.

Conjure, kon-jur, *v.* to solemnly implore. [main]

Conjurer, kon-jur-er, *n.* one who practices *leger-de-*

Conjurator, kon-jur-er, *n.* one joined by oath with others.

Connate, kon-at, *adj.* inborn; congenial.

Connatural, kon-at-ū-rā-l, *adj.* of kindred nature.

Connect, kon-ekt, *v.* to join together; to associate.

Conjexion or Connection, kon-nek'shun, *n.* that

which connects.

• dāy; āt; ārm; ēve; ēlk; thērē; jce; pīn; machine; bōld; pōt; stōrm; mōte; tūb; būrn.

Connivance, kon-'vans, *n.* a secret understanding.
Connive, kon-'iv, *v.* to wink at a fault; to combine.
Connoisseur, kon-'sai-er, *n.* a critical expert.
Consual, kon-'sü-'al, *adj.* relating to marriage.
Conoid, kon-'oid, *n.* in cone form.
Conquer, kong-'ker, *v.* to subdue; to overcome.
Conqueror, kong-'ker, *n.* one who conquers.
Conquest, kong-'kwest, *n.* the act of conquering.
Con sanguineous, kon-'sang-'gwin-'us, *adj.* related by blood.
Conscience, kon-'shens, *n.* an inner sense of duty.
Conscientious, kon-'shi-'en-shus, *adj.* scrupulous.
Conscionable, kon-'shun-'abl, *adj.* ruled by conscience.
Conscious, kon-'shus, *adj.* having perception of.
Consciousness, kon-'shus-'ness, *n.* self-perception.
Conscript, kon-'skript, *n.* a compulsory soldier.
Conscription, kon-'skrip-'shun, *n.* compulsory enlistment.
Consecrate, kon-'se-'krat, *v.* to make sacred. [ment.
Consecration, kon-'se-'kra-'shun, *n.* the act of devoting to holy purpose.
Consecutive, kon-'sek-'ü-'tiv, *adj.* succeeding in order.
Consensus, kon-'sen-'sus, *n.* unanimity.
Consent, kon-'sent, *v.* to agree; to comply.
Consentient, kon-'sen-'shü-'ent, *adj.* agreeing.
Consequence, kon-'sek-'kwens, *n.* result.
Consequent, kon-'sek-'kwent, *adj.* resulting. [ous.
Consequential, kon-'sek-'kwent-'shäl, *adj.* casual; pomp-
Consequence, kon-'ser-'v-'shun, *n.* act of conserving.
Conservative, kon-'serv-'ätiv, *adj.* tending to conserve;
the name of a political party.
Conservatory, kon-'serv-'ä-'tor-i, *n.* greenhouse.
Conserve, kon-'serv, *v.* to retain.
Conserve, kon-'serv, *n.* fruit or other preserve.
Consider, kon-'sid-'er, *v.* to ponder.
Considerable, kon-'sid-'er-'abl, *adj.* important; large.
Considerate, kon-'sid-'er-'ät, *adj.* thoughtful.
Consideration, kon-'sid-'er-'ä-'shun, *n.* importance;
deliberation.
Consign, kon-'vin, *v.* to transfer; to entrust.
Consignee, kon-'vin-'ee, *n.* one to whom anything is
consigned.
Consigner, kon-'sin-'ner, *n.* one who consigns.
Consignment, kon-'sin-'ment, *n.* the thing consigned;
act of consignment.
Consist, kon-'sist, *v.* to exist; to agree.
Consistency, kon-'sist-'en-si, *n.* substance; degree of
Consistent, kon-'sist-'ent, *adj.* uniform. [density.
Consistory, kon-'sist-'ör-i, *n.* a place of assembly.
Consociation, kon-'so-'si-'ä-'shun, *n.* association.
Consolation, kon-'so-'lä-'shun, *n.* comfort, sympathy.
Console, kon-'söl, *v.* to comfort.
Consolidate, kon-'söl-'id-'it, *v.* to make solid.
Consols, kon-'söl, *n.* short for consolidated annuities.
Consolidation, kon-'so-'nä-'n, *n.* agreement.
Consistent, kon-'so-'nans, *adj.* consistent; any letter
except a vowel.
Consort, kon-'sört, *n.* companion.
Consort, kon-'sört, *v.* to associate.
Conspicuous, kon-'spik-'ü-'us, *adj.* prominent.
Conspiracy, kon-'spiri-'ä-'si, *n.* a banding together.
Conspirator, kon-'spiri-'ä-'tor, *n.* one who conspires.
Conspire, kon-'spiri, *v.* to plot.
Constable, kon-'stäbl, *n.* an officer; a policeman.
Constabulary, kon-'stäb-'ü-'lar-i, *n.* a body of constables.
Constancy, kon-'stan-si, *n.* fidelity.
Constant, kon-'stant, *adj.* fixed.
Constellation, kon-'stel-'ä-'shun, *n.* a group of stars.
Constitution, kon-'ster-'nä-'shun, *n.* terror.
Constitute, kon-'stip-'it, *v.* to stop up.
Constitution, kon-'stip-'it, *n.* cosiveness.
Constituency, kon-'stit-'ü-'en-si, *n.* a body of voters.
Constituent, kon-'stit-'ü-'ent, *n.* a voter. [aa., an ele-
Constitute, kon-'stit-'it, to establish. [ment.
Constitution, kon-'stit-'it, *n.* the governmental
system; man's physical state.
Constrain, kon-'strin, *v.* to compel.
Constraint, kon-'strän't, *n.* confinement; compulsion.
Construct, kon-'strikt, *v.* to contract or bind close.
Construction, kon-'strikt-'shun, *n.* contraction.
Constringe, kon-'string, *v.* to draw together.
Constrict, kon-'strin-'it, *adj.* binding.
Construct, kon-'strukt, *v.* to build.

Constructive, kon-'strukt-'iv, *adj.* capable of construct-
Construct, kon-'strukt, *v.* to interpret; to explain. [ing.
Consubstantial, kon-'sub-'stän-'shäl, *adj.* of the same
nature. [doctrine of the substantial presence.
Consubstantiation, kon-'sub-'stän-'shü-'ä-'shun, *n.* the
Custom, kon-'swet-'üd, *n.* custom.
Consul, kon-'sul, *n.* a government representative.
Consulate, kon-'sü-'ät, *n.* office of consul. [abroad.
Consult, kon-'sult, *v.* to ask advice of; to look up.
Consultation, kon-'sult-'ä-'shun, *n.* an interview be-
tween a professional man and his client or patient.
Consume, kon-'sum, *v.* to destroy; to burn up.
Consummate, kon-'sum-'ät, *v.* to perfect.
Consumption, kon-'sum-'shun, *n.* the act of consum-
ing; a pulmonary disease.
Contact, kon-'takt, *n.* touch.
Contagion, kon-'tä-'jun, *n.* infection.
Contagious, kon-'tä-'jüs, *adj.* capable of infection.
Contain, kon-'tän, *v.* to hold.
Contaminate, kon-'tam-'in-'ät, *v.* to pollute.
Contango, kon-'tang-go, *n.* a commission paid for
postponement of purchase.
Contemn, kon-'tem, *v.* to despise.
Contemner, kon-'tem-'per, *v.* to blend.
Contemplate, kon-'tem-plät, *v.* to reflect; to study.
Contemporaneous, kon-'tem-po-'rä-'ne-us, *adj.* existing
at the same time.
Contemporary, kon-'tem-po-'rä-'ri, *n.* one who exists at
the same time, a co-existing publication.
Contempt, kon-'tempt, *n.* scorn.
Contemptible, kon-'tempt-'ibl, *adj.* despicable.
Contend, kon-'tend, *v.* to struggle, to oppose.
Content, kon-'tent, *adj.* satisfied, pleased; *n.* satis-
Contention, kon-'ten-'shun, *n.* strife. [faction.
Contentious, kon-'ten-'shus, *adj.* quarrelsome.
Contentment, kon-'tent-'ment, *n.* satisfaction.
Contents, kon-'tent-s, *n.* things contained, index.
Continuous, kon-'ter-'min-'us, *adj.* coexistent with.
Contest, kon-'test, *v.* to dispute.
Contest, kon-'test, *n.* conflict.
Context, kon-'tekst, *n.* connecting passages.
Contexture, kon-'tekst-'ür, *n.* the structure of a thing.
Contiguity, kon-'ti-gü-'it-i, *adj.* nearness.
Continence, kon-'tin-'ens, *n.* self-restraint.
Contentment, kon-'tin-'ent, *n.* manifold, a large division
of the earth's surface. [ing.
Contingency, kon-'tin-'jen-si, *n.* an accidental happen-
Contingent, kon-'tin-'jent, *adj.* dependent upon some-
thing happening. [ing.
Continual, kon-'tin-'ü-'al, *adj.* unceasing.
Continuation, kon-'tin-'ü-'ä-'shun, *n.* unbroken succe-
Continue, kon-'tin-'ü, *v.* to remain, to persist. [sion.
Continuity, kon-'tin-'ü-'it-i, *n.* condition of being con-
Contort, kon-'tört, *v.* to distort. [tinuous.
Contour, kon-'toor, *n.* an outline.
Contra, kon-'tra, *adv.* against. [goods.
Contraband, kon-'tra-'band, *adj.* illegal; *n.* prohibited
Contrabandist, kon-'tra-'band-'ist, *n.* a smuggler.
Contrabasse, kon-'tra-'bäs, *n.* the double bass viol.
Contract, kon-'trakt, *v.* to draw together; to bargain.
Contract, kon-'trakt, *n.* an agreement.
Contraction, kon-'trak-'shun, *n.* the act of contracting.
Contractor, kon-'trakt-'ör, *n.* one who contracts.
Contradict, kon-'tra-'dik't, *v.* to assert to the contrary.
Contradictory, kon-'tra-'dik't-'ör-i, *adj.* contrary; incon-
sistent.
Contradistinction, kon-'tra-'dis-'tink-'shun, *n.* distinctly
Contralto, kon-'tral'to, *n.* the alto voice. [contrapied.
Contraries, kon-'tra-'ri-z, *n.* things opposed.
Contrary, kon-'tra-'ri, *adj.* opposite; at variance.
Contrast, kon-'trast, *v.* standing or putting in opposi-
Contrite, kon-'trät, *adj.* clogged. [tion.
Contravallation, kon-'tra-'val-'ä-'shun, *n.* fortification
built by besiegers.
Contravene, kon-'tra-'ven, *v.* to oppose.
Contravention, kon-'tra-'ven-'shun, *n.* opposition.
Contretemps, kon-'tä-'tang, *n.* an opportune incident.
Contribute, kon-'trib-'üt, *v.* to give; to supply a literary
composition.
Contribution, kon-'tri-'bü-'shun, *n.* a thing contributed.
Contributory, kon-'tri-'bü-'tör-i, *adj.* helping.
Contrite, kon-'trit, *adj.* penitent.

day; ät; ärm; eve; älk; thäre; fce; pän; machine; böld; pöt; stärm; mätte; tüb; bärm.

Contrition, kon-trish'un, *n.* grief; remorse.
Contrivance, kon-triv'vans, *n.* a thing contrived.
Contrive, kon-triv', *v.* to project; to invent.
Control, kon-trol', *v.* to command; to direct.
Contrail, kon-trail'er, *n.* a checker of accounts.
Contravert, kon-tro-ver-shal-ist, *n.* one who indulges in controversy.
Controversy, kon-tro-ver-si, *n.* written discussion.
Convert, kon-tro-vert', *v.* to refute; to deny.
Contumacy, kon-tu-ma-si, *n.* resistance to authority.
Contumelious, kon-tu-mel-i-us, *adj.* insolent.
Coatmeal, kon-tu-mel-i, *n.* insolence; reproach.
Coatuse, kon-tu-z', *v.* to bruise.
Contusion, kon-tu-shun, *n.* a bruise.
Conundrum, ko-nun'drum, *n.* a riddle.
Convalescence, kon-val-es-ens, *n.* recovery of health.
Convalescent, kon-val-es-ent, *n.* one recovering.
Convection, kon-vek-shun, *n.* transmission of electricity or heat by currents. [assemble.]
Convene, kon-ven', *v.* to summon together: to convenient, kon-ven'-ent, *adj.* suitable, near.
Convent, kon-vent', *n.* a nunnery, or monastery.
Conventicle, kon-vent-ik'l, *n.* place of worship.
Convention, kon-ven-shun, *n.* common usage; an assembly. [established by usage.]
Conventionalism, kon-ven-shun-al-izm, *n.* what is conventional, kon-ven'-shun, *adj.* pertaining to a convention.
Converge, kon-verj', *v.* to tend to one point. [vent.]
Conversant, kon-vers'ant, *adj.* familiar with.
Conversation, kon-vers-a-shun, *n.* familiar talk.
Conversance, kon-ver-sat-si-on, *n.* a meeting for discussion. [course with.]
Converse, kon-vers', *v.* to talk with; to have intercourse.
Conversely, kon-vers'-ly, *adv.* in reverse order.
Conversion, kon-vers-shun, *n.* change of view.
Convert, kon-vert', *v.* to alter from one opinion to another: to apply.
Convertible, kon-vert-ib'l, *adj.* that may be converted.
Convex, kon-veks, *adj.* inclining to external roundness.
Convexity, kon-veks-i-ti, *n.* outside roundness.
Convey, kon-vay', *v.* to carry; to transmit; to steal.
Conveyance, kon-vay-ens, *n.* any vehicle; deed transferring property. [relating to property.]
Conveyancer, kon-vay-ens-er, *n.* one who draws up deeds.
Convict, kon-vikt', *v.* to prove or declare guilty.
Convict, kon-vikt', *n.* a prisoner condemned for crime.
Conviction, kon-vik-shun, *n.* proof of guilt; state of conscience.
Convince, kon-ving', *v.* to satisfy. [being convinced.]
Convivial, kon-vi-vi-əl, *adj.* jovial.
Convocation, kon-vo-ka-shun, *n.* act of convoking.
Convoke, kon-vok', *v.* to summon together. [a synod.]
Convoke, kon-vok', *v.* to roll together.
Convolvulus, kon-vol-vu-lus, *n.* bindweed.
Convoy, kon-voi', *v.* to accompany for protection.
Convulse, kon-vuls', *v.* to agitate.
Cony, kon'al, *n.* a rabbit.
Coo, ko, *v.* sound made by doves.
Cool, kool, *v.* to prepare food; *n.* one who cooks.
Cookery, koo-keri, *n.* the science of cooking.
Cool, kool, *adj.* slightly cold; calm; *v.* to make cool.
Coolie, kool'i, *n.* an Oriental labourer.
Cooling, kool'ing, *adj.* refreshing.
Coop, koop, *n.* a tub or box; *v.* to confine.
Cooperage, koop'er-ij, *n.* a cooper's workshop.
Co-operate, ko-op'er-at, *v.* to work with.
Co-operative, ko-op'er-at-iv, *adj.* working together.
Co-optation, ko-opt-a-shun, *n.* the act of election into an association by its own members.
Co-ordinate, ko-aw'din-ait, *adj.* ranking the same.
Co-ordinates, ko-aw'din-ait-s, *n.* similar elements.
Coot, koot, *n.* a water-fowl.
Copal, kop'al, *n.* a resinous substance. [theirship.]
Coparcenary, kop-par-sen-ari, *n.* the condition of joint coparcener, kop-par-sen-er, *n.* one who is joint heir.
Copatain, kop'a-tain, *adj.* a hat of sugar-loaf form.
Cope, kop, *n.* a covering; *v.* to engage with; to match.
Copier, kop'i-er, *n.* one who copies.
Coping, kop'ing, *n.* the top course of a wall.
Copious, kop-i-us, *adj.* abundant.
Copper, kop-per, *n.* a red-brown metal; a copper vessel.
Copperas, kop'er-us, *n.* sulphate of iron.
Coppice, kop-is, *n.* a copse.

Coprolite, kop-ro-lit, *n.* fossilised excrement.
Copse, kops, *n.* a small wood.
Copt, kopt, *n.* a descendant of the ancient Egyptians.
Copula, kop'u-la, *n.* that which connects.
Copulate, kop'u-lat, *v.* to unite sexually.
Copy, kop-i, *n.* an imitation.
Coppyhold, kop'i-hold, *n.* land held of a manor.
Copyist, same as Copier.
Copyright, kop'i-rit, *n.* right in an original production.
Coquet, ko-ke't, *v.* to flirt.
Coquette, ko-ke't, *n.* a flirt.
Cor, kor, *n.* a Jewish measure.
Coracle, kor'a-kl, *n.* a small row-boat.
Coral, kor'al, *n.* a substance found in the sea.
Corban, kor-ban, *n.* a religious or charitable offering.
Corbel, kor-bel, *n.* a projection from a wall.
Cord, kord, *n.* thin rope.
Cordage, kord'aj, *n.* a ship's rigging.
Cordate, kord'at, *adj.* heart-shaped.
Cordelier, kor-de-lér, *n.* a Franciscan friar.
Cordial, kor-di-al, *n.* a beverage; *adj.* hearty.
Cordon, kor-don, *n.* a badge; a guarding line of soldiers.
Corduroy, kor-du-roi, *n.* a kind of fustian. [soldiers.]
Cordwain, kord'wain, *n.* goatskin leather.
Cordwainer, kord'wain-er, *n.* a shoemaker; a worker.
Core, kor, *n.* the heart; the inner part.
Core-spondent, ko-res-pond-ent, *n.* a co-defendant in a divorce suit.
Coriaceous, ko-ri-a-shus, *adj.* leathery.
Cork, kork, *n.* a tree or its bark; a bottle stopper.
Cormorant, kor-mo-rant, *n.* a web-footed sea-bird.
Corn, kawm, *n.* grain.
Cornea, kor-ne-a, *n.* the front membrane of the eye.
Corneous, kor-ne-us, *adj.* horny.
Cornelian, kor-ne-li-an, *n.* a chalcedonic precious stone.
Cornet, kor-net, *n.* an angle instrument; a rank of cavalry officer now abolished.
Cornetcy, kor-net-si, *n.* cornet rank.
Cornice, kom'is, *n.* moulding close to ceiling.
Corniculate, kor-nik'-u-lat, *adj.* horned.
Cornucopia, kom-ü-k'-pi-a, *n.* horn of plenty.
Cornute, kom-üt', *v.* to make a cuckold of.
Corolla, kor-ol'a, *n.* the inner whorl of a flower.
Corollary, kor-ol'-ari, *n.* an inference from facts.
Corona, kor-o-na, *n.* the projecting part of a cornice; the moon's halo.
Coronach, kor-o-nah, *n.* funeral dirge. [monarch.]
Coronation, kor-o-na-shun, *n.* the crowning of a monarch.
Coroner, kor-u-ner, *n.* one who presides at inquests.
Coronet, kor-o-net, *n.* a small crown worn by nobles.
Corporal, kor-po-ral, *n.* a petty officer; *adj.* relating to the body.
Corporate, kor-po-rat, *adj.* pertaining to a corporation.
Corporation, kor-po-rat-shun, *n.* a corporate body.
Corporeal, kor-po-réal, *adj.* material.
Corporeity, kor-po-ré-i-ti, *n.* act of corporifying.
Corps, kór, *n.* a body of soldiers.
Corpsé, korp-sé, *n.* a dead body.
Corpulence, kor-pu-lens, *n.* fatness; obesity.
Corpuscle, kor-pus'l, *n.* a minute particle. [puscles.]
Corpuscular, kor-pus-kü-lar, *adj.* relating to corpuscles.
Corral, kor'al, *n.* to surround; *n.* cattle enclosure.
Correct, kor-ekt', *v.* to make accurate. *n.* right.
Correlate, kor-e-lat, *v.* to be mutually akin.
Correspond, kor-es-pond', *v.* to agree with; to exchange letters.
Correspondence, kor-es-pond-ens, *n.* suitableness; *n.* one who writes letters.
Corridor, kor-i-dör, *n.* a passage-way.
Corrigenda, kor-i-jend'a, *n.* corrections.
Corrigible, kor-i-jih'l, *adj.* open to correction.
Corroborate, kor-ob'-rat, *v.* to confirm.
Corrode, ko-röd', *v.* to rust; to eat away.
Corrodent, kor-öd-ent, *n.* that which corrodes; *adj.* having power to corrode.
Corrosive, kor-ös-iv, *adj.* having the quality of corroding.
Corrugate, kor-üg-at, *v.* to draw into folds. [joint.]
Corrupt, kor-upt', *v.* to defile; to bribe; *adj.* debased.
Corruptible, kor-upt-ib'l, *adj.* capable of corruption; *n.* corruption.
Corruption, kor-up-shun, *n.* impurity. [persuasive.]

däy; ät; ärm; eve; ëlle; thère; ðe; pín; machline; böld; pöt; störm; mätte; tüb; búrn.

Corage, kor'sāj, *n.* dress waist.
Corair, kor'sār, *n.* a pirate.
Coraleet, kor's'let, *n.* a cuirass.
Corset, kor's'et, *n.* stays.
Cortage, kor's'aj, *n.* a procession.
Cortes, kor'tez, *n.* Spanish parliament.
Coruscate, kor'us-kut, *v.* to flash.
Corvette, kor'vet, *n.* a small war vessel.
Corybant, kor'i-bant, *n.* a priest of Cybele.
Corymb, kor'im'b, *n.* a truncate cluster.
Corypheus, kor-i-fe'us, *n.* a chorus leader.
Cosmetic, kos-met'ik, *n.* a preparation for the complexion.
Cosmic, kos'mik, *adj.* of the universe.
Cosmogony, kos-mog'o-ni, *n.* the theory of origin.
Cosmography, kos-mog'ra-fi, *n.* science of the earth's constitution.
Cosmology, kos-mol'o-ji, *n.* the science of the world.
Cosmopolitan, kos-mo-pol'i-tan, *n.* one who is at home anywhere.
Cosmorama, kos-mo-rām'a, *n.* exhibition of world scenes.
Cosmos, kos'mos, *n.* the physical world.
Cost, kost, *n.* charge; expense; price.
Costal, kost'al, *adj.* pertaining to the ribs.
Costermonger, kost'er-mung-er, *n.* an itinerant vendor of cabbages.
Costive, kost'iv, *adj.* constipated.
Costume, kost'um, *n.* dress.
Cot, kot, *n.* a small cot; a child's crib.
Coterie, kot'er-i, *n.* a group of persons with similar tastes.
Cottillion, kot'il'yun, *n.* a kind of dance.
Cotton, kot'un, *n.* the produce of the cotton plant, cloth made therefrom.
Cotyledon, kot-il'ed-on, *n.* the seed leaf.
Couch, kowch, *n.* a seat; a bed; *v.* to stoop down; to lie down.
Couchant, kow'chant, *adj.* lying down.
Cough, kof, *n.* noise made by throwing off phlegm.
Couleur-de-rose, kool'er-de-rōz, *adj.* rosy.
Council, kown'sil, *n.* a deliberative assembly.
Councillor, kown'sil'er, *n.* a member of a council.
Counsel, kown'sel, *n.* advice; an advocate.
Counsellor, kown'sel-or, *n.* one who counsels.
Count, kown't, *v.* to number; *n.* esteem; a foreign countenance.
Countenance, kown'ten-ans, *n.* the face; *v.* to favour.
Counter, kown'ter, *adv.* against; *n.* a shop table.
Counteract, kown'ter-akt, *v.* to go against.
Counterbalance, kown'ter-bal-ans, *v.* to weigh against.
Counterfeit, kown'ter-fet, *v.* to imitate; *n.* something false.
Countermand, kown'ter-mānd, *v.* to revoke.
Countermarch, kown'ter-mārch, *v.* to march back.
Countermark, kown'ter-mārk, *n.* a mark of ownership put on goods.
Countermotion, kown'ter-mō-shun, *n.* an opposing motion.
Counterpane, kown'ter-pān, *n.* a bed covering.
Counterpart, kown'ter-pāt, *n.* a part that corresponds to another.
Counterplead, kown'ter-plēd, *v.* to plead to the contrary.
Counterplot, kown'ter-plōt, *v.* to plot to thwart a plot.
Counterpoint, kown'ter-pōint, *n.* the art of combining melodies.
Counterpoise, kown'ter-pōiz, *v.* to weigh against.
Counterscarp, kown'ter-skārp, *n.* the opposite side of a ditch to that occupied by the besieged.
Countersign, kown'ter-sin, *n.* an authorising mark.
Counterstroke, kown'ter-strōk, *n.* a return stroke.
Countervail, kown'ter-vāl, *v.* to avail against.
Countess, kown'tess, *n.* wife or widow of an earl or countess.
Country, kown'tri, *n.* a kingdom; any land; a rural region.
Couple, kup'l, *n.* a pair; *v.* to join.
Couplets, kup'lets, *n.* two lines of rhyme.
Coupling, kup'ling, *n.* a connection.
Coupon, koo'pon, *n.* a certificate to be cut off.
Courage, kur'aj, *n.* bravery.
Courier, koo'ri-er, *n.* a messenger.
Course, kōrs, *n.* progress; career; race-ground; *v.* to run; to hunt.
Coursing, kōrs'ing, *n.* hunting over a course.
Court, kōrt, *n.* an enclosed space; a hall of justice; the surroundings of a sovereign; *v.* to solicit.
Courteous, kur'te-us, *adj.* polite.
Courtesan, kur'te-zan, *n.* a lewd woman.

Courtesy, kur'ti-si, *n.* civility.
Courtier, kōrt'i-er, *n.* a frequenter of court.
Courtly, kōrt'li, *adj.* elegant.
Court-martial, kōrt-mar-shal, *n.* a court of officers.
Courthouse, kōrt'ship, *n.* the act of wooing.
Cousin, ku'zin, *n.* the son or daughter of an uncle or aunt.
Cove, kōv, *n.* a small inlet.
Covenant, kuv'en-ant, *n.* a mutual agreement.
Cover, kuv'er, *v.* to spread over; to conceal; *n.* a wrapping; a lid; a retreat of game.
Coverlet, kuv'er-let, *n.* a bed covering.
Covered, kuv'ert, *adj.* secret; concealed.
Coverture, kuv'ert-ur, *n.* shelter; the condition of being a married woman.
Covet, kuv'et, *v.* to desire.
Covetousness, kuv'et-us-ness, *n.* eager desire.
Covey, kōv'i, *n.* a brood of game.
Covin, kuv'in, *n.* a connivance.
Cow, kow, *n.* female of the ox; *v.* to frighten.
Coward, kow'ard, *n.* one lacking in courage.
Cower, kow'er, *v.* to shrink down; to crouch.
Cowl, kowl, *n.* a monk's hood.
Cowlick, kow'lik, *n.* a hair-tuft on the forehead.
Cowpox, kow'poks, *n.* a disease in cows.
Coxcomb, koks'koi, *n.* a top.
Coy, koi, *adj.* shy.
Cozen, ku'zen, *v.* to cheat.
Cozenage, ku'zen-aj, *n.* fraud in bartering.
Crab, krab, *n.* a shell-fish.
Crabbed, krab'd, *adj.* ill-natured, harsh.
Crack, krak, *v.* to split; to emit a sharp sound; *n.* a crack-brained.
Crack-brained, krak'brānd, *adj.* crazy.
Cracker, krak'er, *n.* a firework; a biscuit.
Cradle, krā'dl, *n.* a small bed for infants; a frame.
Craft, kraft, *n.* cunning; trade.
Craftsman, krafts'man, *n.* one engaged in a craft.
Crafty, kraft'i, *adj.* deceitful; with skill.
Crag, kræg, *n.* a high rock.
Cram, kräm, *v.* to crowd; to stuff.
Cranbo, krän'bō, *n.* a rhyming game.
Cramp, krämp, *n.* a spasm; *v.* to hinder, to confine.
Cran, krän, *n.* a Scotch measure for herrings.
Cranberry, krän'ber-i, *n.* an evergreen berry-bearing.
Crane, krän, *n.* a kind of bird, an apparatus for lifting heavy weights.
Cranial, krän'al, *adj.* pertaining to the skull.
Craniology, krän-i-ol'o-ji, *n.* the study of skulls.
Cranium, krän'i-um, *n.* the skull.
Crank, krängk, *n.* a crook or bend; a whim.
Cranney, krän'i, *n.* a chunk; a fissure.
Crape, kräp, *n.* a kind of black cloth used for mourning.
Crapulence, kräp'ü-lens, *n.* drink sickness.
Crash, krash, *v.* to dash into.
Crass, kräs, *adj.* coarse.
Crassamentum, kräs-a-ment'um, *n.* the dense part of blood.
Cratch, krach, *n.* a manger.
Crate, krät, *n.* a wicker case.
Crater, krät'er, *n.* the mouth of a volcano.
Crunch, kränsh, *v.* to chew greedily.
Cravat, kra-vat, *n.* a kind of neckcloth.
Crave, kräv, *v.* to ask; to beg; to seek.
Craven, krä'ven, *n.* a coward; *adj.* cowardly.
Craw, kraw, *n.* the crop of fowls.
Crawl, krawl, *v.* to creep.
Crayon, krä'on, *n.* a chalk pencil for drawing.
Craze, krüz, *n.* a passion; *v.* to confuse; to impair.
Craziness, krä'zi-ness, *n.* silliness.
Crazy, krä'zi, *adj.* deranged.
Cream, kräm, *n.* only substance formed on milk.
Crease, krēs, *n.* mark made by folding.
Create, krē'ät, *v.* to originate.
Creation, krē'ä-shun, *n.* formation.
Creator, krē'ä-tor, *n.* one who creates; the Supreme Being.
Crèche, kräsh, *n.* a public nursery.
Credence, krē'dens, *n.* belief.
Credentials, krē-den'shials, *n.* letters of personal testimony.
Credible, krē'dibl, *adj.* to be believed.
Credit, krē'dit, *n.* esteem, trust.
Creditable, krē'di-tä-bl, *adj.* trustworthy.
Creditor, krē'di-tor, *n.* one to whom money is due.
Credulity, krē'dü-liti, *n.* easiness of belief.
Creek, krēk, *n.* an exposition of belief.
Creek, krēk, *n.* a small inlet or bay.

däy; ät; ärm; äve; älk; thäre; ice; plin; machine; bölg; pöt; störm; müte; tüb; bärm.

Creep, *krep*, *v.* to crawl.
 Creeper, *krep'er*, *n.* a climbing plant.
 Cremation, *kre-mā'shun*, *n.* the burning of the dead.
 Cremated, *kre-nā'ted*, *adj.* scalloped.
 Crémated, *kren-elā'ted*, *adj.* indented, battlemented.
 Creole, *kro'ol*, *n.* a person of European descent born in South America or the West Indies.
 Creosote, *kro'os-ot*, *n.* oil obtained from tar.
 Crepitate, *krep'tit*, *v.* to crackle.
 Crepuscular, *krep-isk'ul-ar*, *adj.* relating to twilight.
 Crescent, *kres'ent*, *adj.* shaped like the new moon.
 Cress, *kres*, *n.* a plant used as a salad.
 Cresset, *kres'et*, *n.* an iron vessel for holding fire.
 Crest, *krest*, *n.* the summit; a cock's comb; the surmounting symbol of a coat of arms.
 Crestfallen, *krest'fal-en*, *adj.* disheartened.
 Crustaceous, *kres-tā'sh-us*, *adj.* chalk like.
 Cretonism, *kret'm-izm*, *n.* mental and physical imbecility.
 Cretonne, *kret-on*, *n.* a figured cotton fabric used for furniture coverings, etc.
 Crèvasse, *kre-vās'*, *n.* a crack or opening in a glacier.
 Crivice, *krev'is*, *n.* a crack.
 Crib, *kro'el*, *n.* a kind of woollen yarn.
 Crib, *krib*, *n.* a child's bed; *v.* to shut in; to steal.
 Cribble, *krib'l*, *n.* a coarse sieve.
 Crick, *krik*, *n.* a spasm.
 Cricket, *krik'et*, *n.* a kind of grasshopper; a game.
 Crier, *kri'er*, *n.* a court officer; a bellman.
 Crime, *krim*, *n.* offence against the law.
 Criminal, *krim'i-nal*, *n.* one guilty of crime; *adj.* per-
 Criminality, *krim-mā'l-i-ti*, *n.* guilt. [relating to crime].
 Criminate, *krim'ināt*, *v.* to accuse.
 Crimp, *krimp*, *v.* to plant; *n.* a decoy.
 Cripple, *krip'l*, *v.* to curl.
 Cinnamon, *krim'zn*, *n.* a deep red colour.
 Cringe, *krim*, *v.* to bend fawningly.
 Crinkle, *kriŋ'kl*, *v.* to wrinkle.
 Crinoid, *kri'n-oid*, *n.* a hairy.
 Cripple, *krip'l*, *n.* one who is lame.
 Crisis, *kri'sis*, *n.* a critical time.
 Crisp, *krisp*, *adj.* brittle, brisk.
 Criticism, *krit-i-sim*, *n.* a standard of judging.
 Critic, *krit'ik*, *n.* a professional reviewer.
 Criticise, *krit-i-kāz*, *adj.* discommuting.
 Critique, *krit'ik*, *v.* to pass judgment on.
 Criticism, *krit'i-sim*, *n.* the act of criticising.
 Critique, *krit'ik*, *n.* a printed criticism.
 Cry, *kri*, *n.* a public cry.
 Crier, *kri'er*, *n.* the cry of a frog.
 Croaker, *kro'ker*, *n.* a grumbler.
 Crochet, *kro'ch*, *n.* a kind of fancy work.
 Crocodile, *kro-kod'il*, *n.* a large reptile.
 Crocus, *kro'kus*, *n.* a plant.
 Crony, *kron*, *n.* an old woman.
 Crum, *kro'm*, *n.* a family friend.
 Crook, *krook*, *n.* a curve; a staff.
 Croon, *kroon*, *v.* to hum.
 Crost, *kros*, *n.* a goblet; the instrument on which Christ was crucified; emblem of the Christian re-
 Crotchety, *kro'ch-ē-ti*, *adj.* whimsical, faddy.
 Crotton-oil, *kro'ton-oil*, *n.* a purgative oil.
 Croup, *kroop*, *n.* a throat disease.
 Croupier, *kroo'p-er*, *n.* an assistant chairman.
 Crow, *kro*, *n.* a bird; the cry of the cock; *v.* to boast.
 Crowbar, *kro'bār*, *n.* an iron lever.
 Crowd, *krowd*, *n.* a collection of people; a mob.
 Crown, *krown*, *n.* a regal head adornment; the top of
 anything.
 Crown-glass, *krown'glas*, *n.* a kind of window-glass.
 Crucial, *kroo'sh-ūl*, *adj.* testful.
 Crucible, *kroo'sib'l*, *n.* a melting-pot. [of the Cross]
 Crucifix, *kroo'sik-siks*, *n.* a cross, the sacred emblem.
 Crucifixion, *kroo-sik'shun*, *n.* death on the Cross.
 Cruciform, *kroo'si-form*, *adj.* in the form of a cross.
 Crucify, *kroo'si-fai*, *v.* to put to death by nailing to a
 Crude, *krood*, *adj.* rough, raw. [cross].
 Cud, *kud*, *n.* unfinished, raw.
 Cud, *kroo'el*, *adj.* hard-hearted, stern, inhuman.
 Cud, *kroo'el*, *adj.* harshness; brutality.
 Cud, *kroo'el*, *adj.* stand for condiments.
 Cruise, *krooz*, *v.* to sail about.
 Crumb, *kramb*, *n.* a fragment.
 Crumble, *kramb'l*, *v.* to break in small pieces.

Crum, *krum*, *n.* a kind of muffin.
 Crumple, *krumpl*, *v.* to crease or wrinkle.
 Crunch, *krunsh*, *v.* to crush with the teeth.
 Crupper, *kru'per*, *n.* the leather that passes under a horse's tail.
 Crusade, *kroo'sād*, *adj.* pertaining to the leg.
 Crusade, *kroo'sād*, *n.* a military expedition to the Holy Land; any daring combined undertaking.
 Crusader, *kroo-sā'd-er*, *n.* one taking part in a crusade.
 Cruise, *krooz*, *n.* an earthy pot.
 Cruset, *kroo'set*, *n.* a goldsmith's crucible.
 Crush, *krush*, *v.* to break by pressure; to ruin.
 Crust, *krust*, *n.* outer covering.
 Crustaceous, *kru-s-tā'sh-us*, *adj.* relating to shell-fish.
 Crustated, *krus-tā'ted*, *adj.* coated with crust.
 Crusty, *krust'i*, *adj.* with a crust; surly.
 Crutch, *kruch*, *n.* a support for one who is lame.
 Cruz, *krus*, *n.* a cross; a difficulty.
 Cryophorus, *kri-ō-fō-rus*, an instrument for measuring
 Crypt, *kript*, *n.* an underground chapel [evaporation].
 Cryptogamy, *kript-og-ā-mi*, *n.* the science of flower-
 less plants.
 Cryptography, *kript-og-raf-i*, *n.* secret writing.
 Crystal, *krist'al*, *adj.* transparent; glassy.
 Crystalline, *krist'al-in*, *adj.* clear, transparent.
 Crystallise, *krist'al-iz*, *v.* to form into crystals.
 Crystallography, *krist-al-og-raf-i*, *n.* the science of
 Cub, *kub*, *n.* a young bear. [crystals].
 Cubature, *kū-bā'tur*, *n.* cube-finding.
 Cube, *kūb*, *n.* a solid square.
 Cubic, *kū'bik*, *adj.* relating to a cube.
 Cubiform, *kū'b-i-form*, *adj.* in cube shape.
 Cubit, *kū'bit*, *n.* an ancient measure.
 Cuboidal, *kū-bō'id-al*, *adj.* cube-like.
 Cuckold, *kuk'old*, *n.* a man deceived by his wife.
 Cuckoo, *kuk'oo*, *n.* a well-known bird.
 Cucumber, *kū-kūm-ber*, *n.* an oblong green fruit.
 Cud, *kud*, *n.* food that is chewed by ruminants.
 Cuddy, *kud'i*, *n.* a ship's cabin.
 Cudgel, *kud'el*, *n.* a staff.
 Cue, *kū*, *n.* a hint; the tail, a rod used in billiards.
 Cuff, *kuf*, *n.* a blow; wrist covering; *v.* to strike.
 Cufic, *kū'fik*, *adj.* like the writings of Cufa.
 Curass, *kwe'ras*, *n.* a breast covering.
 Curassier, *kwe'ras-ēr*, *n.* a soldier armed with a
 Curass, *kwe'ras*, *n.* cooking department. [curass].
 Cur-de-sac, *kū'de-sak*, *n.* a blind alley.
 Culinary, *kū-lin-ār-i*, *adj.* relating to cooking.
 Cull, *kul*, *v.* to select.
 Cullender, *kū'l-er*, *n.* a strainer.
 Cullion, *kū'li-on*, *n.* a coward.
 Culm, *kūlm*, *n.* stalk of corn or grass.
 Culminate, *kūlm-ināt*, *v.* to get to the extreme point.
 Culprable, *kū'pā-bl*, *adj.* guilty.
 Culprit, *kū'pr-it*, *n.* one to blame, or accused.
 Cult, *kult*, *n.* system.
 Cultivate, *kūlt-i-vat*, *v.* to till.
 Cultivation, *kūlt-i-vā'shun*, *n.* the art of cultivation.
 Culture, *kūlt'ur*, *n.* refinement; learning.
 Culver, *kūl-ver*, *n.* an early form of cannon.
 Culvert, *kūl-vert*, *n.* a covered water channel.
 Culver-lage, *kūl-ver-tāj*, *n.* degradation.
 Cumber-some, *kūm-ber-sūm*, *adj.* burdensome.
 Cumbrian, *kūm'bri-an*, *adj.* relating to Cumberland.
 Cumbrous, *kūm'brus*, *adj.* heavy.
 Cum, *kūm*, *n.* an unwholesome plant.
 Cumulate, *kūm'ū-lāt*, *v.* to heap together.
 Cumulative, *kūm'ū-lā-tiv*, *adj.* regularly increasing.
 Cumulus, *kū'mū-lus*, *n.* a kind of cloud.
 Cuneal, *kū-nē-al*, *adj.* wedge-like.
 Cuneiform, *kū-nē'i-form*, *adj.* in the style of the
 ancient Babylonian writing characters.
 Uniform, *kū'n-i-form*, *adj.* wedge-shaped.
 Cunning, *kun'ing*, *adj.* sly, crafty; *n.* skill.
 Cup, *kup*, *n.* a vessel for holding liquid.
 Cupboard, *kūp-bōrd*, *n.* a storing-place for usable and
 suitable things.
 Cupellation, *kū-pel-ā'shun*, *n.* the assaying of precious
 Cupid, *kū'pid*, *n.* the god of love. [metals].
 Cupidity, *kū-pid-i-ti*, *n.* greed.
 Cupola, *kū'pō-lā*, *n.* a spherical vault, or concave cell.
 Cupreous, *kū'prē-us*, *adj.* containing copper. [ing].

dāy; āt; āwn; ēve; ēlk; thēre; pīn; machine; bōld; pōt; stōrm; mūte; tūb; būrn.

Cur, kur, *n.* a common dog; a bearish fellow.
 Curable, kūr'abl, *adj.* healable.
 Curacao, koo-rā-sō's, *n.* a liqueur.
 Curacy, kūr'et, *n.* the benefice of a curate.
 Curate, kūr'at, *n.* an under clergyman.
 Curative, kūr'at-iv, *adj.* tending to cure.
 Curator, kūr'at'or, *n.* a care-taker.
 Curb, kurb, *v.* to check.
 Curbstone, kurb'stone, *n.* a stone placed on the edge of a street footway.
 Cure, kūr, *n.* a remedy; *v.* to restore to health.
 Curfew, kūr'fū, *n.* an evening bell.
 Curiosity, kūr'et-ō's'it-ē, *n.* inquisitiveness.
 Curious, kūr'et-ō's, *n.* a curo collector.
 Curious, kūr'et-us, *adj.* strange; rare; inquisitive.
 Curl, kurl, *v.* to twist; *n.* a ringlet.
 Curlew, kūr'lū, *n.* a wading bird.
 Curmudgeon, kur-mud'jen, *n.* an ill-disposed person.
 Currant, kūr'ant, *n.* a kind of fruit.
 Currency, kūr'en-si, *n.* the coinage.
 Current, kūr'ent, *adj.* running; *n.* a stream.
 Curricie, kūr'ik'l, *n.* a two-wheeled vehicle.
 Curriculum, kur-ik'lū-m, *n.* a course of study.
 Carrier, kūr'er, *n.* one who carries leather.
 Curry, kūr'i, *v.* to dress leather; *n.* a peppery sauce.
 Curse, kurs, *v.* to denounce; to execrate; *n.* the invoked evil.
 Cursed, kurs'ed, *adj.* despicable, hateful.
 Curser, kurs'er, *n.* one who curses.
 Cursive, kurs'iv, *adj.* flowing.
 Cursory, kurs'ō-ri, *adj.* superficial.
 Curt, kurt, *adj.* short.
 Curtail, kūr'tāl, *v.* to shorten.
 Curtain, kūr'tin, *n.* enclosing drapery; a screen.
 Curved, kūr'v'ed, *adj.* curved.
 Curvature, kūr'v'et-ūr, *n.* bending.
 Curve, kūr'v, *n.* anything bent; *v.* to bend. [horse].
 Curvet, kūr'vet, *n.* a curving leaping movement of a curvilinear, kur-vil-in'ar, *adj.* bounded by curved
 Cushat, koo'sh'at, *n.* a wood pigeon. [lines].
 Cushion, koo'sh'un, *n.* a pillow or stuffed seat.
 Cusp, kusp, *n.* a point.
 Cuspidor, kus'p-dōr, *n.* spittoon.
 Custard, kust'ard, *n.* a baked compound of milk and
 Custodian, kust'ō-dian, *n.* a guardian [eggs].
 Custody, kust'ō-dē, *n.* a keeping in charge; imprison-
 Custom, kust'om, *n.* use; habit. [ment].
 Customary, kust'om-ar-i, *adj.* according to usage.
 Customer, kust'om-er, *n.* a purchaser.
 Custom-house, kust'om-hous, *n.* a building where
 customs are collected.
 Customs, kust'oms, *n.* duties on exports or imports.
 Cutaneous, kūt'ā-ne-us, *adj.* pertaining to the skin.
 Cute, kūt, *adj.* clever, smart.
 Cuticle, kūt'ik'l, *n.* the outer skin.
 Cutlass, kust'las, *n.* a broadsword.
 Cutler, kūt'ler, *n.* one who deals in cutlery.
 Cutlery, kūt'ler, *n.* articles made by cutlers.
 Cutlet, kūt'let, *n.* a slice of mutton or veal.
 Cutter, kūt'er, *n.* a small ship.
 Cycle, s'ik'l, *n.* a circle; a round of time; a bicycle.
 Cycloid, s'ik-loid, *n.* a figure like a circle.
 Cyclone, s'ik-lōn, *n.* a rotary storm.
 Cyclopaedia, si-klop'ē-dī-a, *n.* a work of general in-
 Cyclopean, si-klop'ē-an, *adj.* gigantic. [formation].
 Cyclops, s'ik-lops, *n.* a fabled race of one-eyed giants.
 Cygnet, sig'net, *n.* a young swan. [diameter].
 Cylinder, sil'n-dēr, *n.* a circular body of equal
 Cylindrical, sil'n-drik'al, *adj.* in cylinder form.
 Cymbal, sim'bal, *n.* a clashing musical instrument.
 Cynic, sin'ik, *n.* a morose sneerer.
 Cynical, sin'ik-al, *adj.* surly, satirical.
 Cynicism, sin'is-izm, *n.* heartlessness.
 Cynosure, sin'ō-shoor, *n.* that which arrests attention.
 Cypress, s'ipres, *n.* an evergreen.
 Cyprina, s'ipri-an, *adj.* licentious.
 Cyprus, s'iprus, *n.* a sort of crape.
 Cyrillie, sil'n'li, *adj.* relating to the St. Cyril alphabet.
 Cyst, sist, *n.* a bag of morbid matter in animal bodies.
 Cytherean, sū'er-ē-an, *adj.* relating to Venus.
 Czardas, zār'das, *n.* a Hungarian dance.
 Czech, tshek, *n.* a branch of the Slav family.

day; ät; ärm; ève; ðik; there; ice; pia; machine; böld; pöt; störm; müte; tül; büna.

Dab, dab, *v.* to strike lightly.
 Dabble, dab'l, *v.* to play in water; to meddle with.
 Dabster, dab'ster, *n.* an adept.
 Dace, däs, *n.* a small river fish.
 Dactyl, dak'til, *n.* in poetry, a foot of three syllables.
 Dado, dā'do, *n.* the lower section of a wall-space;
 Daff, daf, *v.* to play the fool. [body of a pedestal].
 Daffodil, dā'fō-dil, *n.* a yellow flower of the lily order.
 Daft, dāft, *adj.* crazy.
 Dagger, dag'er, *n.* a short sword.
 Daggle, dag'l, *v.* to wet.
 Daguerotype, da-ger'ō-tip, *n.* an old form of photo-
 Dahlia, dā'lī-a, *n.* a flowering garden plant. [graph].
 Daily, dā'lī, *adv.* every day.
 Dainty, dānt'i, *adj.* delicate; pleasing.
 Dairy, dā'ri, *n.* a place where milk is kept.
 Dais, dā'is, *n.* the raised part of a floor.
 Dale, dāl, *n.* a valley.
 Dalesman, dāl'z-man, *n.* a dale-dweller.
 Dalliance, dāl'z-ans, *n.* trifling.
 Dally, dāl'i, *v.* to lose time.
 Dam, n. confined water; mother.
 Damage, dam'aj, *n.* injury.
 Damask, dam'ask, *n.* a figured fabric.
 Damasken, dam'as-ken, *v.* to decorate metal.
 Dame, dām, *n.* matron; lady.
 Damn, dam, *v.* to condemn.
 Damp, dāp, *adj.* moist; *v.* to dishearten.
 Damper, dam'per, *n.* an apparatus for regulating
 currents; a check.
 Damsel, dam'sel, *n.* a young woman.
 Damsel, dam'son, *n.* a kind of plum. [dancing].
 Dance, dāns, *v.* to gyrate to music; *n.* the act of
 Dandelion, dam'de-lion, *n.* a common yellow flower.
 Dander, dan'der, *v.* to loiter; *n.* anger.
 Dandle, dan'dl, *v.* to fondle, or toss up.
 Dandruff, dan'druf, *n.* scurf on the hair.
 Dandy, dan'dl, *n.* a fop.
 Danger, dān'jer, *n.* peril.
 Dangerous, dān'jer-us, *adj.* unsafe.
 Dangle, dang'l, *v.* to suspend slackly; to hang around.
 Dangler, dang'ler, *n.* one who follows.
 Dank, dang't, *adj.* damp.
 Dapper, dāp'er, *adj.* quick, handy, neat.
 Dapple, dāp'l, *adj.* spotted.
 Darryites, dār'b'its, *n.* Plymouth Brethren.
 Dare, dār, *v.* to be venturesome, bold.
 Dark, dārk, *adj.* devoid of light.
 Darksome, dārk'sum, *adj.* gloomy.
 Darling, dār'ling, *n.* a loved one.
 Darn, dārn, *v.* to mend with threads.
 Darnel, dār'nel, *n.* a kind of grass.
 Dart, dārt, *n.* a short lance; *v.* to thrust; to rush.
 Darwinism, dār'win-izm, *n.* the Darwinian theory of
 evolution.
 Dash, v. to throw hastily; *n.* a blow; a flourish; a
 slight infusion; a punctuation mark (—).
 Dastard, das'terd, *n.* a coward.
 Dastardly, das'terd'li, *adj.* in a cowardly way.
 Data, dā'ta, *n.* a collection of facts. [day].
 Date, dāt, *n.* a fruit; a precise period; *v.* to write the
 Dative, dā'tiv, *adj.* that is given; the dative case in
 Daub, daw'b, *v.* to smear. [grammar].
 Daubery, daw'b'er-i, *n.* rough painting.
 Dauby, daw'b'i, *adj.* sticky, smeary.
 Daughter, daw'ter, *n.* a female child.
 Daunt, dawnt, *v.* to frighten.
 Dauntless, dawnt'less, *adj.* fearless.
 Davit, dā'vit, *n.* the projecting bar of a ship.
 Davy Jones, dā'vi-jōns, *n.* in sailor lingo, the spirit of
 Dawdle, daw'dl, *v.* to trifle; to waste time. [the deep].
 Dawk, daw'k, *n.* an Indian post.
 Dawn, n. the light of daybreak; *v.* to loom in view.
 Day, n. the period of daylight; *n.* an hour.
 Day-book, dā'bōk, *n.* an account book for daily
 Daybreak, dā'brik, *n.* dawn. [entries].
 Dayman, dā'man, *n.* one who appoints a day.
 Daze, dāz, *v.* to astound.
 Dazzle, dāzl, *v.* to confuse by light or brilliance.
 Deacon, dē'kon, *n.* a church or chapel officer.

Dead, ded, *adj.* destitute of life. [space in a ship.
Dead-end, ded'en, *v.* to impair.
Dead-freight, ded-frāt, *n.* payment for unoccupied
Dead-light, ded-līt, *n.* a light made without aid.
Dead-lights, ded-līt, *n.* storm-shutters.
Deadliness, ded-līnēs, *n.* condition of being dead.
Dead-lock, ded-lōk, *n.* a complete standstill.
Deadly, ded'lī, *adj.* fatal.
Dead-reckoning, ded-rek'on-ing, *n.* log-book reckon-
Deaf, def, *adj.* deprived of hearing. [ing.
Deafen, def'n, *v.* to render deaf.
Deaf-mute, def-mūt, *n.* one deaf and dumb
Deal, děl, *n.* a great quantity; a bargain; a kind of
Dealer, def'er, *n.* a trader. [wood; *v.* to distribute.
Dean, dēn, *n.* a church dignitary.
Deanery, dēn'er-ē, *n.* the office or house of a dean.
Dear, dēr, *adj.* costly; beloved.
Dearth, dērth, *n.* scarcity.
Death, dēth, *n.* the end of life.
Death-warrant, dēth-wor-ant, *n.* an order for execu-
Debar, de-bār, *v.* to exclude. [tion.
Debarik, de-bār-ik, *v.* to land from a ship.
Debase, de-bās, *v.* to degrade.
Debasement, de-bās'ment, *n.* degradation
Debatable, de-bāt-ābl, *adj.* open to dispute.
Debate, de-bāt, *v.* to argue; *n.* a discussion.
Debauch, de-bāuch, *n.* a porridge.
Debaucher, de-bāuch'er, *n.* one who corrupts.
Debauchery, de-bāuch'er-ē, *n.* lewdness
Debenture, de-bent'ūr, *n.* an acknowledgment of debt.
Debitate, de-bīt-āt, *v.* to weaken.
Deblity, de-bīt-ē, *n.* weakness.
Debit, del't, *n.* something due
Debonair, de-bō-nār, *adj.* gay; elegant
Debouch, de-bōok, *v.* to march out from
Deboucheure, de-bōo-shūr, *n.* the mouth of a river
Debris, de-brē, *n.* rubbish; ruins.
Debt, dēt, *n.* what is owing.
Debtor, dēt'or, *n.* one who owes.
Debut, de-būt, *n.* a first appearance.
Decachord, dek'ā-kord, *n.* an ancient musical instru-
Decade, dek'ād, *n.* ten years. [ment
Decadence, de-kā'dens, *n.* decay [sides.
Decagon, dek'ā-gon, *n.* a figure of ten angles and ten
Decahedron, dek'ā-hē'dron, *n.* a solid figure of ten
Decalogue, dek'ā-log, *n.* the ten commandments.
Decameron, de-kā-mē-on, *n.* Boccaccio's hundred
Decamp, de-kāmp, *v.* to steal away. [flee-
Decanal, dek'ā-nāl, *adj.* relating to a dean or deanery
Decant, de-kānt, *v.* to pour off, as into a decanter.
Decanter, de-kānt'er, *n.* a vessel for holding liquor.
Decapitate, de-kāp-ē-tāt, *v.* to behead
Decapod, dek'ā-pōd, *n.* a shellfish of ten claws, as the
Decastyle, dek'ā-stīl, *n.* portico with ten columns
Decay, de-kā, *v.* to fall off, to wither, *n.* corruption.
Decease, de-seē, *n.* death
Decedent, de-sē-dent, *n.* a deceased person.
Decent, de-sēt, *n.* fraud; artifice.
Decemipedal, de-sēm-pē-dāl, *adj.* ten-footed
Decemviri, de-sēm-vīr, *n.* one of the ten magistrates of
Decency, de-sen-sē, *n.* modesty; propriety.
Decennial, de-sēm-nāl, *adj.* happening every ten years.
Decent, de-sēt, *adj.* decorous; proper; good.
Decentralisation, de-sen-trāl-ē-zā-shun, *n.* the act of
Deception, de-sep-shun, *n.* imposition
Deceptive, de-sep'tiv, *adj.* tending to deceive.
Deception, de-sep'tiv, *n.* a pulling off.
Decide, de-sīd, *v.* to determine; to resolve.
Deciduous, de-sīd'ūs, *adj.* falling in autumn.
Decimal, des't-māl, *n.* a tenth; *adj.* by tens.
Decimate, des't-māt, *v.* to kill every tenth man; to
Decipher, de-sīf'er, *v.* to make out [take a tenth part.
Decision, de-sīz'ūn, *n.* a determination; a conclusion.
Deck, dek, *v.* to adorn, *n.* floor of a ship.
Declain, de-kām, *v.* to harangue.
Declamation, dek-lām'ā-shun, *n.* rhetorical speaking.
Declamatory, dek-lām'ā-tō-n, *adj.* noisily rhetorical.
Declare, de-kār, *v.* to avow; to publish.

Declension, de-klen'shun, *n.* a falling off.
Declinable, de-klin'ā-bl, *adj.* capable of declension.
Decline, de-klin, *v.* to refuse; *n.* a falling off.
Declivity, de-kli-vē, *n.* a downward slope.
Decoit, de-kōit, *v.* to boil.
Decoction, de-kōk'shun, *n.* an extract obtained by
Decoliate, de-kōl'āt, *v.* to behead. [boiling.
Decolorant, de-kōl'er-ant, *n.* a substance that extracts
Decoloration, de-kul'er-ā'shun, *n.* removal or absence
Decompose, de-kom-pōs, *v.* to separate into original
Decomposition, de-kom-pōz'ūn, *n.* to decay.
Decompose, de-kom-pōz'ūn, *v.* to compound again.
Decorate, de-kō-rāt, *v.* to adorn.
Decorative, de-kō-rāt-iv, *adj.* ornamental.
Decorous, de-kō-rus, *adj.* proper; becoming.
Decorticate, de-kōrt'ikāt, *v.* to peel.
Decorum, de-kō-rūn, *n.* becoming behaviour.
Decoy, de-kōi, *v.* to allure; *n.* the thing used to lure.
Decrease, de-kres, *v.* to diminish.
Decree, de-kre, *n.* a judicial order or judgment.
Decrement, de-kre'ment, *n.* the condition of decreas-
Decrepit, de-krep'it, *adj.* broken down. [ing
Decrepitate, de-krep'it-āt, *v.* to crackle with heat.
Decrescent, de-kres'ent, *adj.* gradually decreasing.
Decretal, de-kre'tāl, *adj.* relating to a decree.
Decrial, de-kri'āl, *n.* the act of decrying.
Decry, de-kri, *v.* to discredit.
Decumbent, de-kūn'bent, *adj.* lying down.
Decuple, dek'ū-pl, *adj.* tenfold.
Decurrent, de-kur'ent, *adj.* with a downward tendency.
Decussate, de-kus'āt, *v.* to cross.
Deceitful, de-sē-ful, *adj.* cleverly intricate.
Dedicate, ded'ikāt, *v.* to devote to.
Dedication, ded'ik-ā'shun, *n.* consecration; a dedica-
Deductive, de-dūkt'iv, *adj.* infer-
Deduct, de-dūkt, *v.* to infer.
Deductible, de-dūkt-ē-bl, *adj.* capable of deduction.
Deduct, de-dūkt, *v.* to take from.
Deduction, de-dūk'shun, *n.* what is deducted.
Deed, dēd, *n.* exploit; document.
Deem, dēm, *v.* to suppose, to infer.
Deep, dēp, *adj.* far down; profound; *n.* the sea; an abyss.
Deepen, dē-pen, *v.* to increase in depth.
Deer, dēr, *n.* an animal.
Deer-stalking, dēr'stawk-ing, *n.* deer hunting.
Debase, de-bās, *v.* to disgrace.
Debase, de-bās, *v.* to disgrace.
Debasement, de-bās'ment, *n.* the act of disgracing.
Defalcation, de-fal-kā'shun, *n.* embezzlement.
Defalcator, de-fal-kā'tor, *n.* one who makes default.
Defamation, de-fā-mā'shun, *n.* slander.
Defamatory, de-fā-mā-tō-n, *adj.* slanderous
Defame, de-fām, *v.* to slander.
Default, de-fawlt, *n.* failure
Defaulter, de-fawlt'er, *n.* one who fails.
Defecation, de-fē-kā'shun, *n.* defecation.
Defect, de-fekt, *n.* fault; omission.
Defection, de-fēk'shun, *n.* falling away; revolt.
Defective, de-fēk'tiv, *adj.* faulty.
Defence, de-fens, *n.* protection.
Defend, de-fend, *v.* to protect.
Defendant, de-fend'ant, *n.* a defensor.
Defer, de-fer, *v.* to postpone, to submit to.
Deference, de-fer'ens, *n.* respect.
Deferential, de-fer-en'shāl, *adj.* showing respect.
Defiance, de-fī-ans, *n.* bold opposition.
Defiant, de-fī-ant, *adj.* bold; showing defiance.
Deficiency, de-fī-shen-sē, *n.* imperfection; shortness.
Deficit, de-fī-sit, *n.* that which is wanting. [ing; loss
Defile, de-fīl, *n.* a narrow pass; *v.* to file off.
Define, de-fīn, *v.* to particularise, to explain.
Definite, de-fīn-ē, *adj.* defined.
Definitely, de-fīn-ē-ly, *adv.* exactly; finally.
Definition, de-fīn-īsh'ūn, *n.* a precise explanation.
Definitive, de-fīn-ī-tiv, *adj.* limiting.
Deflagration, de-flā-grā'shun, *n.* rapid combustion.
Deflect, de-flekt, *v.* to turn aside.
Deflection, de-flekt'shun, *n.* deviation.
Deflorate, de-flō-rāt, *adj.* past flowering condition.

day; āt; arm; ēre; ēlk; thēre; ōce; pīn; machine; bōld; pūt; stōrm; mūte; tūb; būrn.

Deflower, de-flow'r, *v.* to deprive of flowers.
Defluxion, de-fluk'shun, *n.* a discharge of humour from the body.
Defoliation, de-fó-lí-á'shun, *n.* the shedding of leaves.
Deform, de-fór's, *v.* to resist.
Deform, de-fór'm, *v.* to disfigure.
Deformity, de-fór'm'í-tí, *n.* the condition of being deformed.
Deiraud, de-fráwd, *v.* to cheat. [deformed].
Defray, de-frá'y, *v.* to pay.
Deit, *n.* neat; dexterous.
Defunct, de-fungkt', *adj.* dead.
Defy, de-fý, *v.* to challenge; to oppose.
Degeneracy, de-jen'er-á-sí, *n.* deterioration.
Degenerate, de-jen'er-át, *v.* to become inferior.
Deglutition, de-gloo-tish'un, *n.* swallowing.
Degrade, de-grád', *v.* to lower.
Degree, de-gré, *n.* rank, quality.
Dehiscent, de-hís-sent, *adj.* gapping, as the capsules of
 Delhot, de-hórt', *v.* to divide. [plants].
Decide, de-sí-sid, *n.* a god-killer.
Deify, de-í-fí, *v.* to make a god of.
Deign, dán, *v.* to condescend.
Deiparous, de-í-pá-rus, *adj.* god-bearing.
Dipsosiphist, dip-nó-s'físt, *n.* a dinner-table talker.
Deism, de-í-zm, *n.* belief in God, but not religion.
Deist, de-íst, *n.* a freethinker.
Deity, de-ít-í, *n.* the Supreme Being.
Deject, de-jekt', *v.* to allicit; to cast down.
Delate, de-lát', *v.* to publish.
Delay, de-lá'y, *v.* to retard; to postpone; *n.* hindrance.
Deleble, de-lé-bl, *adj.* capable of being blotted out.
Delectable, de-lek-tá-bl, *adj.* pleasing, delightful.
Delectation, de-lek-tá'shun, *n.* delight.
Delegate, de-lég-át, *v.* to depute; *n.* a deputy.
Delegation, de-lég-á'shun, *n.* persons deputed.
Delete, de-let', *v.* to take out; erase.
Deleterious, de-lét-é-ri-us, *adj.* hurtful.
Delit, *n.* Delit wags.
Deliberate, de-lib-er-át, *adj.* well thought out.
Deliberate, de-lib-er-át, *v.* to weigh carefully.
Delicacy, de-lík-á-sí, *n.* refinement; daintiness.
Delicate, de-lík-ít, *adj.* dainty; tender, nice.
Delicious, de-lísh-us, *adj.* highly pleasing.
Delight, de-lít, *n.* joy; pleasure, *v.* to please.
Delineate, de-lín-é-át, *v.* to portray.
Delineation, de-lín-é-á'shun, *n.* something depicted.
Delinquency, de-lín-gwen-sí, *n.* failure in duty.
Delinquent, de-lín-gwen-t, *n.* one who fails in duty.
Deliquate, de-lík-wát, *v.* to meet.
Deliquesce, de-lík-wes', *v.* to render liquid.
Deliquescence, de-lík-wes'-ens, *n.* liquefaction in the
 Delirious, de-lí-rí-us, *adj.* light-headed. [air].
Delirium, de-lí-rí-um, *n.* insanity; excessive excite-
 ment.
Deliver, de-lí-ver, *v.* to free; to hand over. [ment].
Deliverance, de-lí-ver-ans, *n.* liberation.
Delivery, de-lí-ver-í, *n.* the act of delivering.
Dell, del, *n.* a dale.
Della Cruscan, de-la-krus'kan, *adj.* pertaining to a
 sentimental Florentine school.
Delphic, de-lfik, *adj.* oracular.
Delta, del'ta, *n.* the fourth letter of the Greek
 alphabet (Δ); a tract of land of that form.
Deltoide, del'tóid, *n.* a triangular shoulder muscle.
Delude, de-lúd', *v.* to mislead.
Deluge, de-lúj, *n.* a flood.
Delusion, de-lú-zhun, *n.* a false belief.
Delusive, de-lú-sív, *adj.* tending to deceive.
Delusory, de-lú-so-rí, *adj.* fallacious.
Deive, delv, *v.* to dig.
Demagnetise, de-mag-net-íz, *v.* to deprive of mag-
 netism.
Demagogue, den-fá-gog, *n.* a popular leader. [netism].
Demand, de-mánd', *v.* to require; to ask for.
Demandant, de-mánd-ant, *n.* one who demands.
Demarcation, de-márk-á'shun, *n.* the act of marking
 out.
Demean, de-mén', *v.* to lower.
Demeanour, de-mén-ur, *n.* conduct; appearance.
Dementia, de-men'shí-a, *n.* mental feebleness.
Demerit, de-mer-ít, *n.* fault.
Demesse, de-mén', *n.* a manorial estate.
Demigod, den-í-god, *n.* half a god.
Demijohn, dem-í-jon, *n.* a large bottle.
Demi-monde, dem-tí-mónd', *n.* lewd women.

Demise, de-míz, *n.* death.
Demission, de-mísh'un, *n.* lowering.
Demulge, dem-t'urj, *n.* the Gnostic Creator. [people].
Democracy, de-mók-rá-sí, *n.* government. [people].
Democrat, dem-ó-krat, *n.* one who supports demo-
 cracy.
Demolish, de-mó-lísh, *v.* to destroy.
Demolition, dem-ó-lísh'un, *n.* destruction.
Demon, de-món, *n.* a devil. [value].
Demonetise, de-món-ét-íz, *v.* to deprive of money
 value.
Demoniac, de-món-í-ak, *adj.* relating to evil spirits.
Demonism, de-món-izm, *n.* belief in demons.
Demonolatry, de-món-ol-á-trí, *n.* demon-worship.
Demonology, de-món-ol-ó-jí, *n.* the study of demons.
Demonstrable, de-món-strá-bl, *adj.* capable of proof.
Demonstrate, de-món-strát, *v.* to make clear; to prove.
Demoralise, de-mór-al-íz, *v.* to corrupt.
Demotic, de-mó-tík, *adj.* popular.
Demulcent, de-múl-sent, *adj.* soothing.
Demur, de-múr, *v.* to object; to hesitate.
Demure, de-múr, *adj.* modest.
Demurrage, de-múr-jí, *n.* an allowance for delay.
Demur, de-múr, *n.* one who demurs; a law plea.
Demy, de-mí, *n.* a size of paper.
Den, den, *n.* a cave; a wild beast's lair or cage.
Denary, den-á-rí, *adj.* comprising ten.
Denaturalise, de-nat'ur-al-íz, *v.* to deprive of natural
 rights.
Dendroid, den-dróid, *adj.* tree-like. [rights].
Dendrology, den-dró-ló-jí, *n.* the study of trees.
Dental, den-tál, *n.* refusal; rejection.
Dengrate, den-t'grát, *v.* to blacken.
Denizen, den-t'zen, *n.* an inhabitant.
Denominate, de-nóm-in-át, *v.* to designate.
Denomination, de-nóm-in-á'shun, *n.* the act of
 naming; a title; a sect.
Denominator, de-nóm-in-á-tor, *n.* one who names; a
 term in fractions.
Denote, de-nót', *v.* to indicate. [term in fractions].
Denouement, den-ó-mung, *n.* the ending.
Denounce, de-nóun's, *v.* to accuse; to expose.
Dense, dens, *adj.* close; heavy.
Density, dens-ít-í, *n.* the quality of being dense.
Dent, *n.* a small hollow.
Dental, dent'al, *adj.* pertaining to the teeth.
Dentate, dent-át, *adj.* toothed.
Denticle, den-t'í-kl, *n.* a small tooth.
Denticulate, den-tík'ú-lát, *adj.* toothed.
Dentiform, dent'í-form, *adj.* in tooth shape.
Dentifrice, dent'í-frís, *n.* a tooth preparation.
Dentist, dent-íst, *n.* a tooth doctor.
Dentistry, dent-íst-ri, *n.* the business of a dentist.
Dentition, dent-ísh'un, *n.* the cutting of teeth.
Denude, de-núd', *v.* to lay bare; to unclothe.
Denunciation, de-nún-sí-á'shun, *n.* arraignment.
Denunciatory, de-nún-sí-á-tó-rí, *adj.* threatening.
Deny, de-ný, *v.* to contradict; to disown. [tious].
Deobstruent, de-ob'stroo-ent, *adj.* removing obstruc-
 tion.
Deodand, de-ó-dand, *n.* a chattel forfeited to the
 Crown.
Deodorise, de-ó-dér-íz, *v.* to deprive of smell. [Crown].
Deontology, de-ónt-ol-ó-jí, *n.* ethics.
Deoxidise, de-ók-sí-díz, *v.* to deprive of oxygen.
Depart, de-pár't, *v.* to leave. [feathers].
Department, de-pár't-ment, *n.* a section.
Departure, de-pár't-ur, *n.* the act of leaving.
Dependence, de-pend-ens, *n.* reliance, trust.
Dependent, de-pend-ent, *n.* a subordinate; *adj.* re-
 lying upon.
Deport, de-pórt', *v.* to portray. [lying upon].
Deplatory, de-pil'á-tó-rí, *n.* a preparation for remov-
 ing superfluous hair.
Deplete, de-plét, *v.* to reduce; to lessen.
Depletion, de-plét'shun, *n.* the act of emptying.
Deplore, de-plór', *v.* to regret; to lament.
Deploy, de-plór', *v.* to open out. [feathers].
Deplumation, de-plú-má'shun, *n.* act of depriving of
 feathers.
Depolarise, de-pó-lér-íz, *v.* to take away polarity.
Depone, de-pón', *v.* to testify on oath.
Deponent, de-pó-pent, *n.* one who testifies on oath.
Depopulate, de-póp-ú-lát, *v.* to dispeople. [in].
Depopulation, de-póp-ú-lá'shun, *n.* act of depopul-
 ating.
Deport, de-pórt', *v.* to carry; to exile; to behave.
Deportation, de-pórt-á'shun, *n.* transportation.
Deportment, de-pórt-ment, *n.* behaviour.
Depose, de-póz', *v.* to remove from; to testify.

dáy; át; árm; éve; élk; thére; íce; pín; machine; hárd; pót; stórm; móte; túb; búrn.

Deposit, *de-poz-it*, *v.* to place; to set down.
Depositary, *de-poz-it-er-i*, *n.* a person entrusted with the safe keeping of anything; the place of deposit.
Deposition, *de-poz-ish'un*, *n.* act of testifying.
Depositor, *de-poz-it-or*, *n.* one who deposits.
Depository, *de-poz-it-ori* (same as *Depository*).
Depot, *dep-ot*, *n.* a station; storehouse.
Deprave, *de-prāv*, *v.* to corrupt.
Depravity, *de-prāv-ity*, *n.* wickedness.
Deprecate, *de-pre-kāt*, *v.* to argue against.
Depreciate, *de-pre-shi-āt*, *v.* to disparage.
Depreciate, *de-pre-shi-āt*, *v.* to rob.
Depress, *de-pres*, *v.* to make sad; to press down.
Depression, *de-presh'un*, *n.* grief; sadness; humiliation.
Deprive, *de-priv*, *v.* to take from. [ion].
Depth, *depth*, *n.* deepness; profundity.
Depulsion, *de-pulsh'un*, *n.* the act of driving away.
Deputation, *de-pu-tāsh'un*, *n.* persons acting for.
Depute, *de-pūt*, *v.* to appoint a deputy. [others].
Deputy, *dep-ū-ti*, *n.* one deputed to act for another.
Derange, *de-rānj*, *v.* to confuse; to disorder.
Derangement, *de-rānj'ment*, *n.* disorder; insanity.
Derelict, *de-ri-ekt*, *n.* a thing abandoned.
Dereliction, *de-ri-ekt-sh'un*, *n.* the act of forsaking.
Deride, *de-rid*, *v.* to laugh at; to scorn.
Derision, *de-ri-zh'un*, *n.* mockery.
Derisive, *de-ri-siv*, *adj.* mocking.
Derivation, *de-ri-vāsh'un*, *n.* act of deriving. [also].
Derivative, *de-ri-vā-tiv*, *adj.* derived from something.
Derive, *de-ri-v*, *v.* to deduce; to trace; to obtain.
Derm, *n.* the skin.
Dermal, *der-mal*, *adj.* relating to the skin.
Dermatology, *der-mat-ol-ō-jī*, *n.* science of skin treat-
Derm, *derm*, *adj.* secret. [ment].
Dernier, *derm'er*, *adj.* final.
Derogate, *de-ro-gāt*, *v.* to depreciate.
Derogatory, *de-ro-gāt* to *ri*, *adj.* detracting.
Derrick, *der-ik*, *n.* a lifting machine.
Derish, *der-ish*, *n.* a Mahomedan monk.
Descant, *de-skānt*, *v.* to discourse.
Descend, *de-send*, *v.* to move down; to alight.
Descendant, *de-send-ant*, *n.* offspring.
Descendent, *de-send-ent*, *adj.* going down.
Descent, *de-sent*, *n.* declivity; lineage.
Describe, *de-skrib*, *v.* to explain; to represent.
Description, *de-skripsh'un*, *n.* act of describing.
Descriptive, *de-skrip-tiv*, *adj.* containing description.
Descry, *de-skri*, *v.* to discover; to see.
Desecrate, *de-se-kri-āt*, *v.* to profane.
Desert, *de-zer*, *n.* a wilderness.
Desert, *de-zer* to *n.* merit; reward; to leave.
Deserter, *de-zer'er*, *n.* one who deserts.
Deserve, *de-zer-v*, *v.* to merit.
Deshabille, see *Dishabille*.
Desecate, *de-se-kāt*, *v.* to dry up.
Desideratum, *de-sid-er-ā-tum*, *n.* a thing desired.
Design, *de-zin*, *v.* to draw; to a drawing or scheme.
Designate, *de-zig-nāt*, *v.* to name.
Designation, *de-zig-nāsh'un*, *n.* act of pointing out;
Designing, *de-zig-ing*, *n.* artful; scheming. [name].
Desirable, *de-zir-ā-bl*, *adj.* worthy of desire.
Desire, *de-zir*, *v.* to long for.
Desist, *de-zist*, *v.* to forbear.
Desistance, *de-zis-tans*, *n.* a stopping.
Desk, *desk*, *n.* a writing table; a pulpit.
Desolate, *des-ol-āt*, *v.* to lay waste; to *adj.* uninhabited.
Desolation, *des-ol-āsh'un*, *n.* waste place; ruin.
Despair, *de-spāir*, *v.* to despair; *n.* hopelessness.
Despatch, *de-spatch*, *v.* to send away.
Desperado, *des-per-ā-do*, *n.* a reckless fellow.
Desperate, *des-per-āt*, *adj.* hopeless; rash.
Despicable, *des-pik-ā-bl*, *adj.* contemptible.
Despise, *des-piz*, *v.* to scorn.
Despite, *de-spit*, *v.* to scorn; *prep.* in spite of.
Despoil, *de-spoi*, *v.* to spoil; to rob.
Despond, *de-spond*, *v.* to despair; to grieve.
Despondency, *des-spond-en-si*, *n.* dejection.
Despondent, *des-spond-ent*, *adj.* dejected.
Despot, *des-pot*, *n.* a tyrant; an absolute ruler.
Despotic, *des-pot-ik*, *adj.* tyrannical.
Despotism, *des-pot-izm*, *n.* tyranny.
Desquamation, *des-pū-māsh'un*, *n.* foam.

Desquamation, *des-kwā-māsh'un*, *n.* a scaling off.
Desert, *de-zer*, *n.* an after-course of fruits, etc.
Designation, *des-tin-āsh'un*, *n.* the appointed end; purpose.
Destine, *des-tin*, *v.* to design.
Destiny, *des-tin-i*, *n.* the appointed purpose; fate.
Destitute, *des-tit-ūt*, *adj.* needy; in want; lacking.
Destitution, *des-tit-ūsh'un*, *n.* extreme poverty.
Destroy, *de-stroi*, *v.* to pull down; to ruin.
Destructible, *des-truct-ib-l*, *adj.* liable to destruction.
Destruction, *de-struksh'un*, *n.* demolition; ruin.
Destructive, *des-truk-tiv*, *adj.* causing destruction; ruinous.
Desudation, *des-ū-dāsh'un*, *n.* a severe sweating.
Desuetude, *des-wet-ūd*, *n.* disuse.
Desultory, *des-ū-tor-i*, *adj.* rambling.
Detach, *de-tach*, *v.* to separate.
Detachment, *de-tach'ment*, *n.* condition of separa-
tion; a body of troops.
Detail, *de-tāl*, *v.* to particularise; *n.* a small part.
Detain, *de-tān*, *v.* to hold back.
Detect, *de-tek*, *v.* to discover; to expose.
Detection, *de-teksh'un*, *n.* the act of discovery.
Detective, *de-tek-tiv*, *n.* one of the secret police.
Detent, *de-ten*, *n.* a check; a catch in a clock.
Detention, *de-ten-sh'un*, *n.* confinement; act of detain-
ing.
Deter, *de-ter*, *v.* to hinder.
Detergent, *de-ter-jent*, *adj.* cleansing; purging.
Deteriorate, *de-ter-i-ō-rāt*, *v.* to make worse.
Determent, *de-ter-ment*, *n.* that which hinders.
Determinable, *de-ter-min-ā-bl*, *adj.* in condition to be
decided.
Determinate, *de-ter-min-āt*, *adj.* fixed; limited.
Determination, *de-ter-min-āsh'un*, *n.* fixed resolve.
Determine, *de-ter-min*, *v.* to limit; to decide.
Determinism, *de-ter-min-izm*, *n.* the theory that
motives determine.
Deterrent, *de-ter-ent*, *adj.* helping to deter; *n.* a
preventive.
Detestable, *de-tes-tā-bl*, *adj.* odious.
Detroner, *de-tro-nēr*, *v.* to depose.
Detinue, *de-tin-ū*, *n.* writ to recover goods withheld.
Detonate, *de-ton-āt*, *v.* to explode.
Detonation, *de-ton-āsh'un*, *n.* an explosi-
on.
Detour, *de-tour*, *n.* a winding; a turning.
Detract, *de-trakt*, *v.* to take from; to defame.
Detraction, *de-traksh'un*, *n.* depreciation.
Detractive, *de-traktiv*, *adj.* tending to depreciate.
Detrain, *de-tra-in*, *v.* to pass from a railway train.
Detriment, *de-tri-ment*, *n.* damage; injury.
Detrition, *de-trish'un*, *n.* a wasting away.
Detritus, *de-tri-tus*, *n.* a substance worn away from
solid bodies.
Detrude, *de-trood*, *v.* to thrust down.
Detruncate, *de-trung-kāt*, *v.* to strike off.
Detrusion, *de-troo-sh'un*, *n.* the act of thrusting down.
Deuce, *du-s*, *n.* an exclamation. [second marriage].
Deuterogamist, *de-uter-og-ā-mist*, *n.* in upholder of
Deuteronomy, *de-uter-on-ō-mi*, *n.* the fifth book of the
Pentateuch.
Devastate, *de-vas-tāt*, *v.* to lay waste; to destroy.
Devastation, *de-vast-āsh'un*, *n.* the act of laying
waste. [prove].
Develop, *de-vel-op*, *v.* to extend; to expand; to im-
Development, *de-vel-op-ment*, *n.* a gradual expanding.
Devexity, *de-vek-si-ti*, *n.* a bending downward.
Deviate, *de-vi-āt*, *v.* to swerve.
Deviation, *de-vi-āsh'un*, *n.* a turning aside.
Devise, *de-viz*, *n.* a design; a contrivance.
Devilry, *de-vil-ri*, *n.* fendish conduct.
Devil-worship, *dev'il-wer-ship*, *n.* worship of devils.
Devious, *de-vi-us*, *adj.* roundabout; erring.
Devise, *de-viz*, *v.* to plan or plot; to bequeath.
Devisee, *de-viz-ē*, *n.* one to whom property is left.
Deviser, *de-viz'er*, *n.* one who contrives.
Devisor, *de-viz-or*, *n.* one who bequeaths.
Devisee, *de-viz-ē*, *adj.* free from.
Devour, *de-vour*, *v.* what is due.
Devolve, *de-volv*, *v.* to roll down; to fall by succe-
Devolution, *de-vol-ūsh'un*, *n.* a passing from. [also].
Devonian, *de-vō-ni-an*, *adj.* connected with the
geology of Devon, the Old Red Sandstone.

dāy; āt; ārm; ēve; ēlk; thère; ic; pīn; machine; bōld; pū; stōrm; mūte; tūb; būra.

Devonport, dev'on-port, *n.* a small writing desk.
Devote, de-vô'te, *v.* to set apart.
Devotee, de-vô'te, *n.* one religiously devoted.
Devotion, de-vô'shun, *n.* consecration; religious feeling; attachment.
Devour, de-vô'r, *v.* to eat up; to consume.
Devout, de-vô'v't, *adj.* pious.
Dew, dü, *n.* atmospheric moisture. [animals.
Dewlap, dü'lap, *n.* flesh beneath the throat of
Dewpoint, dü'point, *n.* the temperature at which dew
Dexter, deks'ter, *adj.* on the right-hand side [falls.
Dexterity, deks'ter-i-ti, *n.* cleverness; quickness.
Dexterous, deks'ter-i-us, *adj.* skilful; expert.
Dey, dü, *n.* a pasha.
Dhow, dow, *n.* a small Asiatic vessel.
Diabetes, di-ä-bê'tez, *n.* a disease of the urinary
Diabolical, di-ä-bô'lik-al, *adj.* devilish. [organs.
Diagonal, di-ä-k'o-nal, *adj.* relating to a deacon.
Diagnose, di-ä-k'o-nat, *n.* the office of deacon.
Diacritic, di-ä-krit'ik, *adj.* distinguishing between.
Diadem, di-ä-dem, *n.* a crown.
Diacresis, di-ä-rê'sis, *n.* the mark (') over two vowels
 to indicate separate pronunciation. [symptoms.
Diagnosis, di-ä-gno'sis, *n.* tracing a disease by its
Diagonal, di-ä-g'o-nal, *adj.* from angle to angle.
Diagram, di-ä-gram, *n.* a figure or plan.
Diagraph, di-ä-graf, *n.* a drawing instrument for
 perspective.
Dial, di'al, *n.* the face of a watch or clock.
Dialect, di-ä-lekt, *n.* local language; *raïous*
Dialectical, di-ä-lek'tik-al, *adj.* relating to discourse.
Dialectics, di-ä-lek'tiks, *n.* the art of discussion
Dialist, di-ä-list, *n.* a dial maker.
Dialogue, di-ä-log, *n.* conversation.
Dialysis, di-ä-lis-is, *n.* separation of substances
Diameter, di-ä-mê'ter, *n.* the measure through the
 centre of a circle.
Diametrical, di-ä-mê'trik-al, *adj.* relating to diameter.
Diamond, di-ä-mond, *n.* a precious stone.
Dianoetic, di-ä-nô-et'ik, *adj.* capable of thought.
Diapason, di-ä-pä'zon, *n.* an octave, correct pitch.
Diaper, di-ä-per, *n.* linen with geometric design.
Diaphaneity, di-ä-fän-ê'ti, *adj.* quality of trans-
Diaphanous, di-ä-fän-us, *adj.* transparent. [parency.
Diaphoretic, di-ä-fô-ret'ik, *adj.* inducing perspiration.
Diaphragm, di-ä-fram, *n.* the midriff.
Diarist, di-ä-ris't, *n.* a diary writer.
Diarrhoea, di-ä-rê'a, *n.* looseness of the bowels.
Diary, di-ä-ri, *n.* a daily record.
Diathermal, di-ä-thêr-mal, *adj.* permeation of heat.
Diatonic, di-ä-ton'ik, *adj.* by tones.
Diatrise, di-ä-tris, *n.* a persistent discourse.
Dibber, dib'er, *n.* a tool for pricking holes.
Dicacity, di-kas'ti-ti, *n.* pertness.
Dicephalous, di-sef'ä-lus, *adj.* double-headed.
Dichotomy, di-kot'o-mi, *n.* a division into two parts.
Dicker, dik'er, *v.* to barter.
Dickey, dik'i, *n.* a driver's seat; a gig apron.
Dictate, dik-tät', *v.* to order; to speak words for
 another to write down. [command.
Dictation, dik-tät'shun, *n.* act of dictating; *assertive*
Dictatorial, dik-tät'ô-ri-al, *adj.* authoritative.
Dictum, dik'shun, *n.* manner of speaking; style.
Dictionary, dik'shun-ar-i, *n.* a work setting forth words
 in alphabetical order, with their meanings.
Dictum, dik'tum, *n.* a saying.
Didactic, di-dak'tik, *adj.* instructive.
Die, di, *v.* to cease to live; to wither; *n.* a stamp for
 engraving from.
Diet, di'et, *n.* food.
Dietary, di-ê't-er-i, *n.* rules of diet; *adj.* relating to
Dietetics, di-ê't-et'iks, *n.* the science of diet. [diet.
Differ, di'fer, *v.* to vary; to disagree.
Difference, di-fer-ens, *n.* dissimilarity.
Different, di-fer-ent, *adj.* unlike; separate.
Differential, di-fer-en'shal, *adj.* pertaining to small
 variations. [describing differences.
Differentiation, di-fer-en-shi-ä'shun, *n.* the act of
Difficult, dif-fi-kult, *n.* an obstacle.
Difficulty, dif-fi-kult-i, *n.* obstacle; objection.
Diffidence, dif-fi-dens, *n.* modesty; hesitation.
Diffident, dif-fi-dent, *adj.* bashful; hesitating.

Diffuse, dif-üz', *v.* to spread.
Diffuse, dif-üz', *adj.* wordy; scattered.
Digamy, dig-ä-mi, *n.* a second marriage.
Digastic, dig-as'tik, *adj.* double-bellied.
Digest, di-jest', *v.* to dissolve in the stomach; to con-
Digestive, di-jest'iv, *adj.* promoting digestion. [sider.
Dight, dit, *adj.* disposed; called.
Digit, di'jit, *n.* a finger or finger's-breadth.
Digitigrade, di'jit-i-gräd, *adj.* walking on toes.
Diglyph, di'gilif, *n.* a double-grooved ornament.
Dignity, dig-ni-ti, *v.* to honour; to exalt.
Dignitary, dig-nit-ar-i, *n.* a person of rank.
Digraph, di-graf, *n.* two letters with but one sound.
Digress, di-gres', *v.* to deviate.
Dike, *n.* a ditch.
Diacerate, di-las'er-it, *v.* to rend
Diapadate, di-lap'tät', *v.* to pull to pieces; to allow
Dilate, di-lät', *v.* to expand. [to decay.
Dilatory, di-lä-to-ri, *adj.* slow.
Dilemma, di-len'mä, *n.* a position of difficulty.
Diligence, di-ljens, *n.* industry; attention.
Diligent, di-ljënt, *adj.* assiduous.
Dilogy, di-lô-jy, *n.* repetition.
Diluent, di-lü-ent, *adj.* diluting.
Dilute, di-lü't, *v.* to weaken.
Diluvial, di-lü-vi-al, *adj.* relating to a flood.
Diluvium, di-lü-vi-um, *n.* a flood; deposit from water.
Dim, di, *adj.* obscure; cloudy; not clear. [current.
Dimension, dim-en'shun, *n.* measure, size.
Dimeter, dim-ê'ter, *adj.* of two metres.
Diminish, dim-mi'sh, *v.* to decrease.
Diminution, dim-in-ü'shun, *n.* a lessening
Diminutive, dim-in-ü-tiv, *adj.* small.
Dimissory, dim-is-ô-ri, *adj.* sending away.
Dimity, dim-it'i, *n.* a kind of figured cotton.
Dimorphous, di-môr-fus, *adj.* pertaining to two forms
 of power, etc., on the same plant.
Dimple, dim-pl, *n.* a small hollow; a dent.
Dim, di, *n.* noise; clatter, clamour
Dine, di, *v.* to take dinner.
Dingle, dung'gl, *n.* a small narrow valley.
Dingy, din'ji, *adj.* dim; dull
Dinner, din'er, *n.* the principal meal.
Dint, *n.* a blow, or the mark of a blow; force
Diocesan, di-ô-sê-san, *n.* relating to a diocese
Diocese, di-ô-sê-s, *n.* a bishop's territory. [light.
Dioptric, di-ôp'trik, *adj.* pertaining to refracted
Diorama, di-ô-ri-ä-mä, *n.* an exhibition of moving pic-
 tures.
Dip, *v.* to dive; to sink
Dipetalous, di-pet'al-us, *adj.* with two petals.
Diphtheria, di-fê'tê-ri-a, *n.* a throat disease [sound.
Diphthong, di-fthong, *n.* two vowels combined in one
Diploma, dip-lô-mä, *n.* a certificate of honour
Diplomacy, dip-lô-mä-si, *n.* international negotiation;
 skill in political intercourse between states.
Diplomatic, dip-lô-mät'ik, *adj.* skilled in negotiation.
Diplomatise, dip-lô-mä-tiz, *v.* to practice diplomacy.
Diplomatist, dip-lô-mä-tist, *n.* one skilled in diplomacy.
Dipsomania, dip-so-mä-ni-a, *n.* a craving for in-
 toxicating liquors.
Dipteral, di-ptêr-al, *adj.* two-winged
Dptych, dip'tik, *n.* folding tablets or pictures
Diradial, di-rä-dä'shun, *n.* light rays diffused
Dire, dir, *adj.* dreadful. [from luminous bodies.
Direct, di-rekt', *v.* to guide; *adj.* straight
Direction, di-rek'shun, *n.* act of direction; manage-
 ment; course; address
Director, di-rek'tor, *n.* one who directs.
Directory, di-rek'to-ri, *n.* book of names and ad-
 dresses; a body of directors.
Dirful, dir'ful, *adj.* terrible.
Dirge, dirj, *n.* funeral hymn.
Dirk, dirk, *n.* a dagger.
Dirt, dirt, *n.* mud; mire; filth.
Disability, di-sä-bil'i-ti, *n.* lack of power.
Disable, di-sä-bil', *v.* to deprive of power.
Disabuse, di-sä-büz', *v.* to undeceive.
Disadvantageous, di-sad-van-ti'jus, *adj.* without
Disaffected, di-sä-ek'ted, *adj.* disloyal [advantage.
Disagree, di-sä-grê', *v.* to differ.
Disagreeable, di-sä-grê-ä-bl, *adj.* unpleasant.
Disallowance, di-sä-lô-wans, *n.* something disallowed.

day; ät; ärm; äve; älk; thêre; ice; pin; machine; kold; püt; stôrm; müte; tûb; bôrm.

Disannul, *dis-an-ul'*, *v.* to nullify.
Disappear, *dis-ap-pér'*, *v.* to vanish.
Disappearant, *dis-ap-pér-ans*, *n.* vanishing from view.
Disappoint, *dis-ap-póint'*, *v.* to thwart of expectation.
Disappointment, *dis-ap-póint-ment*, *n.* grief at failure, or non-fulfilment of hopes.
Disapprobation, *dis-ap-pro-bá'shun*, *n.* censure.
Disapprove, *dis-ap-prov'*, *v.* to condemn. [blame.
Disarm, *dis-arm'*, *v.* to deprive of arms; to quell.
Disarrangement, *dis-ar-ránj-ment*, *n.* disorder.
Disarray, *dis-ar-rá'*, *v.* to throw into disorder; *n.* undress.
Disassociate, *dis-á-só'sh-át*, *v.* to separate.
Disaster, *dis-as'tér*, *n.* calamity, misfortune.
Disastrous, *dis-as'trus*, *adj.* unfortunate.
Disavowal, *dis-á-vow'al*, *n.* a disclaimer.
Disband, *dis-band'*, *v.* to disperse.
Diab, *dis-bár'*, *v.* to deprive a barrister of bar privilege.
Disbelieve, *dis-be-lév'*, to deny the truth of. [legis.
Disburden, *dis-berd'en*, *v.* to unburden.
Disburse, *dis-bers'*, *v.* to pay out.
Disbursement, *dis-bers-ment*, *n.* a paying out.
Disc, same as *disc*.
Discard, *dis-kárd'*, *v.* to throw away; to cast off.
Discern, *dis-ern'*, *v.* to perceive.
Discerning, *dis-ern-ing*, *adj.* discriminating.
Discernment, *dis-ern-ment*, *n.* alertness of judgment.
Discharge, *dis-chárg'*, *v.* to dismiss; to perform; to discharge.
Disciple, *dis-íp'l*, *n.* a follower. [unload.
Disciplinarian, *dis-íp-lin-á-rí-an*, *n.* an upholder of discipline. [discipline.
Disciplinary, *dis-íp-lin-á-rí*, *adj.* in the nature of discipline.
Discipline, *dis-íp-lin*, *n.* control; regularity; severe training.
Disclaim, *dis-klám'*, *v.* to disown; to disavow.
Disclaim, *dis-klám-er*, *n.* a renouncing.
Disclose, *dis-klóz'*, *v.* to reveal.
Disclosure, *dis-kló-zúr*, *n.* a bringing to light.
Discord, *dis-kórd'*, *adj.* in disc form.
Discolour, *dis-kul'ér*, *v.* to stain; to change the colour.
Discomfort, *dis-kum-fút-ér*, *n.* a defeating. [of.
Discomfort, *dis-kum-fért*, *n.* lack of comfort.
Discomode, *dis-kum-ód'*, *v.* to put to inconvenience.
Discompose, *dis-kum-pó-z'*, *v.* to disturb.
Discomposure, *dis-kum-pó-zúr*, *n.* disorder.
Disconcert, *dis-kon-sért'*, *v.* to disturb.
Disconnect, *dis-kon-ekt'*, *v.* to disunite.
Disconsolate, *dis-kon-só-lát*, *adj.* sad, comfortless.
Discontent, *dis-kon-tent'*, *n.* dissatisfaction.
Discontinue, *dis-kon-tín-ú'*, *v.* to cease.
Discord, *dis-kórd*, *n.* strife; lack of harmony.
Discordant, *dis-kórd-ant*, *adj.* harsh; out of harmony.
Discount, *dis-kóunt*, *n.* a deduction made for interest.
Discount, *dis-kóunt'*, *v.* to allow discount.
Discountenance, *dis-kóunt-en-ans*, *v.* to discourage.
Discouragement, *dis-kóunt-ment*, *n.* that which discourages.
Discourtesy, *dis-kur-tís-i*, *n.* uncivility. [favours.
Discous, *dis-kus'*, *adj.* flat; broad.
Discover, *dis-kuv'ér*, *v.* to find out.
Discovery, *dis-kuv'ér-i*, *n.* the act of finding out.
Discredit, *dis-kred-ít'*, *v.* to disbelieve.
Discreditable, *dis-kred-ít-a-bl*, *adj.* disgraceful.
Discreet, *dis-kre't'*, *adj.* prudent.
Discrepancy, *dis-kre-pán-sí*, *n.* disagreement.
Discretion, *dis-kresh-un*, *n.* prudence.
Discretionary, *dis-kresh-un-á-rí*, *adj.* unrestricted.
Discretive, *dis-kre'tiv*, *adj.* separating.
Discriminate, *dis-krim-in-át'*, *v.* to discern between.
Discussion, *dis-kur'shun*, *n.* desultory talk.
Discursive, *dis-kurs-iv*, *adj.* desultory.
Discursus, *dis-kur'sus*, *n.* argument.
Discus, *dis-kus'*, *n.* a quoit; a disc.
Discuss, *dis-kus'*, *v.* to debate.
Discussion, *dis-kush'n*, *n.* debate.
Disdain, *dis-dán'*, *n.* scorn.
Dease, *dis-éz'*, *n.* an ailment.
Diedge, *dis-éj'*, *v.* to make blunt.
Disembark, *dis-em-bárk'*, *v.* to land from a ship.
Disembarrass, *dis-em-bá-rás'*, *v.* to free from perplexity.
Disembody, *dis-em-bod'í*, *v.* to divest from the body.
Disembogue, *dis-em-bóg'*, *v.* to discharge at the mouth.

Disembowel, *dis-embow-el*, *v.* to take bowels out of.
Disenchant, *dis-en-á-nt'*, *v.* to disabie.
Disenchant, *dis-en-á-nt'*, *v.* to free from illusion.
Disencumber, *dis-en-kum-ber*, *v.* to disburden.
Disengage, *dis-en-gáj'*, *v.* to relieve from engage.
Disenrol, *dis-en-ról'*, *v.* to remove from roll. [ment.
Disentangle, *dis-en-tang-gl'*, *v.* to unravel.
Disenthralment, *dis-en-thraw-ment*, *n.* to free from enthrallment.
Disesteem, *dis-es-tém'*, *n.* disregard.
Disfavour, *dis-fá-vór*, *n.* lack of favour.
Disfigure, *dis-fig-úr'*, *v.* to spoil the form of. [rights.
Disfranchise, *dis-frán-chíz*, *v.* to deprive of citizenship.
Disgorge, *dis-górj'*, *v.* to vomit; to throw out.
Disgrace, *dis-grás'*, *n.* loss of favour; dishonour.
Disguise, *dis-gíz'*, *n.* a false appearance.
Disgust, *dis-gust'*, *n.* loathing.
Dish, *dis'*, *n.* a food vessel.
Dishabille, *dis-á-bél'*, *n.* undress.
Dishearten, *dis-hárt-en*, *v.* to discourage; to depress.
Dishevel, *dis-ev-el*, *v.* to disorder the hair.
Dishonest, *dis-on-est*, *adj.* devoid of honesty.
Dishonour, *dis-on-ér*, *n.* shame.
Disinclination, *dis-in-klín-á'shun*, *n.* unwillingness.
Disinfect, *dis-in-fekt'*, *v.* to free from infection.
Disinfectant, *dis-in-fekt-ant*, *n.* a disinfecting agent.
Disingenuous, *dis-in-jen-ú-ús*, *adj.* insincere.
Disinherit, *dis-in-her-ít*, *v.* to deprive of inheritance.
Disintegrate, *dis-in-té-grít*, *v.* to separate into parts.
Disinter, *dis-in-ter*, *v.* to take from the grave.
Disinterested, *dis-in-ter-est-ed*, *adj.* free from self-interest.
Disjoin, *dis-join'*, *v.* to separate what is joined.
Disjoined, *dis-join-ed*, *adj.* incoherent.
Disjunct, *dis-jungkt'*, *adj.* disjoined.
Disjunctive, *dis-jungkt-iv*, *adj.* tending to separation.
Disk, *dis'*, *n.* a quait; the face of the sun or of a diallike.
Dislike, *dis-lik'*, *v.* to feel aversion to. [planet.
Dislocation, *dis-ló-ká-shun*, *n.* displacement of a joint.
Dislodge, *dis-lój'*, *v.* to force from lodgment.
Disloyalty, *dis-ló-ál-ít'*, *n.* faithlessness.
Dismal, *dis-mál*, *adj.* gloomy.
Dismantle, *dis-máunt'*, *v.* to strip; to tear down.
Dismast, *dis-mást'*, *v.* to deprive of masts.
Dismay, *dis-má'*, *v.* to terrify; *n.* loss of courage.
Disme, *dím*, *n.* a tenth. [through fear.
Dismemberment, *dis-member-ment*, *n.* the act of separating member from member.
Dismis, *dis-mis'*, *v.* to send away. [a horse.
Dismount, *dis-móunt'*, *v.* to descend from; to get off.
Disobedience, *dis-obéd-í-ens*, *n.* neglect to obey.
Disobey, *dis-ob-é'*, *v.* to refuse to obey.
Disobliging, *dis-ob-líg-ing*, *adj.* unwilling to oblige.
Disorder, *dis-ór-dér*, *n.* disease; confusion.
Disorderly, *dis-ór-dér-ly*, *adj.* out of order.
Disorganisation, *dis-ór-gán-íz-á-shun*, *n.* the act of breaking up.
Disown, *dis-on'*, *v.* to refuse to acknowledge.
Disparage, *dis-par-áj'*, *v.* to speak slightly of.
Disparate, *dis-par-át'*, *adj.* unequal.
Disparity, *dis-par-ít-i*, *n.* inequality.
Dispart, *dis-párt'*, *v.* to part; to divide.
Dispassionate, *dis-pash-ú-át'*, *adj.* calm; without passion.
Dispatch, *dis-pach'*, *v.* to send away.
Dispel, *dis-pel'*, *v.* to drive away; to remove.
Dispensary, *dis-pen-sér-i*, *n.* place for dispensing medicines.
Dispensation, *dis-pen-sá'shun*, *n.* an indulgence [tion.
Dispensatory, *dis-pen-sá-to-n*, *adj.* granting dispensation.
Dispense, *dis-pens'*, *v.* to distribute; to make up.
Disperse, *dis-pers'*, *v.* to scatter. [medicine.
Dispersuous, *dis-per-sus*, *adj.* with two seeds.
Dispirit, *dis-íp-rit'*, *v.* to discourage.
Displace, *dis-plás'*, *v.* to put out of place.
Display, *dis-plá'*, *v.* to exhibit; to parade.
Displease, *dis-pléz'*, *v.* to cause displeasure.
Dispoise, *dis-póiz'*, *v.* to convey or make over.
Disport, *dis-pórt'*, *v.* to divert; to feel enjoyment.
Disposal, *dis-pó-zal*, *n.* the act of disposing.
Dispoise, *dis-pó-z'*, *v.* to arrange; to give out.
Disposition, *dis-pó-zish-un*, *n.* arrangement.
Dispossess, *dis-pó-zes'*, *v.* to deprive of possession.

dáy; át; árm; éve; élk; thére; áce; pín; machine; bóld; pórt; stórm; múte; túb; búrn.

- Dispraise**, *dis-prāz*, *n.* blame.
Disproportional, *dis-pro-pōr'shun-al*, *adj.* out of proportion.
Disprove, *dis-proov*, *v.* to refute.
Disputant, *dis-pū-tant*, *n.* one who disputes.
Disputatious, *dis-pū-tā'shūs*, *adj.* disposed to cavil.
Dispute, *dis-pūt*, *v.* to contest; to deny; to discuss.
Disqualify, *dis-kwōl'fi*, *v.* to disable.
Disquiet, *dis-kwi'et*, *n.* unrest.
Disquisition, *dis-kwi-zish'un*, *n.* an essay; an argumentative inquiry.
Disregard, *dis-re-gārd*, *v.* to neglect.
Disrelish, *dis-rel'ish*, *v.* to dislike.
Disrepair, *dis-re-pair*, *n.* lack of repair.
Disreputable, *dis-re-pū't-ā-bl*, *adj.* in evil repute.
Disrepute, *dis-re-pūt*, *n.* disgrace.
Disrespectful, *dis-re-spekt'ful*, *adj.* wanting in respect.
Disrobe, *dis-rōb*, *v.* to undress.
Disruption, *dis-rup'shun*, *n.* the act of rending asunder.
Dissatisfaction, *dis-sat-is-fak'shun*, *n.* discontent.
Dissect, *dis-ek't*, *v.* to cut up for examination.
Dissolve, *dis-solv*, *v.* to deprive of possession.
Dissemble, *dis-sen'bl*, *v.* to disguise one's real thoughts.
Dissembler, *dis-sen'bler*, *n.* one who dissembles.
Dissimulation, *dis-sim-ū-lā'shun*, *n.* the act of dissimulation.
Dissension, *dis-sen'shun*, *n.* discord.
Dissent, *dis-sent*, *n.* disagreement; *v.* to disagree.
Dissentient, *dis-sen'shent*, *adj.* disagreeing; *n.* one who disagrees.
Dissertation, *dis-ert-ā'shun*, *n.* a treatise.
Disservice, *dis-ser'vis*, *n.* injury.
Dissever, *dis-sev'er*, *v.* to part in two.
Dissidence, *dis-sid-ens*, *n.* disagreement.
Dissimilar, *dis-sim-il-ar*, *adj.* unlike.
Dissimulation, *dis-sim-ū-lā'shun*, *n.* the act of dissimulation.
Dissipate, *dis-sip'it*, *v.* to scatter; to waste.
Dissipated, *dis-sip'it-ed*, *adj.* addicted to drink or loose living.
Dissociate, *dis-sō-shi't*, *v.* to part from.
Dissoluble, *dis-sō-lū-ā-bl*, *adj.* capable of being dissolved.
Dissolve, *dis-solv*, *v.* to break up; to melt.
Dissolvent, *dis-solv'ent*, *n.* having the power to melt.
Dissonance, *dis-sō-nāns*, *n.* discord.
Dissuade, *dis-swād*, *v.* to persuade against.
Dissuasion, *dis-swā-zhun*, *n.* the act of persuading.
Dissyllable, *dis-sil'ā-bl*, *n.* a word of two syllables.
Distaff, *dis'taf*, *n.* staff used in hand spinning.
Distance, *dis'tāns*, *n.* remoteness; *recess*.
Distant, *dis'tant*, *adj.* far off; remote; cool.
Distasteful, *dis-tast'ful*, *adj.* unpleasant.
Distemper, *dis-temp'er*, *n.* a disordered condition; *dis* in young dogs.
Distend, *dis-tend*, *v.* to stretch.
Distich, *dis'tik*, *n.* a couplet.
Distill, *dis-til*, *v.* to flow gently; to extract spirit from.
Distillery, *dis-til'ē-ri*, *n.* place where spirits are distilled.
Distinct, *dis-tinkt*, *adj.* different; clear.
Distinctive, *dis-tinkt'iv*, *adj.* showing difference.
Distinctness, *dis-tinkt'ness*, *n.* clearness.
Distinguished, *dis-tingt'ish*, *adj.* eminent.
Distortion, *dis-tor'shun*, *n.* loss of shape.
Distract, *dis-trakt*, *v.* to confuse.
Distraction, *dis-trakt'shun*, *n.* condition of perplexity.
Distrain, *dis-trān*, *v.* to seize goods for rent or debt.
Distress, *dis-tres*, *n.* suffering; act of distressing goods.
Distribute, *dis-trib'ut*, *v.* to give away among a number.
Distribution, *dis-trib-ū'shun*, *n.* classification; allotment.
District, *dis'trikt*, *n.* a defined locality.
Distrust, *dis-trust*, *n.* want of faith.
Disturb, *dis-turb*, *v.* to disquiet; to upset.
Disturbance, *dis-turb-āns*, *n.* tumult.
Distyle, *dis'til*, *n.* a two-columned portico.
Disunion, *dis-ū-ni-un*, *n.* lack of concord.
Disunite, *dis-ū-nit*, *v.* to detach what is united.
Disusage, *dis-ūz'ij*, *v.* a falling out of use.
Disuse, *dis-ūz*, *v.* to give up a custom.
Ditch, *dich*, *n.* a trench.
Ditheism, *di'the-izm*, *n.* belief in two gods.
Dithyrambic, *di'th-rān'bik*, *adj.* wild and boisterous.
- Ditto**, *dit'tō*, *n.* the same.
Ditty, *dit'ti*, *n.* a song.
Diuretic, *di-ū-ret'ik*, *adj.* assisting urinal discharge.
Diurnal, *di-ūr-nal*, *adj.* daily.
Divan, *div-an*, *n.* a Turkish council; a sofa; a
Divarication, *div-ar-ik-ā'shun*, *n.* a division into two
Dive, *div*, *v.* to plunge into water.
Diverge, *di-verj*, *v.* to turn apart.
Divers, *di-verz*, *adj.* sundry.
Diverse, *di-vers*, *adj.* different.
Diversity, *di-vers-ē-ti*, *n.* to make different.
Diversiform, *di-vers-ē-form*, *adj.* varied in form.
Diversion, *di-vershun*, *n.* amusing.
Diversity, *di-vers-ē-ti*, *n.* variety.
Divert, *di-vert*, *v.* to turn aside.
Divestiture, *di-vest-ē-tūr*, *n.* a stripping off.
Divide, *di-vid*, *v.* to part asunder.
Dividend, *di-vid-ēnd*, *n.* a share; interest divided.
Divination, *di-vin-ā'shun*, *n.* the art of prediction.
Divine, *di-vin*, *adj.* holy.
Diving-bell, *div-ing-bel*, *n.* an apparatus used by
Divinity, *di-vin-ē-ti*, *n.* the nature of God.
Divisible, *di-iz-ib'l*, *adj.* capable of being divided.
Division, *di-izhun*, *n.* act of dividing.
Divisive, *di-iz-iv*, *adj.* causing division.
Divisor, *di-iz-ōr*, *n.* the number which divides.
Divorce, *di-vo-ris*, *n.* separation of husband and wife;
Divulge, *di-vulj*, *v.* to reveal.
Dizen, *di-zen*, *v.* to dress or array.
Dizziness, *di-zin-ēns*, *n.* giddiness.
Doch-an-doris, *dok-an-dō-ris*, *n.* a stirrup cup.
Docile, *do-sil*, *adj.* teachable.
Docimasy, *do-sim-ā-si*, *n.* the art of assay or ore.
Dock, *dok*, *n.* a basin for receiving vessels.
Dockage, *dok'ij*, *n.* dock accommodation.
Docket, *dok'et*, *n.* a summary; a ticket.
Dockyard, *dok'yārd*, *n.* dock for naval ships.
Doctor, *dok'ter*, *n.* a medical practitioner.
Doctorate, *dok'tor-āt*, *n.* the degree of doctor.
Doctrinaire, *dok'trin-ē-ri*, *n.* a theorist.
Doctrine, *dok'trin*, *n.* theory or principle taught.
Document, *dok'ū-ment*, *n.* an official or legal writing.
Documentary, *dok'ū-ment-ā-ri*, *adj.* relating to documents.
- Dodecagon**, *dō-dek-a-gon*, *n.* a plane figure of 12 sides.
Dodge, *dōj*, *v.* to evade.
Dodo, *dō-dō*, *n.* an extinct bird of the turkey genus.
Doe, *dō*, *n.* female deer.
Doff, *dōf*, *v.* to take off; undress.
Dog, *dōg*, *n.* a domestic animal; *v.* to follow close.
Dog-days, *dōg'dāz*, *n.* the period of the dog-star's
Dogged, *dōg'ed*, *adj.* sullen; obstinate; persistent.
Doggerel, *dōg-er-el*, *n.* commonplace verse.
Dogma, *dōg'mā*, *n.* a settled doctrine.
Dogmatics, *dōg-mat'iks*, *n.* systematic theology.
Dogmatise, *dōg-mā-tiz*, *v.* to speak or write arrogantly.
Dogmatism, *dōg-mat'izm*, *n.* positive assertion.
Dog-tooth, *dōg'tūth*, *n.* a kind of ornamental mould-
Dog-watch, *dōg'wōch*, *n.* two hours' watch on ship-
Dolly, *dōl'i*, *n.* a kind of woollen fabric; a napkin.
Doings, *dō-ings*, *n.* happenings; events.
Dole, *dōl*, *n.* a small Dutch coin; a valueless thing.
Doleful, *dōl'ful*, *adj.* sad.
Dolichos, *dōl'ik-ōs*, *n.* a genus of leguminous plants.
Doll, *dōl*, *n.* a puppet.
Dollar, *dōl'er*, *n.* a silver coin.
Dolmen, *dōl'men*, *n.* a stone table.
Dolomite, *dōl'om-it*, *n.* magnesium limestone.
Dolour, *dōl'er*, *n.* grief; sadness.
Dolphin, *dōl'fin*, *n.* a large sea animal.
Dolt, *dōlt*, *n.* a stupid fellow.
Doltish, *dōlt'ish*, *adj.* foolish.
Domain, *dō-mān*, *n.* an estate.
Dome, *dōm*, *n.* a large cupola.
Domestic, *dō-mes'tik*, *adj.* pertaining to the home.
Domesticate, *dō-mes'tik-āt*, *v.* to make domestic; to tame.

dāy; āt; ārm; ēve; ēlk; thère; tce; pīn; machine; bōlē; pōt; stōrm; mūte; tūb; bārp.

Domicile, dom'i-sil, *n.* a dwelling.
Domiciliary, dom-i-sil-i-ur-i, *adj.* pertaining to the domicile.
Dominant, dom-in-ant, *adj.* prevailing. [domicile.]
Domination, dom-in-ā-shun, *n.* government; authority.
Domineer, dom-in-ēr, *v.* to command haughtily.
Dominical, dom-in-ikl, relating to Our Lord.
Dominicans, dom-in-ik-lans, *n.* an order of friars or monks.
Domination, dom-in-ūn, *n.* control; rule. [monks.]
Domino, dom-i-no, *n.* a hood.
Donor, to put on; to assume.
Donation, do-nā-shun, *n.* gift.
Donee, do-nē, *n.* the recipient of a gift.
Donjon, dun-jun, *n.* a strong tower of a castle.
Donor, dō-nor, *n.* one who gives.
Doom, *n.* judgment.
Doomsday, dooms-dā, *n.* the day of doom.
Dor, *n.* a droning beetle.
Doric, dor-ik, pertaining to the Doric style.
Dormant, dor-mant, *adj.* sleeping.
Dormer, dor-mer, *n.* a roof window.
Dormitory, dor-mit-er-i, *n.* a sleeping chamber.
Dormouse, dor-mōws, *n.* a small rodent.
Dorsal, dor-sal, *adj.* relating to the back.
Dose, dōs, *n.* a portion.
Dossil, dōs-il, *n.* a rug.
Dot, *n.* a small pointed mark.
Dotage, dō-tij, *n.* dotting; childish.
Dotal, dō-tal, *adj.* relating to dowry.
Dotard, dō-tard, *n.* one who is dotting.
Dotation, dō-tā-shun, *n.* an endowment.
Doté, dō-tē, *v.* to show excessive love.
Double, dōubl, *adj.* two-fold; *v.* to make two-fold; to wear round in headland.
Double-dealing, dubl-dē-ling, *n.* duplicity.
Double-entendre, dōubl-ōng-tōng-t'r, *n.* a word of double meaning.
Doublet, dub-let, *n.* a garment; a pair.
Doubling, dub-ling, *n.* act of unking double; a fold.
Doubleton, dub-lōn, *n.* an old Spanish coin.
Doubt, dōwt, *n.* distrust; *v.* to distrust; to hesitate.
Doubtful, dōwt-ful, *adj.* not clear; uncertain.
Douceur, dō-sēr, *n.* a present.
Douche, dōul, *n.* water-jet thrown on the body.
Dough, dō, *n.* bread in its uncooked form.
Doughty, dōwti, *adj.* strong; hardy.
Doughy, dōi, *adj.* soft; dough-like.
Douse, dōws, *v.* to extinguish; to plunge into water.
Dove, dōv, *n.* a pigeon.
Dovecot, dōv-kōt, *n.* a pigeon's house.
Dovetail, dōv-tāl, *n.* jointed boards; *v.* to fit one thing into another.
Dowager, dōw-ā-jer, *n.* a dowered widow.
Dowdy, dōw-dil, *n.* an untidy female; *adv.* untidy.
Dowel, dōw-el, *n.* a fastening pin of wood or iron.
Dower, dōw-er, *n.* a jointure to a widow.
Dowries, dōw-las, *n.* a coarse linen fabric.
Down, dōwn, *adv.* soft hair or feathers; a hill; *adv.* below; dejected; *prep.* along a descent.
Downcast, dōwn-kast, *adj.* dejected.
Downy, dōwn-i, *adj.* soft.
Dowry, dōw-ri, *n.* dower.
Doxology, dōks-ō-lō-j, *n.* a hymn of praise.
Doze, dōz, *n.* a sleep.
Dozen, dōz-n, *n.* twelve.
Drab, drab, *n.* a low woman; a dull brown colour.
Drabble, drab-l, *v.* to smear with mud and water.
Drachm, dram, *n.* dram.
Draconic, drā-kō-nik, *adj.* severe.
Draft, draf, *n.* dregs.
Draft, draf, *n.* anything drawn; an order for money.
Drag, drag, *v.* to draw by force.
Dragbar, drag-bār, *n.* an iron bar for coupling railway carriages together.
Draggie, drag-i, *v.* to drag through wet.
Dragnet, drag-net, *n.* a net for bottom fishing.
Dragoman, drag-ō-man, *n.* an Eastern guide.
Dragon, drag-ōn, *n.* a fabulous winged monster.
Dragon, drag-ōn, *n.* a soldier of the heavy cavalry.
Drain, drān, *n.* water channel; *v.* to draw off; to drain off; *n.* a system of drains. [drink.]
Drake, drāk, *n.* the male of the duck.
Dram, *n.* a spirit measure.

Drama, drām-ā, *n.* a stage representation; a dramatic work.
Dramatise, dram-ā-tiz, *v.* to put in play form.
Dramatis personæ, dram-ā-tis per-sō-nē, *n.* the characters in a play.
Drape, drāp, *v.* to cover; to clothe.
Drapery, drā-per-i, *n.* cloths and stuffs; fabrics generally.
Drastic, drās-tik, *adj.* active; thorough. [rally.]
Draught, drōt, *n.* air current; act of drawing; outline; depth to which a ship sinks into the water.
Draught-horse, drōt-hors, *n.* horse used for drawing heavy loads.
Draughtsman, drōts-man, *n.* one who draws plans.
Draw, draw, *v.* to pull; to allure.
Drawback, draw-bak, *n.* a disadvantage.
Drawbridge, draw-bridj, *n.* a bridge that can be let down or drawn up as needed.
Drawee, draw-ēr, *n.* the person on whom a bill of exchange is drawn.
Drawer, draw-er, *n.* one who draws. [change is drawn.]
Drawing, draw-ing, *n.* a sketch or picture.
Drawing-room, draw-ing-room, *n.* a room in which to entertain company.
Drawl, drawl, *v.* to speak slowly.
Drawn, drawn, *adj.* undecided.
Dray, drā, *n.* a cart for heavy burdens.
Dread, dred, *n.* fear; awe.
Dreadnaught, dred-nawt, *n.* a thick protective garment.
Dreadnought, dred-nawt, *n.* a modern type of battleship.
Dream, dream, *n.* fancies in sleep; a reverie. [slip.]
Dreamy, dream-i, *adj.* full of visions.
Dreary, dre-ri, *adj.* dismal; dull; gloomy.
Dredge, dredj, *v.* to sprinkle, *n.* an oyster net.
Dredger, dredj-er, *n.* a dredging boat; one who fishes with a dredge.
Dredging-box, dredj-ing-boks, *n.* a box for dredging.
Dregs, dredj, *n.* sediment; grounds; impurities.
Dreich, dreich, *v.* to make completely wet.
Dresser, dress-er, *n.* one who dresses; a kitchen sideboard.
Dressy, dress-i, *adj.* full of dress. [board.]
Dribble, drib-let, *n.* a small drop.
Dribble, drib-let, *n.* a small drop. [of aim.]
Drift, drift, *n.* a mass of driven matter, the direction.
Driftwood, drift-wood, *n.* wood loosely floating.
Drill, drill, *v.* to bore; to exercise.
Drill-plough, drill-plōw, *n.* a plough for drill-sowing.
Drink, dring, *v.* to swallow liquor, *n.* liquor.
Drip, drip, *v.* to fall in drops.
Dripping, drip-ing, *n.* fat dropped from roasting meat.
Dripstone, drip-stōn, *n.* a projection over doorways for throwing off rain.
Drive, driv, *v.* to push forward; *n.* a carriage road.
Driver, driv-er, *n.* a carriage driver.
Driveller, driv-er-er, *n.* a foolish talker.
Drizzle, driz-l, *n.* small rain.
Droll, drōl, *adj.* comic; *n.* a jest.
Drollery, drōl-er-i, *n.* mirth, fun.
Drummedary, drum-dar-i, *n.* a one-humped camel.
Drone, drōn, *n.* the male bee, an idle fellow.
Drop, drop, *v.* to languish, to sink.
Drop, drop, *n.* a globe of moisture, *v.* to let fall.
Dropsical, drop-sik-al, *adj.* afflicted with dropsy.
Dropsy, drop-si, *n.* water in the body.
Drosky, dro-ski, *n.* a Russian cab.
Dross, dro-s, *n.* metal refuse.
Drought, drowt, *n.* dryness.
Drove, drōv, *n.* a number of animals being driven.
Driver, drōv-er, *n.* a cattle driver.
Drum, drum, *v.* to submerge in water; to inundate.
Downiness, dōwn-i-ness, *n.* sleepiness.
Drubbing, drub-ing, *n.* a beating.
Drudge, druj, *v.* to toil hard; *n.* one who works hard.
Drudgery, druj-er-i, *n.* hard toil. [and long.]
Drug, drug, *n.* a substance used in medicines; *v.* to secretly administer a drug.
Drugget, drug-et, *n.* a coarse carpet.
Druggist, drug-ist, *n.* one who sells drugs.
Druid, droo-id, *n.* an ancient Celtic priest.
Druidism, droo-id-izm, *n.* a Druidical doctrine.
Drum, drum, *n.* a musical instrument; part of the ear.
Drum-major, drum-mā-jor, *n.* the sergeant drummer.
Drunkard, drungk-ard, *n.* an habitual drinker.

dāy; āt; ārn; ēve; ēlk; there; ice; pīn; machine; bōld; pūt; stōrm; mūte; tūb; būrn.

Drunkenness, drungk'en-nes, *n.* alcoholic intoxication.
Drupaceous, droo-pa'shus, *adj.* relating to ston. fruits.
Dry, dri, *adj.* free from moisture.
Dryad, dri'ad, *n.* a wood-nymph.
Dryasist, dri'az-dust, *n.* a learned pedant.
Dry-goods, dri'-goodz, *n.* drapery.
Dry-rot, dri'rot, *n.* decay of timber by fungoid
Dry-salter, dri-salt'er, *n.* a dealer in drugs. [growth.
Dual, dü'al, *adj.* double.
Dualism, dü'al-izm, *n.* belief in two gods.
Dub, v. to name; to confer.
Dublety, dü-b'l-et-l, *n.* doubtfulness.
Dubious, dü-bi-us, *adj.* doubtful
Ducal, dü'kal, *adj.* relating to a duke.
Ducat, duk'at, a foreign coin.
Duchess, duch'es, *n.* the wife or widow of a duke.
Duchy, duch'i, *n.* a dukedom.
Duck, duk, *n.* a web-footed fowl; a coarse cloth; *v.*
Duct, duk't, *n.* a tube, or channel. [to dip; to dive.
Ductile, duk'til, *adj.* yielding; flexible.
Dudgeon, dud'jun, *n.* grudge; resentment; a haft.
Due, dü, *adj.* owed; proper; timed to arrive.
Duel, dü'el, *n.* an arranged fight between two persons.
Duelist, dü'el-ist, *n.* one who fights a duel.
Duenna, dü-en'-ä, *n.* an elderly woman guardian.
Duet, dü-et, *n.* composition for two instruments or
Duffel, dü'f'l, *n.* a coarse woollen cloth. [voices.
Duffer, dü'fer, *n.* a useless person.
Dug, dü, *n.* nipple; *pa.p.* of dig.
Dugong, du-gong, *n.* an herbivorous whale.
Duke, dük, *n.* the next noble title below prince
Dukedom, dük'dom, *n.* rank or territory of a duke
Dulcet, dü'set, *adj.* sweet; soft; melodious.
Dulcify, dü'si-fi, *v.* to sweeten
Dulcimer, dü'si-mer, *n.* an instrument of wire strings.
Dull, dü, *adj.* stupid.
Dullard, dü'erd, *n.* a dunce.
Dully, dü'ly, *adj.* feily.
Dumb, dum, *adj.* speechless [athletic exercise.
Dumb-bells, dum'belz, *n.* weighted instrument for
Dumbfounded, dum'fownd-ed, *adj.* stricken dumb
 with amazement.
Dummy, dum'ti, *n.* a sham article; an effigy
Dump, dum'p, *v.* to unload.
Dumppish, dum'pish, *adj.* depressed
Dumpling, dum'pling, *n.* a kind of boiled pudding
Dumps, dum'ps, *n.* impingness.
Dumpy, dum'pi, *adj.* short and fat.
Dun, *n.* one who solicits payment.
Dunce, duns, *n.* a stupid person
Dune, dün, *n.* a sandhill.
Dungeon, dun'jun, *n.* a dark prison cell.
Duodecimo, dü-o-dec'i-mo, a sheet of 12 leaves
Duodecuple, dü-o-dek'ü-pl, *adj.* twelvefold
Duodenum, dü-o-de'num, *n.* the first part of the
 small intestines.
Dup *v.* to unfasten.
Dupe, düp, *n.* one who is cheated, *v.* to deceive
Duplex, dü'pleks, *adj.* double. [x. to double.
Duplicate, dü'plik-ät, *n.* another of the same kind;
Duplicity, dü'plik-i-ti, *n.* deceit; double-dealing.
Durable, dü'rä-bl, *adj.* lasting.
Durance, dü'räns, *n.* constraint; imprisonment.
Duration, dü-rä'shun, *n.* length of time.
Durbar, dü'r-bar, *n.* a reception of Indian princes.
Duress, dü'res, *n.* imprisonment; constraint.
Dusk, *n.* twilight; *adj.* dark-coloured.
Dusky, dus'ki, *adj.* obscure.
Dust, dust, *n.* dry powder; earth; *v.* to brush off dust.
Dutiful, dü'ti-fül, *adj.* liable to customs duty.
Duty, dü'ti, *n.* what is due; regard; obedience; tax
 on goods.
Duovirate, dü-üv'ir-ät, *n.* an office filled by two
Dwale, dwäl, a name for the deadly nightshade. [men.
Dwarf, dwärf, *n.* a diminutive animal or plant.
Dwell, dwel, *v.* to inhabit.
Dwelling, dwel'ing, *n.* an abode.
Dwindle, dwind'l, to grow less; to decline.
Dye, di, *v.* to colour; *n.* colour.
Dyeing, di'ing, *n.* the art of dyeing.
Dyer, di'er, *n.* one who practices dyeing.
Dying, di'ing, *adj.* declining; expiring.

Dyke, see *Dike*. [motion.
Dynamics, di-nam'iks, *n.* the science of matter and
Dynamite, di'nam-i, *n.* a powerful explosive.
Dynasty, din'as-ti, *n.* a succession of rulers of the
 same family.
Dysentery, dis'en-ter-i, *n.* a disease of the intestines.
Dyspepsy, dis-pep'si, *n.* bad digestion. [tion.
Dyspeptic, dis-pep'tik, *n.* one afflicted with indiges-
 tion.
E
Each, ech, *adj.* every one.
Eager, e'ger, *adj.* earnest.
Eagle, e'gl, *n.* a bird of prey.
Eaglet, e'glot, *n.* a young eagle
Eagre, e'ger, *n.* a rising river tide.
Ear, er, *n.* the organ of hearing; spike of corn.
Eardrop, er'drop, *n.* earring.
Earl, erl, *n.* an English noble next below a marquis.
Earn, ern, *v.* to gain by labour.
Earnest, ern'est, *adj.* earnest; eager; *n.* a
 pledge.
Earnings, ern'ings, *n.* wages earned.
Earshot, ershot, *n.* within hearing range.
Earth, erth, *n.* our planet; soil
Earthen, erth'on, *adj.* composed of earth.
Earthenware, erth'en-wär, *n.* crockery.
Earthling, erth'ling, *n.* a dweller on earth.
Earthly, erth'l, *adj.* worldly.
Earwig, er'wig, *n.* an insect, a whopper.
Ease, ez, *n.* repose; *v.* to relieve.
Easel, e'zel, *n.* a framework for supporting pictures
 while being painted.
Easement, ez'ment, *n.* relief; support.
East, est, *n.* one of the four cardinal points.
Easter, est'er, *n.* the festival of the Resurrection.
Easterling, est'er-ling, *n.* an Eastern native.
Easterly, est'er-li, *adj.* relating to the East.
Eatable, e'tabl, *adj.* fit for eating.
Eaves, evz, *n.* the edges of a roof.
Eaves-dropper, evz'rup-er, *n.* a listener.
Ebb, eb, *n.* the receding of the tide; *v.* to recede.
Ebb-tide, eb'tid, *n.* the receding tide.
Ebon, eb'on, *n.* a hard, dark wood.
Ebonise, eb'on-iz, *v.* to darken like ebony.
Ebriety, e-bri-et-i, *n.* drunkenness
Ebullition, eb-ül-sh'un, *n.* the act of boiling;
Eburnean, e-bur'ni-an, *adj.* ivory-like. [effervescence,
Eccentric, ek-sen'trik, *adj.* odd. [the Church.
Ecclesiastic, ek-kle-zis'tik, *n.* one consecrated to
Echelon, esh'e-long, *n.* an arrangement of troops in
Echinated, ek'in-äted, *adj.* prickly. [parallel lines.
Echo, ek'o, *n.* a repeated sound.
Éclaircissement, ek-lär-sis'mong, *n.* the act of
Éclat, ä-klä, *n.* with striking effect. [explain
Eclecticism, ek-lek'tis-sizm, *n.* the practice of selecting
 the best.
Eclipse, e-kli'ps, *n.* an obscuration of one heavenly
Ecliptic, ek-li'p'tik, *n.* the sun's path.
Eclouge, ek'log, *n.* a short pastoral poem.
Economical, ek-o-nom'ik-al, *adj.* frugal, careful.
Economics, ek-o-nom'iks, *n.* the science of economy.
Economy, e-kon'o-mi, *n.* careful management.
Ecstatic, ek-stat'ik, *adj.* rapturous.
Ecumenical, ek-i-men'ik-al, *adj.* pertaining to the
 Christian Church.
Eczema, ek-ze'mä, *n.* a skin disease.
Edeacious, e-de'shus, *adj.* fond of eating.
Edda, ed'a, *n.* the books of Scandinavian mythology.
Edder, ed'er, *n.* wood for stake binding.
Eddy, ed'i, *n.* a contrary current
Edematose, e-dem'a-töz, *adj.* dropsical.
Edentate, e-den'tät, *adj.* without front teeth.
Edge, ej, *n.* extreme border; *v.* to sharpen.
Edge-tool, ej'tool, *n.* a sharp-edged tool.
Edging, ej'ing, *n.* bordering.
Edible, ed'ibl, *adj.* fit for eating.
Edict, ed'ikt, *n.* a proclamation.
Educational, ed-i-kä'shun, *n.* instruction.
Edifice, ed'i-fis, *n.* a large house or building.
Edify, ed'i-fi, *v.* to instruct.

däy; ät; ärm; éve; elk; thére; ice; pln; machine; böld; pöt; störm; mäte; tüb; bürn.

Edile, *ed'il*, *n.* a Roman official having charge of public works.

Edit, *ed'it*, *v.* to prepare for publication.

Edition, *ed'ish'un*, *n.* the number of copies of a book published at one time.

Educator, *ed'ü-kä-tör*, *n.* an instructor.

Educe, *ed'üs'*, *v.* to extract.

Eel, *el*, *n.* a snake-like fish.

Erle, *er'l*, *adj.* wild; weird.

Erase, *er-fäs'*, *v.* to erase; to wipe out.

Effect, *ef-fekt'*, *n.* result; *v.* to accomplish.

Effective, *ef-fek'tiv*, *adj.* powerful.

Efecta, *ef-fekt's*, *n.* goods.

Efectuate, *ef-fekt'ü-ät*, *v.* to achieve.

Efeminate, *ef-fem'inät*, *adj.* unmanly.

Effendi, *ef-fen'di*, *n.* a high Turkish official.

Efferescence, *ef-fer-ves'ens*, *n.* a boiling up.

Efete, *ef-fet'*, *adj.* exhausted.

Efficacious, *ef-i-kä'shüs*, *adj.* effectual.

Efficacy, *ef-i-kä-si*, *n.* virtue; energy.

Efficency, *ef-i-sh'ens*, *n.* power; strength; adequacy.

Effigy, *ef-i-ji*, *n.* a likeness; a dummy representation.

Efflorescence, *ef-flö-res'ens*, *n.* season of blossoming.

Effluence, *ef-flö-ens*, *n.* an outflow.

Effluent, *ef-flö-ent*, *n.* an outflow stream.

Effluviu, *ef-flö-vi-um*, *n.* noxious vapour.

Effort, *ef'ört*, *n.* endeavour.

Efrontery, *ef-frunt'er-l*, *n.* impudence.

Efulgence, *ef-fül'ens*, *n.* lustre; brightness.

Efusion, *ef-fü'shun*, *n.* that which is poured forth.

En, *n.* a newt.

Egestion, *ef-je'shun*, *n.* the discharging of excess.

Egg, *eg*, *n.* an oval-shaped body laid by birds and some animals from which young are hatched.

Eglantine, *eg-län'tin*, *n.* sweet-brier.

Egism, *eg'o-izm*, *n.* the theory of self-interest.

Egotism, *eg'o-tizm*, *n.* self-absorption.

Egotism, *eg'o-tizm*, *n.* self-absorption.

Egotistic, *eg'o-tist'ik*, *adj.* conceited.

Egrotious, *eg-ré'ti-üs*, *adj.* toothily prominent.

Egress, *eg-res*, *n.* the act of passing out.

Egret, *eg-ret*, *n.* a small white heron.

Egrette, *eg-ret'*, *n.* feather ornaments. [antiquities.]

Egyptology, *eg-iptöl'ö-ji*, *n.* the science of Egyptian.

Elder-down, *el-der-döwn*, *n.* the down of the elder duck.

Either, *ä'ther*, or *ä'ther*, *adj.* or *pron.* one of two.

Ejaculation, *ejäk-ü-lä'shun*, *n.* a short exclamation.

Eject, *ek-jekt'*, *v.* to throw out.

Ejection, *ek-jek'shun*, *n.* discharge.

Ejectment, *ek-jekt'ment*, *n.* expulsion, dispossession.

Eke, *ek*, *v.* to add to, to extend.

Elaborate, *el-läb'ö-rät*, *v.* to labour on, to finish with.

Elan, *ä-läng*, *n.* dash. [great pains.]

Eland, *ä-länd*, *n.* an African antelope.

Elapse, *el-äp's*, *v.* to glide away, to pass away.

Elastic, *eläs'tik*, *adj.* rebounding.

Elate, *el-ät'*, *v.* to exalt.

Elated, *el-ät'ed*, *adj.* puffed up. [way.]

Elbow, *el'bö*, *n.* the bend of the arm, *v.* to push one's.

Elbow-room, *el'bö-roöm*, *n.* room to stir in; freedom.

Eld, *n.* ancient time.

Elder, *el'der*, *n.* an elder.

El Dorado, *el-dö-rä'dö*, *n.* the golden land.

Elect, *ek-ekt'*, *v.* to choose.

Election, *ek-ek'shun*, *n.* choice, decision by vote.

Electronering, *ek-ek'shun-er'ing*, *n.* the canvassing for votes for an election.

Elective, *ek-ek'tiv*, *adj.* relating to the power of choice.

Electro, *ek-ek'tör*, *n.* one who has a vote.

Electric, *ek-ek'tiv*, *adj.* pertaining to electricity.

Electricity, *ek-ek'tri-ti*, *n.* that power in bodies which attracts and repels substances.

Electrify, *ek-ek'tri-fy*, *v.* to communicate electricity to.

Electrode, *ek-ek'tröd*, *n.* the pole of a galvanic battery.

Electro-dynamics, *ek-ek'trö-dinämiks*, *n.* the science of the action of electricity.

Electro-kinetica, *ek-ek'tö-ki-net'iks*, *n.* science of electricity in motion.

Electrometer, *ek-ek'trom'eter*, *n.* an instrument for measuring electricity.

Electroplate, *ek-ek'trö-plät*, *v.* to cover with silver.

Electro-station, *ek-ek'trö-stä'tiks*, *n.* science of electricity at rest. [metal deposited by electricity.]

Electrotype, *ek-ek'trö-tip*, *n.* the art of engraving on a.

Electuary, *ek-ek'tü-er-l*, *n.* a medicinal powder with sweetening.

Electionary, *el-ek-mö'när-l*, *adj.* pertaining to.

Elegance, *el-eg'ans*, *n.* grace. [charity.]

Elegiac, *el-eg'jak*, *el-ä-jä'jak-al*, *adj.* mourn-

Elegy, *el-ä-jä*, *n.* a song of mourning. [ful.]

Element, *el-e'ment*, *n.* a substantial part of any sub-

Elementary, *el-e'ment'är-l*, *adj.* primary. [stance.]

Elephant, *el-e-fant*, *n.* our largest quadruped.

Elephantiasis, *el-e-fän'ti-as-is*, *n.* a disease which causes the legs to swell.

Elephantine, *el-e-fän'tin*, *adj.* huge.

Elevate, *el-e-vät*, *v.* to raise.

Elevator, *el-e-vä-tör*, *n.* passenger or grain lift.

Elf, *elf*, *n.* a fairy.

Elide, *el-id'*, *v.* to elude.

Eligible, *el-i-j'ibl*, *adj.* duly qualified.

Eliminate, *el-im'in-ät*, *v.* to remove; to cancel.

Elision, *el-i-zhun*, *n.* a supposed vowel or syllable.

Elite, *ä-lit'*, *n.* the select portion.

Eluxir, *el-iks'er*, *n.* a tincture.

Elk, *elk*, *n.* a kind of stag.

Ell, *el*, *n.* a measure: a yard and a quarter.

Ellipse, *el-lips'*, *n.* an oval. [left out.]

Ellipsis, *el-lip'sis*, *n.* a figure implying a word or words.

Ellipsoid, *el-lip'soid*, *n.* a surface, each plane section of which is an ellipse.

Elliptical, *el-lip'tik-al*, *adj.* oval.

Elm, *elm*, *n.* a tree. [masts.]

Elmo's fire, *el-möz-fir*, *n.* electric appearances on.

Elocution, *el-o-kü'shun*, *n.* the art of good speaking.

Elocutionist, *el-o-kü'shun-ist*, *n.* one who practises.

Eloge, *ä-lözh'*, *n.* a funeral panegyric. [elocation.]

Elongate, *el-ong't*, *v.* to extend.

Eloquence, *el-o-kuens*, *adj.* forceful speaking. [away.]

Else, *els*, *adv.* otherwise.

Elsewhere, *els'hwär*, *adv.* in some other place.

Elucidate, *el-ü'sä-dat*, *v.* to make clear.

Elude, *el-üd'*, *v.* to escape.

Evasive, *el-ü'siv*, *adj.* eluding; evasive.

Eutrate, *el-ü-trät*, *v.* to separate by water.

Elysium, *el-i-zhun*, *adj.* delightful.

Elysum, *el-i-h'üm*, *n.* the abode of the blessed.

Emaciate, *em-äsh'ät*, *v.* to waste, to make lean.

Emaciation, *em-äsh'ät-shun*, *n.* thinness of flesh.

Emanate, *em-an-ät*, *v.* to proceed from.

Emanation, *em-an-ä'shun*, *n.* that which flows out.

Emancipate, *em-man'sip-ät*, *v.* to set free.

Emasculate, *em-äs-kü-lät*, *v.* to castrate.

Embal, *em-bäl*, *v.* to preserve from decay.

Embank, *em-bängk'*, *v.* to bank up.

Embankment, *em-bängk'ment*, *n.* a bank or mound.

Embargo, *em-bär'gö*, *n.* order to stop a vessel.

Embark, *em-bärk'*, *v.* to put or go on board.

Embarrass, *em-bär'äs*, *v.* to hinder, to perplex.

Embassy, *em-bäs-l*, *n.* an ambassador and his retinue;

Embattled, *em-bät'l*, *v.* to make battlements; to place.

Embellish, *em-bel'ish*, *v.* to adorn.

Embers, *em-berz*, *n.* smouldering wood or coal.

Embezzle, *em-bez'l*, *v.* to make fraudulent use of.

Embitter, *em-bit'ter*, *v.* to make bitter.

Emblazon, *em-bläz'on*, *v.* to adorn in colours.

Emblazonry, *em-bläz'on-ri*, *n.* the art of emblazoning.

Emblem, *em-blēm*, *n.* a symbol. [in order of battle.]

Embody, *em-böd'i*, *v.* to incorporate.

Embolden, *em-böld'en*, *v.* to encourage.

Embolism, *em-bö-lizm*, *n.* the filling in of dates in a time record.

Embolus, *em-bö-lüs*, *n.* a clot of obstructing fibrin.

Embonpoint, *äng-bong-pwäng'*, *adj.* stoutness.

Embosom, *em-böz'un*, *v.* to cherish.

Emboss, *em-böz'*, *v.* to work raised patterns.

Embouchure, *äng-böo-shöör*, *n.* the mouth of a river.

Embower, *em-böw'er*, *v.* to place in a bower.

Embrace, *em-bräs*, *v.* to clasp; to fold lovingly.

day; ät; ärm; äve; älk; there; äge; pün; machine; böld; pöt; störm; müte; tüb; bürn.

Embrasure, em-brā'zhūr, *n.* a slanting opening in a wall.
Embrocate, em-bro-kāt, *v.* to moisten.
Embroider, em-bro'id-er, *v.* to adorn with needlework.
Embroidery, em-bro'id-er-ī, *n.* ornamental needlework.
Embroll, em-broil', *v.* to entangle.
Embryo, em-bri-ō, *n.* the first stage of animal or plant development.
Embryology, em-bri-ō'l-ō-jī, *n.* the science of embryos.
Emendation, em-en-dā'shun, *n.* correction.
Emerald, em'er-ald, *n.* a green precious stone.
Emerge, e-merj', *v.* to come out of.
Emergency, e-merj'en-si, *n.* a pressing necessity.
Emeritus, e-mer-i-tus, *adj.* honourably discharged from office; *n.* one so discharged.
Emersion, e-mers'n, *n.* a rising out of. [polishing].
Emery, e-mer-i, *n.* a kind of corundum used for emetic, e-met'ik, *n.* a potion to cause vomiting.
Emete, e-met', *n.* a mob rising.
Emigrant, em-i-grant, *n.* one who emigrates.
Emigrate, em-i-grāt, *v.* to proceed to another country.
Eminence, em'i-nens, *n.* height; distinction.
Eminent, em'i-nent, *adj.* distinguished.
Embassy, em'bis-ā-ri, *n.* a person sent out; a spy.
Emission, e-mish'n, *n.* the act of sending forth.
Emmit, e-mit', *v.* to send forth.
Emmet, em-et', *n.* the ant.
Emollient, e-mol'yent, *adj.* softening.
Emolument, e-mol'u-ment, *n.* the profit of office or employment; advantage.
Emotion, e-mō'shun, *n.* agitation of feelings.
Empalement, em-pāl'ment (see *Impalement*).
Empanel, em-pan-el, *v.* to enter names on a panel, as *Empanel* (see *Impanel*). [of a jury].
Emperor, em-per-or, *n.* the highest sovereign title.
Emphasis, em-fas-is, *n.* stress on a word.
Emphasize, em-fā-sīz, *v.* to give emphasis to.
Empire, em-pir, *n.* dominions of an empire; supreme authority.
Empiric, em-pir'ik, *adj.* proved by experience.
Empiricism, em-pir'i-sism, *n.* a system relying on experience.
Employé, em-ploj'ā, *n.* a person employed. [perence].
Employment, em-ploj'ment, *n.* occupation.
Emporium, em-pō'r-i-um, *n.* a mart; a large shop.
Empower, em-pow'er, *v.* to sanction.
Empress, em-pres, *n.* consort of an emperor.
Empty, em-pti, *adj.* vacant; *v.* to exhaust.
Empyrean, em-pur'e-an, *adj.* the purest heaven; sub-lime, *im*, *n.* a large bird.
Emulate, em'ū-lāt, *v.* to strive to equal; to imitate.
Emulative, em'ū-lā-tiv, *adj.* tending to emulation.
Emulsion, e-mul'shun, *n.* an oily preparation.
Enable, en-ā-bl, *v.* to render able; to empower.
Enact, en-akt', *v.* to pass a law.
Enactment, en-akt'ment, *n.* a law. [apply enamel].
Enamel, en-am-el, *n.* hard surface coating; *v.* to enamel.
Enamelling, en-am-el-ing, *n.* the art of making enamel.
Enamour, en-am'ur, *v.* to inspire with love.
Encamp, en-kamp', *v.* to form a camp.
Encampment, en-kamp'ment, *n.* the place where bodies of troops or others are camped.
Encaustic, en-kaw'stik, *adj.* with colours burned in.
Enceinte, ang-sānt', *n.* an enclosure; *adj.* pregnant.
Enchain, en-chān', *v.* to put in chains.
Enchant, en-chant', *v.* to charm.
Enchantment, en-chant'ment, *n.* that which enchants.
Enchase, en-chās', *v.* to engrave; to inlay.
Encircle, en-serk'l, *v.* to enclose; to surround.
Enciliate, en-kli't-ā, *adj.* leaning upon.
Encumbrance, en-kō'm-brāns, *n.* one who eulogises.
Encumbrance, en-kō'm-brāns, *n.* high praise.
Encumbrance, en-kō'm-brāns, *n.* to surround.
Encore, ang-kō'r, *adv.* repeat.
Encounter, en-kown'ter, *v.* to meet; to oppose.
Encourage, en-kur'āj, *v.* to urge; to animate.
Encroach, en-kroč'h, *v.* to intrude.
Encumber, en-kum'ber, *v.* to burden; to impede.
Encumbrance, en-kum'brāns, *n.* that which encumbers. [questions].
Encyclical, en-sik'li-kal, *n.* a papal letter on public
Encyclopædia, en-sik-lō-pē-dī-a, *n.* a comprehensive
 work dealing with some or every branch of know-
Encyst, en-sist', *v.* to enclose in a cyst. [ledge].

Endanger, en-dān'jer, *v.* to imperil.
Endear, en-dēr, *v.* to make dear.
Endeavour, en-dēv'er, *v.* to strive; to attempt.
Endemic, en-dem'ik, *adj.* special to a district or people.
Endogen, en-dō-jen, *n.* a plant that expands by internal growth. [of: to sanction].
Endorse, en-dors', *v.* to sign one's name on the back.
Endow, en-dow', *v.* to furnish with funds or dowry.
Endowment, en-dow'ment, *n.* that which is endowed.
Endurance, en-dū-rāns, *n.* the condition of enduring.
Endure, en-dūr, *v.* to last.
Enema, en-ē-mā, *n.* an injection.
Enemy, en-ē-mi, *n.* a foe.
Energy, en-erj', *n.* force; vigour.
Enervate, en-er-vāt, *v.* to weaken.
Enfeeble, en-fē-bl, *v.* to make feeble. [of an estate].
Enfeoffment, en-fēf'ment, *n.* a deed transferring the fee.
Enfilade, en-filād', *n.* rooms opening upon a common corridor; *v.* to rake with shot.
Enforce, en-fors', *v.* to compel. [privileges].
Enfranchise, en-fran'chiz, *v.* to set free; to grant civic
Engender, en-jen'der, *v.* to sow; to breed; to produce.
Engine, en-jin, *n.* a machine imparting motive power.
Engineer, en-jin-ēr, *n.* an engine maker or controller.
Engineering, en-jin-ēr-ī, *n.* the art of controlling engines.
Engird, en-gird', *v.* to encircle.
Engrail, en-grail, *v.* to make a border of indented lines.
Engrain, en-grān', *v.* to dye permanently.
Engrave, en-grāv', *v.* to cut impressions on wood or steel; to print.
Engraver, en-grāv'er, *n.* one who engraves.
Engraving, en-grāv-ing, *n.* print of a picture.
Engross, en-grōs', *v.* to absorb; to write in legal hand.
Engulf, en-gulf', *v.* to swallow up.
Enhance, en-hāns', *v.* to increase; to heighten.
Enigma, en-ig'mā, *n.* a puzzle.
Enigmatical, en-ig-mat'ikal, *adj.* obscure.
Enjoin, en-join', *v.* to order.
Enjoy, en-joy', *v.* to take pleasure in.
Enkindle, en-kind'l, *v.* to unflame.
Enlarge, en-lārj', *v.* to expand.
Enlighten, en-lit'en, *v.* to illuminate.
Enlistment, en-list'ment, *n.* the act of enlisting.
Enliven, en-liv'en, *v.* to make cheerful.
Enmity, en-mit-i, *n.* hostility; unkindness.
Ennoble, en-nō-bl, *v.* to confer noble rank upon.
Ennui, ang-nwē', *n.* weariness.
Enormity, en-or-mit-i, *n.* that which is enormous, wicked, or monstrous.
Enormous, e-nor'mus, *adj.* excessively large.
Enough, e-nuf, *adj.* sufficient; *adv.* sufficiently.
Enrage, en-rāj, *v.* to make angry.
Enrapture, en-rap'tūr, *v.* to cause extreme delight.
Enravis, en-rav'ish, *v.* to enchant.
Enrich, en-rich', *v.* to make rich.
Enrobe, en-rōb', *v.* to attire.
Enrol, en-rōl', *v.* to register.
Example, en-sāmp'l, *n.* example.
Enscape, en-sāp'g, *v.* to stain with blood.
Ensnare, en-snār, *v.* to cover; to hide safely.
Enshield, en-shield', *v.* to shield.
Enshrine, en-shrin', *v.* to enclose; to keep in regard.
Enshroud, en-shrowd', *v.* to cover up.
Ensisform, en-si-form, *adj.* sword-shaped.
Ensign, en-sin, *n.* the flag of a nation or regiment; the officer who carries it.
Enslage, en-silāj, *n.* stored fodder.
Enslave, en-slāv', *v.* to captivate.
Entangle, en-snār, *v.* to entangle.
Entail, en-tāl', *v.* to follow.
Entailment, en-tāl'ment, *n.* special descent; *n.* an entailment.
Entangle, en-tang'l, *v.* to contort into a tangle; to
Entelechy, en-te-lē-ki, *n.* actual existence. [ensnare].
Enter, en-ter, *v.* to proceed inward; to join in.
Enteric, en-ter'ik, *adj.* relating to the intestines.
Enterprise, en-ter-priz, *n.* an undertaking or adventure.
Enterprising, en-ter-priz-ing, *adj.* adventurous. [sure].
Entertain, en-ter-tān', *v.* to amuse; to show hospitality.
Enthral, en-thrāl', *v.* to enslave. [hospitality].

day; āt; ārm; ēve; ēlk; thère; fce; pln; machine; bōl; pōt; stōrm; mūte; tūb; bōrn.

Bathrona, en-thron', *v.* to place on a throne.
Enthusiasm, en-thu'zi-asm, *n.* extreme ardour.
Enthusiast, en-thu'zi-ast, *n.* one who feels enthusiasm.
Entice, en-tis', *v.* to allure.
Entire, en-tire, *adj.* complete.
Entitle, en-ti-tl', *v.* to give claim or title to.
Entity, en-ti-ti, *n.* existence.
Entomb, en-toom', *v.* to bury. [Insects.
Entomologist, en-to-mo-lo-jist, *n.* one who studies
Entozoa, en-to-zo', *n.* animal life within other animals.
Entrails, en-trails, *n.* the bowels. [troops.
Entrain, en-train', *v.* to take train, as of bodies
Entrance, en-trans, *n.* the place where one enters;
Entrap, en-trap', *v.* to trap. [the act of entering.
Entreat, en-treat', *v.* to beseech.
Entree, ang-tri', *n.* entry; a made dish.
Entrepot, ang-trup', *n.* a storehouse; a bonded
 warehouse.
Entresol, ang-tri-sol, *n.* a low connecting storey
Entry, en-tri, *n.* entrance. [between two main storeys.
Entwine, en-twin', *v.* to interlace.
Entwist, en-twist', *v.* to twist.
Euclidean, en-ukle-id', *v.* to explain; to extract.
Euclidean, en-ukle-id', *v.* to compute the number of.
Eunuch, en-nuch', *n.* to formally declare; to pro-
 velop. en-nuch', *v.* to pronounce. [noun clearly.
Envelope, en-vel-op', *n.* a covering.
Envelopment, en-vel-op-ment, *n.* that which covers.
Evenom, en-ven-om, *v.* to poison; to embitter.
Enviably, en-vi-ably, *adj.* fit to be envied.
Envious, en-vi-us, *adj.* feeling envy.
Environ, en-vi-ron, *v.* to surround.
Environa, en-vi-rons, *n.* suburbs.
Envoy, en-voi, *n.* a diplomatic messenger.
Envy, en-vi, *n.* jealousy; *v.* to grudge.
Eocene, e-ko-sen, *adj.* first of the Tertiary formation.
Eozoic, e-zo-ik, *adj.* relating to certain fossil remains
 found in Canada. [of the year
Epaulet, e-pa-let, *n.* the age of the moon at the opening
Epaulet, e-paw-let, *n.* the side of a battery.
Epaulet, e-paw-let, *n.* shoulder-badge. [table.
Epergne, e-pern', *n.* a centre dish or ornament for the
Ephemera, e-fen-er-a, *n.* insects that live but a day.
Ephemeral, e-fen-er-al, *adj.* short-lived; existing for
 a day only.
Ephemeris, e-fen-er-is, *n.* a daily journal.
Ephod, e-fod, *n.* a Jewish surplice.
Epic, ep-ik, *n.* an heroic poem.
Epicure, ep-i-ku-r', *n.* pertaining to both sexes.
Epicure, ep-i-ku-r', *n.* a lover of good things.
Epicurean, ep-i-ku-re-an, *adj.* given to luxury.
Epicyle, ep-i-si-kl', *n.* a circle whose centre is on a
 greater circle's circumference. [people.
Epidemic, ep-i-den-ik, *adj.* affecting large bodies of
Epidermis, ep-i-der-mis, *n.* the outer covering of the
 skin. [for belly.
Epigastric, ep-i-gas-trik, *adj.* relating to the stomach
Epiglottis, ep-i-glot-tis, *n.* cartilage at the root of the
 tongue.
Epigram, ep-i-gram, *n.* a smart, pointed saying.
Epigraph, ep-i-gram, *n.* an inscription.
Epilepsy, ep-i-lep-si, *n.* falling sickness.
Epileptic, ep-i-lep-tik, *n.* one subjected to epilepsy.
Epilogue, ep-i-log, *n.* a supplemental part at the end
 of a play.
Epiphany, e-pi-fan-i, *n.* a church festival falling on
Epiphyte, ep-i-fit, *n.* a parasite. [January 6.
Episcopacy, e-pis-ko-pa-si, *n.* Church government.
Episcopal, e-pis-ko-pal, *adj.* pertaining to bishops.
Episcopate, e-pis-ko-pat, *n.* a bishopric.
Episode, ep-i-od, *n.* a diverting incident; a short tale
 apart from a main story.
Epistle, e-pis-tl', *n.* a letter.
Epistolary, e-pis-to-la-ri, *adj.* pertaining to letters.
Epistyle, ep-i-stil (see *Architrave*). [ment.
Epitaph, ep-i-taf, *n.* an inscription on a tomb or monu-
Epithalamium, ep-i-tha-la-mi-un, *n.* a marriage song.
Epithet, ep-i-thet, *n.* a short descriptive expression.
Epitome, e-pit-o-mé, *n.* a synopsis.
Epitomise, e-pit-o-miz, *v.* to condense.
Epitome, ep-i-to-mé, *n.* a synopsis.
Epoch, ep-ok, *n.* a remarkable period.

Epos, e-pod, *n.* a kind of lyric poem.
Eponym, e-po-nim, *n.* name derived from an individual.
Equal, e-kwal, *adj.* equal; even. [degree.
Equality, e-kwal-i-ty, *n.* equality of weight; balance.
Equation, e-kwa-shun, *n.* the act of making equal.
Eductor, e-kwa-ter, *n.* the line encircling the middle
 of the globe. [equator.
Equatorial, e-kwa-to-ri-al, *adj.* pertaining to the
Equerry, e-kwer-i, *n.* an official of the royal household.
Equestrian, e-kwes-tri-an, *adj.* relating to horses; a
 horse rider.
Equilateral, e-kwi-ang-gu-lar, *adj.* with equal angles.
Equilateral, e-kwi-lat-er-al, *adj.* with all sides equal.
Equilibrate, e-kwi-lbri-tat, *v.* to balance.
Equilibrium, e-kwi-lbri-tun, *n.* equal balancing.
Equine, e-kwin, *adj.* relating to horses. [equator.
Equinoctial, e-kwi-nok-shal, *adj.* relating to the
Equinox, e-kwi-noks, *n.* the time of the sun's crossing
Equip, e-kwip, *v.* to fit out; to supply. [the equator.
Equipage, e-kwi-paj, *n.* a carriage and attendants;
 anything equipped.
Equipment, e-kwip-ment, *n.* outfit; the act of equipping.
Equipose, e-kwi-poz, *n.* equality of weight; balance.
Equipollence, e-kwi-pol-ens, *n.* equality of power.
Equipotent, e-kwi-pol-ent, *adj.* possessed of equal
 power.
Equitable, e-kwi-tabl, *adj.* showing the quality of
Equity, e-kwi-ti, *n.* right; justice; fairness. [equity.
Equivalent, e-kwi-val-ent, *adj.* equal.
Equivocal, e-kwi-vokal, *adj.* doubtful.
Equivocate, e-kwi-vok-ate, *v.* to prevaricate.
Equivocation, e-kwi-vok-a-shun, *n.* ambiguity.
Era, e-ra, *n.* a period of years counted from a dominat-
 ing date.
Eradicate, e-rad-i-kabl, *adj.* capable of being
 eradicated. [move.
Eradicate, e-rad-i-kat, *v.* to destroy; to efface; to re-
Eradication, e-rad-i-k-a-shun, *n.* destruction; ex-
Erase, e-ras, *v.* to expunge. [pungment.
Erastianism, e-ras-ti-an-ism, *n.* State control of the
 Church.
Erasure, e-ra-sür, *n.* the act of erasing; the part
 where erasing has been done.
Erato, e-ra-to, *n.* the muse of lyric poetry.
Erect, e-rekt', *adj.* upright; *v.* to build.
Eremit, e-re-mit, *n.* a hermit.
Ergot, er-got, *n.* a fungoid disease in plants.
Ermine, er-min, *n.* a white fur; the animal from
 which it is obtained.
Erode, e-röd, *v.* to eat away.
Erosion, e-ro-shun, *n.* the process of eating away.
Erotic, e-rot-ik, *adj.* amatory.
Err, er, *v.* to blunder.
Errand, er-and, *n.* a message.
Errant, er-and, *adj.* roving.
Errantry, er-and-ri, *n.* a wandering like a knight-er-
Erratic, er-at-ik, *adj.* irregular. [irant.
Erratum, er-at-um, *n.* an error in writing or printing.
Erroneous, e-rro-ne-us, *adj.* wrong; mistaken.
Error, er-or, *n.* a mistake.
Erse, ers, *n.* a branch of the Celtic language.
Erest, erst, *adv.* formerly
Erucescence, e-roo-bes-ens, *n.* the act of growing red
Erudite, er-u-dit, *adj.* learned.
Erudition, er-u-dish-un, *n.* learning.
Eruginous, e-ru-jin-us, *adj.* rust-like.
Eruption, e-ru-p-shun, *n.* a bursting forth. [skin.
Erysipelas, e-ri-si-pi-las, *n.* an inflammation of the
Escalade, es-ka-lad', *n.* the scaling of fortified walls.
 by means of ladders.
Escalop, es-ka-lap, *n.* a shell-fish.
Escape, es-kap', *v.* to evade; to get away from.
Escapement, es-kap-ment, *n.* the act of escaping;
 part of the works of a clock or watch.
Escharotic, es-ka-rot-ik, *adj.* pertaining to artificial
 sloughs produced by caustics.
Eschatology, es-ka-to-lo-j-i, *n.* the theory of finality.
Escheat, es-cher', *n.* property forfeited to the State.
Eschew, es-cher', *v.* to shun. [attendants.
Escort, es-kort, *n.* guide, attendant, or body of armed
Escort, es-kort', *v.* to accompany for guidance.

day; ät; ärm; éve; ðik; there; ice; pin; machine; böld; pä; störm; müte; tüb; börm.

Escritore, es-kri-tor', *n.* a writing-desk.
Esculapian, es-kul-ā-pi-an, *adj.* relating to he. ling.
Esculent, es-kul-ent, *adj.* edible.
Escorial, es-kul-ri-al, *n.* the royal palace at Madrid.
Escutcheon, es-kut-shun, *n.* a family shield or coat of arms.
Esofagus, ē-sof-ā-gus, *n.* the gullet. [anatomy]
Esothetic, es-o-ter-ik, *adj.* mysterious; secret.
Espalier, es-pal-yer, *n.* lattice-work for fruit-trees.
Esparto, es-pār-to, *n.* a strong grass common in Spain.
Especial, es-pesh-ā-l, *adj.* peculiar; special.
Espionage, es-plā-nā-j, *n.* spying.
Espionade, es-plā-nād, *n.* a prominent level promontory.
Espousal, es-pow-zal, *n.* the act of betrothing. [nude]
Espouse, es-powz, *v.* to affiancé; *v.* to marry.
Espirit, es-prē, *n.* liveliness.
Espy, es-pi, *v.* to discern. [courtesy]
Esquire, es-kwīr, *n.* a squire; a general title of
Essay, es-sā, *n.* an experiment; a short written composition.
Essence, es-ens, *n.* the nature of a thing; an extract.
Essential, es-en-shal, *adj.* necessary.
Establiish, es-tab-li-sh, *v.* to open up; to fix.
Establishment, es-tab-li-sh-ment, *n.* settlement; place of business; house.
Estate, es-tāt, *n.* property; possession; rank.
Esteem, es-tēm, *v.* to value; *n.* respect.
Esthetic, es-the-tik, *adj.* [see Aesthetic]. [Russia]
Estimable, es-tim-ā-ble, *adj.* relating to Esthonia
Estimate, es-tim-āt, *v.* to value; *n.* a valuation.
Estop, es-top, *v.* to bar.
Estovers, es-tō-verz, *n.* necessities allowed to a tenant.
Exchange, es-trānj, *v.* to alienate.
Estray, es-trā, *n.* a stray beast.
Estuary, es-tū-er-i, *n.* the lower part of a river.
Esurient, es-ū-ri-ent, *adj.* penurious.
Etch, ech, *v.* to design on metal with acids
Eternal, es-ter-nal, *adj.* everlasting.
Eternity, es-ter-ni-ti, *n.* perpetuity.
Etesian, ē-tē-zhan, *adj.* periodical.
Ether, ē-ther, *n.* the upper air.
Ethereal, es-the-rē-al, *adj.* heavenly.
Ethical, ē-thi-kal, *adj.* pertaining to duty.
Ethics, ē-thi-kas, *n.* science of moral duty.
Ethnical, ē-thi-ni-kal, *adj.* relating to nations or races.
Ethnography, ē-thi-nog-raf-i, *n.* the scientific description of the human races.
Ethnology, ē-thi-nol-ō-j-i, *n.* the science of mankind.
Ethology, ē-thi-ol-ō-j-i, *n.* the science of character.
Etiole, ē-ti-ol-ē, *v.* to grow pale from lack of light.
Etiquette, ē-ti-ke-t, *n.* the laws of courtesy; good manners.
Etymology, ē-ti-mol-ō-j-i, *n.* the science of words.
Etymon, ē-ti-mon, *n.* a word root.
Eucharist, ē-ka-rist, *n.* the sacrament.
Euphrologion, ē-ko-lō-j-i-on, *n.* prayers of the Greek Church.
Euchre, ē-kr, *n.* a card game. [Church]
Eudemonism, ē-dē-mō-n-izm, *n.* a theory of ethics constituting happiness the test of morality.
Eudiometer, ē-di-om-ē-ter, *n.* an instrument for measuring oxygen.
Euhemerism, ē-ū-mer-izm, *n.* a system that claims
Eulogise, ē-ū-lō-j-i-z, *v.* to praise.
Eulogium, ē-ū-lō-j-i-um, *n.* something spoken or written
Eulogy, ē-ū-lō-j-i, *n.* encomium. [in praise]
Eunuch, ē-nuk, *n.* a castrated man.
Eupatrid, ē-pat-rid, *n.* an Athenian aristocrat.
Euppey, ē-pep-si, *n.* a healthy digestion.
Euphemism, ē-fem-izm, *n.* a word or form of words presenting in a pleasant form what is otherwise
Euphony, ē-ū-fō-n-i, *n.* a pleasing sound. [unpleasant]
Euphuism, ē-ū-fū-izm, *n.* an inflated expression.
Euroclydon, ē-ū-rol-ē-don, *n.* the wind which wrecked St. Paul's ship.
Eurythmy, ē-ū-ri-th-mi, *n.* symmetry.
Eustachian, ē-si-ā-k-i-an, *adj.* relating to the tube connecting the middle ear and the pharynx.
Euterpe, ē-ter-pe, *n.* the muse of music.
Euthanasia, ē-ū-thā-nā-si-a, *n.* easy death.
Evacuate, ē-vak-ū-āt, *v.* to go out; to throw out; to
Evade, ē-vād, *v.* to avoid; to escape. [discharge]
Evanescent, ē-vā-nēs-ent, *adj.* fleeting.
Evangelical, ē-vā-njēl-i-kal, *adj.* relating to the gospel.

Evangelise, ē-vā-njēl-iz, *v.* to preach the gospel.
Evangelist, ē-vā-njēl-ist, *n.* a preacher of the gospel.
Evaporate, ē-vap-ō-rāt, *v.* to escape in vapour; to
Evasion, ē-vā-zhun, *n.* the act of evading. [vanish]
Evening, ē-vī-nj, *n.* the close of day.
Event, ē-vent, *n.* an incident; a happening.
Eventful, ē-vent-fūl, *adj.* full of events.
Eventual, ē-vent-ū-al, *adj.* occurring as a consequence;
Evict, ē-vikt, *v.* to expel; to dispossess. [final]
Evidence, ē-vi-dens, *n.* testimony.
Evident, ē-vi-dent, *adj.* obvious.
Evidential, ē-vi-den-shal, *adj.* tending to prove.
Evil, ē-vil, *n.* wickedness, calamity; *adj.* wicked.
Evince, ē-vins, *v.* to show; to prove.
Eviscerate, ē-vis-er-āt, *v.* to disembowel.
Evoke, ē-vok, *v.* to draw forth.
Evolution, ē-vō-lū-shun, *n.* gradual development.
Evolutionist, ē-vō-lū-shun-ist, *n.* one who believes in the theory of evolution.
Evoke, ē-volv, *v.* to disclose; to develop.
Evulsion, ē-vul-shun, *n.* a plucking forth.
Ewe, ū, *n.* a female sheep.
Ewer, ē-ur, *n.* a large water-jug.
Everlasting, ē-vī-th-ig, *n.* eternity. (German). [irritation]
Exacerbation, egz-as-er-bā-shun, *n.* the increase of
Exact, egz-akt, *v.* to compel; *adj.* precise, accurate.
Exaction, egz-ak-shun, *n.* a harsh demand.
Exaggerate, egz-ā-jer-āt, *v.* to magnify unduly.
Exalt, egz-awt, *v.* to elevate.
Examine, egz-am-in, *v.* to inquire into; to investigate.
Example, egz-am-pl, *n.* a specimen or illustration.
Exasperate, egz-as-per-āt, *v.* to irritate; to anger.
Excalibur, eks-kāl-i-bur, *n.* King Arthur's sword.
Exchange, eks-kām-bi-on, *n.* exchange of hands.
Excandescent, eks-kān-dēs-sent, *adj.* in white heat.
Excavate, eks-kā-vāt, *v.* to dig out.
Exceed, eks-sēd, *v.* to go beyond.
Excel, eks-sel, *v.* to surpass.
Excellence, eks-sel-lens, *n.* great merit.
Excellency, eks-sel-en-si, *n.* a title of honour.
Excelsior, eks-sel-si-or, *adj.* higher still.
Except, eks-sept, *v.* to take out; to object to. [then]
Exceptionable, eks-sep-shun-ā-ble, *adj.* open to objection.
Exceptional, eks-sep-shun-ā-l, *adj.* peculiar; uncommon.
Excerpt, eks-sept, *n.* an extract.
Excess, eks-ses, *n.* intemperance, going beyond what is right or wise.
Excessive, eks-sē-siv, *adj.* immoderate. [another]
Exchequer, eks-ek-ker, *n.* to give one thing for another.
Exchequer, eks-ek-ker, *n.* one of the superior courts; the revenue.
Excisable, eks-siz-ā-ble, *adj.* liable to excise duty.
Excise, eks-siz, *n.* tax on commodities or trades.
Exciseman, eks-siz-man, *n.* a collector of excise.
Excision, eks-siz-shun, *n.* a cutting away.
Excitable, eks-sit-ā-ble, *adj.* liable to excitement.
Excite, eks-sit, *v.* to inflame.
Exclaim, eks-klaim, *v.* to call out.
Exclamation, eks-kla-mā-shun, *n.* a loud outcry; a note of punctuation (!)
Exclamatory, eks-kla-mā-tō-ri, *adj.* expressing
Exclude, eks-klood, *v.* to shut out. [exclamation]
Exclusive, eks-kloo-siv, *adj.* apart; sole.
Excogitate, eks-koj-it-āt, *v.* to think slowly.
Excommunicate, eks-kom-ū-ni-kāt, *v.* to expel from the Church.
Excoriate, eks-kō-ri-āt, *v.* to strip the skin from.
Excrecence, eks-kres-sens, *n.* an unnatural outgrowth.
Excrete, eks-kret, *v.* to eject; to throw off.
Excretion, eks-kre-shun, *n.* matter excreted.
Excruciating, eks-kroo-shi-ā-tjng, *adj.* torturing.
Exculpate, eks-kul-pāt, *v.* to show guiltless; to absolve.
Excursion, eks-kur-shun, *n.* a trip; an expedition.
Excursus, eks-kurs-us, *n.* a dissertation.
Excuse, eks-kūz, *v.* to forgive; to overlook; to free.
Execrable, eks-ek-ra-ble, *adj.* detestable. [from blame]
Excrete, eks-kre-t, *v.* to denounce; to curse.
Execute, eks-ek-ūt, *v.* to perform; to finish; to put to death by law.
Exactioner, eks-ak-shun-er, *n.* one appointed to carry out capital punishment.

day; āt; ārm; ēve; ēik; thēre; ice; pto; machine; bōid; pōt; stōrm; mūte; tūb; bōrn.

Extravaganza, eks-trav-a-gan'za, *n.* a burlesque.
Extravagate, eks-trav-as-āt, *v.* to let out from the original vessel.
Extreme, eks-trem', *adj.* remote, excessive.
Extremity, eks-trem'i-ti, *n.* the utmost limit.
Extricable, eks-trik-ābl, *adj.* that may be extricated.
Extricate, eks-trik-āt, *v.* to get out of; to set free.
Extrinsic, eks-trin'sik, *adj.* external.
Extrude, eks-trood', *v.* to force out.
Extrusion, eks-troo'zhun, *n.* the act of expelling.
Exuberance, eks-ū-ber-ans, *n.* an overflowing.
Exuberant, eks-ū-ber-ant, *adj.* abounding.
Exudation, eks-ū-dā'shun, *n.* the act of discharging through the pores. [issue forth.]
Exude, eks-ūd', *v.* to discharge through the pores; to exude.
Exulcerate, egz-ul-ser-āt, *v.* to make angry.
Exultant, egz-ult-ant, *adj.* triumphant.
Eye, ī, *n.* organ of sight.
Eyebelt, ī'let, *n.* a lace-hole.
Eye-servant, ī-ser-vant, *n.* one who only does his duty when under his master's eye.
Eyesore, ī'sōr, *n.* something offensive to the eye.
Eye-tooth, ī'tooθ, *n.* one of the two canine teeth.
Eyre, ār, *n.* a circuit, as of judges.
Żyry, ż'ri, *n.* nest of a bird of prey.

F

Fabian, fā'bi-an, *adj.* delaying; relating to the Fabian Society. [a fiction.]
Fable, fā'bl, *n.* a fictitious narrative of moral teaching.
Fabric, fab'rik, *n.* textile cloth; a building. [invented.]
Fabricate, fab'rik-āt, *v.* to put together; to make; to fabricate.
Fabrication, fab'rik-ā'shun, *n.* the thing fabricated.
Fabulist, fā'bū-lis-t, *n.* a writer of fables.
Fabulous, fā'bū-lus, *adj.* false; wonderful.
Facade, fas-ād', *n.* the front of a building.
Face, fās, *n.* front part of the head; *v.* to confront.
Facet, fā'set, *n.* a small surface or face.
Facetious, fā-sē-shē-ē, *n.* humorous writings or sayings.
Facetious, fā-sē-shē-ē, *adj.* funny; witty.
Facial, fā'shal, *adj.* connected with the face.
Facile, fā'sil, *adj.* easy; yielding.
Facilitate, fā-sil-i-tāt, *v.* to make easy.
Facility, fā-sil-i-ti, *n.* pliancy; dexterity.
Facsimile, fak-sim'i-lē, *n.* an exact copy.
Fact, fakt, *n.* a reality; an act; something known.
Factious, fak'shun, *n.* a contending body of persons.
Factious, fak'shun, *adj.* disloyal; turbulent.
Factitious, fak-tish-us, *adj.* artificial.
Factor, fak'tor, *n.* an agent; a necessary element.
Factorage, fak'tor-āj, *n.* factor's commission.
Factory, fak'to-ri, *n.* workshop; mill.
Factotum, fak-tō-tum, *n.* an agent of all work.
Facula, fak'ū-lā, *n.* bright spot on the sun.
Faculty, fak'ū-lti, *n.* mental power; special aptitude; officers of a university.
Fad, fad, *n.* a hobby; a whim.
Fade, fid, *v.* to decay.
Fag, fag, *v.* to become weary; to work hard.
Fag-end, fag'end, *n.* the loose end or refuse of a fagot.
Fagot, fag'ot, *n.* a bundle of sticks. [thing.]
Fagot-voter, fag'ot-vōt-er, *n.* a voter on a false.
Faience, fā'yens, *n.* painted pottery. [qualification.]
Fail, fāl, *v.* to fall short; to weaken.
Failure, fāl'ūr, *n.* defeat; decay; insolvency; stoppage.
Fain, fān, *adj.* joyful; willing. [page.]
Faint, fānt, *v.* to swoon; *adj.* weak; feeble; indistinct.
Fair, fār, *n.* a periodical market; *adj.* bright; clear.
Fairy, fā'ri, *n.* a supernatural being; a kindly en-faith.
Faith, fāth, *n.* belief; fidelity. [chancellor.]
Faithful, fāth'ful, *adj.* true; loyal.
Faithless, fāth'less, *adj.* false; disloyal.
Fakir, fā'ker, *n.* an Indian religious mendicant.
Falcate, fāl'kāt, *v.* to bend like a sickle.
Falcon, fāl'shun, *n.* a short bent sword.
Falcon, fāl'shun, *n.* a trained hawk.
Falconer, fāl'k-ner, *n.* a trainer of falcons.
Falconry, fāl'k-n-ri, *n.* the art of hunting with falcons.

Faldstool, fawd'stool, *n.* a folding stool. [autumn.]
Fall, fawl, *v.* to tumble; to decline; *n.* descent; Fallacious, fal-ā'shus, *adj.* misleading; delusive.
Fallacy, fal-ā-si, *n.* something deceptive.
Fallible, fal-ā-bl, *adj.* liable to err.
Fallow, fal'ō, *adj.* untilled.
False, fawls, *adj.* untrue; unfaithful.
Falsehood, fawls'hood, *n.* a lie.
Falsetto, fawl-set'ō, *n.* a voice above the natural.
Falsify, fawl'st-i-fy, *v.* to make false. [pass.]
Falsity, fawl'st-i-ti, *n.* a false statement.
Falter, fawl'ter, *v.* to hesitate.
Fame, fām, *n.* renown.
Familiar, fam-i-l'yer, *adj.* intimate.
Familiarity, fam-i-l'yer-i-ti, *n.* intimate intercourse.
Family, fam'i-lē, *n.* a household; race.
Famine, fam'in, *n.* extreme scarcity.
Famish, fam'ish, *v.* to starve.
Famous, fā'mus, *adj.* renowned.
Fan, fan, *n.* a hand instrument for cooling; an apparatus for winnowing.
Fanatic, fan-at'ik, *n.* one who is excessively zealous.
Fanatical, fan-at'ik-āl, *adj.* wild; unreasoning.
Fanaticism, fan-at'ik-sizm, *n.* wild religious enthusiasm.
Fancy, fan'si, *n.* imagination; taste; *v.* to imagine.
Fandango, fan-dan'go, *n.* a Spanish dance.
Fane, fan, *n.* a temple; a weathercock.
Fanfare, fan'fār, *n.* flourish of trumpets.
Fanfaronade, fan'far-on-ād, *n.* bluster.
Fang, fang, *n.* tooth; tusk; claw.
Fangled, fang'ld, *adj.* new; gaudy.
Fanlight, fan'lit, *n.* a fan-shaped window.
Fannel, fan'l, *n.* a banner.
Fantasia, fan-tā'zi-a, *n.* a fanciful musical composition.
Fantastical, fan-tas'tik-āl, *adj.* whimsical; imaginary.
Fantasy, fan'tā-si, *n.* a fancy; imagination.
Far, fār, *adj.* distant.
Farical, fār-ik-āl, *adj.* ludicrous.
Fardel, fār'del, *n.* a pack.
Fare, fār, *v.* to get; to happen; *n.* price of transit.
Farewell, fār wel', *n.* a parting good wish.
Far-fetched, fār-fecht', *adj.* unnatural; forced.
Farina, fā-rē-na, *n.* ground corn.
Farinaceous, fā-rin-ā'shus, *adj.* mealy.
Farm, fārm, *n.* land occupied for cultivation; *v.* to cultivate land; to let for profit.
Faro, fā'ro, *n.* a card game.
Farraginous, fār-ā'jū-us, *adj.* jumbled.
Farrago, fār-rā'go, *n.* a disorderly mass.
Farrier, fār'ter, *n.* a horse-shoer; a horse doctor.
Farrow, fār'ō, *n.* a litter of pigs.
Farthing, fār'thing, *n.* small coin, quarter of a penny.
Farthingale, fār'thing-gāl, *n.* a hoop for distending a lady's dress.
Fascicle, fas'ikl, *n.* a small bundle; a cluster.
Fascinate, fas'in-āt, *v.* to charm.
Fascination, fas'in-ā'shun, *n.* power to charm.
Fashion, fash'un, *n.* the prevailing style; custom; cut or form.
Fashionable, fash'un-ābl, *adj.* in the first mode.
Fast, *adj.* fixed, rapid; *adv.* firmly; *n.* abstinence.
Fast-day, fast'dē, *n.* a holy day of fasting. [from food.]
Fasten, fas'n, *v.* to make fast.
Faster, fast'er, *n.* one who fasts.
Fastidious, fas-tid'ius, *adj.* hard to please; too fastness, fast'ness, *adj.* speed; rapidity. [exacting.]
Fat, fat, *n.* only part of animal bodies; *adj.* plump, obese.
Fatal, fā'tal, *adj.* deadly; according to fate; mortal.
Fatalism, fā'tal-izm, *n.* the theory that all things are foreordained.
Fatality, fā'tal-i-ti, *n.* a fatal occurrence.
Fate, fāt, *n.* destiny; the appointed lot; necessity.
Fated, fāt'ed, *adj.* destined; doomed.
Father, fā'ther, *n.* male parent.
Fatherland, fā'ther-land, *n.* the land of one's ancestors.
Fatherly, fā'ther-lē, *adj.* paternal. [tors.]
Fathom, fā'thm, *n.* a nautical measure—6 feet; *v.* to get the bottom of.
Fathomless, fā'thm-les, *adj.* bottomless.
Fatigue, fā-tēg, *n.* weariness from exertion.
Fatiscient, fāt-is-sent, *adj.* gaping.

dāy; āt; ārm; ēve; ēlk; thēre; fce; pln; machine; bōjd; pōt; stōrm; mūtē; tūb; bōrd.

Fattling, fat'ling, *n.* a young fatted animal.
Fatten, fat'n, *v.* to make fat.
Fatty, fat', *adj.* greasy.
Fatuity, fat'ui-ti, *n.* stupidity; mental feebleness.
Fatuous, fat'ui-us, *adj.* foolish.
Fauces, fau'sez, *n.* the top part of the throat.
Faucet, fau'set, *n.* a pipe, peg, or tap for letting
Fault, fault, *n.* error, blemish. [liquor out of a barrel.
Fawn, faun, *n.* a mythological protector of shepherds.
Fawn, faun, *n.* the animals of a country, district, or
Favor, fau'tor, *n.* a supporter. [period.
Favonian, fav-on'i-an, *adj.* relating to the west wind.
Favour, fau'vor, *n.* patronage; encouragement; par-
Favourable, fau'v-er-ah, *adj.* advantageous. [tiality.
Favourite, fau'v-er-it, *n.* a person or thing in favour.
Favouritism, fau'v-er-it-izm, *n.* partiality.
Fawn, faun, *v.* to cringe; to flatter; *n.* a young deer.
Fay, fa, *n.* a small fairy.
Fidelity, fi'di-li-ti, *n.* fidelity.
Fear, fer, *n.* alarm.
Feasibility, fez-i-bi-li-ti, *n.* quality of being practicable.
Feast, fest, *n.* a festival; *v.* to entertain sumptuously.
Feat, fet, *n.* a remarkable achievement.
Feather, feth'er, *n.* a growth on a bird; a plume.
Feathery, feth'er-i, *adj.* covered with, or similar to,
 feathers. [the countenance.
Feature, fet'ur, *n.* prominent external sign; speciality;
Febrifuge, feb-ri-fu, *n.* medicine that mitigates fever.
Febriile, feb-ri-il, *adj.* connected with fever.
Fecal, fe'kal, *n.* relating to drugs.
Fecial, fe'si-al, *adj.* relating to heralds
Feck, fek, *n.* strength, vigour, bulk.
Feckless, fek-less, *adj.* spiritless.
Fecula, fek'u-la, *n.* starchy sediment.
Fecund, fek'und, *adj.* fruitful.
Fecundate, fek-un-dät, *v.* to make fruitful.
Fecundity, fek-un-dä-ti, *n.* fruitfulness. [tion.
Federal, fed-er-al, *adj.* relating to a league or federa-
Federalist, fed-er-al-ist, *n.* a supporter of federalism.
Federative, fed-er-a-tiv, *adj.* league together.
Fee, fe, *n.* recompense; reward; freehold inheritance.
Feeble, fei-bl, *adj.* weak
Feed, fed, *v.* to give food to; to eat.
Feel, fel, *v.* to perceive by touch; to be affected
Feeling, fei'ling, *n.* the sense of touch, emotion.
Feign, fan, *v.* to pretend.
Feint, faint, *n.* a pretence
Felicitate, fel-i-si-tät, *v.* to congratulate
Felicitous, fel-i-si-tus, *adj.* happy; pleasant; suitable.
Felice, fel'in, *adj.* relating to cats; cat-like
Fell, fel, *n.* a hill; a skin; *v.* to cut down, to strike
 to the ground; *adj.* savage.
Fellow, fel'o, *n.* an equal; a man of small account;
 one who enjoys a university or other fellowship
Fellowship, fel'o-ship, *n.* friendly communion; the
 condition of being a fellow.
Felon, fel'on, *n.* a criminal.
Felonious, fel-on-i-us, *adj.* with criminal intent.
Felony, fel-on-i, *n.* a serious crime. [together.
Felt, felt, *n.* cloth material formed by matting fibres
Felucica, fel-u-si, *n.* a Mediterranean boat with sails and
Femal, fe'mäl, *n.* the sex that bears young. [ears.
Feminine, fem'in-i, *adj.* relating to women; womanly.
Femoral, fem'o-ral, *adj.* relating to the thigh.
Fen, fen, *n.* low marshy land
Fence, fens, *n.* hedge or wall round enclosed land
Fencer, fen'ser, *n.* one who fences.
Fencible, fen'si-bl, *adj.* capable of defence.
Fencing, fen'sing, *n.* the art of sword-play; material
Fend, fend, *v.* to ward off. [for fence construction.
Fender, fen'd-er, *n.* a metal fire-guard.
Fenestral, fen-es-tral, *adj.* connected with or like a
Fennel, fen-el, *n.* an aromatic plant. [window.
Fenny, fen'i, *adj.* marshy.
Fent, fent, *n.* a remnant; a slit.
Fenot, fen, *v.* to convey the fee of real estate.
Ferment, fer-ment, *n.* the grant of a fief.
Feracious, fer-a'shus, *adj.* fruitful
Ferial, fer-i-al, *adj.* relating to holidays.
Ferity, fer-i-ti, *n.* wildness.
Ferily, fer-i, *adj.* fearful.
Ferment, fer-ment, *n.* an internal commotion; tumult.

Ferment, fer-ment', *v.* to cause fermentation; to
Fern, fern, *n.* a vascular cryptogamous plant. [argitate.
Fernery, fern'er-i, *n.* a place for keeping ferns.
Ferocious, fer-o'shus, *adj.* savage; fierce.
Ferrandine, fer-and-in, *n.* a fabric of silk and wool.
Ferrous, fer-e-us, *adj.* made of, or relating to, iron.
Ferret, fer-et, *n.* a kind of weasel; *v.* to make close
 search.
Ferruginous, fer-u'jin-us, *adj.* partaking of iron.
Ferrule, fer'ül, *n.* a metal ring on the end of a staff or
 stick. [where people are ferried.
Ferry, fer'i, *v.* to transport across water; *n.* the place
Fertile, fer'til, *adj.* fruitful.
Fertilise, fer'til-iz, *v.* to make fertile.
Pervent, fer'vent, *adj.* warm; eager.
Fervid, fer'vid, *adj.* ardent.
Fervour, fer'vor, *n.* zeal.
Fescennine, fes-en-in, *adj.* scurrilous.
Fescue, fes'kü, *n.* a kind of grass; a letter pointer.
Festal, fes'tal, *adj.* connected with a feast.
Fester, fes'ter, *v.* to suppurate; to rankle.
Festival, fes'ti-val, *n.* a rejoicing; a feast.
Festoon, fes-toon, *n.* a suspended garland.
Fetch, fec'h, *v.* to go for and get.
Fête, fat, *n.* feast.
Fetich, fet'ish, *n.* an object of supposed divine attri-
Fetichism, fet'ish-izm, *n.* fetich-worship. [butes.
Fetid, fet'id, *adj.* rancid, stinking. [pastern.
Fetlock, fet'lok, *n.* the hair tuft behind a horse's
Fetter, fet'er, *n.* chain for the feet; *v.* to restrain.
Fettle, fet'l, *v.* to clean, mend, or improve. [service.
Feu, fü, *n.* a right to lands on paying fee or doing
Feud, fud, *n.* continued strife between families.
Feudal, fü-dal, *adj.* pertaining to feudal customs.
Feudalism, fü-dal-izm, *n.* the mediæval system of
 holding lands in vassalage. [paper.
Feuilleton, fü'e-yong, *n.* the story part of a news-
Fever, fe'ver, *n.* (See Dictionary of Health Section)
Few, fü, *adj.* a small number.
Fewness, fü-ness, *adj.* smallness of number.
Few, fü, *adj.* fated.
Fiasco, fi-a'sko, *n.* failure.
Fiat, fiat, *n.* a solemn command.
Fibre, fi'br, *n.* workable tissue, animal or vegetable.
Fibril, fi'bril, *n.* a small fibre [as wool, flax, silk, etc.
Fibrine, fi'brin, *n.* a fibrous substance in animals and
Fibrous, fi'brus, *adj.* made up of fibres. [plants.
Fickle, fik'l, *adj.* changeable.
Fictile, fik'til, *adj.* plastic; pliant
Fiction, fik'shun, *n.* an imaginary story; romance.
Fictitious, fik-ti'shus, *adj.* imaginary; false.
Fiddle, fid'l, *n.* a violin.
Fidelity, fid-li-ti, *n.* faithfulness; duty.
Fidget, fid'jet, *v.* to move restlessly.
Fiducial, fi-dü'shi-al, *adj.* in trust
Fie, fi, *interj.* indicating disapproval.
Fief, fief, *n.* a feudal grant [ground.
Field, field, *n.* an enclosed piece of land; battle-
Field-book, field'book, *n.* a book used by land sur-
Fieldfare, field'far, *n.* a species of thrush. [veyors.
Field-piece, field'pes, *n.* a piece of artillery.
Fieud, fend, *n.* a devil; a wicked person.
Pierce, fers, *adj.* ferocious.
Piercy, fi'er-i, *adj.* hot; ardent.
Pife, fif, *n.* a musical pipe.
Pifer, fi'fer, *n.* a pipe player.
Pig, pig, *n.* a tropical fruit.
Fight, fit, *n.* a contest; *v.* to contend.
Figure, fig'ment, *n.* an invention
Figurative, fig'u-ra-tiv, *adj.* metaphorical.
Figure, fig'ur, *n.* form; outline; price.
Figured, fig'ur-d, *adj.* marked with figures or designs.
Figurehead, fig'ur-hed, *n.* the figure on a ship's prow.
Pilaceous, fil-a'shus, *adj.* made of threads.
Filament, fil-a-ment, *n.* a slender thread.
Filamentous, fil-a-ment-us, *adj.* thread-like.
Filatory, fil'a-to-ri, *n.* a thread-spinning machine.
Filature, fil'a-tür, *n.* the reeling of silk.
Filbert, fil'bert, *n.* hazel nut.
Filch, filch, *v.* to steal.
File, fil, *n.* a rasping instrument; a receptacle for
 papers; a line of soldiers; *v.* to work with a file.

day; ät; ärm; äve; älk; there; wce; pñ: machine; bold; pöt; störm; müte; tüb; büra.

Filiate, *fil'iat*, *v.* to adopt into a family.
Filibuster, *fil'bus-ter*, *n.* a lawless adventurer. *f.*
Filiform, *fil'form*, *adj.* in the form of a thread.
Filigree, *fil'grē*, *n.* ornamental work in gold and
 Fil, *fil*, *v.* to make full. [silver threads.
Fillet, *fil'et*, *n.* a band; thigh of veal.
Filibeg, *fil'beg*, *n.* the kilt.
Filip, *fil'ip*, *v.* to strike with the finger nail; to drive.
Filly, *fil'i*, *n.* a young mare.
Film, *fil'm*, *n.* a thin skin or thread.
Filter, *fil'ter*, *n.* a liquid purifying apparatus; *v.* to
 Filth, *filth*, *n.* foul matter. [percolate.
Filtrate, *fil'trat*, *v.* to filter.
Fimbriated, *fim-bri-ā'ted*, *adj.* fringed.
Fin, *n.* the jutting organ by which fish move and
 balance in the water.
Finable, *fin'abl*, *adj.* liable to fine.
Final, *fin'al*, *adj.* last; conclusive.
Finale, *fin-ā'lā*, *n.* the last item at a concert.
Finality, *fin-nal'it-i*, *n.* the condition of being final.
Finance, *fin-nans*, *n.* money affairs; revenue.
Financial, *fin-an'shal*, *adj.* relating to finance.
Financier, *fin-nan'ser*, *n.* one who deals in funds.
Finch, *fin'ch*, *n.* a genus of birds. [revenues, etc.
Find, *find*, *v.* to discover; *n.* the thing found.
Fine, *fin*, *n.* penalty; *adj.* elegant, beautiful.
Finer, *fin'er*, *n.* one who refines metals.
Finery, *fin'eri*, *n.* fine attire; jewels, etc.
Finesses, *fin-es*, *n.* artifice; trickery.
Finial, *fin'al*, *n.* a terminating bunch of foliage (*arch*).
Finical, *fin'ikal*, *adj.* fastidious; affected.
Finis, *fin'is*, *n.* the end.
Finish, *fin'ish*, *v.* to conclude; to perfect.
Finite, *fin'it*, *adj.* limited; bounded.
Finn, *fin't*, *adj.* having fins.
Fin-toed, *fin'tod*, *adj.* having toes with connecting
 flord, *fyord*, *n.* a rock-bound inlet. [membranes.
Fir, *fer*, *n.* a cone-bearing tree.
Fir, *fir*, *n.* heat and light resulting from combustion.
Fire-arms, *fir'arms*, *n.* weapons discharged by ex-
 plosives. [extinguishing fires.
Fire-brigade, *fir'brig-ād*, *n.* a body organised for
 Fire-damp, *fir'damp*, *n.* an explosive gas found in
 coal mines. [water for putting out fires.
Fire-engine, *fir'en-jin*, *n.* an engine for pumping
 Firelock, *fir'lock*, *n.* a fire-arm fired through a lock
 with steel and flint.
Fireman, *fir'man*, *n.* a member of a fire-brigade.
Fire-plug, *fir'plug*, *n.* plug for drawing water in case
 of fire.
Fireworks, *fir'werks*, *n.* preparations of powder, etc.,
 for display.
Firm, *ferm*, *adj.* decided, strong; *n.* a business part-
 nership.
Firmament, *fer'mā-ment*, *n.* the sky. [nership.
Firman, *fer'man*, *n.* a Turkish decree.
Firthing, *ferst'ing*, *n.* the first produce of animals.
Firstrate, *ferst'rāt*, *adj.* of the first excellence.
Firth, *ferth*, *n.* the mouth of a river.
Fiscal, *fis'kal*, *adj.* relating to revenue.
Fish, *fish*, *n.* an animal existing in water.
Fishery, *fish'eri*, *n.* the fishing business; place where
 fish are caught.
Fishmonger, *fish'mung-er*, *n.* a dealer in fish.
Fishy, *fish'y*, *adj.* fish like; doubtful.
Fissile, *fis'il*, *adj.* capable of being split.
Fission, *fiz'un*, *n.* cleavage.
Fissirostral, *fis-i-rostr'al*, *adj.* deep-beaked.
Fissure, *fiz'ur*, *n.* a cleft; a chasm.
Fist, *fist*, *n.* the clenched hand.
Fistcuffs, *fist'kufs*, *n.* blows; boxing.
Fist-law, *fist'law*, *n.* brute-force.
Fistula, *fis'tū-lā*, *n.* a deep ulcer.
Fit, *fit*, *adj.* qualified; suitable; *n.* a sudden attack of
 Fitchet, *fit'et*, *n.* a polecat. [convulsions; a whim.
Fitful, *fit'ful*, *adj.* spasmodic.
Fitness, *fit'nes*, *n.* suitability; condition of being
 Fix, *fix*, *v.* to fasten; to make firm. [qualified.
Fixity, *fix'it-i*, *n.* state of being fixed.
Fixture, *fix'tur*, *n.* something fixed; an appointed day.
Fizz, *fiz*, *v.* to make a hissing sound.
Floppy, *fab'l*, *n.* loose; soft.
Floated, *flak'sid*, *adj.* weak; lax.

Flag, *flag*, *v.* to grow weak; to cover with flag-stones;
n. a banner.
Flagellants, *flaj'elants*, *n.* a religious sect who
 scourge themselves.
Flagellate, *flaj'el-āt*, *v.* to scourge or whip.
Flagolet, *flaj-o-let*, *n.* a reed instrument.
Flaggy, *flag'i*, *adj.* flexible.
Flagitious, *flaj-ish'us*, *adj.* excessively wicked.
Flagion, *flag'on*, *n.* a drinking vessel.
Flagrance, *flaj'grans*, *n.* the condition of being fragrant.
Flagrant, *flaj'grant*, *adj.* notorious; growing.
Flag-ship, *flag'ship*, *n.* a ship that carries the admiral's
 flag.
Flag-staff, *flag'staf*, *n.* pole from which a flag flies.
Flail, *flail*, *n.* a threshing instrument.
Flake, *flak*, *n.* a small thin layer of anything.
Flaky, *flak'i*, *adj.* composed of flakes.
Flam, *flam*, *n.* a whim; an untruth.
Flambeau, *flam'bō*, *n.* a torch.
Flamboyant, *flam-boi'ant*, *adj.* flame-like.
Flame, *flam*, *n.* blaze; *v.* to blaze.
Flammiferous, *flam-fir'er-us*, *adj.* flame-engendering.
Flange, *flanj*, *n.* the raised edge of a wheel.
Flank, *flangk*, *n.* the side of anything.
Flannel, *flan'el*, *n.* a warm woollen texture.
Flap, *n.* the waving motion of a loose article; *v.* to
 move with flapping action.
Flap-jack, *flap'jak*, *n.* a pancake.
Flare, *flar*, *v.* to flash unsteadily.
Flaring, *flar'ing*, *adj.* burning fitfully; gaudy.
Flash, *v.* to flame suddenly; *n.* a burst of light.
Flashy, *flash'y*, *adj.* showy; dazzling.
Flask, *n.* a drinking vessel.
Flasket, *flak'sket*, *n.* a flask in which food is served.
Flat, *flat*, *n.* level ground; section of a house let in
 separate suites; *adj.* level; dull; monotonous.
Platter, *flat'er*, *v.* to praise unduly.
Flatulence, *flat'u-lens*, *n.* wind on the stomach.
Flatus, *flātus*, *n.* a puff of air.
Flaunt, *flawnt*, *v.* to display showily; to wave in the
 Flauntist, *flawnt'ist*, *n.* flute-player. [wind.
Flaw, *flaw*, *n.* a defect; a fault.
Flax, *flaks*, *n.* plant yielding a fibre from which flax is
 Flaxen, *flaks'en*, *adj.* fair; like flax. [made.
Flay, *flā*, *v.* to tear off the skin.
Flea, *flē*, *n.* a small irritating insect.
Fleam, *flēm*, *n.* an instrument for bleeding cattle.
Fleck, *flēk*, *n.* a spot; *v.* to spot.
Flecker, *flēk'er*, *v.* to spot or streak.
Flection, *flēk'shun*, *n.* act of bending.
Fledge, *flēj*, *v.* to furnish with feathers.
Fledgling, *flēj'ling*, *n.* a young bird.
Flee, *flē*, *v.* to rush away.
Fleece, *flēs*, *n.* a sheep's coating of wool.
Fleecy, *flēs'y*, *adj.* woolly.
Fleer, *flēr*, *v.* to mock.
Fleet, *flēt*, *adj.* swift; *n.* a navy.
Fleeing, *flēt'ing*, *adj.* passing.
Flesh, *flēsh*, *n.* the substance which covers the bones
 of animals.
Fleshly, *flēsh'l*, *adj.* carnal.
Fleth, *flēch*, *v.* to feather arrows.
Flexible, *flēks'f-l*, *adj.* pliant.
Flexile, *flēks'f-l*, *adj.* pliable.
Flexion, *flēk'shun*, *n.* a bend.
Flexuous, *flēks'ū-us*, *adj.* winding; tortuous.
Flexure, *flēks'ūr*, *n.* a bending.
Flicker, *flīk'er*, *v.* to flutter; to waver.
Flight, *flīt*, *n.* act of flying.
Flighty, *flīt'i*, *adj.* giddy; fanciful.
Filmy, *flīm'i*, *adj.* weak.
Pinch, *flīnsh*, *v.* to shrink.
Fling, *flīng*, *v.* to throw; *n.* a dance.
Flint, *flīt*, *n.* a stone of extreme hardness.
Flip, *flīp*, *n.* spiced hot drink; *v.* to flip.
Flippant, *flīp'ant*, *adj.* pert; saucily fluent.
Flirt, *flīrt*, *v.* to make love triflingly; *n.* a coquette.
Flit, *flīt*, *v.* to fly; to remove.
Flitch, *flīch*, *n.* the side of a pig, cured.
Flitter, *flīt'er*, *v.* to flap wings.
Float, *flōt*, *v.* to swim; *n.* a raft.
Floatage, *flō'tij*, *n.* that which floats.

day; āt; ārm; ēve; ēlk; thēre; ice; pln; machine; bold; pōt; stōrm; mūte; tūb; bōrn.

Floccillation, fók-ú-l'á-shun, *n.* a delirious tearing and
Flocculent, fók-ú-l'ent, *adj.* woolly; tufty. [pickling.]
Flock, fók, *n.* a collection of animals; a company; *v.*
 to congregate.

Flockmaster, fók-más-ter, *n.* a sheep-owner.

Floe, fók, *n.* floating ice.

Flog, flog, *v.* to lash; to beat.

Flood, fúd, *n.* an inundation; *v.* to overflow.

Floor, flór, *n.* the part of a room on which people
 stand; a level area.

Flop, flop, *v.* to collapse; to fall limply.

Floral, fló-rál, *adj.* pertaining to flowers.

Florescence, flór-es-ens, *n.* a bursting into floral bloom.

Floriculture, flór-ik-ú-l'ur, *n.* the art of flower culture.

Florid, flór-id, *adj.* bright-coloured.

Floriform, flór-i-form, *adj.* flower-shaped.

Florin, flór-in, *n.* a two-shilling piece.

Florist, flór-ist, *n.* a cultivator of flowers.

Floussie, flók-sí, *n.* a flower.

Floam, flók, *n.* loose silt.

Flotant, flók-tant, *adj.* floating.

Flotation, flók-tá-shun, *n.* the act of floating.

Flotilla, flók-tí-lá, *n.* a small fleet. [Section].

Flotaam, flók-sam, *n.* (See Business Dictionary)

Flowns, flók, *n.* a plaited strip round a skirt; *v.* to
 move impatiently.

Flounder, flók-der, *v.* to struggle helplessly.

Flour, flók, *n.* finely ground wheat; any soft powder.

Flourish, flók-er-sh, *v.* to thrive; to display showily; to
 blow a trumpet; to make ornamental strokes.

Flout, flók, *v.* to mock; to deride.

Flow, flók, *v.* to run, as water; to move with current or
 flower, flók-er, *n.* the bloom of a plant. [tide.]

Fluctuate, flók-tú-át, *v.* to rise and fall.

Flue, flók, *n.* a connecting passage with a chimney.

Fluency, flók-én-sí, *n.* readiness of speech.

Flurf, flók, *n.* fibrous dust.

Fluid, flók-id, *n.* a liquid. [lucky chance stroke.]

Fluke, flók, *n.* a fish: the hook part of an anchor; a
 flume, flók, *n.* an artificial water channel.

Flummery, flók-er-í, *n.* nonsense; a sour jelly made
 from cat hush.

Flunkey, flunk-í, *n.* a liveried servant; a fawning

Flunkyeism, flunk-i-zim, *n.* servility. [person.]

Flurry, flók-í, *n.* confused agitation.

Flush, flók, *n.* a rush of blood to the cheeks; fresh-
 ness; *v.* to startle; *adj.* level with what adjoins.

Fluster, flók-ster, *n.* confusion; hurry; clatter.

Flute, flók, *n.* a musical pipe.

Fluting, flók-ing, *n.* fluted articles.

Flutter, flók-er, *v.* to move quickly; to excite.

Fluvial, flók-ví-ál, *adj.* pertaining to a river.

Flux, flók, *n.* the act of flowing.

Fluxible, flók-sí-bl, *adj.* capable of being melted.

Fluxion, flók-shun, *n.* a discharge.

Fly, flí, *v.* to move with wings; to depart suddenly; *n.*
 fly-blow, flí-blók, *n.* a fly's egg. [a winged insect.]

Fly-boat, flí-bót, *n.* a narrow swift boat

Fly-wheel, flí-wheel, *n.* a large wheel for equalising
 the motion of machinery.

Foal, fók, *n.* the young of a mare or ass.

Foam, fók, *n.* froth.

Fob, fók, *n.* watch-pocket.

Focal, fók-kál, *adj.* relating to a focus.

Focus, fók-us, *n.* point to which rays converge.

Fodder, fók-der, *n.* cattle food.

Foe, fók, *n.* an enemy.

Fog, fók, *n.* thick mist; a second crop of grass.

Fogbank, fók-bangk, *n.* a mass of sea fog.

Fogey, fók-í, *n.* an old-fashioned dull fellow.

Foggy, fók-í, *adj.* misty.

Foghorn, fók-hór, *n.* a metal weakness.

Foil, fók, *v.* to defeat; *n.* metal leaf.

Foist, fók, *v.* to pass off.

Fold, fók, *v.* to enfold; to lay one part on another;
n. an enclosed space.

Folder, fók-der, *n.* a folding instrument.

Follicaceous, fók-lí-k'á-shus, *adj.* pertaining to leaves.

Foliage, fók-lí-áj, *n.* leaves.

Foliate, fók-lí-át, *n.* to make into leaf form.

Foliation, fók-lí-k'á-shun, *n.* the leafing process. [sheet.]

Folio, fók-lí-ó, *n.* a book comprising two leaves to the

Folk, fók, *n.* people.

Folklore, fók-lór, *n.* the study of ancient customs.

Folkmoor, fók-mót, *n.* an Anglo-Saxon popular

Folkmoor, fók-mót, *n.* a gland; a seed-vessel. [assembly.]

Follow, fók-ú, *v.* to go after; to practice; to imitate.

Folly, fók-lí, *n.* foolishness.

Foment, fók-ment, *v.* apply warm lotions.

Fond, fók, *adj.* foolishly loving.

Fondle, fók-dí, *v.* to caress.

Font, fók, *n.* fixed vessel used for baptisms; an

equipment of one sort of printing type.

Fool, fók, *n.* a weak-minded person; a jester.

Foolery, fók-er-í, *n.* folly.

Foolhardy, fók-hard-í, *adj.* rash.

Foolscap, fók-skap, *n.* paper of a well-known size.

Foot, fók, *n.* the extremity of the leg; the part on
 which a thing stands; 12 inches.

Footboy, fók-bói, *n.* a liveried boy attendant.

Footfall, fók-fawl, *n.* a footstep.

Footpad, fók-pád, *n.* a robber on foot.

Footrule, fók-rú, *n.* a foot measure.

Footstep, fók-step, *n.* a footmark.

Pop, *n.* a dandy.

Poppery, fók-er-í, *n.* vanity in dress.

Porage, fók-áj, *n.* cattle food; *v.* to go in quest of such

Poramen, fók-rá-men, *n.* a small opening. [food.]

Poray, fók-áj, *n.* a plunder raid.

Porbear, fók-bár, *v.* to resist; to abstain.

Forbearance, fók-bár-ans, *n.* clemency; patience.

Forbid, fók-bíd, *v.* to prohibit.

Forbidding, fók-bíd-ing, *adj.* repulsive.

Force, fók, *n.* strength; power; *v.* to compel.

Forcemeat, fók-smet, *n.* meat chopped fine for
 stuffing.

Forceps, fók-séps, *n.* surgical pincers for grasping

Forcible, fók-sí-bl, *adj.* with vigour; by force.

Ford, *n.* place where water can be crossed by wading.

Fordable, fók-dá-bl, *adj.* capable of being forded.

Fore, fók, *adv.* in front; *adj.* at the front; previously.

Forearm, fók-arm, *v.* to prepare; to arm in advance.

Forewarn, fók-wár, *v.* to warn in advance.

Forecast, fók-kást, *v.* to foresee; to predict.

Forecast, fók-kást, *n.* a prediction. [a ship.]

Forecastle, fók-ká-sí, *n.* the raised deck at the front of

Foreclose (see Business Dictionary Section).

Foreclosure, fók-kí-zhur, *n.* the act of foreclosing.

Fore-end, fók-énd, *n.* the front part.

Forefather, fók-fá-ther, *n.* a male ancestor.

Forefend, fók-fénd, *v.* to avert.

Forego, fók-gó, *v.* to give up; to forbear

Foregone, fók-gón, *adj.* concluded beforehand.

Foreground, fók-gróund, *n.* the front portion of a

Forehanded, fók-hand-éd, *adj.* in advance. [picture.]

Forehead, fók-héd, *n.* the brow.

Foreign, fók-in, *adj.* pertaining to another country.

Foreknow, fók-knó, *v.* to know beforehand.

Foreland, fók-land, *n.* a headland. [brow.]

Forelock, fók-lók, *n.* a lock of hair overhanging the

Foreman, fók-mán, *n.* the leading man; an overseer.

Forensic, fók-rén-sík, *adj.* pertaining to legal tribunals.

Forenoon, fók-rún, *v.* to go before.

Forerunner, fók-rún-er, *n.* a harbinger.

Foresee, fók-sé, *v.* to anticipate; to know beforehand.

Foreshore, fók-shór, *n.* the part between high and
 low water marks. [tion of figures in projection.]

Foreshortening, fók-short-en-ing, *n.* the representa-

Forest, fók-est, *n.* a large tract of wooded land.

Foretell, fók-tél, *v.* to anticipate.

Forester, fók-er-er, *n.* a forest keeper.

Foretaste, fók-tást, *n.* anticipation.

Foretell, fók-tél, *v.* to predict.

Forethought, fók-thóúht, *n.* thought for the future.

Foretop, fók-tóp, *n.* platform at head of foremast.

Forewarn, fók-wár, *v.* to warn beforehand.

Forfeit, fók-fít, *v.* to lose a right by an offence.

Forge, fók, *n.* a furnace; blacksmith's shop; *v.* to
 form, to fabricate.

Forger, fók-er, *n.* one guilty of forgery.

Forgery, fók-er-í, *n.* the crime of counterfeiting.

Forget, fók-er, *v.* to lose memory of; to neglect.

Forgive, fók-gí, *v.* to overlook; to pardon.

Forgiveness, fók-gí-nes, *n.* pardon.

day; á; árm; éve; áik; there; wice; pín; machine; bold; pút; stórm; máte; tíib; bárm.

Fork, fork, *n.* a pronged instrument.
Forlorn, for-lorn', *adj.* wretched; forsaken.
Form, *n.* shape; outline; mould; system.
Formal, for-mal', *adj.* according to form or ceremony.
Formalist, for-mal-ist', *n.* one devoted to formalities.
Formative, form-'at-iv', *adj.* giving form.
Former, form'er, *adj.* before in time or order.
Formic, form'ik', *adj.* relating to ants.
Formidable, for-mid-a-bl', *adj.* strong; fearful.
Formula, for-mu-la, *n.* a prescribed form.
Formulary, for-mu-lar-i, *n.* book of forms.
Formulate, form-'u-lat', *v.* to express in precise terms.
Formicate, for-mi-kat', *v.* to act lewdly.
Formake, for-sak' v. to abandon.
Forsooth, for-sooth', *adv.* certainly; truly.
Forswear, for-swär', *v.* to deny on oath; to swear.
Fort, fört, *n.* a small fortress. [falsely]
Fortalice, fort'al-is, *n.* a small outer fort.
Forté, fört, *n.* that for which one has a special aptitude.
Forté, for-tä, *adj.* and *adv.* loud. [tude]
Fort, *adv.* forward, onward.
Forthcoming, forth-kun'ing, *adj.* on the point of
Forthwith, forth-wit', *adv.* at once. [apparent]
Fortification, for-ti-fik-'a-shun, *n.* defensive works.
Fortitude, for-ti-tüd, *n.* strength to endure.
Fortress, fort'res, *n.* a fortified position.
Fortuitous, for-tü't-i-us, *adj.* occurring by chance.
Fortuity, for-tü't-i, *n.* a chance happening.
Fortunate, for-tü-nät, *adj.* lucky; successful.
Fortune, for-tün, *n.* one's lot; wealth; success.
Forum, for-um, *n.* a market place; a court.
Forward, for-wärd, *adv.* in front; ready; presumptuous.
Forwardness, for-wärd-ness, *n.* pertness; readiness.
Foss, fos, *n.* a ditch.
Fossil, fos'il, *n.* petrified remains.
Fossiliferous, fos-il-lif'er-us, *adj.* containing fossils.
Fossilize, fos-il-iz, *v.* to change into fossil form.
Fossorial, fos-'ri-al, *adj.* burrowing.
Foster, fos-ter, *v.* to encourage; to bring up.
Fosterage, fos-ter-ä, *n.* the act of fostering.
Foster-child, fos-ter-child, *n.* a child brought up by one not its parent. [not his own]
Foster-son, fos-ter-son, *n.* boy brought up by parents.
Fother, fos-ter, *n.* a load or weight of lead of 19½ cwt.
Foul, foul, *adj.* impure; unfair; stormy.
Fountain, foun-tän, *n.* the polcaet. [metal]
Found, found, *v.* to originate; to endow; to cast.
Foundation, found-'a-shun, *n.* base; groundwork.
Founder, found'er, *v.* to sink; *n.* one who establishes.
Foundling, found'ling, *n.* a deserted child. [mafe]
Foundry, found'ri, *n.* place where metal castings are
Foundation, found-tän, *n.* a natural or artificial spring of water; the source of a thing.
Fowl, föwl, *n.* a poultry bird.
Fowler, föw-ler, *n.* a hunter or shooter of wild fowl.
Fowling-piece, föw-ling-pēs, *n.* gun for small shot.
Fox, foks, *n.* a wild animal that is hunted.
Foxglove, foks-'gluv, *n.* a plant with glove-like flowers.
Foxy, foks'i, *adj.* cunning.
Frab, frab, *v.* to worry.
Fracas, fra-kä', *n.* a disturbance.
Fraction, frak-'shun, *n.* a small piece; any part of a
Fractionous, frak-'shus, *adj.* quarrelsome. [unfit]
Fracture, frak-tür, *n.* a breakage of bone; *v.* to break.
Fragaria, fra-'gä-ri, *n.* plants of the strawberry.
Fragile, fra'il, *n.* frail; brittle. [ignus]
Fragment, frag'ment, *n.* a piece.
Fragrance, fra-grans, *n.* pleasant to the smell.
Fragrant, fra-grant, *adj.* of pleasing odour.
Frail, fräl, *adj.* weak.
Frailty, fräl'ti, *n.* weakness.
Frame, främ, *n.* a border; *v.* to shape.
Framework, främ-werk, *n.* an outline; a frame.
Franc, frangk, *n.* a French coin, value 10d.
Franchise, frän-'chis, *n.* privilege; right of voting.
Franciscan, frän-sis-'kan, *n.* a Franciscan friar.
Frangible, frän'ti-bl', *adj.* easily broken.
Frank, fränk, *adj.* open; generous; candid.
Frankalmogne, fränk-al-moin, *n.* an old land tenure held on condition of offering prayers for the donor.
Frankenstein, fränk'en-stin, *n.* an imagined monster of evil.

Frankincense, frangk'in-sens, *n.* a sweet-smelling Arabian resin.
Franklin, frangk'lin, *n.* a mediæval freeholder.
Frantic, frän'tik, *adj.* mad; raving.
Frapp, frap, *v.* to strike.
Frappé, frap-'ä, *participle*, iced.
Prater, frä'ter, *n.* a friar.
Fraternal, fra-ter-nal, *adj.* brotherly.
Fraternalise, fra-ter-niz, *v.* to associate like brothers.
Fraternity, fra-ter-nit-i, *n.* state of brotherhood.
Fratricide, frä'tri-sid, *n.* the murder of a brother; a brother's murderer.
Fraud, frawd, *n.* imposture; trickery.
Fraudulent, frau'di-lent, *adj.* dishonest.
Fraught, frawt, *n.* charged with; loaded; full.
Fray, frä, *n.* an affray; *v.* to wear away.
Freak, fräk, *n.* caprice; a monstrosity.
Freakish, fräk'ish, *adj.* capricious.
Freckle, frek'l, *n.* a brown skin-spot; *v.* to spot.
Free, frē, *adj.* at liberty; untrammelled; generous.
Freebooter, frē-boot-er, *n.* one who robs and pillages.
Freeborn, frē-born, *adj.* born of free parents.
Freeman, frē-man, *n.* a liberated slave. [arity]
Freedom, frē-dom, *n.* liberty; licence; undue familiarity.
Freehand, frē-hand, *adj.* drawing with the hand free from guidance.
Freehold, frē-hold, *n.* property in absolute ownership.
Freeholder, frē-holder, *n.* the owner of a freehold.
Freeman, frē-man, *n.* a man enjoying liberty; the holder of a civic privilege. [duty free]
Free-port, frē-port, *n.* a port where goods can enter
Freestone, frē-stön, *n.* stone that admits of free cutting sandstone or grit.
Free thinker, frē-think-er, *n.* a sceptic.
Free will, frē-wil', *n.* freedom to exercise the will.
Freeze, frēz, *v.* to harden into ice.
Freight, frät, *n.* cargo; goods in transport.
Freightage, frät'ij, *n.* fee chargeable for freight.
Frenzied, fren-'zi, *adj.* violent mental agitation.
Frequency, frē-kwen-si, *n.* oft repetition.
Frequent, frē-kwent, *adj.* often occurring.
Fresco, fres'ko, *n.* painting upon plaster.
Fresh, fresh, *adj.* healthy; new; strong.
Fresh-blown, fresh-blown, *adj.* just blown.
Freshet, fresh'et, *n.* a pool or stream of fresh water.
Freshman, fresh'man, *n.* a first year university student. [water]
Freshwater, fresh-waw-ter, *n.* inland water, not sea.
Fret, frēt, *v.* to wear away; to irritate; to sorrow.
Fretful, frēt'ful, *adj.* peevish.
Fretwork, frēt-werk, *n.* ornamental perforated work.
Friable, fri-äbl, *adj.* crumbly.
Friar, frēr, *n.* a mendicant monk.
Friary, frēr-i, *n.* a monastery.
Fribble, fri-bl', *v.* to trifle; *n.* one who trifles.
Fricassee, frik-as-sē, *n.* a stew of fowl, etc.
Friction, frik-'shun, *n.* the act of rubbing; unpleasant relations.
Friend, friend, *n.* an intimate associate; a Quaker.
Friendship, friend'ship, *n.* mutual regard.
Frieze, frēz, *n.* a course cloth; an ornamented space below the cornice.
Frigate, frig'it, *n.* a two-battered warship.
Fright, frīt, *n.* sudden terror; an absurd figure.
Frighten, frīt'en, *v.* to make afraid.
Frigid, frij'id, *adj.* stiff; cold.
Frill, fril, *n.* a ruffle.
Fringe, frinj, *n.* ornamental bordering; the edge.
Frippery, frip'er-i, *n.* tawdry finery.
Friseur, friz'er, *n.* a hairdresser.
Frisk, frusk, *v.* to play about; to gambol.
Frisket, frisk'et, *n.* frame for holding paper while being printed.
Friskey, fris'ki, *adj.* lively; frolicsome.
Frit, frīt, *n.* materials mixed for glass making.
Frith, frith, *n.* a narrow inlet; a forest.
Fritter, frīt'er, *n.* a small pancake; *v.* to waste time.
Fritterer, frīt'er-er, *n.* a time waster.
Frivolity, friv-ol'i-ti, *n.* heedless gaiety.
Frivolous, friv-ol-us, *adj.* trifling.
Frizz, friz, *v.* to curl; *n.* a curl.
Frizzle, friz'l, *v.* to put in short curls.

Frock, frok, *n.* a loose outer garment.
Frog, frog, *n.* a well-known amphibian; ornamental.
Frolic, fro'lik, *adj.* merry; *n.* gaiety. [braiding.
Frolisome, fro'lik-som, *adj.* sportive; gay.
Fround, frond, *n.* the leafy expansion of palms and ferns.
Frondecence, frond-es-ens, *n.* the act of putting forth leaves.
Frondeiferous, frond-i'er-us, *adj.* frond-bearing.
Front, frunt, *n.* the forepart of a thing; boldness; *v.* to face.
Frontage, frunt'aj, *n.* the front of a building.
Frontal, frunt'al, *adj.* relating to the front.
Frontier, frunt'er, *n.* verge; border.
Frontispiece, frunt-i-pes, *n.* an illustration at the beginning of a book.
Frontlet, frunt'let, *n.* a band worn on the forehead.
Frone, frön, *adj.* frozen.
Frone, frön, *n.* foam.
Frothy, froth'i, *adj.* abounding in foam; empty.
Frounce, frouns, *v.* to plait.
Frouzy, frow'zi, *adj.* tangled; rough.
Froward, frö'ward, *adj.* perverse, self-willed.
Frown, frown, *v.* to look angry; to knit the brows.
Fructed, frukt'ed, *adj.* fruit-bearing.
Fructescence, frukt-es-sens, *n.* ripening time for fruit.
Fructiferous, frukt-i'er-us, *adj.* fruit-bearing.
Fructify, frukt-i-fi, *v.* to fertilize.
Fructuary, frukt-u-är-i, *n.* one enjoying the fruits of
Frugal, froo'gal, *adj.* economical. [anything.
Frugality, froo-gal'i-ti, *n.* thrift; economy.
Frugiferous, froo-jif'er-us, *adj.* fruit-yielding.
Fruit, fruit, *n.* produce.
Fruiteer, froo't'er-er, *n.* a fruit seller.
Fruiton, froo'ti-on, *n.* enjoyment; possession.
Fruitless, froo'ti-less, *adj.* useless; barren.
Frumentaceous, froo-men-tä'shus, *adj.* made of or
 pertaining to grain.
Frumenty, froo'men-ti, *n.* food made of wheat and
 frump, frump, *n.* a dowry. [milk boiled together.
Frush, frushi, *n.* the frog of a horse's foot.
Frustrable, frus'tra-bl, *adj.* capable of being pre-
 frustrate, frus-trät, *v.* to foil; to defeat. [vented.
Frutescent, froo'tes-ent, *adj.* growing shrubby.
Frutex, froo'teks, *n.* a shrub.
Fruticose, froo'ti-kis, *adj.* shrubby. [young fish.
Fry, fry, *v.* to cook in pan over a fire; fry a train of
Fuchsia, fu'shi-ä, *n.* a plant bearing red flowers.
Fuddle, fud'l, *v.* to make drunk.
Fudge, fudj, *n.* nonsense.
Fuel, fu'el, *n.* material for fire.
Fugacious, fu-gä'shus, *adj.* fleeting. [absconder.
Fugie-warrant, fu'gi-wor-ant, *n.* writ to arrest an
 fugitive, fu'gi-tiv, *n.* one who has escaped; one who
 flies from justice; *adj.* uncertain; fragmentary.
Fugleman, fu'gi-man, *n.* a soldier who acts as leader
 for others on drill; a ringleader.
Fugue, fu'g, *n.* a musical composition in which one
 part follows or answers another.
Fulcrum, ful'krum, *n.* a support on which a lever
 fulfil, fool'fil, *v.* to achieve; to complete. [rests.
Fulfillment, fool'fil-ment, *n.* completion.
Fulgency, ful'jen-si, *n.* lustre; brightness.
Full, fool, *adj.* containing all that can be held; com-
 fuller, fool'er, *n.* a cloth bleacher. [plete; abounding.
Fullness, fool'nes, *n.* the state of being full.
Fulmar, ful'mär, *n.* a species of petrel.
Fulminate, ful'min-ä, *v.* to thunder; to explode.
Fulmine, ful'min, *n.* a compound of mercury and ful-
 fulsome, ful'som, *adj.* nauseous. [uninac acid.
Fulvid, ful'vid, *adj.* deep yellow.
Fulvous, ful'vus, *adj.* tawny.
Pumatory, fu'ma-to-ri, *n.* place for smoking.
Fumble, fun'bl, *v.* to grope about; to handle clumsily.
Fume, fun, *n.* smoke; heat; *v.* to get into a rage.
Fumid, fu'mid, *adj.* smoky.
Fumigate, fu'mi-gät, *v.* to smoke; to cleanse.
Fumous, fun'us, *adj.* emitting fumes.
Fun, fun, *n.* diversion; sport.
Funambulate, fun-am'bü-lät, *v.* to walk on a rope.
Funambulist, fun-am'bü-list, *n.* a rope-walker.
Function, fungk'shun, *n.* an office; a ceremony.
Functional, fungk'shun-al, *adj.* pertaining to function.

Functionary, fungk'shun-är-i, *n.* one who discharges
 certain functions. [prise.
Fund, fund, *n.* capital; money supply for any enter-
Fundament, fund-a-ment, *n.* the seat of the body.
Fundamental, fund-a-ment'al, *adj.* essential; primary.
Fundus, fun'dus, *n.* the bottom of a thing.
Funeral, fü'ner-al, *n.* burial.
Funereal, fü-ne-re-al, *adj.* dismal; mournful.
Fungible, fun'ji-biz, *n.* perishable movables.
Fungoid, fung'oid, *adj.* like a fungus.
Fungous, fung'us, *adj.* fungus-like.
Fungus, fung'us, *n.* a spongy growth, as mushrooms.
Funicle, fü'nikl, *n.* a fibre.
Funicular, fü-nik'ü-lar, *adj.* fibrous.
Funk, fungk, *n.* fright; *v.* to shrink from; to fear.
Funnel, fun'l, *n.* an instrument through which liquids
 are passed into close vessels; a stack or tube for
Funny, fun'i, *adj.* droll. [carrying off smoke.
Fur, fer, *n.* the hair of certain animals.
Furacious, fü-rä'shus, *adj.* thievish.
Furbelow, fur-bé-lö, *n.* a flounce.
Furbish, fur'bish, *v.* to renovate; to polish.
Furcate, fur'kät, *adj.* forked.
Furcula, fur'kü-lä, *n.* "merrythought" bone in birds
Furcose, fur-fur-sus, *adj.* branched.
Furculi, fur'fü-l, *n.* a volatile oil from bran, etc.
Furious, fü-ri-us, *adj.* raging; violent.
Furl, fur'l, *v.* to draw up.
Furlong, fur'long, *n.* 40 poles.
Furlough, fur'lö, *n.* leave of absence.
Furnace, fur'näs, *n.* an enclosed fire for melting sub-
 furnace, fur'nish, *v.* to supply; to equip. [stances.
Furniture, fur'nit-är, *n.* movable household furnish-
Furrier, fur'i-er, *n.* a dealer in furs. [ings.
Furry, fur'y, *n.* fur-trading.
Furrow, fur'ö, *n.* trench cut by a plough.
Further, fur'ther, *adv.* more distant; additional.
Furtherance, fur'ther-ans, *adj.* helping forward.
Furthermost, fur'ther-most, *adj.* the most distant.
Furtive, fur'tiv, *adj.* stolen; stealthy.
Furuncle, fur'ung-kli, *n.* inflamed tumour.
Fury, fu'ri, *n.* uncontrollable rage.
Furze, furz, *n.* prickly gorse.
Fuscous, fus'kus, *adj.* brown; faded.
Fuse, füz, *v.* to melt; *n.* combustible substance for
 fuses, fü-sé, *n.* a mortar; a firing mace, shells, etc
Fusible, fü-si-bl, *adj.* capable of being melted.
Fusil, fü'sil, *n.* a light musket.
Fusileer, fü-si-lér, *n.* formerly a soldier armed with a
 fusil; now a regimental title only.
Fusillade, fü-si-lä-d, *n.* simultaneous discharge of fire-
 fusion, fü'zhun, *n.* act of melting. [arms.
Fusa, fus, *n.* bustle; flurry.
Fust, fust, *n.* the shaft of a column; mouldiness.
Fustet, füs'tet, *n.* the Yemenian muscat.
Fustan, fü's-tän, *n.* a kind of cotton cloth.
Fustic, fus'tik, *n.* a West Indian wood used in dyeing
Fustigation, fus-ti-gä'shun, *n.* a thrashing with a stick.
Fusty, fus'ti, *adj.* mouldy; bad-smelling.
Futile, fü-til, *adj.* useless. [less things.
Futilitarian, fü-ti-lit-är-i-an, *n.* one devoted to profit-
Future, fü'tür, *n.* time to come; *adj.* that will be
Futurity, fü-tü-riti, *n.* the time to come.
Fuzz, füz, *v.* to break off in small fragments with a
Fuzzy, füzi, *adj.* covered with fuzz. [hissing sound.
Fyke, fik, *n.* a bag fishing net.

G

Gabardine, gab-er-dén, *n.* a loose outer garment.
Gabble, gab'l, *n.* idle talk; *v.* to jabber. [for defence.
Gabion, gä'b'i-on, *n.* a wicker basket filled with earth
Gable, gä'bl, *n.* the triangular part of the end of a
Gad, gad, *n.* a pointed bar; *v.* to roam. [house.
Gadfly, gad'fl, *n.* a fly that stings cattle.
Gaelic, gä'lik, *adj.* relating to the Gauls.
Gaff, gäf, *n.* hook for landing fish.
Gaffer, gä'fer, *n.* foreman.
Gag, gäg, *v.* to stop the mouth.
Gage, gä'g, *n.* a pledge.
Gaiety, gä'e-ti, *n.* mirth.

day; ät; ärm; äve; älk; there; äce; pän; machine; böld; pöt; störm; müte; tüb; büra.

Gain, gān, *n.* profit; advantage; *v.* to obtain.
Gainsay, gān'sā, *v.* to deny.
Gairish, see *Gairish*.
Gait, gāt, *n.* manner of walking.
Gaiter, gā'tēr, *n.* ankle covering.
Gala, gā'la, *n.* outdoor festivity. [testing milk.
Galactometer, gal-ak-tom'e-ter, *n.* an instrument for
Galaxy, gal'aks-i, *n.* the Milky Way; any brilliant
Galbanum, gal'ban-um, *n.* a resinous juice. [assembly.
Galeated, gā'le-ated, *adj.* hooded.
Galena, gal-ē'nā, *n.* lead ore.
Gall, gawl, *n.* bile; bitterness.
Gallant, gal'ant, *adj.* brave.
Gallant, gal'ant, *n.* an attendant; a lover.
Gallantry, gal'an-trī, *n.* amorous attention; bravery.
Galleon, gal'e-on, *n.* an old-time Spanish vessel.
Gallery, gal'er-i, *n.* part of hall supported by pillars;
 an upper floor; a balcony.
Galley, gal'i, *n.* a low flat vessel.
Galliard, gal'yerd, *n.* a Spanish dance.
Gallie, gal'ik, *adj.* connected with France (Gaul).
Gallicism, gal'is-izm, *n.* a French expression.
Galligaskins, gal-t'gas-kinz, *n.* a kind of hose or
 leggings. [cated birds.
Gallinaceous, gal-in-ā'shus, *adj.* pertaining to domesti-
Gallipot, gal'p-it, *n.* a small medicine-pot.
Gallivant, gal-i-vant, *v.* to flirt.
Gallon, gal'un, *n.* a unit of measure.
Galleon, gal'e-on, *n.* a kind of ribbon or lace.
Gallopp, gal'up, *v.* to advance by leaps.
Gallop, gal'op, *n.* a dance. [Galloway.
Galloway, gal'ō-wā, *n.* a strong pony, originally from
Gallows, gal'ōz, *n.* scaffold on which criminals are
Galore, gal-ōr, *adv.* plentifully. [executed.
Galosh, gal-ōsh, *n.* an overshoe.
Galvanise, gal'van-iz, *v.* to affect with galvanism.
Galvanism, gal'van-izm, *n.* a branch of electrical
 science.
Gambado, gam-bā'do, *n.* a kind of leather leggings.
Gamble, gam'bl, *v.* to play games for money; to bet.
Gambler, gam'bler, *n.* one who gambles.
Gamboge, gam-bōj, *n.* a yellow pigment.
Gambol, gam'bol, *v.* to frolic about.
Gambrel, gam'brel, *n.* a horse's hock.
Game, gām, *n.* play; birds or animals that are hunted.
Gamesome, gām'sum, *adj.* playful.
Gamester, gām'ster, *n.* a gambler.
Gamin, gam'in, *n.* a street arab.
Gammer, gam'er, *n.* an old woman.
Gammon, gam'on, *n.* nonsense; thigh joint of bacon.
Gamut, gam'ut, *n.* the musical scale.
Gander, gan'der, *n.* a male goose.
Gang, gang, *n.* a band; a company; a crew.
Ganger, gang'er, *n.* foreman of labourers.
Ganglion, gang'gli-on, *n.* a tumour.
Gangrene, gang'rēn, *n.* mortification.
Gangway, gang'wā, *n.* passage way between a ship
 and the shore.
Gannet, gan'et, *n.* a web-footed sea-bird.
Gantlet, gan'tlet, *n.* a glove.
Gantry, gan'tri, *n.* stand for barrels; crane platform.
Gaol, jāl, *n.* a prison.
Gap, gap, *n.* an opening; an interstice.
Gape, gāp, *v.* to yawn.
Garage, gar'bāj, *n.* a storehouse for motor vehicles.
Garbage, gar'bāj, *n.* refuse; rubbish.
Garble, gar'b'l, *v.* to corrupt; to alter for selfish ends.
Gargantuan, gar-gan'tū-ān, *adj.* enormous. [ung.
Gargle, gar'gl, *v.* to rinse the throat without swallow.
Gargoyle, gar'gōl, *n.* grotesque projecting figure in
 Gothic. [stone.
Garish, gar'ish, *adj.* showy.
Garland, gar'land, *n.* a wreath.
Garlic, gar'lik, *n.* a pungent, bulbous plant.
Garment, gar'ment, *n.* an article of clothing.
Garner, gar'ner, *v.* to store up.
Garnet, gar'net, *n.* a red precious stone.
Garnish, gar'nish, *v.* to adorn.
Garniture, gar-nit-ūr, *n.* that which ornaments.
Garret, gar'et, *n.* a top room.
Garrison, gar'ison, *n.* band of soldiers occupying a
 fortress.
Garrote, gar-rot, *v.* to strangle.

Garrulity, gar-ū'l-i-tē, *n.* loquacity.
Garrulous, gar-ū-lus, *adj.* talkative.
Garter, gār'ter, *n.* a band for holding the stocking up;
 badge of the Order of the Garter.
Gas, gas, *n.* a vaporous substance, such as that ob-
 tained from coal for lighting purposes.
Gasalier, gas-ā-lēr, *n.* suspended frame for gas lights.
Gasconade, gas-kon-ād, *n.* boastfulness.
Gascon, gas-kon, *adj.* of the nature of gas.
Gash, gash, *v.* to cut; *n.* a cut.
Gaskins, gas-kinz, *n.* leggings.
Gasolene, gas-ō-lēn, *n.* a petroleum product.
Gasp, gasp, *v.* to labour for breath.
Gastric, gas'trik, *adj.* connected with the stomach.
Gastronomic, gas-tro-nom'ik, *adj.* relating to good
 eating.
Gastronomy, gas-tro-nom'i, *n.* the art of good eating.
Gather, gath'er, *v.* to assemble; to collect.
Gaudy, gaw'di, *adj.* showy.
Gauge, gāj, *n.* a measure; *v.* to measure.
Gauger, gāj'er, *n.* an official who measures excisable
 liquors.
Gaunt, gawnt, *adj.* emaciated.
Gauntlet, gawnt'let, *n.* a glove of mail; a long glove.
Gauze, gawz, *n.* transparent cloth or other open
 material.
Gavel, gav'el, *n.* a mallet.
Gawk, gawk, *n.* a stupid person; *adj.* left, as in left-
 handed.
Gawky, gawk'i, *adj.* ungainly.
Gay, gā, *adj.* merry; lively.
 gaze, gāz, *v.* to stare; to look.
Gazelle, ga-zel, *n.* a small Arabian antelope.
Gazette, ga-zet, *n.* a newspaper; an official record.
Gazetteer, gaz-ēt-ēr, *n.* a geographical dictionary.
Gazing-stock, gāz'ing-stok, *n.* something set up for
 gaze.
Gear, gēr, *n.* dress; harness; tackle. [gazing at.
Geese, gēs, *n.* pl. of goose. [hell.
Geenna, ge-hen-nā, *n.* the Hinnon valley of sacrifice;
Gelatine, jel-ā-tēn, *n.* a substance that dissolves under
 heat.
Geld, jeld, *v.* to castrate; *n.* tribute in olden times.
Geld, jeld, *adj.* icy.
Gem, jem, *n.* a precious stone; a jewel; to deck with
 gemstones.
Gemination, jem-in-ā'shun, *n.* repetition. [jewels.
Gemini, jem-i-ni, *n.* the Twins, the stars Castor and
 Pollux.
Gemmate, jem-māt, *v.* bearing buds.
Gemmation, jem-mā'shun, *n.* the act of budding.
Gender, jen'der, *n.* sex.
Genealogical, jen-ē-al-ōj'ik-al, *adj.* relating to lineage.
Genealogy, jen-ē-al-ōj-i, *n.* study of descents.
General, jen'er-al, *n.* a commanding officer; *adj.*
 universal.
Generalisation, jen-er-al-i-zā'shun, *n.* the act of put-
 ting together. [instances.
Generalise, jen'er-al-iz, *v.* to infer from collected
 facts.
Generalissimo, jen-er-al-iss'i-mo, *n.* a leading general.
Generality, jen-er-al-i-tē, *n.* the chief part.
Generalship, jen'er-al-ship, *n.* position of military
 command; military ability.
Generant, jen'er-ant, *n.* generative power.
Generate, jen-er-āt, *v.* to generate; to originate.
Generation, jen-er-ā'shun, *n.* the act of originating;
 offspring; people of the same period.
Generative, jen'er-ā-tiv, *adj.* possessing productive
 power.
Generic, jen-er-ik, *adj.* relating to a genus. [powers.
Generosity, jen-er-os-i-tē, *n.* kindness; liberality.
Generous, jen'er-us, *adj.* liberal; kind; bounteous.
Genesis, jen-ē-us, *n.* generation; the first book of the
 Bible.
Genet, jen'et, *n.* an animal of the civet type. [Bible.
Genetic, jen-ē-tik, *adj.* pertaining to production.
Geneva, jen-ē-vā, *n.* a spirit flavoured with juniper.
Genevieve, jen-ē-vē, *n.* a wine made from wild fruits.
Genial, jē-ni-al, *adj.* cheerful; sprightly.
Gesticulate, jen-ik-ū-lāt, *adj.* knotted.
Genital, jen-it'al, *adj.* pertaining to generation.
Genius, jē-ni-us, *n.* superior intellectual power.
Genre, zhangr, *n.* kind; style; pictures of rural life.
Gens, jenz, *n.* a clan; a tribe.
Gentel, jen-tēl, *adj.* well-bred & graceful.
Gentian, jen-shan, *n.* a plant with a root used in
 medicine.
Gentile, jen-ti-lē, *n.* one other than a Jew. [medicine.
Gentility, jen-ti-l-i-tē, *n.* good-breeding; politeness.
Gentle, jen-tl, *adj.* kind; well-born.

dāy; āt; ārm; ēve; ēlk; thēre; fce; pīn; machīne; bōlē; pōt; stōrm; mūtē; tūb; bārn.

Gentleman, *jen'tl-man*, *n.* one of good birth; a person of position or refinement.
Gently, *jen'tli*, *adv.* softly.
Gentoo, *jen'too*, *n.* a Hindu.
Gentry, *jen'tri*, *n.* people of good position. [*ence*.]
Genuflect, *jen-u-flek't*, *v.* to bend the knee in reverence.
Genuflexion, *jen-u-flek'shun*, *n.* the act of kneeling.
Genuine, *jen'u-in*, *adj.* unadulterated; true.
Genus, *jen'us*, *n.* a group; a family; a species.
Geocentric, *je-o-sen'trik*, *adj.* centred in the earth.
Geode, *je'od*, *n.* a hollow nodule of stone. [*earth*.]
Geodesy, *je-o-d'si*, *n.* the science of measuring the Earth.
Geology, *je-o-lo-jy*, *n.* the science of the formation of the earth.
Geography, *je-og'rafi*, *n.* the science of the earth's surface and inhabitants. [*ture*.]
Geology, *je-o-lo-jy*, *n.* the science of the earth's structure.
Geomancy, *je-o-man-si*, *n.* divination by lines drawn on the earth.
Geometry, *je-on'tri*, *n.* the science of mensuration.
Geonmy, *je-on'tri*, *n.* the science of the earth's physical laws.
Geoponics, *je-o-p'ni*, *n.* the science of agriculture.
Georama, *je-o-ran'a*, *n.* a view of the earth's interior.
Georgian, *je-or'jan*, *adj.* relating to the period of the Georges.
Georgic, *je-or'jik*, *adj.* relating to rural matters. [*hect*.]
Gerthio, *je-n'ther'ni*, *adj.* relating to the earth's surface.
Germanium, *je-ran'i-un*, *n.* a favourite bedding plant.
Gerent, *je-rant*, *n.* an office holder.
Germ, *jern*, *n.* a seed-bud; any rudimentary form.
German, *je-rman*, *n.* a native of Germany, *adj.* nearly.
Germane, *je-rnan't*, *adj.* relevant; akin. [*related*.]
Germinant, *je-rmin-ant*, *n.* the seventh month of the calendar of the first French Revolution.
Germinate, *je-rmin-ate*, *v.* to grow from a germ.
Gerund, *je-rund*, *n.* the part of a Latin verb representing.
Gestant, *je-stant*, *adj.* laden. [*scenting* a verbal noun.
Gestation, *je-sta'shun*, *n.* pregnancy.
Gestic, *je-stik*, *adj.* relating to bodily motion.
Gesticulate, *je-stik'u-late*, *v.* to make gestures.
Gesture, *je-stur*, *n.* expressive movement of the hand.
Gewgaw, *geu'gaw*, *n.* a showy trifle. [*for body*.]
Geyser, *gei'ser*, *n.* a hot spring.
Ghastliness, *gast'li-ness*, *n.* pallor.
Ghaut, *gaw't*, *n.* an Indian mountain pass or ch. in.
Gherkin, *ge-rkin*, *n.* a small pickled cucumber.
Ghetto, *get'o*, *n.* Jew's quarter.
Ghost, *gost*, *n.* a spirit; the soul.
Ghouly, *gool*, *n.* a demon that devours the dead.
Giant, *giant*, *n.* a man of great bulk; one of great stature.
Giantess, *giant-ess*, *n.* a female giant. [*power*.]
Glaour, *glow*, *n.* a term applied by the Turks to a person not of their own religion.
Gib, *jib*, *n.* arm of a crane.
Gibberish, *gib'er-ish*, *n.* unmeaning gabble.
Gibbet, *jib'et*, *n.* a gallows.
Gibbosity, *gib-os'ity*, *n.* protuberance.
Gibbous, *gib'us*, *adj.* convex; pouted.
Gibe, *jib*, *n.* a sneer; *v.* to sneer.
Giblets, *jib'lets*, *n.* eatable internal parts of fowls.
Giddy, *gid'dy*, *adj.* unsteady; dizzy.
Gieraele, *je-r'e-ge*, *n.* a kind of eagle.
Gift, *gift*, *n.* present; a natural talent.
Gifted, *gift'ed*, *adj.* talented.
Gigantic, *gi-gan'tik*, *adj.* immense; enormous.
Giggle, *gig'le*, *v.* to titter.
Gigot, *gig'ot*, *n.* leg of mutton.
Gild, *gild*, *v.* to coat with gold or gold-like substance.
Gilding, *gild'ing*, *n.* that which is gilded; the trade of gilding.
Gills, *gills*, *n.* a fish's breathing organs. [*gilding*.]
Gilt, *adj.* gilded.
Gimble, *gim'bel*, *n.* a boring tool.
Gimp, *gimp*, *n.* a kind of truncheon.
Gin, *gin*, *n.* a distilled spirit; a certain class of driving.
Ginger, *jin'jer*, *n.* a pungent Indian root. [*machine*.]
Gingerbread, *jin'jer-bred*, *n.* sweet bread flavoured with ginger.
Gingerly, *jin'jer-ly*, *adj.* cautiously. [*with ginger*.]
Gingham, *ging'hama*, *n.* a kind of cloth.
Gipsy, *gip'si*, *n.* a member of a nomadic tribe.
Girandole, *gir-an-dol*, *n.* a large-branched candlestick.
Gird, *gerd*, *v.* to bind; to encompass; to gibe.

Girdle, *gerd'er*, *n.* a supporting piece of timber or.
Girdle, *gerd'l*, *n.* a belt for the waist. [*from*.]
Girth, *gerth*, *n.* the belly-band of a saddle; measure round the waist.
Gist, *jist*, *n.* the chief point; the main tendency.
Give, *giv*, *v.* to bestow; to provide.
Gizzard, *giz'erd*, *n.* a fowl's muscular stomach.
Glaborous, *glab'rus*, *adj.* smooth; hairless; shiny.
Glacial, *glas'ial*, *adj.* icy; frozen.
Glacier, *glas'ier*, *n.* a field of snow or ice.
Glacis, *glas'is*, *n.* the sloping bank of a fortification.
Glad, *adj.* joyful; well content.
Glade, *glad*, *n.* an opening in a wood.
Gladiolus, *glad'io-lus*, *n.* sword-shaped. [*athleta*.]
Gladiator, *glad'io-tor*, *n.* an ancient professional.
Glaie, *glar*, *n.* white of egg, used in painting, gilding, etc.
Glamour, *glam'or*, *n.* fascination.
Glance, *glans*, *n.* a sudden look.
Gland, *glan'd*, *n.* a secreting organ of the body.
Glanders, *glan'ders*, *n.* a contagious disease in a horse's nose.
Glandiferous, *glan'di-fer-us*, *adj.* acorn or nut-bearing.
Glandular, *glan'du-lar*, *adj.* connected with glands.
Glandule, *glan'dul*, *n.* a small gland.
Glare, *glar*, *v.* to shine with lustre; *n.* a lustrous light; a penetrating look.
Glaring, *glar'ing*, *adj.* bright; notorious.
Glass, *glas*, *n.* a combination of silica and an alkali.
Glauberite, *glaw'ber-it*, *n.* a mineral found in rock.
Glaucous, *glaw'kus*, *adj.* sea-green colour. [*salt*.]
Glaive, *glav*, *n.* a sword.
Gleam, *glem*, *v.* to cover with glass.
Gleazer, *gliz'er*, *n.* one who inserts glass in frames.
Gleazing, *gliz'ing*, *n.* the act of covering with glass; a vitreous substance used for covering.
Gleam, *glem*, *n.* a beam of light; *v.* to glow.
Glean, *glen*, *v.* to gather after reapers.
Glebe, *gleb*, *n.* church land.
Gleebous, *gleb'us*, *adj.* cloddy.
Gledge, *glej*, *v.* to squirt.
Glee, *glee*, *n.* mirth; a part song.
Gleed, *gleed*, *n.* a hot cancer.
Glean, *glen*, *n.* a narrow valley.
Glib, *glib*, *adj.* voluble.
Glide, *glid*, *v.* to move smoothly.
Glimmer, *glim'er*, *v.* to shine faintly.
Glimmering, *glim'er-ing*, *n.* a faint shining; an inkling.
Glimpse, *glimps*, *n.* a weak fitful light; a passing view.
Glint, *glint*, *v.* to shine; *n.* a quick gleam.
Glisten, *glis'n*, *v.* to shine or sparkle.
Glisten, *glis'n*, *v.* to glisten; *n.* brilliance.
Gloaming, *glom'ing*, *n.* twilight.
Gloat, *glot*, *v.* to look greedily or wickedly.
Globose, *gl'o-bat*, *adj.* globe-like.
Globe, *gl'ob*, *n.* a sphere; the world.
Globose, *gl'o-bus*, *adj.* like a globe.
Globule, *gl'o-bul*, *n.* a small globe.
Globose, *glom'er-ate*, *v.* to gather in ball-like form.
Gloom, *gloom*, *n.* heaviness; semi-darkness.
Glorify, *gl'o-rif-y*, *v.* to exalt; to rove with glory.
Glory, *gl'ori*, *n.* fame; renown; honour.
Gloss, *glos*, *n.* lustre.
Glossary, *glos'er-y*, *n.* a vocabulary of meanings.
Glossitis, *glos'itis*, *n.* inflammation of the tongue.
Glossology, *glos-o-lo-jy*, *n.* science of language.
Glossy, *gl'os*, *adj.* smooth and shining.
Glossy, *gl'os*, *adj.* relating to the tongue.
Glotis, *glot'is*, *n.* the opening to the windpipe.
Glow, *glow*, *v.* to shine brightly; to be ardent; *n.* warmth; ardour.
Gloze, *glow*, *v.* to wheedle; to flatter.
Gluccinum, *gluc'o-sium*, *n.* a metal made from beryl.
Glucose, *gluc'o-kos*, *n.* syrup obtained from fruits.
Glue, *glow*, *n.* an adhesive substance obtained from boiled skins, hoofs, etc.
Glum, *glum*, *adj.* gloomy; sullen.
Glume, *gloom*, *n.* calyx of certain grasses.
Glumps, *glumps*, *n.* the sulks.
Glut, *glut*, *v.* to cloy; to saturate.
Gluten, *glout'en*, *n.* the nutritive part of grain.
Glutinate, *glout'inate*, *v.* to stick together.
Glutinous, *glout'ine-us*, *adj.* viscous; gluey.

Glutton, gl'ut-on, *n.* a greedy eater.
 Gluttonous, gl'ut-on-us, *adj.* addicted to gluttony;
 Glutinous, gl'ut-on-us, *adj.* a neutral sticky liquid.
 Glycoerine, gl'is-er-en, *n.* a neutral sticky liquid.
 Glycoen, gl'is-er-en, *n.* animal starch.
 Glycol, gl'is-ol, *n.* a chemical compound.
 Glyph, gl'if, *n.* a fluted architectural channel.
 Glyptics, gl'ip-tiks, *n.* engraving on precious stones.
 Glyptodon, gl'ip-to-don, *n.* a fossil armadillo.
 Gnarl, narl, *n.* a knot in wood.
 Gnarled, narl'd, *adj.* knotty.
 Gnash, nash, *v.* to grind the teeth together.
 Gnaw, gnaw, *v.* to nibble into pieces; to bite.
 Gnaw, gnaw, *n.* a kind of hard rock.
 Gnome, nôm, *n.* a goblin.
 Gnomie, nôm'ik, *adj.* pertaining to the gnomie poets;
 Gnomon, nôm'on, *n.* the pin of a dial. [sententious]
 Gnomonics, nôm-on'iks, *n.* the art of dial-making.
 Gnostics, nos'tiks, *n.* a sect combining the Christian
 with other philosophies.
 Gnu, nü, *n.* a kind of antelope.
 Goad, göd, *v.* to stimulate; to urge; *n.* a sharp-
 Goaf, göf, *n.* a rick. [pointed stick]
 Goat, göt, *n.* an objective: ending-place of a race.
 Goat, göt, *n.* a ruminating animal.
 Goatee, göt-ē, *n.* pointed beard at end of chin.
 Gob, gob, *n.* the month.
 Gobbet, gob'et, *n.* a lump; a mouthful.
 Gobble, gob'l, *v.* to eat without mastication; to swallow
 Gobelin, gob'e-lin, *n.* a rich tapestry. [in lumps]
 Go-between, gö'bē-twēn, *n.* a mediator.
 Goblet, gob'let, *n.* a drinking cup.
 Goblin, gob'lin, *n.* an evil spirit.
 God, göd, *n.* the Supreme Being.
 God-daughter, göd-da'ter, *n.* girl to whom one
 stands in the relation of godfather.
 Goddess, göd'es, *n.* a female god.
 God-father, göd-fa'ther, *n.* male sponsor at baptism.
 Godhead, göd'hed, *n.* divinity.
 Godly, göd'li, *adj.* pious.
 Godsand, göd'send, *n.* an unexpected timely gift.
 Godsmith, göd'smit, *n.* an idol maker.
 God-speed, göd-spēd, *n.* a wish for a successful journey.
 Godwit, göd-wit, *n.* a kind of snipe. [or undertaking]
 Goffer, göf'er, *n.* to plait.
 Goggle, gög'l, *v.* to roll the eye.
 Goggles, gög'ls, *n.* eye-shield.
 Goglet, gög'let, *n.* a water cooler.
 Gold, göld, *n.* a precious mineral; money.
 Goldbeater, göld'bē-ter, *n.* a maker of gold leaf.
 Goliard, göl-yard, *n.* a monk-jester.
 Goliath, göl-i'ath, *n.* a giant.
 Gomphosis, gom-fō'sis, *n.* synarthrosis of teeth and
 Gondola, gom-do-la, *n.* a Venetian boat. [jaws]
 Gondoller, gon-do-lēr, *n.* one who rows a gondola.
 Gongalon, gon-fa-lon, *n.* a standard with streamers.
 Gong, göng, *n.* a kind of drum.
 Goniometer, gön-i-om'eter, *n.* an instrument for
 measuring small angles.
 Good, göd, *adj.* virtuous; honourable; sound.
 Good-breeding, göd-brēd'ing, *n.* polished manners.
 Goodliness, göd'il-nes, *n.* kindness.
 Goorkha, göor'ka, *n.* a native of Nepal.
 Goosander, göos-an'der, *n.* a web-footed bird.
 Gopher, göf'er, *n.* prairie dog; a kind of wood.
 Gorcock, gör'kok, *n.* moor-lion.
 Gordian-knot, görd-i-an-not, *n.* an inextricable diffi-
 Gore, gör, *n.* blood; a triangular piece of cloth. [culty]
 Gorge, görg, *n.* a narrow passage; the throat.
 Gorgeous, görg'e-us, *adj.* splendid.
 Gorget, görg'et, *n.* a throat protection.
 Gorgon, görg'on, *n.* a fabled monster.
 Gorgonzola, görg-on-zō-lā, *n.* a kind of cheese.
 Gorilla, gö-ni-lā, *n.* a large anthropoid ape.
 Goring, gör'ing, *n.* a diagonal cut of cloth.
 Gormandize, gör-mand-iz, *v.* to eat greedily.
 Gorse, görs, *n.* a prickly shrub.
 Goshawk, gös'hawk, *n.* a small hawk. [tidings]
 Goshaw, gös'ing, *n.* a young goose.
 Gospel, gös'pel, *n.* the Christian revelation; good

Gossamer, gös'am-er, *n.* filmy cobweb.
 Gossip, gös'ip, *n.* idle talk; a tattler.
 Gothamite, gö'tham-it, *n.* a foolish fellow.
 Gothic, göt'ik, *adj.* in architecture, the style of
 high-pointed arches; romantic.
 Gothicism, göt'is-izm, *n.* Gothic style.
 Gouda, göw-da, *n.* a kind of cheese.
 Gouge, göw'j, *n.* a scooping chisel; *v.* to force out.
 Gourd, görd, *n.* a kind of melon.
 Gousty, göws'ti, *adj.* dreary.
 Gout, göwt, *n.* inflammation of the joints.
 Goutweed, göwt'wēd, *n.* a plant used as a gout remedy.
 Govern, guv'ern, *v.* to rule; to direct.
 Governance, guv'er-nans, *n.* government; control.
 Governess, guv'er-nes, *n.* a female instructor.
 Government, guv'ern-ment, *n.* the executive power;
 control; management.
 Gown, *n.* a woman's garment; a barrister's robe.
 Gownman, gown'man, *n.* a man entitled professionally
 Grab, grab, *v.* to seize. [to wear a gown]
 Grabble, grab'l, *v.* to grope. [prayers at meals]
 Grace, grās, *n.* elegance; neatness; mercy; favour;
 Graceful, grās'ful, *adj.* becoming; elegant.
 Graces, grās'es, *n.* the three Greek goddesses,
 Euphrosyne, Aglaia, and Thalia; refinements.
 Gracie, grās'il, *adj.* slight; slender.
 Gracious, grās'hus, *adj.* merciful; benevolent.
 Grade, grād, *n.* degree of rank; class; the slope of a
 Gradient, grād'i-ent, *n.* an incline. [road]
 Gradual, grād'u-al, *adj.* by degrees.
 Graduate, grād'u-āt, *v.* to mark by degrees; one who
 has graduated at a university. [prosody]
 Gradus, grād'us, *n.* a dictionary of Latin or Greek
 Graft, graft, *v.* to incorporate one plant with another;
n. a young scion. [Christ at the Last Supper]
 Grail, grāl, *n.* the legendary holy vessel used by
 Grail, grāl, *n.* a head of cereal plant; or
 Graind, grānd, *adj.* coated with grains, or imitation
 graining.
 Graining, grān'ing, *n.* painting in imitation of the grain
 Grail, grāl'e, *n.* a class of wading birds.
 Grallatory, grāl'do-ri, *adj.* relating to wading birds.
 Graminivorous, gram-i-niv'er-us, *adj.* feeding on grass.
 Grammar, gram'er, *n.* the science of correct speaking
 or writing. [enlitting instrument]
 Gramophone, gram'o-fōn, *n.* a sound-recording and
 Grampus, gram'pus, *n.* a fish of the dolphin species.
 Granary, gran'er, *n.* a storehouse for grain.
 Grand, grand, *adj.* fine; large; superb; splendid.
 Grandam, gran'dam, *n.* an old woman; a grand-
 Grandee, gran-dē, *n.* a Spanish noble. [mothe]
 Grandeur, grand'yer, *n.* splendour; vastness.
 Grandiloquent, grand-il'o-kwent, *adj.* bombastic.
 Grandiose, grand'i-ös, *adj.* bombastic.
 Grand-jury, grand-jū'ri, *n.* a first jury that decides
 whether a case calls for trial or not.
 Grange, grān, *n.* a farm-house.
 Graniform, gran'i-form, *adj.* grain-shaped.
 Granite, gran'it, *n.* an igneous rock of great hardness.
 Granite, gran'it, *adj.* pertaining to granite.
 Granitiform, gran-i'ti-form, *adj.* granite-like.
 Granivorous, gran-i-v'er-us, *adj.* grain-eating.
 Grant, grant, *v.* to give; to bestow; *n.* the thing
 granted; deed of grant. [made]
 Grantee, grant-ē, *n.* the person to whom a grant is
 Granular, gran'ü-lar, *adj.* consisting of granules.
 Granulate, gran'ü-lāt, *v.* to break into grains.
 Granule, gran'ül, *n.* a grain particle.
 Granulous, gran'ü-lus, *adj.* grain-like.
 Grape, grāp, *n.* the fruit of the vine; grapeshot.
 Grape-shot, grāp'shot, *n.* small shot that scatters
 when fired.
 Grapestone, grāp'stōn, *n.* the seed of the grape.
 Graph, graf, *n.* picture in lines.
 Graphic, graf'ik, *adj.* well-drawn; vivid.
 Graphia, graf'ia, *n.* a kind of lichen.
 Graphite, graf'it, *n.* black lead.
 Grapholite, graf'o-lit, *n.* a kind of slate.
 Grapple, graf'nel, *n.* a small anchor.
 Grapple, graf'l, *v.* to seize.
 Grasp, grāsp, *v.* to seize with the hand.
 Grasping, grāsp'ing, *adj.* greedy.

day; ät; ärm; äve; älk; there; Ice; ptn; machine; bold; pöt; störm; müte; tül; börm.

Grass, *gras*, *n.* green herbage. [from her husband.
Grass-widow, *gras-wid-ō*, *n.* a wife temporarily parted.
Grate, *grāt*, *n.* bars forming place for fire; *v.* to rub against; to make a harsh sound.
Grateful, *grāt'fūl*, *adj.* giving pleasure; thankful.
Grater, *grāt'er*, *n.* an instrument for grating.
Grating, *grāt'ing*, *n.* the bars of a grate; *adj.* harsh.
Gratia, *grāt'is*, *adj.* for nothing.
Gratitude, *grāt'it-ū-d*, *n.* thankfulness.
Gratuitous, *grā-tū'it-us*, *adj.* free.
Gratuity, *grā-tū'it-ū*, *n.* a present.
Gratulate, *grāt'ū-lāt*, *v.* to congratulate. [compliment.
Gravamen, *grav'ā-men*, *n.* grievance; ground of
Grave, *grāv*, *adj.* sober; serious; *n.* spot of burial.
Gravel, *grav'el*, *n.* small stones; a disease of the
Gravelly, *grav'el-i*, *adj.* containing gravel. [kidneys.
Gravely, *grav'el-i*, *adj.* seriously.
Graveolent, *grav'ē-ō-lent*, *adj.* emitting a noxious
Graver, *grāv'er*, *n.* engraving tool. [smell.
Gravid, *grav'id*, *adj.* heavy.
Gravitate, *grav'itāt*, *v.* to tend towards a centre of
attraction. [seriousness.
Gravity, *grav'it-i*, *n.* a force which attracts weight;
Gravy, *grāv'vī*, *n.* juice from meat.
Gravy-boat, *grāv'vī-bōt*, *n.* vessel for holding gravy.
Gray, *grā*, *n.* white mixed with black.
Graybeard, *grā'bērd*, *n.* a greybearded old man.
Graying, *grā'ing*, *n.* a small fish of the salmon order.
Graze, *grāz*, *v.* to feed on grass; to pass lightly over.
Grazier, *grāz'er*, *n.* one who pastures cattle.
Grazing, *grāz'ing*, *n.* the act of feeding on grass.
Grease, *grēs*, *n.* animal fat.
Greasy, *grēs'y*, *adj.* covered with grease.
Great, *grāt*, *adj.* large; famed; mighty.
Greaves, *grēvs*, *n.* tallow sediment.
Grebe, *grēb*, *n.* a water bird.
Gree, *grē*, *n.* degree.
Greed, *grēd*, *n.* strong desire; covetousness.
Green, *grēn*, *adj.* grass-coloured; new; verdant; inex-
perienced. [generally in the United States.
Greenback, *grēn'bak*, *n.* name given to paper money.
Greenery, *grēn'er-i*, *n.* verdure.
Greengage, *grēn'gā*, *n.* a kind of plum.
Greenhorn, *grēn'horn*, *n.* a raw youth.
Greenhouse, *grēn'hous*, *n.* a conservatory.
Greet, *grēt*, *v.* to salute.
Greeting, *grēt'ing*, *n.* a welcome.
Gregarious, *grē-gā'ri-us*, *adj.* moving in flocks.
Gregorian, *grē-gō'ri-an*, *adj.* in the manner of the
chants introduced by Pope Gregory.
Gremial, *grēm'ial*, *n.* cloth worn across the knee
by bishops at ordinations.
Grenade, *grē-nād*, *n.* a small explosive shell.
Grenadier, *grē-nā-dēr*, *n.* a soldier of the foot-guards;
formerly a soldier who threw grenades.
Grenadine, *grē-nā-dēr*, *n.* a kind of silky dress fabric.
Greyhound, *grē'hound*, *n.* a hunting dog.
Gride, *grīd*, *n.* a pan for baking cakes.
Gridelle, *grīd'el-lin*, *n.* a violet grey colour.
Gridiron, *grīd'ēr-n*, *n.* a hand-grate for broiling.
Grief, *grīf*, *n.* sorrow; regret. [meats upon.
Grievance, *grēv'ans*, *n.* a burden; cause for grief;
Grievous, *grēv'us*, *adj.* painful. [hardship.
Griffin, *grīf'in*, *n.* a fabulous creature.
Grip, *grīp*, *n.* a sand-skel.
Grill, *grīl*, *n.* a large fixed gridiron; *v.* to broil.
Grilse, *grīs*, *n.* a young salmon.
Grim, *grīm*, *adj.* forbidding; stern.
Grimace, *grīm'ās*, *n.* contortion of the face.
Grimalkin, *grīm'al'kin*, *n.* a cat.
Grime, *grīm*, *n.* dirt deep-seated.
Grimy, *grīm-i*, *adj.* dirty; sooty.
Grim, *grīm*, *n.* to smile with the teeth together.
Grind, *grīnd*, *v.* to crush to powder; to rub together.
Grindstone, *grīnd'stōn*, *n.* a stone on which tools are
ground.
Grip, *grīp*, *v.* to hold firmly; *n.* a small trench. [ground.
Gripe, *grīp*, *v.* to seize; *n.* a pain in the bowels.
Grisette, *grīz'et*, *n.* a gay young French workwoman.
Gribskin, *grīp'kin*, *n.* a pig's spine.
Gristly, *grīz'l-i*, *adj.* frightful.
Grist, *n.* corn for grinding.

Gristle, *grīz'l*, *n.* cartilage.
Gristly, *grīz'l-i*, *adj.* consisting of, or like, gristle.
Grit, *grīt*, *n.* coarse part of meal; sandstone; firmness.
Gritty, *grīt-i*, *adj.* determined; having hard particles.
Grisette, *grīz'l*, *n.* a grey colour.
Griszly, *grīz'l-i*, *adj.* grey.
Groan, *grōn*, *v.* to moan.
Groat, *grōt*, *n.* an old coin worth 4d.
Groats, *grōts*, *n.* grain of oats.
Grocer, *grō'ser*, *n.* a dealer in various food provisions.
Grog, *grōg*, *n.* spirits and water.
Grog-blossom, *grōg'blis-om*, *n.* redness of nose.
Grogram, *grōg'ram*, *n.* a coarse cloth.
Groin, *grōin*, *n.* the part of the body between the
belly and the thigh.
Groined, *grōind*, *adj.* having arched intersections.
Groom, *grōom*, *n.* one who tends horses.
Groomsman, *grōom's-man*, *n.* one who attends a
bridegroom at his wedding.
Groove, *grōov*, *n.* a furrow.
Grope, *grōp*, *v.* to feel for in the dark.
Gross, *grōs*, *adj.* coarse; rough; *n.* in bulk, 12 dozen.
Grotesque, *grō-tesk*, *adj.* fantastic.
Grotto, *grōt-ō*, *n.* a cool cavern.
Ground, *grōund*, *n.* land; earth; *v.* to fix.
Grounds, *grōund's*, *n.* charge for space occupied.
Ground-plot, *grōund'plot*, *n.* a site. [by ship or port.
Ground-rent, *grōund'rent*, *n.* rent received for yellow.
Grounds, *grōunds*, *n.* dregs; sediment. [flowers.
Groundsel, *grōund'sel*, *n.* a plant bearing small yellow
flowers.
Ground-work, *grōund'werk*, *n.* foundation; basis.
Group, *grōop*, *n.* persons or things collected together.
Grouping, *grōop'ing*, *n.* the act of arranging groups.
Grouse, *grōws*, *n.* moor-fowl.
GROUT, *grōwt*, *n.* coarse meal; lees; plaster.
Grove, *grōv*, *n.* a small wood.
Grove, *grōv'el*, *v.* to crawl; to fawn.
Grovelling, *grōv'el-ing*, *adj.* mean; abject.
Grow, *grō*, *v.* to develop; to increase by natural force.
Growl, *grōwl*, *v.* to murmur angrily.
Growth, *grōth*, *n.* development; a growing.
Grub, *grub*, *n.* larvae of insects; *v.* to dig.
Grubber, *grub'er*, *n.* one who grubs; an agriculturist
implement. [envy; to murmur at.
Grudge, *gruj*, *n.* secret hatred; *v.* to regard with
gruel.
Gruel, *grō'el*, *n.* meal boiled in water.
Gruesome, *grō'som*, *adj.* ghastly; grim.
Gruff, *gruf*, *adj.* abrupt; stern.
Grum, *grum*, *adj.* morose.
Grumble, *grum'bl*, *v.* to express dissatisfaction.
Grume, *grōom*, *n.* a clot.
Grumous, *grō'mus*, *adj.* thick; clotted.
Grimpy, *grump'i*, *adj.* mean; surly.
Grun, *grunt*, *v.* to make a guttural sound; such a
Guano, *grō-ā-no*, *n.* dung of sea-birds. [sound
Guarantee, *gar-an-tē*, *n.* a warrant of surety; *v.* to
undertake for another. [other guarding power.
Guard, *gārd*, *v.* to watch or protect; *n.* man, men, or
Guardage, *gārd'ā*, *n.* wardship.
Guardant, *gārd'ant*, *adj.* with face to the onlooker.
Guardian, *gārd'ian*, *n.* one who guards or protects.
Gubernatorial, *gū-ber-nā-tō'ri-al*, *adj.* pertaining to
Gudgeon, *gud'jun*, *n.* a river fish. [rule
Guerdon, *ger'don*, *n.* a reward.
Guerrilla, *ger'il-lā*, *n.* irregular warfare.
Guess, *ges*, *v.* to conjecture.
Guesswork, *ges'werk*, *n.* anything done by guess.
Guest, *gest*, *n.* an invited visitor.
Guffaw, *guf-aw*, *n.* a coarse laugh.
Guidance, *gid'ans*, *n.* direction; advice.
Guide, *gid*, *v.* to lead; to direct. [guiding hints
Guidepost, *gid'pōst*, *n.* a roadside erection containing
GUILD, *gild*, *n.* an association for mutual aid.
Guildhall, *gild'hawl*, *n.* the hall of a guild.
Guile, *gil*, *n.* deceit; cunning.
Guileful, *gil'fūl*, *adj.* crafty.
Guileless, *gil'les*, *adj.* free from deceit.
Guilt, *gil*, *n.* crime; wickedness. [a crime.
Guiltily, *gil't-i*, *adj.* wicked; criminal; responsible for
Gulden, *gul'den*, *n.* an old gold coin worth 21s.
Guise, *gīs*, *n.* manner; dress.
Guitar, *gi-tār*, *n.* a stringed musical instrument.

dāy; āt; ārm; ēve; ēlk; thēre; lēg; pīn; machine: bōld; pōt; stōrm; mūte; tūb; būrn.

Gulch, gulsh, *n.* a ravine. [coast line; a.1 abyss.
Gulf, gult, *n.* an arm of sea breaking away from the
Gull, gult, *n.* a sea fowl; *v.* to deceive.
Gullet, gult, *n.* the throat passage.
Gullibility, gult-bil-i-ti, *n.* trickery.
Gully, gult, *n.* a ravine.
Gulp, gulp, *v.* to swallow quickly without masticating.
Gum, gum, *n.* an adhesive substance; the fleshy part
 enclosing the teeth.
Gumption, gump'shun, *n.* sagacity.
Gun, gun, *n.* a fire-arm; a cannon.
Gunner, gun'er, *n.* a soldier who works a cannon.
Gunnery, gun'er-i, *n.* the science of artillery.
Gunny, gun't, *n.* a kind of sack. [barrel resta.
Gunstock, gun'stok, *n.* the part of a gun on which the
Gunwale, gun'wāl, *n.* the upper edge of a ship's side.
Gurgle, gur'gl, *v.* a noisy flow or current.
Gurnard, gur'nard, *n.* a kind of fish.
Gurry, gur't, *n.* offal of fish.
Gush, gush, *v.* to flow copiously; *n.* effusive sentiment.
Gusset, gus'et, *n.* an angular piece let into a garment.
Gust, gust, *n.* a sudden rush of wind; relish.
Gustatory, gust'a-to-ri, *adj.* pertaining to the taste.
Gusto, gust'o, *n.* enthusiasm; relish.
Gusty, gust'i, *adj.* fitful; stormy.
Gut, gut, *n.* the alimentary canal. [certain trees.
Gutta-percha, gut'a-perch'a, *n.* the solidified juice of
Gutter, gut'er, *n.* channel for carrying off water.
Guttural, gut'er-al, *adj.* formed in the throat.
Guy, gi, *n.* a steadying rope; an outlandish figure.
Guzzle, guz'l, *v.* to drink greedily.
Gymnasium, jim-nā'zi-um, *n.* place for athletic exercise.
Gymnast, jim-nast, *n.* one who practices gymnastics.
Gymnastics, jim-nas'tiks, *n.* athletics.
Gynarchy, jin-ar-ki, *n.* government by a woman.
Gyp, jip, *n.* a Cambridge college servant.
Gypsum, gys-sūm, *adj.* consisting of or like gypsum.
Gypsum, jip'sum, *n.* sulphate of lime.
Gyrate, jī'rāt, *v.* to spin round.
Gyratory, jī-rā'to-ri, *adj.* moving in a circle.
Gyratation, jī-rā'shun, *n.* whirling round.
Gyre, jir, *n.* a circular motion.
Gyroscope, jī-ro-skōp, *n.* an instrument for testing
Gyves, jivs, *n.* fetters. [rotary movements.

H

Habeas Corpus, hā-bee-as cor'pus, *n.* writ to produce
 a prisoner and specify reasons for his detention.
Haberdasher, hal'er-dash'er, *n.* a seller of drapery
 smallwares. [breast
Habergeon, hab'er-je-on, *n.* armour for the neck and
Habitment, hab-it-ment, *n.* a garment; attire.
Habit, hab'it, *n.* custom; appearance; dress.
Habitable, hab-it-a-ble, *adj.* that may be lived in.
Habitat, hab'it-tat, *n.* natural abode.
Habitation, hab-it-ā'shun, *n.* a dwelling; act of
Habitual, hab-it'ū-al, *adj.* customary. [inhabiting.
Habituate, hab-it'ū-āt, *v.* to accustom. [drudge.
Hack, hak, *v.* to cut; *n.* a horse kept for hire; a literary
Hacking, hak'ing, *adj.* short and broken, as a cough.
Hackle, hak'l, *v.* to separate.
Hackler, hak'ler, *n.* a fax-dresser.
Hackney, hak'ni, *n.* a hack; *v.* to make common.
Hackneyed, hak'ni-d, *adj.* much-used; let for hire.
Haddock, hak'ok, *n.* a sea fish.
Hades, hā'dēs, *n.* hell.
Haft, haft, *n.* a handle.
Hag, hag, *n.* an ugly old woman.
Haggard, hag'erd, *adj.* lean; wild-looking.
Haggis, hag'is, *n.* a Scotch stew.
Haggle, hag'l, *v.* to cavil; to mangle.
Hagiography, hag-i-og'ra-fi, *n.* the last of the three
 Jewish divisions of the Old Testament.
Hagiology, hag-i-ol'j-i, *n.* lives of saints.
Hail, hāl, *v.* to greet; frozen rain.
Hair, hār, *n.* animal filament; the mass of hairs on the
Hake, hāk, *n.* a gadoid fish. [head and body.
Halberd, hal'berd, *n.* a pole-axe.
Halcyon, hal'si-on, *adj.* happy; calm; *n.* the king-
Hale, hāl, *adj.* hearty; robust; *v.* to drag. [fisher.
Half, hāf, *n.* one of two equal parts.

Half-blood, hāf-blūd, *n.* relation only by one parent.
Half-bred, hāf-brēd, *adj.* underbred.
Half-caste, hāf-kast, *n.* one having one parent a
 Hindu and the other a European; any half-breed.
Half-pay, hāf-pā, *n.* an officer's reduced p. y.
Halibut, hal'i-but, *n.* a large flat sea-fish.
Halicorn, hal'i-kōr, *n.* a dugong.
Hallidom, hal'i-dōm, *n.* holiness; an Old English oath.
Halleutics, hal-i-t'iks, *n.* writings on fishes. [room
Hall, hawl, *n.* a large entrance passage; large public
Hallelulah, hal-e-loo'ya, *n.* praise to God.
Hallion, hal'yun, *n.* a lazy person.
Halloo, hal-loo', *n.* a cry to draw attention; a hunting
 call.
Hallow, hal'lo, *v.* to sanctify.
Hallucinate, hal-i-sin-ā, *v.* to suffer illusion. [call.
Hallucination, hal-i-sin-ā'shun, *n.* a delusion.
Hallux, hal'uks, *n.* the great toe.
Halo, hā'lo, *n.* a luminous circle.
Halt, haw't, *v.* to stop; *n.* the lame.
Halter, haw'ter, *n.* head-rope for horse; hangman's
Halt, haw'ting, *adj.* holding back. [rope.
Halve, hāv, *v.* to divide into two equal parts.
Halvyard, hal'yārd, *n.* rope for holding walls.
Ham, hām, *n.* the back of the thigh; a cured pig's thigh.
Hamble, hām'bl, *v.* to mutilate.
Hames, hāmz, *n.* a sort of horse-collar.
Hamlet, hām'let, *n.* a small village.
Hammer, hām'er, *n.* a tool for driving or sticking.
Hammock, hām'ok, *n.* a swinging resting place.
Hamper, hām'per, *n.* a large basket; *v.* to obstruct;
Hampered, hām'perd, *adj.* impeded. [to hinder.
Hamstring, hām string, *n.* the tendon of the ham.
Hamper, hām'per, *n.* old word for receptacle for
 hunch, hunch, *v.* to snap at; [quavers, treasure, etc.
Hand, hand, *n.* the extremity of the arm below the
 wrist; a worker; *v.* to give to.
Handcuff, hand'kuf, *n.* shackles for the wrist.
Handfast, hand'fast, *n.* handle; grip; a betrothal.
Hand-gallop, hand-gal'up, *n.* an easy gallop.
Handicap, hand'i-kap, *v.* to place at a disadvantage;
 to equalise by burdening what is superior.
Handicraft, hand'i-kraft, *n.* labour by hand.
Handwork, hand'i-werk, *n.* work done by the hands.
Handkerchief, hand'ker-chief, *n.* cloth used for wiping
Handle, hand'l, *v.* to lay hold of; to discuss [the nose.
Handmaid, hand'māid, *n.* a female servant.
Handsel, hand'sel, *n.* a first use.
Handsome, han'sum, *adj.* attractive; good-looking.
Handspike, hand'spik, *n.* a wooden lever.
Handstaves, hand'stāvz, *n.* javelins.
Handy, hand'i, *adj.* ready; dexterous; near.
Hang, hang, *v.* to suspend.
Hangar, hang'ar, *n.* covered shed for vehicles.
Hangar-on, hang'er-on, *n.* one who holds on; a
 dependent. [beds, walls, etc.
Hangings, hang'ings, *n.* hanging drapery to windows.
Hangman, hang'man, *n.* public executioner.
Hank, hangk, *n.* two or more skeins of thread tied
Hanker, hangk'er, *v.* to desire eagerly. [together.
Hanky-panky, hangk'i-pangk'i, *n.* jugglery.
Hansard, han'sard, *n.* official Parliamentary reports.
Hansom, han'som, *n.* a two-wheeled cab.
Hap, hap, *n.* chance; hazard.
Haphazard, hap-haz'ard, *n.* mere chance.
Hapless, hap'les, *adj.* unlucky.
Haply, hap'l, *adv.* by chance.
Happy, hap'i, *adj.* glad; felicitous; apt.
Harangue, ha-rang, *n.* a pompous speech.
Harass, har'as, *v.* to torment; to hamper.
Harbinger, hār-bun-ger, *n.* a forerunner.
Harbour, hār'bur, *n.* shelter for ships.
Harboured, hār'bur-er, *n.* one who harbours.
Hard, hārd, *adj.* firm; solid; severe.
Harden, hārd'en, *v.* to make hard. [ance.
Hardihood, hārd'i-hood, *n.* strength; power of endure.
Hardiness, hārd'i-ness, *n.* boldness; assurance;
 capability of resistance to severity.
Hardly, hārd'l, *adv.* scarcely; harshly.
Hardie, hārdi, *n.* coarse flax.
Hardship, hārd'ship, *n.* severe toil; want. [ance.
Hard-visaged, hārd'viz'ajd, *adj.* of severe countenance.
Hardware, hārd'wār, *n.* iron wares.

day; āt; ārm; ēve; ēlk; thēre; Ice; pīn; machine; bōj; pōt; stōrm; mūte; tūb; bōrh.

Hardy, hârd'î, *adj.* strong; resolute.
Hare, hâr, *n.* a wild animal having a divided upper lip.
Harebrained, hâr-brând, *adj.* reckless.
Harelip, hâr-lîp, *n.* a divided upper lip.
Harem, hâr-em, *n.* a part of house allotted to women in Eastern countries.
Haricot, hâr-î-kô, *n.* a stew of mutton and vegetables.
Harl, hâr, *n.* the skin of flax. [a kidney bean.
Harlequin, hâr-le-kwîn, *n.* a character in a pantomime.
Harlot, hâr-lot, *n.* a prostitute.
Harm, hârm, *n.* injury.
Harmonicon, hâr-môn-î-kon, *n.* a mouth organ.
Harmonics, hâr-môn-î-ka, *n.* the science of harmony.
Harmonious, hâr-môn-i-us, *adj.* in concord.
Harmonise, hâr-môn-î-z, *v.* to make harmonious.
Harmonist, hâr-môn-îst, *n.* one skilled in harmony.
Harmonium, hâr-môn-i-um, *n.* a boxed-keyed and treadled reed instrument of music. [agreement.
Harmony, hâr-môn-î, *n.* accord of sounds; fitness;
Harness, hâr-ness, *n.* a horse's equipment.
Harp, hârp, *n.* a stringed musical instrument; *v.* to dwell insistently on anything.
Harper, hâr-per, *n.* a harp player.
Harpoon, hâr-poon, *n.* a dart to use against whales.
Harpsichord, hâr-pî-kôrd, *n.* an ancient keyed instrument.
Harpy, hâr-pî, *n.* one who preys on others. [ment.
Harri-dan, hâr-î-dan, *n.* a hag.
Harrier, hâr-î-er, *n.* a hound used for hare hunting.
Harrowian, hâr-ô-vi-an, *n.* one educated at Harrow.
Harrow, hâr-ô, *n.* a toothed instrument for breaking
Harrowing, hâr-ô-ing, *adj.* distressing. [up land.
Harry, hâr-î, *v.* to harass; to plunder.
Harsh, hârsh, *adj.* cruel; severe.
Hart, hâr, *n.* a full-grown stag.
Hartshorn, hârts'horn, *n.* a solution of ammonia.
Harum-skarum, hâr-um-skâ-rum, *adj.* flighty; rash.
Harvest, hâr-vest, *n.* the time for gathering crops; the crops gathered.
Hash, hash, *v.* to mince; to hack.
Haslet, hâs-let, *n.* eatable entrails.
Hasp, hâsp, *n.* a clasp.
Hassock, hâs-sok, *n.* a foot cushion, a kneeling mat.
Hastate, hâs-tat, *adj.* spear-shaped.
Haste, hâst, *n.* speed; hurry.
Hat, hât, *n.* a head covering.
Hatch, hâch, *v.* to produce from eggs; to shade.
Hatchery, hâch-er-î, *n.* place for hatching.
Hatchet, hâch-et, *n.* a small axe.
Hatchway, hâch-wâ, *n.* an opening in a ship's deck.
Hate, hât, *n.* dislike; *v.* to dislike; to despise.
Hateful, hât-ful, *adj.* odious; detestable.
Hated, hât-red, *n.* extreme dislike.
Hatter, hât-er, *n.* a hat maker.
Hauberk, hâw-berk, *n.* a tunic worn by the Norman
Haughty, hâw-tî, *adj.* proud; arrogant. [soldiers
Haul, hâw, *v.* to drag; to pull in.
Hauler, hâw-er, *n.* one who hauls.
Haulm, hâwm, *n.* stubble; straw.
Haunch, hâwnsh, *n.* the thigh.
Haunt, hâwn-t, *v.* to frequent; to visit.
Haunted, hâwn-ted, *adj.* frequented by a ghostly
Hauteboy, hâw-boî, *n.* a wind instrument. [vibrant.
Hauteur, hâw-tô-er, *n.* pride; an arrogant manner.
Havana, hâv-an'î, *n.* a cigar of an Havana brand.
Haven, hâv-en, *n.* a shelter for ships.
Haversack, hâv-er-sâk, *n.* a soldier's knapsack.
Havildar, hâv-il-dar, *n.* a sergeant of Indian troops.
Havoc, hâv-ok, *n.* general waste; slaughter. [speech.
Haw, hâw, *n.* the seed-vessel of the thorn; hesitant
Hawk, hâwk, *n.* a bird of prey; *v.* to go about with goods for sale.
Hawker, hâwk-er, *n.* one who hawks goods.
Hawk-eyed, hâwk-îd, *adj.* with hawk-like eyes.
Hawse, hâws, *n.* the position of a ship's cables; the holes for the cables.
Hawser, hâws-er, *n.* a large rope.
Hedthorn, hâw-thorn, *n.* a hedge shrub.
Hay, hâ, *n.* dried grass.
Hazard, hâz-ard, *n.* chance; danger.
Hazardous, hâz-er-dus, *adj.* dangerous.
Haze, hâz, *n.* light mist; obscurity.
Hazel, hâz-el, *n.* a shrub bearing nuts.

Hazy, hâz-î, *adj.* foggy; misty.
Head, hêd, *n.* the top or front part of an animal's body.
Headache, hêd-âk, *n.* pain in the head.
Headband, hêd-band, *n.* a fillet. [the sea.
Headland, hêd-land, *n.* a point of land jutting into
Headlight, hêd-lît, *n.* light carried in front of a ship.
Headlong, hêd-long, *adv.* rashly; madly.
Headpiece, hêd-pîs, *n.* helmet or head guard.
Headquarters, hêd-kwârt-ers, *n.* the quarters of a commanding officer.
Headman, hêd's-man, *n.* a public official who beheads.
Headstall, hêd's-tawl, *n.* part of a bridle.
Headstrong, hêd's-trong, *adj.* self-willed; impetuous.
Headway, hêd-wâ, *n.* a ship's progress.
Heady, hêd-î, *adj.* rash; headstrong.
Heal, hêl, *v.* to cure; to repair; to subdue.
Healer, hêl-er, *n.* one who heals; a doctor.
Health, hêlth, *n.* freedom from disease.
Healthful, hêlth-ful, *adj.* in a healthy condition.
Heap, hêp, *n.* a pile; a mass; *v.* to amass; to make into a heap. [to listen to.
Hear, hêr, *v.* to perceive by the ear; to comprehend;
Hearken, hâr-ken, *v.* to listen.
Hearsey, hêr-sâ, *adj.* common rumour. [funerals.
Hearse, hêrs, *n.* conveyance for carrying coffins at
Hearth, hârth, *n.* the organ that circulates the blood; courage; affection.
Hearthburn, hârth-bern, *n.* an acid rising at the stomach.
Hearthen, hâr-ten, *v.* to stimulate.
Hearth, hârth, *n.* floor for a fire. [ing the fireplace.
Hearthstone, hârth-stôn, *n.* the stone or space front-
Heartless, hâr-les, *adj.* devoid of feeling or courage.
Heartly, hâr-î, *adj.* warm; generous; healthy.
Heat, hêt, *n.* that which gives warmth.
Heath, hêth, *n.* barren land; moor.
Heathen, hêth-en, *n.* a pagan.
Heathendom, hêth-en-dom, *n.* countries where
Heather, hêth-er, *n.* ling; heath. [heathens prevail.
Heave, hêv, *v.* to raise up; to pant; to swell.
Heaven, hev'n, *n.* the abode of the blessed; the sky.
Heaven-born, hev'n-bawn, *adj.* inspired.
Heaver, hêv-er, *n.* one who lifts or heaves.
Heaven, hev'n, *n.* a disease in horses.
Heaviness, hev'n-ness, *adj.* dullness; oppressiveness;
Heavy, hev-î, *adj.* weighty. [melancholy.
Hebdomad, heb-do-mad, *n.* the number seven.
Hebdomadal, heb-dom-a-dal, *adj.* weekly.
Hebetate, heb-e-tât, *v.* to render blind or dull.
Hebetute, heb-e-tûd, *n.* the act of making blind.
Hebraic, hê-brâ-îk, *adj.* pertaining to the Hebrews.
Hebraise, hê-brâ-î-z, *v.* to change to Hebrew.
Hebraist, hê-brâ-îst, *n.* one learned in Hebrew.
Hecatomb, hek'-a-oom, *n.* sacrifice of 100 victims; any
Heckle, hek-î, *v.* to comb. [great sacrifice.
Hectic, hek-tîk, *adj.* a fevered condition. [grammes.
Hectogramme, hek-to-gram, *n.* a weight of 100
Hectoid, hek-toid, *adj.* of hectic appearance.
Hector, hek-tor, *v.* to bully.
Hedge, hev, *n.* a bushy thicket; a fence.
Hedge-born, hêd-bawn, *adj.* of obscure birth.
Hedonism, hêd-on-îz-m, *n.* the theory that happiness is the chief good.
Heed, hêd, *v.* to notice; *n.* caution; attention.
Heel, hêl, *n.* the hind part of the foot.
Heelpiece, hêl-pîs, *n.* a heel covering.
Heft, hev, *n.* handle; heaving.
Hegemony, hê-jem-on-î, *n.* leadership.
Heller, hev-er, *n.* a young cow.
Height, hit, *n.* a hill.
Heighten, hit-en, *v.* to raise higher; to improve.
Heinous, hê-nus, *adj.* wicked; atrocious.
Heir, âr, *n.* one who inherits, or is entitled to inherit.
Heir-apparent, âr-ap-pâ-rent, *n.* a legally acknow-
Heirless, âr-les, *adj.* without heir. [pledged heir.
Heirloom, âr-loom, *n.* any personal property which descends to the heir-at-law and cannot be sold.
Heir-presumptive, âr-pre-zump-tîv, *n.* one who is heir if no nearer relative be born.
Helicoid, hêl-îk-oid, *adj.* ulcerous.
Helicology, hêl-îk-ol-ô-jî, *n.* the study of ulcers.
Helical, hêl-îk-âl, *adj.* emerging from or passing into the sun's light.

dây; ât; ârm; êve; êlk; thêre; tce; pîn; machine; bôld; pôst; stôrm; mûte; tûb; bûrn.

Helical, hel'ik-al, *adj.* spiral.
Heliograph, hel'i-o-graph, *v.* to communicate by helio-
 stat or other.
Heliolatri, hel'i-o-lā-tri, *n.* sun worship.
Heliostat, hel'i-o-stat, *n.* a reflecting instrument.
Helix, hel'iks, *n.* a spiral.
Hell, *n.* abode of evil spirits; place of torment.
Hellebore, hel'e-bōr, *n.* a plant whose root is a
 purgative. [practising Greek.
Hellenist, hel'en-ist, *n.* one learned in Greek; a Jew
 Helm, helm, *n.* steering apparatus of a ship.
Helmet, hel'met, *n.* armour covering for the head.
Helmithology, hel'mi-thol-o-jī, *n.* the study of
 Helot, hel'ot, *n.* a Spartan slave. [worms.
Help, help, *v.* to aid; to assist; *n.* provision.
Helpmeet, help'mēt, *n.* a consort or companion.
Helve, helv, *n.* the handle of an axe.
Helvetic, hel'vet'ik, *adj.* pertaining to Switzerland
Hem, hem, *v.* the stitched or woven border of a
 garment; *n.* a short couch.
Hemal, hel'mal, *adj.* connected with the blood.
Hematology, hel-mat-ol-o-jī, *n.* science of the blood.
Hemiptera, hem-ip'ter-a, *n.* four-winged insects
Hemisphere, hem-i-sfer, *n.* a half globe.
Hemistich, hem-i-stik, *n.* an incomplete line of verse.
Hemlock, hem'lok, *n.* a poisonous plant.
Hemorrhage, hem'or-aj, *n.* loss of blood.
Hemorrhoids, hem'or-oids, *n.* piles.
Hemp, nemp, *n.* a plant used for cordage making.
Hen, hen, *n.* female fowl or bird.
Henbane, hen'bān, *n.* a poisonous plant.
Henchman, hench'man, *n.* a servant.
Hencoop, hen'koop, *n.* a large cage for poultry.
Henna, hen'a, *n.* an Oriental dye pigment.
Henpecked, hen'pekt, *adj.* ruled by one's wife.
Henwife, hen'wif, *n.* a woman who tends poultry.
Hepatic, he-pat'ik, *adj.* pertaining to the liver.
Heptachord, hep'ta-kord, *n.* a series of seven tones;
 a seven-stringed instrument.
Heptade, hep'tād, *n.* number or total of seven.
Heptagon, hep'ta-gon, *n.* a figure of seven equal sides.
Heptarchy, hep'tar-ki, *n.* government by seven rulers.
Herald, her'ald, *n.* a forerunner; *v.* to proclaim.
Heraldic, her'ald'ik, *adj.* pertaining to heraldry.
Heraldry, her'ald-ri, *n.* the science of heraldic matters.
Herb, herb, *n.* a plant whose stem dies every year.
Herbaceous, herb-ā-shus, *adj.* pertaining to herbs.
Herbage, herb'ij, *n.* pasture.
Herbal, her'bal, *n.* a book on plants.
Herbarium, herb-ā-ri-um, *n.* a collection of plants.
Herbiferous, herb-if'er-us, *adj.* bearing herbs
Herbivorous, herb-if'er-us, *adj.* herb-feeding.
Herbivore, herb-ō-riz, *v.* to botanize. [gigantic.
Herculean, her-kū'li-an, *adj.* difficult; very strong;
Herd, *n.* a collection of beasts; a flock; *v.* to run in
 company.
Herdsmen, herds'men, *n.* one who tends cattle.
Heredity, her-ed-it-ā-ment, *n.* inheritable prop-
 erty. [ance.
Hereditary, her-ed-it-ā-ri, *adj.* descending by inher-
Heredity, her-ed-it-ā-ri, *n.* transmission of ancestral
 qualities.
Heresiarch, her-es-'ark, *n.* a leader in heresy.
Heresy, her-es'i, *n.* unsound doctrine.
Heretic, her-e-tik, *n.* an unbeliever.
Heretical, her-e-t'ik-al, *adj.* relating to heresy.
Heritable, her-it-ā-ble, *adj.* capable of being inherited.
Heritage, her-it-ā-ji, *n.* an inheritance.
Hermaphrodite, her-maf-ro-dit, *n.* an animal or plant
 combining the male and female sexual charac-
 ters. [Scriptural interpretation.
Hermeneutics, her-men-ū'tiks, *n.* the science of
Hermeneutical, her-men'ik-al, *adv.* perfectly closed.
Hermist, her'mit, *n.* one who lives in solitude.
Hermiteage, her-mit-ā-ji, *n.* a hermit's abode.
Hernia, her'n-ia, *n.* rupture.
Hero, her'o, *n.* one who does notable deeds.
Heroic, her-ō'ik, *adj.* valorous; daring.
Heroine, her-ō-in, *n.* a female hero.
Heroism, her-ō-izm, *n.* bravery.
Heron, her'on, *n.* a large water-fowl.
Herpes, her'pēs, *n.* certain skin diseases.

Herpetology, her-pet-ol-o-jī, *n.* the natural history of
 Hese, hers, *n.* a porcupine. [reptiles.
Hesitancy, hes'it-ān-si, *n.* wavering.
Hesitate, hes'it-āt, *v.* to waver.
Hesper, hes'per, *n.* Venus, the evening star.
Hesperian, hes-pē'ri-an, *adj.* western.
Heterodox, het-er-ō-doks, *adj.* heretical.
Heterodoxy, het-er-ō-dok-si, *n.* heresy.
Heterogeneous, het-er-ō-jen'ē-us, *adj.* of another kind.
Heterogenesis, het-er-ō-jen'ē-sis, *n.* spontaneous
 Hew, hu, *v.* to cut vigorously. [generation.
Hexagon, heks-a-gon, *n.* a figure of six equal sides.
Hexahedron, heks-a-hē'dron, *n.* a cube.
Hexameter, heks-am'e-ter, *n.* a verse of six metrical
 feet. [Old Testament.
Hexapla, heks-a-pla, *n.* a six-versioned edition of the
 Hexapod, heks-a-pod, *n.* a six-footed animal.
Hexastyle, heks-a-stil, *n.* a structure with six pillars.
Hibernia, hi-ber'ni-an, *adj.* relating to Ireland; *n.*
 an Irishman.
Hiccough, hik'up, *n.* a spasmodic cough.
Hickory, hik'o-ri, *n.* an American nut-bearing tree.
Hidalgo, hi-dal'go, *n.* a Spanish nobleman.
Hidden, hid'n, *adj.* concealed. [v. to conceal.
Hide, hid, *n.* the skin of a beast; an old land measure;
Hidebound, hid'bound, *adj.* having the skin or outer
 covering too closely attached.
Hidesous, hid-e-us, *adj.* frightful.
Hiding, hid'ing, *n.* a flushing; concealment
Hydric, hi-drit'ik, *adj.* sudorific.
Hie, hi, *v.* to proceed; to wend.
Hierarch, hi'er-ark, *n.* the chief of a sacred order
Hierarchy, hi'er-ark-ki, *n.* government by ecclesiastics.
Hiographic, hi-er-o-graph, *n.* ancient writing in
 pictures and symbols
Hierology, hi-er-ol-o-jī, *n.* the science of sacred things.
Hierophant, hi'er-ō-fant, *n.* a priest.
Hiegle, hi-glē, *v.* to chaff; *n.* a trifling.
Hill, hi, *adj.* lofty; tall; eminent.
High-altar, hi'aw'ter, *n.* the chief altar in a church.
High-flier, hi'fl-er, *n.* a high-flying bird; an extra-
 ordinary person.
Highland, hi'land, *n.* a hilly region.
High-pressure, hi-prezh'ur, *n.* steam pressure in
 excess of that of the atmosphere.
Highway, hi'wā, *n.* a public road
Highwayman, hi'wā-man, *n.* a robber who stops
 people on the highways
Hilarious, hi-lā-ri-us, *adj.* boisterously mirthful.
Hilarity, hi-lar-i-ty, *n.* gaiety; mirth.
Hill, hi, *n.* an elevation of ground of lesser altitude
 than a mountain.
Hillmen, hi'men, *n.* dwellers in hill-country.
Hillock, hi'lok, *n.* a small hill.
Hilt, hilt, *n.* a sword handle
Hind, hind, *n.* a female deer; a farm servant.
Hinder, hund'er, *v.* to obstruct; to prevent. [stale.
Hindrance, hind'rāns, *n.* that which hinders; an ob-
 stacle.
Hindmost, hind'mos't, *adj.* the farthest in the rear.
Hindustan, hin'doo, a native of Hindostan.
Hinge, hinj, *n.* a joint on which a door turns; *v.* to
 turn.
Hinny, hin'ti, *v.* to neigh.
Hint, hint, *n.* an insinuation; *v.* to suggest indirectly.
Hip, hip, *n.* the haunch; the front of the brier.
Hippocentaur, hip'o-sen'tawr, *n.* Centaur (horse and
 man).
Hippodrome, hip'o-drom, *n.* a circus.
Hippophagy, hip-pof-a-jī, *n.* the practice of eating
 horseflesh.
Hippophile, hip'o-fil, *n.* a lover of horses.
Hippopotamus, hip-o-pot-a-mus, *n.* African river horse.
Hippus, hip'us, *n.* a morbid trembling of the eyes.
Hip-roof, hip'roof, *n.* a roof with angle.
Hipshot, hip'shot, *n.* a dislocated hip.
Hire, hir, *v.* to engage help for pay.
Hirer, hir'er, *n.* a servant.
Hirer, hir'er, *n.* one who hires.
Hirritant, hir'it-ant, *n.* a trifling sound.
Hirsute, hir'sūt, *adj.* hairy.
Hispid, his'pid, *adj.* having strong hairs.
Hiss, his, *v.* to utter sibilant sounds.
Histoid, his't-oid, *adj.* tissue-like.

day; ät; ärm; äve; älk; thäre; äce; pñ; machine; böld; pöt; störm; möte; tüb; bärn.

Histology, hist-ol'-o-jī, *n.* the science of tissues.
Historian, hist-ō'-ri-an, *n.* one who writes history.
Historiette, his-to-ri-er', *n.* a short story of history.
History, his-to-ri, *n.* a record of events.
Histrion, his-tri-on, *n.* an actor.
Histrionic, his-tri-on-ik, *adj.* theatrical.
Histrionics, his-tri-on-iks, *n.* play-acting.
Hit, hit, *v.* to strike.
Hitch, hitch, *v.* to fasten: *n.* a sudden obstacle.
Hive, hiv, *n.* place where bees are kept.
Hives, hivz, *n.* a skin disease.
Hoar, hōr, *adj.* white. [in secret.
Hoard, hōrd, *n.* a store; a secret stock; *v.* to amass
Hoarding, hōrd-ing, *n.* a temporary screen of boards
 round a building.
Hoar-frost, hōr-frost, *n.* white frost.
Hoarse, hōrs, *adj.* harsh; discordant.
Hoax, hōks, *n.* a deceptive joke.
Hoaxer, hōks'er, *n.* one who hoaxes.
Hob, hob, *n.* the nave of a wheel; a projection near
Hobble, hob'l, *v.* to limp. [the fire.
Hobbledehoy, hob'l-de-hoi, *n.* an awkward youth.
Hobby, hob'l, *n.* a favourite pursuit.
Hobgoblin, hob-gob'l-in, *n.* a spectre.
Hobnail, hob'nail, *n.* a heavy-headed nail.
Hobnob, hob-nob', *adv.* familiar association.
Hock, hok, *n.* a German wine.
Hockle, hok'l, *v.* to hamstring.
Hocus-pocus, hō'kus-pi'kus, *n.* a juggler's trick.
Hod, hod, *n.* a shoulder-supported receptacle for
 carrying bricks or mortar
Hodden, hōd'en, *n.* cloth ("hodden-gray") manufac-
 tured from undyed wool.
Hodge-podge, hody'podj, *n.* a mixed mass.
Hodernal, hō-di-er-nal, *adj.* relating to to-day.
Hodman, hōd'man, *n.* a man's labourer.
Hodograph, hōd'-o-graf, *n.* a curve illustrating the
 theory of central forces. [ing distances traversed.
Hodometer, hō-dom'e-ter, *n.* an instrument for measur-
Hoe, hō, *n.* an implement for breaking up earth.
Hog, hog, *n.* a castrated boar pig; a year-old unshorn
 sheep; a glutton or dirty fellow.
Hogshead, hog's-head, *n.* a large cask.
Holy-toity, hōl'i-toi'ti, *interj.* an exclamation of sur-
 prise.
Holla, hōl, *v.* to raise; to lift.
Hold, hold, *v.* to keep possession of; to maintain; to
 confine.
Holding, hold-ing, *n.* confinement.
Hole, hol, *n.* a hollow place; a pit; a dent.
Holiday, hōl'i-dā, *n.* a feast day, a day of rest.
Holiness, hōl'i-nes, *n.* sacredness.
Hollanda, hōl'ands, *n.* a Dutch gin.
Holloa, hōl'-o, *interj.* a hailing cry.
Hollow, hōl'ō, *n.* a hole; a depression; a cavity; *adj.*
Hollow-eyed, hōl'ō'id, *adj.* with sunken eyes. [empty.
Holly, hōl'i, *n.* a shrub.
Hollyhock, hōl'i-hok, *n.* a species of mallow.
Holm, hōm, *n.* land beside a river.
Holocaust, hōl'-o-kawst, *n.* a burnt sacrifice.
Holograph, hōl'-o-graf, *n.* a document in the hand-
 writing of the person from whom it proceeds.
Holometer, hōl'-om-e-ter, *n.* an instrument for taking
 many sorts of measurements.
Holster, hōl'ster, *n.* a case for holding pistols.
Holt, holt, *n.* a wood; an orchard.
Holy, hōl', *adj.* morally pure; sacred.
Holy-rood, hōl'-rood, *n.* holy-cross. [boards.
Holystone, hōl'-stōn, *n.* a stone used for scrubbing
Hommage, hōm'i, *n.* reverence; respect; fealty.
Home, hōm, *n.* the place or country of one's own
 abode or birth; a dwelling.
Homely, hōm'l, *adj.* familiar; plain.
Homelyn, hōm'-el-in, *n.* a species of ray.
Homeopathic, hō-mē-o-pa'th-ik, *adj.* relating to
 homeopathy.
Home spun, hōm'spun, *adj.* of domestic manufacture.
Homestead, hōm'sted, *n.* the place of the home.
Homicide, hōm'i-sid, *n.* murder; a man-killer.
Homiletics, hōm-il-ē-tiks, *n.* the art of homily-con-
Homily, hōm'-li, *n.* a serious discourse. [struction.
Hominy, hōm'-ni, *n.* hulled corn.
Homnook, hōm'-ok, a small conical hill.
Homodont, hōm'-ō-dont, *adj.* having teeth all alike.

Homogeneous, hō-mō-jē-ne-us, *adj.* of the same kind.
Homograph, hōm'-o-graf, *n.* a system of military
 signalling. [the same.
Homologate, hō-mōl'-o-gāt, *v.* to agree; to express
Homologous, hō-mōl'-o-gus, *adj.* agreeing.
Homologue, hōm'-o-log, *n.* that which is similar to
 something else.
Homonym, hōm'-ō-nim, *n.* a word with more than one
 meaning.
Homotype, hōm'-ō-tip, *n.* that which is of the same
Hone, hōn, *v.* to sharpen. [class.
Honest, on'est, *adj.* just; good; frank.
Honesty, on'est-i, *n.* the state of being honest.
Honey, hun'i, *n.* the sweet substance collected by bees.
Honeycomb, hun'i-kōm, *n.* wax cells made by bees.
Honeydew, hun'i-dū, *n.* a juice exuded by plant lice
 or the plant they infest; a sweetened tobacco.
Honeymoon, hun'i-moon, *n.* first month of marriage.
Honeysuckle, hun'i-sukl, *n.* a climbing flowering
 shrub. [ing.
Honed, hun'd, *adj.* amounting in sweetness; [the fire.
Honorarium, on-ōr-ā-ri-um, *n.* a voluntary fee. [see.
Honorary, on-ōr-ā-ri, *adj.* conferring honour; without
Honour, on'or, *n.* esteem due to worth.
Hood, hood, *n.* a head covering; folding roof of a
 vehicle.
Hoodman, hood'man, *n.* the person blindfolded in the
 juvenile game formerly called "hoodman-blind."
Hoodwink, hood'wink, *v.* to deceive.
Hoof, hōf, *n.* the horny substance on an animal's foot.
Hookah, hōok'hā, *n.* a pipe in which the smoke passes
 through water.
Hoop, hoop, *n.* a ring of wood or metal.
Hooper, hoop'er, *n.* a cooper.
Hooping-cough, hōp-ing-kof, a convulsive cough.
Hoopoe, hōp'ō, *n.* a large-crested bird.
Hoof, hōft, *v.* to cry out.
Hoove, hoov, *n.* a disease of the abdomen in cattle.
Hop, hop, *v.* to leap; to one leg; to spring; *n.* a plant
 yielding cones used in brewing. [n. confidence.
Hope, hōp, *v.* to anticipate; to cherish desire of good;
Hopper, hop'er, *n.* a hop-gatherer; a chute for
 diverting material into a machine.
Hopple, hōpl, *v.* to fetter by fastening the feet.
Hour, hōr, *adj.* relating to an hour.
Horde, hōrd, *n.* a migratory tribe.
Hordeum, hōrd'e-um, *n.* barley.
Horehound, hōr'bownd, *n.* a plant used as a tonic.
Horizon, hō-rī-zon, *n.* line where earth and sky meet
Horizontal, hō-rī-zon'tal, *adj.* level.
Horn, hawrn, a bony or epidermic projection from the
 head of an animal; prolonged extremity; *n.*
 musical instrument.
Horner, hawrn'er, *n.* a dealer in horns.
Horning, hawrn-ing, *n.* the crescent moon.
Hornpipe, hawrn'pip, *n.* a step dance.
Horny, hawrn', *adj.* hornlike, hard, unfeeling.
Horography, hōr'-o-graf-i, *n.* art of dial construction.
Horologe, hōr'-o-log, *n.* a time-piece. [machines.
Horology, hōr'-o-lō-jī, *n.* the science of time-telling
Horscope, hōr'-o-skop, *n.* an astrological prediction.
Horsescopy, hōr'-o-sko-pi, *n.* the art of prediction.
Horrent, hōr'ent, *adj.* bristling.
Horrible, hōr'ibl, *adj.* dreadful.
Horrid, hōr'id, *adj.* frightful.
Horror, hōr'er, *n.* violent fear.
Hors d'œuvre, hōr'-divr, *n.* a preliminary relish.
Horse, hors, *n.* a familiar quadruped. [exert.
Horse-power, hōr's-powr, *n.* the power a horse can
Horseshoe, hōr's'hoo, *n.* shoe for horses, or a thing of
 that shape. [snite with a horse-whip.
Horsewhip, hōr's'hwip, *n.* a driving whip; *v.* to
Hortative, hōr'ta-tiv, *adj.* encouraging; advising.
Horticulture, hōr-ti-kul'tūr, *n.* gardening.
Hortus siccus, hōr'tus-sick'us, *n.* a collection of dried
Hoosanna, hō-zan'a, *n.* praise to God. [plants.
Hose, hōz, *n.* stockings; a portable pipe for convey-
 ing water.
Hosier, hōz'i-ēr, *n.* one who sells stockings.
Hospice, hōs'pēs, *n.* house of charitable entertainment.
Hospitable, hōs'pit-able, *adj.* charitable; kind to
 strangers.

dāy; āt; ārm; ēve; ēlk; thēre; tce; pīn; machine; bōld; pōt; stōrm; mūte; tūb; bōrn.

Hospital, hos'pit-al, *n.* a home for the sick.
Hospitality, hos-pit-al'i-ty, *n.* generous entertainment.
Host, hōst, *n.* a landlord; a multitude.
Hostage, hōst'ij, *n.* a person left as a pledge.
Hostel, hōst'el, *n.* an inn.
Hostess, hōst'is, *n.* female host.
Hostile, hos'til, *adj.* adverse.
Hostler, os'ler, *n.* a groom at an inn.
Hot, hot, *adj.* heated; warm; ardent.
Hotbed, hōt'bed, *n.* a heated bed for forcing plants.
Hotchpot, hōch'pōt, *n.* a confused mixture.
Hotel, hō-tel', *n.* a superior inn.
Headed, hōt'hed'ed, *adj.* fierce; impetuous.
Hothouse, hōt'houses, *n.* a house kept for growing tender plants.
Hot-press, hōt'pres, *v.* to press between hot plates.
Hotspur, hōt'spēr, *n.* one who spurs his horse to great speed; an impetuous man. [Africa.]
Hotentot, hōt'en-tōt, *n.* an aboriginal of South Africa.
Houdah, hōo'dah, *n.* a seat on an elephant's back.
Houdan, hōo'dan, *n.* a breed of domestic fowls.
Hough, hōk, *n.* the joint immediately below the hound.
Hound, hōund, *n.* a dog kept for hunting. [fetlock.]
Hour, our, *n.* 60 minutes.
Hour-glass, our'glass, *n.* glass for measuring time.
Hour, hōw'ri, *n.* a nymph of paradise.
House, hōws, *n.* a dwelling or place of assembly.
House, hōw'z, *n.* the Holy Eucharist.
Housewifery, hōws'wif-er-i, *n.* pertaining to the duties of the mistress of the house.
Housing, hōw'z'ing, *n.* shelter.
Hovel, hōv'el, *n.* a mean cottage.
Hover, hōv'er, *v.* to hang over.
Houdah, hōw'dah, *n.* (see *Houdah*).
Howitzer, hōw'it-zer, *n.* a kind of short cannon.
Howl, hōwl, *v.* to cry or yell, as a dog.
Howlet, hōw'let, *n.* a kind of owl.
Hoy, hōy, *n.* a small coasting gessel.
Hub, hūb, *n.* centre of a wheel.
Hubbub, hūb'ub, *n.* tumult.
Huckle, hūk'l, *n.* the hip; a hip-like projection.
Huckaback, hūk'ab-bak, *n.* table lines.
Huckster, hūk'ster, *n.* a pedlar. [and carelessly.]
Huddle, hūd'l, *v.* to crowd; to bring together hastily.
Hudibrastic, hū-di-bras'tik, *adj.* in the style of *Hue*.
Hue, hū, *n.* a colour; *v.* shouting. [Hudibras.]
Hu, hū, *n.* petulant anger.
Hug, hūg, *v.* to embrace powerfully.
Huge, hūg, *adj.* gigantic; massive; large.
Huguenot, hūg'e-nō, *n.* a French protestant.
Hulk, hūlk, *n.* body of a ship.
Hull, hūl, *n.* a shell.
Hum, hūm, *v.* to make a buzzing sound.
Human, hū'man, *adj.* pertaining to mankind.
Humane, hū'mān, *adj.* kind.
Humanise, hū'man-iz, *v.* to civilise.
Humanist, hū'man-ist, *n.* a student of human nature.
Humanity, hū'man-i-ty, *n.* mankind; benevolence.
Human-kind, hū'man-kind, *n.* the human race.
Himation, hū-mā'n-shūn, *n.* corpse burial.
Humble, hūm'l, *adj.* meek; *v.* to lower; to degrade.
Humbly, hūm'bli, *adv.* with humility. [degrade.]
Humbly, hūm'bly, *n.* an imposition.
Humdrum, hūm'drum, *adj.* dull. [fluidity.]
Humectant, hūm-ek'tant, *adj.* tending to increase.
Humeral, hū'mer-al, *adj.* pertaining to the shoulder.
Humeral, hū'mer-us, *n.* the arm above the elbow.
Hum-hum, hū'm, *n.* a coarse Indian fabric.
Humid, hū'mid, *adj.* moist; damp.
Humidity, hū-mid-i-ty, *n.* moisture.
Humiliate, hū-mi'fāt, *v.* to humble.
Humility, hū-mil'i-ty, *n.* modesty; meekness.
Hummer, hūm'el, *adj.* hornless.
Hummingbird, hūm'ing-bird, *n.* a small tropical bird.
Humoral, hū'mo-ral, *adj.* connected with humours.
Humorist, hū'mo-ris-t, *n.* one who speaks or writes of humorous things.
Humorous, hū'mer-us, *adj.* exciting mirth.
Humorousness, hū'mer-us-ness, *adj.* odd.
Humour, hū'mer, *n.* wit; fancy; abnormal animal fluid.
Hump, hūmp, *n.* a hunch on the back. [fluid.]
Humus, hū'mus, *n.* mould.

Hunch, hūnch, *n.* a hump. [division.]
Hundred, hūn'dred, *n.* ten times ten; a territorial.
Hung, hūng, *pa. pres.* of hang.
Hunger, hūng'jer, *n.* craving for food.
Hungry, hūng'gri, *adj.* needing food; famishing.
Hungus, hūng'us, *n.* a miser.
Hunt, hūnt, *v.* to chase. [for gates.]
Hurdle, hūrd'l, *n.* a frame of twigs; a movable frame.
Hurdy-gurdy, hūrd'i-gurd'i, *n.* a rude musical instrument.
Hurl, hūrl, *v.* to cast away; to throw forcibly. [ment.]
Hurly-burly, hūrl'i-bur'l'i, *n.* confusion.
Hurrah, hū-rah', *interj.* an exclamation of applause.
Hurricane, hū-ri-kān, *n.* a violent storm.
Hurt, v. to damage, or cause pain to; *n.* a wound.
Hurtle, hūrt'l, *v.* to dash or whirl away with noise and husband.
Husband, hūz'band, *n.* a married man. [rapidity.]
Husbandman, hūz'band-man, *n.* a labouring farmer.
Husbandry, hūz'band-ri, *n.* land-cultivation; farming.
Hush, hūsh, *interj.* be silent.
Hush-money, hūsh'mun-i, *n.* money paid for silence.
Husk, *n.* covering of certain fruits.
Huakiness, hūsk'i-ness, *n.* harshness.
Husky, hūsk'i, *adj.* hoarse.
Hussar, hūz'ar, *n.* a light cavalry soldier.
Hussy, hūz'i, *n.* a jade.
Hustle, hūz'l, *v.* to push.
Hustler, hūz'ler, *n.* one who hustles.
Hut, hūt, *n.* a mean dwelling.
Hutch, hūch, *n.* a box; a croup.
Hurra, hūz-ah', *interj.* hurrah; a shout of joy.
Hyacinth, hī'a-sin-th, *n.* a bulbous plant.
Hyades, hī'a-dēz, *n.* a cluster of five stars in the constellation of the Bull.
Hyaline, hī'a-lin, *adj.* glassy.
Hybrid, hī'brid, *adj.* produced from different species.
Hybridism, hī'brid-izm, *n.* the hybrid condition.
Hydra, hī'dra, *n.* a many-headed monster.
Hydrangea, hī'dran-jē-a, *n.* a flowering shrub.
Hydrant, hī'drant, *n.* a water-plug.
Hydraulic, hī'draw'tik, *adj.* connected with hydraulics.
Hydraulics, hī'draw'tiks, *n.* the science of flowing liquids.
Hydrocephalus, hī'dro-sef'ā-lus, *n.* dropsy of the brain.
Hydrodynamics, hī'dro-din-am'iks, *n.* the science of the force of water. [stance.]
Hydrogen, hī'dro-jen, *n.* an elementary gaseous substance.
Hydrographer, hī'dro-grā-fer, *n.* a sea-chart maker.
Hydrography, hī'dro-grā-fi, *n.* the art of measuring seas. [marine polypes or zoophytes.]
Hydroid, hī'droid, *n.* one of the sub-class Hydrosas.
Hydrology, hī'dro-lō-jī, *n.* the science of water.
Hydromel, hī'dro-mel, *n.* a beverage composed of honey and water. [strument.]
Hydrometer, hī'drom'e-ter, *n.* a liquid-measuring instrument.
Hydrometry, hī'drom'e-try, *n.* the art of measuring the power of fluids. [water treatment.]
Hydropathic, hī'dro-pā-thik, *adj.* relating to cold-hydrotherapy.
Hydropathist, hī'dro-pā-thist, *n.* a practitioner of hydrotherapy. [ment of disease.]
Hydrophobia, hī'dro-fō-bi-a, *n.* the cold-water treatment.
Hydrophobic, hī'dro-fō-bi-c, *n.* canine madness.
Hydropical, hī'dro-pik-al, *adj.* dropsical.
Hydropsy, hī'dro-p-si, *n.* dropsy.
Hydrostatics, hī'dro-stat'iks, *n.* the science of fluid pressure.
Hydrous, hī'drus, *adj.* containing water. [equilibrium.]
Hyemal, hī'ē-mal, *adj.* relating to winter.
Hygiene, hī-jēn, *n.* health preservation.
Hygienics, hī-jēn'iks, *n.* the science of health.
Hygrometer, hī-grom'e-ter, *n.* an instrument for calculating atmospheric moisture.
Hygrometry, hī-grom'e-try, *n.* the science of calculating atmospheric moisture.
Hyleism, hī-lō-ē-izm, *n.* the doctrine that there is no God but matter; materialism. [lives.]
Hylolism, hī-lō-zō-izm, *n.* the doctrine that all matter is matter.
Hymenal, hī-mē-nal, *adj.* relating to marriage.
Hymn, hīm, *n.* a sacred song. [the science of hymns.]
Hymnology, hīm-wō-lō-jī, *n.* a collection of hymns.
Hyperbola, hī-per-bō-lā, *n.* one of the conic sections.
Hyperbole, hī-per-bō-lē, *n.* exaggeration.
Hyperbolic, hī-per-bō-līk-al, *adj.* in the manner of hyperbole.

day; ät; ärm; eve; Ælk; thère; ice; pín; machine; bold; pōt; stōrm; mäte; tūb; bōm.

Impartial, im-pär'shal, *adj.* just.
Impassable, im-pas'abl, *adj.* not to be passed.
Impassible, im-pas'ibl, *adj.* incapable of feeling.
Impassionate, im-pash'un-at, *adj.* strongly affected.
Impassioned, im-pash'und, *adj.* excited.
Impassive, im-pas'iv, *adj.* insensible.
Impatience, im-pä'shens, *n.* lack of patience.
Impavid, im-pä'vid, *adj.* fearless.
Impeachment, im-pëch'ment, *n.* censure; accusation by Crown or other representatives.
Impeccable, im-pëk'abl, *adj.* exempt from sinning.
Impetuous, im-pë-kü'n'us, *adj.* poor; without money.
Impede, im-ped'v, *v.* to hinder.
Impediment, im-ped'i-ment, *n.* a hindrance.
Impel, im-pel'v, *v.* to urge; to instigate.
Impend, im-pend'v, *v.* to threaten; to hang over; to be impending.
Impending, im-pend'ing, *adj.* imminent.
Impenetrable, im-pen'e-tra-bl, *adj.* hard; incapable of being pierced.
Impenitence, im-pen'i-tens, *n.* the condition of not
Impenitent, im-pen'i-ent, *adj.* without penitence.
Imperative, im-per'a-tiv, *adj.* urgent; peremptory.
Imperceptible, im-per-sept'ibl, *adj.* not perceivable.
Imperfect, im-per-fekt, *adj.* short of perfection.
Imperfection, im-per-fek'shun, *n.* incompleteness.
Imperforable, im-per-fër-äbl, *adj.* that cannot be perforated.
Imperial, im-për'al, *adj.* pertaining to an empire;
Imperially, im-për'al-ly, *adv.* in an imperial manner.
Imperil, im-per'il, *v.* to endanger.
Imperious, im-për'i-us, *adj.* commanding; tyrannical.
Imperishable, im-per-ish-äbl, *adj.* enduring; everlasting.
Imperviousness, im-per'man-ens, *n.* lack of permanent.
Impermeable, im-per'me-äbl, *adj.* impervious.
Impersonal, im-per-sun'al, *adj.* without personality.
Impersonate, im-per-sun't, *v.* to personate.
Impertinent, im-per'tin-ent, *adj.* rude; saucy.
Imperturbable, im-per-tur'ba-bl, *adj.* incapable of being agitated.
Impervious, im-per'vius, *adj.* not nervous; impetuous.
Impetuousity, im-pet-u-os'it'y, *n.* violence; passion.
Impetus, im-pe'tus, *n.* momentum. force of motion.
Impiety, im-pi'e'ti, *n.* ungodliness.
Impinge, im-pinj'v, *v.* to strike upon; to touch.
Impious, im-pi'us, *adj.* profane; irreverent.
Implicable, im-piäk'äbl, *adj.* inapplicable; inextinguishable.
Implicate, im-plä'v, *v.* to fix, as to plant in the ground.
Implead, im-pläd'v, *v.* to prosecute at law.
Implement, im-pie-ment, *n.* a tool.
Impletion, im-pie'shun, *n.* condition of fullness.
Implication, im-pli-kä'shun, *n.* entanglement; that which is implied.
Implicit, im-plis'it, *adj.* unreserved; implied; unimpaired.
Implore, im-plör'v, *v.* to entreat.
Implovium, im-plü'vium, *n.* basin for receiving rain water in ancient Kouan house.
Imply, im-pli'v, *v.* to involve; to to hint.
Impolitic, im-pö'tis, *n.* imprudence.
Impolite, im-po'lit, *adj.* uncivil; rude.
Impolitic, im-po'lit-ik, *adj.* imprudent; unwise.
Imponderable, im-pön'dër-äbl, *adj.* incapable of being weighed.
Imporous, im-pör'us, *adj.* poreless.
Import, im-port, *n.* a thing imported; meaning.
Import, im-port'v, *v.* to bring in; to signify.
Important, im-portant, *adj.* valuable; of note.
Importation, im-port-ä'shun, *n.* that which is imported.
Importer, im-port'er, *n.* one who brings in goods from other countries.
Importune, im-por-tün'v, *v.* to urge persistently.
Importunity, im-por-tün'it'y, *n.* the act of importuning.
Impose, im-pöz'v, *v.* to lay on; to intrude; to deceive.
Imposing, im-pöz'ing, *adj.* impressive.
Imposition, im-po-zish'un, *n.* a deception.
Impossible, im-pos'ibl, *adj.* that cannot be done.
Impost, im-post, *n.* tribute; a tax; a duty.
Imposhume, im-pos'üm, *n.* an abscess.
Impositor, im-pos'tor, *n.* a deceiver.
Imposture, im-pos'tur, *n.* fraud.
Impotent, im-po'tent, *adj.* weak; incompetent.
Impound, im-pownd'v, *v.* to confine in a pound.

Impoverish, im-pov'er-ish, *v.* to make poor.
Impracticable, im-prak'tik-äbl, *adj.* unmanageable.
Impractical, im-prak'tik-al, *adj.* not practical.
Imprecate, im-pre-kät, *v.* to call down good or bad upon; to curse.
Imprecation, im-pre-kä'shun, *n.* a curse.
Impregnable, im-preg'na-bl, *adj.* that cannot be taken; invincible.
Impregnate, im-preg'nät, *v.* to imbue; to make pregnant.
Imprescriptible, im-pres-kript'ibl, *adj.* without external authority.
Impress, im-pres'v, *v.* to fix deeply; to press upon.
Impress, im-pres, *n.* that which is impressed.
Impressible, im-pres'ibl, *adj.* susceptible.
Impressment, im-pres'ment, *n.* the act of forcible seizure of men for war service.
Imprimatur, im-prü-mä'tur, *n.* authority to print.
Imprimis, im-prü-mis, *adv.* in the first place.
Imprint, im-print'v, *v.* to stamp; to fix on the mind.
Imprison, im-pris'on, *v.* to incarcerate.
Improbable, im-prob'äbl, *adj.* unlikely.
Impromptu, im-prom'üt, *n.* without study; off-hand.
Improper, im-prop'er, *adj.* unbecoming; wrong; wicked.
Impropriate, im-prö'pri-ät, *v.* to take possession of.
Impropriety, im-pro'pri-ät, *n.* an improper act.
Improve, im-proov'v, *v.* to amend; to amend.
Improvement, im-proov'ment, *n.* the act of improving; advancement.
Improvise, im-prov'i-dens, *n.* lack of foresight;
Improvise, im-prov'i-dent, *adj.* inconsiderate; unthrifty.
Improvisation, im-pro-vis-ä'shun, *n.* the act of improvising.
Improvisatore, im-pro-vis-ä-tör'ä, *n.* one who improvises.
Imprudence, im-prov'dens, *n.* incautiousness; recklessness.
Impudence, im-pü-dens, *n.* rudeness; insolence; shamelessness.
Impugn, im-pün'v, *v.* to gainsay; to oppose; to question.
Impulse, im-puls, *n.* an incentive; the act of impelling.
Impunity, im-pün'it'y, *n.* exemption from penalty or loss.
Imputation, im-pü-tä'shun, *n.* charge; accusation;
Impute, im-püt'v, *v.* to charge; to accuse.
Inability, in-a-bil'it-y, *n.* incapacity.
Inaccessible, in-ak-ses'ibl, *adj.* not to be approached.
Inaccuracy, in-ak'u-rä-si, *n.* want of correctness; error.
Inaction, in-ak'shun, *n.* rest; idleness.
Inactive, in-ak'iv, *adj.* idle; without power to move.
Inadequacy, in-ad'ë-kwa-si, *n.* insufficiency.
Inadmissible, in-ad-müs'ibl, *adj.* not allowable.
Inadvertence, in-ad-vert'ens, *n.* oversight; negligence.
Inadvertent, in-ad-vert'ent, *adj.* inattentive.
Inalienable, in-äl'yen-äbl, *adj.* permanent; incapable of being transferred.
Inamorata, in-äni-o-rä'tä, *n.* a woman whom a man loves.
Inane, in-än, *adj.* empty; void.
Inanition, in-an-lsh'un, *n.* emptiness; exhaustion.
Inard, in-ar'ti, *n.* senselessness.
Inapplicable, in-ap'lik-äbl, *adj.* unsuitable.
Inapposite, in-ap'o-sit, *adj.* unfit; not suitable.
Inappreciable, in-ap-prë'shi-äbl, *adj.* imperceptible.
Inappropriate, in-ap-prö'pri-ät, *adj.* unsuitable.
Inaptitude, in-ap'ti-tüd, *adj.* unfitness, awkwardness.
Inarable, in-ar'äbl, *adj.* not arable.
Inarching, in-arch'ing, *n.* a system of grafting.
Inarticulate, in-ar-tik'ü-lät, *adj.* indistinctly uttered.
Inartificial, in-ar-ti-fish'al, *adj.* simple; without art.
Inattention, in-at'ten'shun, *n.* carelessness.
Inattentive, in-at'ten'tiv, *adj.* heedless.
Inaudible, in-äw'd'ibl, *adj.* unheard.
Inaugural, in-äw'gür-al, *adj.* pertaining to an inauguration.
Inaugurate, in-äw'gür-ät, *v.* to initiate; to make public show in commencing an undertaking.
Inauspicious, in-äw-spish'us, *adj.* unfavourable; ill-omened.
Inbora, in'bawrn, *adj.* implanted; born with.
Incalculable, in-kä'kü-lä-bl, *adj.* countless.
Incalence, in-kä-es'ens, *n.* the act of growing.
Incanescence, in-kän-dens, *n.* white heat.
Incantation, in-kän-tä'shun, *n.* a charm; an enchantment.
Incapable, in-kä'pä-bl, *adj.* not capable.

day; ät; ärm; eve; äik; there; ice; pün; machine; böhl; pöt; störm; müte; tüb; büria.

Indignation, in-di-gnā'shun, *n.* anger; resentment.
Indignity, in-di-gnī-ti, *n.* insult; slight.
Indigo, in-di-gō, *n.* a blue dye.
Indirect, in-di-rēkt', *adj.* crooked; not direct.
Indiscernible, in-di-sēr-nī-bl, *adj.* unseen; not visible.
Indiscreet, in-di-skrēt', *adj.* injudicious.
Indiscretion, in-di-skrēsh'un, *n.* rashness.
Indiscriminate, in-di-skrīm-in-āt, *adj.* confused; promiscuous.
Indiscriminating, in-di-skrīm-in-āt-ing, *adj.* without discrimination.
Indispensable, in-di-pens-ā-bl, *adj.* necessary.
Indispose, in-di-pōz', *v.* to make unfit; to disqualify.
Indisposed, in-di-pōzd, *adj.* disinclined; ailing.
Indisposition, in-di-pō-zish'un, *n.* disinclination; illness.
Indisputable, in-di-pūt-ā-bl, *adj.* beyond dispute.
Indissociable, in-di-sō-shi-ā-bl, *adj.* inseparable.
Indissoluble, in-di-sō-lū-bl, *adj.* not soluble; binding.
Indissolvable, in-di-sō-lv-ā-bl, *adj.* incapable of being dissolved.
Indistinct, in-di-tīngkt', *adj.* obscure; faint.
Indite, in-dit', *v.* to utter; to write; to dictate.
Inditement, in-dit-ment, *n.* that which is indited.
Indium, in-dī-um, *n.* a white metallic element.
Individual, in-div-idū-ā-l, *adj.* single. [individually.]
Individualise, in-div-idū-ā-l-iz, *v.* to distinguish individuals.
Individualism, in-div-idū-ā-l-izm, *n.* independence of action.
Individuality, in-div-idū-ā-l-ī-ti, *n.* personality; separate existence.
Indocile, in-dō-sil', *adj.* dull; unteachable.
Indoctrinate, in-dok-trīn-āt, *v.* to teach; to imbue with special views. [to a certain family of languages.]
Indo-European, in-dō-u-rō-pē-ān, *adj.* a term applied to a family of languages.
Indolence, in-dō-lens, *n.* idleness.
Indolent, in-dō-lent, *adj.* lazy.
Indomitable, in-dō-mīt-ā-bl, *adj.* not to be subdued.
Indoors, in-dōr's, *adj.* within doors.
Indorse, in-dors', *v.* to sign & write on the back of.
Indra, in-dra, *n.* the god of the firmament.
Indrawn, in-drawn, *adj.* drawn in.
Indubious, in-dū-bi-us, *adj.* certain.
Indubitable, in-dū-bit-ā-bl, *adj.* without doubt.
Induce, in-dūs', *v.* to prevail upon.
Inducement, in-dūs-ment, *n.* that which induces.
Induct, in-dukt', *v.* to install.
Inductile, in-dūktīl, *adj.* that cannot be drawn out.
Induction, in-dūksh'un, *n.* introduction.
Induction-coil, in-dūksh'un-kōil, *n.* an electrical apparatus of two coils of wire inducing a current.
Inductive, in-dūktīv, *adj.* leading to inference.
Indue, in-dū', *v.* to invest.
Induline, in-dū-līn, *n.* coal-tar dye.
Indurate, in-dū-rāt, *v.* to harden.
Industrial, in-dus-trī-ā-l, *adj.* pertaining to industry.
Industrialism, in-dus-trī-ā-l-izm, *n.* the study of industrial pursuits.
Industrious, in-dus-trī-us, *adj.* diligent.
Industry, in-dus-tri, *n.* labour; assiduity.
Indwell, in-dwel', *v.* to dwell in.
Inearth, in-erik', *v.* to inter.
Inebriate, in-ēbrī-āt, *n.* a drunkard; *v.* to make drunk.
Inebriation, in-ēbrī-āsh'un, *n.* drunkenness.
Inedible, in-edī-bl, *adj.* unfit for eating.
Inedited, in-edīt-ed, *adj.* not edited.
Ineffable, in-ēf-ā-bl, *adj.* unspeakable.
Ineffaceable, in-ēf-ās-ā-bl, *adj.* that cannot be effaced.
Ineffective, in-ēf-ek-tīv, *adj.* useless.
Inefficacy, in-ēf-ek-ā-si, *n.* ineffectiveness.
Inefficient, in-ēf-ē-sh'ent, *adj.* unavailing.
Inelegant, in-ēl-ē-gant, *adj.* coarse; rude; unpolished.
Ineligible, in-elī-gī-bl, *adj.* not worthy; unsuitable.
Inept, in-ēpt', *adj.* unfit; foolish.
Inequality, in-ēk-wā-l, *adj.* unjust. [equality.]
Inequally, in-ēk-wōl-it, *n.* unevenness; lack of equality.
Inequitable, in-ēk-wīt-ā-bl, *adj.* unjust.
Ineradicable, in-ē-radīk-ā-bl, *adj.* incapable of being rooted out.
Inert, in-ert', *adj.* sluggish; motionless. [rooted out.]
Inertia, in-ēr-shi-ā, *n.* sluggishness.
Inessential, in-ēs-ēn-shi-ā-l, *adj.* not essential.
Inestimable, in-ēs-tīm-ā-bl, *adj.* above price.
Inevitable, in-ēvīt-ā-bl, *adj.* unavoidable.
Inexact, in-egz-akt', *adj.* incorrect.

Inexcusable, in-egz-kūz-ā-bl, *adj.* without excuse.
Inexhaustible, in-egz-hawstī-bl, *adj.* that cannot be exhausted.
Inexorable, in-egz-or-ā-bl, *adj.* inflexible; not to be moved. [pained.]
Inexpansible, in-egz-pans-ā-bl, *adj.* that cannot be expanded.
Inexpedient, in-egz-pēd-ēnt, *adj.* inconvenient.
Inexperience, in-egz-pēr-i-ens, *n.* lack of experience.
Inexplicable, in-egz-pīk-ā-bl, *adj.* incapable of explanation.
Inexplorable, in-egz-plōr-ā-bl, *adj.* that cannot be explored.
Inexpressible, in-egz-pres-ī-bl, *adj.* unutterable.
Inexpressive, in-egz-pres-īv, *adj.* not expressive.
Inextricable, in-egz-trīk-ā-bl, *adj.* incapable of being extricated.
Infallible, in-fāl-ī-bl, *adj.* unerring; certain.
Infamous, in-fa-mus, *adj.* notorious; wicked; shameful.
Infamy, in-fa-mi, *n.* public disgrace.
Infancy, in-fan-si, *n.* the state of being an infant. [less.]
Infant, in-fant, *n.* a young child.
Infanticide, in-fan-tī-sīd, *n.* murder of an infant.
Infantile, in-fan-tīl, *adj.* pertaining to infancy.
Infantry, in-fan-tri, *n.* foot soldiers. [passion.]
Infatuate, in-fa-tū-āt, *v.* to inspire with headstrong passion.
Infatuation, in-fat-ū-āsh'un, *n.* unreasoning passion.
Infeasible, in-fēr-ī-bl, *adj.* not feasible.
Infect, in-fekt', *v.* to taint.
Infection, in-fek-sh'un, *n.* the act of infecting.
Infectious, in-fek-shus, *adj.* having the quality of infection.
Infecundity, in-fe-kun-dī-ti, *n.* want of fertility.
Infelicitous, in-fel-ī-si-tus, *adj.* unhappy.
Infer, in-fer', *v.* to deduce; to imply.
Inferable, in-fēr-ā-bl, *adj.* capable of being inferred.
Inference, in-fēr-ens, *n.* that which is inferred.
Inferential, in-fēr-en-shi-ā-l, *adj.* deducible.
Inferior, in-fēr-ter, *adj.* subordinate.
Inferiority, in-fēr-ter-ī-ti, *n.* the state of being inferior.
Infernal, in-fēr-nal, *adj.* outrageous; damnable.
Infertile, in-fēr-tīl, *adj.* not fruitful; barren.
Infertility, in-fēr-tīl-ī-ti, *n.* unproductiveness.
Infest, in-fest', *v.* to disturb; to annoy.
Infidel, in-fī-del, *n.* a disbeliever in Christianity.
Infidelity, in-fī-del-ī-ti, *n.* lack of faith; unfaithfulness.
Infatuate, in-fāt-ū-āt, *v.* to enter by filtration or the infinite. [unfinit.]
Infinitesimal, in-fī-nīt-ē-si-mal, *adj.* excessively small.
Infinitude, in-fī-nīt-ūd, *n.* state without bound or limit.
Infinity, in-fī-nī-ti, *n.* unlimited extent or number.
Infirm, in-fēr-m', *adj.* feeble; irresolute.
Infirmity, in-fēr-m-ā-ti, *n.* a hospital.
Infirmity, in-fēr-m-ā-ti, *n.* defect; weakness.
Infix, in-fīks, *v.* to fix in.
Inflame, in-flām', *v.* to cause to burn; to excite.
Inflammable, in-flām-ā-bl, *adj.* combustible.
Inflammation, in-flām-āsh'un, *n.* violent heat in any part; state of being in flame. [iron; excitable.]
Inflammatory, in-flām-ā-tō-rī, *adj.* showing inflammation.
Inflate, in-flāt', *v.* to swell; to blow out.
Inflation, in-flāsh'un, *n.* the act or state of being inflated.
Infect, in-fekt', *v.* to bend; to conjugate. [inflected.]
Infection, in-fek-sh'un, *n.* the act of bending; voice.
Inflexible, in-fleks-ī-bl, *adj.* unyielding. [modulation.]
Inflict, in-fīkt', *v.* to impose.
Infliction, in-fīksh'un, *n.* punishment; act of inflicting.
Influence, in-flōo-ens, *n.* method of flowering.
Influence, in-flōo-ens, *n.* authority; power.
Influent, in-flōo-ent, *adj.* flowing in. [power.]
Influential, in-flōo-en-shi-ā-l, *adj.* having influence or power.
Influenza, in-flōo-en-zā, *n.* an epidemic catarrh.
Influx, in-fluks, *n.* a flowing in.
Infusion, in-flūsh'un, *n.* infusion.
Inform, in-form', *v.* to impart; to animate; to tell.
Informal, in-form-ā-l, *adj.* without form; irregular.
Informality, in-form-ā-l-ī-ti, *n.* a dispensing with form.
Informant, in-form-ānt, *n.* one who informs against.
Information, in-form-āsh'un, *n.* knowledge.
Infractural, in-fra-kst'ū-l, *adj.* beneath the ribs.
Infracture, in-fra-ksh'un, *n.* a breach.
Infragant, in-fra-grant, *adj.* lacking fragrance.
Infrangible, in-fra-ngī-bl, *adj.* unbreakable.

Infragant, in-frá-gent, *adj.* rare; uncommon.
Infringe, in-frínj, *v.* to violate; to break.
Infrigate, in-frú-rít, *v.* to enrage.
Infuse, in-fú-z, *v.* to brew; to steep; to pour into.
Infusible, in-fú-sí-bl, *adj.* capable of being infused.
Infusion, in-fú-shun, *n.* the act of infusing.
Infusive, in-fú-sív, *adj.* having power of infusion.
Infusoria, in-fú-só-rí-a, *n.* certain classes of Protozoa.
Ingathering, in-gath-er-ing, *n.* harvest.
Ingenious, in-jen-ú-s, *adj.* dextrous; inventive.
Ingenium, in-jen-ú-m, *n.* tendency of mind.
Ingenuity, in-jen-ú-ít, *n.* inventiveness.
Ingenuous, in-jen-ú-us, *adj.* frank; open; candid.
Ingenuousness, in-jen-ú-us-ness, *n.* frankness.
Ingén, in-jén, *n.* firebrand.
Inglorious, in-gló-rí-us, *adj.* disgraceful.
Ingoin, in-gó-ing, *n.* an entering.
Ingot, in-got, *n.* a bar of metal.
Ingraft, in-graft, *v.* to insert a scion in a stock.
Ingrain, in-grán, *v.* to fix deeply; to dye in the raw.
Ingrate, in-grát, *n.* one who is ungrateful.
Ingratiate, in-grát-shí-át, *v.* to put oneself in favour.
Ingratitude, in-grát-ít-ú-d, *n.* unthankfulness for
ingredient, in-gré-dí-ent, *n.* a compound part. [flavours].
Ingress, in-gres, *n.* entrance.
Ingrowing, in-gro-ing, *adj.* growing inward.
Ingruinal, in-grú-inál, *adj.* relating to the groin.
Ingru, in-grú, *v.* to swallow up.
Ingrurgitate, in-gur-jít-át, *v.* to swallow greedily.
Inhabit, in-hab-ít, *v.* to dwell in.
Inhabitant, in-hab-ít-ant, *n.* a dweller.
Inhalation, in-hál-á-shun, *n.* the drawing in of air.
Inhale, in-hál, *v.* to draw into the lungs.
Inharmonious, in-har-mó-ní-us, *adj.* discordant.
Inhere, in-hér, *v.* to stick.
Inherent, in-hér-ent, *adj.* innate; existing in.
Inherit, in-hér-ít, *v.* to possess by descent.
Inheritance, in-hér-ít-ans, *n.* an inherited property.
Inhibit, in-hib-ít, *v.* to prohibit.
Inhibition, in-hib-ít-shun, *n.* the act of prohibiting.
Inhospitable, in-hos-pít-abl, *adj.* not disposed to
 entertain strangers.
Inhuman, in-hí-man, *adj.* cruel; unfeeling.
Inhumanity, in-hí-man-ít, *n.* want of feeling.
Inhumation, in-hí-má-shun, *n.* the act of burial.
Inhume, in-húm, *v.* to bury.
Inimical, in-im-ík-ál, *adj.* unfriendly; repugnant.
Inimitable, in-im-ít-abl, *adj.* beyond imitation.
Iniquitous, in-ík-wít-us, *adj.* unjust; wicked.
Iniquity, in-ík-wít-ú, *n.* injustice; wickedness.
Initial, in-í-sh-ál, *adj.* first; beginning; *n.* the first
 letter of a word. [with]
Initiate, in-í-sh-ít, *v.* to introduce; to make acquainted
Initiation, in-í-sh-ít-shun, *n.* the act of initiating.
Initiative, in-í-sh-ít-ív, *adj.* serving to initiate; *n.* the
 first step. [first step].
Inject, in-jekt, *v.* to force in.
Injection, in-jek-shun, *n.* the act of forcing in; a
 clyster.
Injudicial, in-joo-dí-sh-ál, *adj.* contrary to legal form.
Injudicious, in-joo-dí-sh-ús, *adj.* unwise; imprudent.
Injunction, in-jung-k-shun, *n.* an order of court; a com-
 mand. [mand].
Injurious, in-joo-ri-ús, *adj.* harmful.
Injustice, in-jús-tis, *n.* violation of right.
Ink, in-k, *n.* a fluid used in writing.
Inkhorn, in-k-horn, *n.* an ink-holder, formerly of horn.
Inking, in-k-íng, *n.* a hint.
Inkstand, in-k-í-stand, *n.* a vessel for holding ink.
Inland, in-lánd, *v. po. part.* of inland.
Inland, in-lánd, *n.* the interior of a country.
Inlay, in-láy, *v.* to ornament by inserting other sub-
 stances. [stances].
Inlet, in-lét, *n.* a small bay; an entrance.
Inly, in-lí, *adv.* internally; *adj.* inward.
Inmate, in-mát, *n.* one who resides in the same dwell-
 ing. [ing].
Innavigable, in-náv-íg-í-abl, *adj.* not navigable.
Inner, in-ér, *adj.* further in; inside.
Intervention, in-ter-vén-shun, *n.* nervous activity.
Innocence, in-nó-sens, *n.* purity.
Innocent, in-nó-sent, *adj.* pure; guiltless.
Innocuous, in-nó-ú-us, *adj.* harmless.

Innovate, in-nó-vát, *v.* to introduce a novel idea.
Innovator, in-nó-vát-ór, *n.* a side hint. [numbered].
Innumerable, in-nú-mér-á-bl, *adj.* incapable of being
 numbered.
Innutritious, in-nú-trí-sh-ús, *adj.* not nourishing.
Inoculate, in-nó-ú-lít, *v.* to engraft; to communicate
 disease by the insertion of matter into the system.
Inodorous, in-ó-dér-us, *adj.* scentless.
Inoffensive, in-ó-fen-sív, *adj.* without offence.
Inofficial, in-ó-fí-sh-ál, *adj.* without proper authority.
Inoperative, in-ó-pér-á-ív, *adj.* inactive; without
 effect.
Inopportune, in-ó-pór-tún, *adj.* untimely. [effect].
Inordinate, in-ór-dín-át, *adj.* excessive.
Inorganic, in-ór-gán-íc, *adj.* without living organiza-
 tion. [kiss].
Inosculate, in-ó-skú-lít, *v.* to unite by mouths; to
 join.
In-patient, in-pá-é-nt, *n.* patient living in hospital.
Impouring, in-pór-ing, *n.* a pouring in.
Input, in-pút, *n.* contribution. [sudden death].
Inquest, in-kwest, *n.* a judicial inquiry concerning a
 death.
Inquietude, in-kwí-ét-ú-d, *n.* uneasiness; restlessness.
Inquire, in-kwír, *v.* to ask; to examine.
Inquiry, in-kwír, *n.* examination; act of inquiring.
Inquisition, in-kwíz-ít-shun, *n.* a judicial inquiry; a
 tribunal for dealing with heretics.
Inquisitive, in-kwíz-ít-ív, *adj.* prying; curious.
Inroad, in-ród, *n.* a sudden incursion.
Irash, in-rush, *n.* a rushing in.
Insalubrious, in-sál-ú-brí-us, *adj.* unhealthy.
Insalutary, in-sál-ú-tár-í, *adj.* unwholesome.
Insane, in-sán, *adj.* of unsound mind.
Insanity, in-sán-ít-ú, *n.* derangement of mind.
Insatiable, in-sá-shí-á-bl, *adj.* incapable of being
 satisfied. [satisfiable].
Insatiety, in-sá-tí-ét-í, *n.* the state of being in-
 satiable.
Inscribe, in-skrib, *v.* to write upon.
Inscription, in-skrib-shun, *n.* a writing upon; a title.
Inscrutable, in-skrot-á-bl, *adj.* beyond finding out.
Insect, in-sekt, *n.* a small flying or crawling animal.
Insectivorous, in-sekt-ív-er-us, *adj.* feeding on insects.
Insecure, in-sé-kúr, *adj.* unsafe.
Insensate, in-sen-sát, *adj.* thoughtless; senseless.
Insensible, in-sen-sí-bl, *adj.* wanting in feeling.
Insistent, in-sen-sí-ent, *adj.* without perception.
Insoluble, in-sól-ú-bl, *adj.* that cannot be sepa-
 rated.
Insert, in-sér, *v.* to put in. [rated].
Insertion, in-sér-shun, *n.* the act of inserting; the
 thing inserted.
Inset, in-set, *n.* something inserted; *v.* to set in.
Inside, in-síd, *n.* within.
Insidious, in-síd-í-us, *adj.* deceitful; designing.
Insight, in-sít, *n.* penetration; knowledge.
Insigla, in-síg-ní-a, *n.* badges of office.
Insignificant, in-síg-ní-fí-kant, *adj.* unimportant; [trifling].
Insincere, in-sín-sér, *adj.* deceitful.
Insincerity, in-sín-sér-ít, *n.* d; deceitfulness.
Insinuate, in-sín-ú-át, *v.* to hint; to instil; to intro-
 duce.
Insipid, in-síp-íd, *adj.* tasteless. [duce gently].
Insipidity, in-síp-íd-ít, *n.* lacking in life and spirit.
Insistence, in-síp-í-ens, *n.* foolishness.
Insist, in-síst, *v.* to urge with persistence.
Insistence, in-síst-ens, *n.* pertinacity.
Insolent, in-sól-ent, *adj.* insolent.
Insolubility, in-sól-ú-bl-ít, *n.* inability to settle one's
 debts. [debts].
Insomniac, in-sóm-ní-a, *n.* sleeplessness.
Insouciance, in-soo-á-ans, *n.* indifference.
Inspect, in-spekt, *v.* to examine. [examine].
Inspector, in-spek-tor, *n.* a superintendent; an ex-
 aminer.
Inspire, in-spír, *v.* to draw in breath; to prompt; to
 inspire. [inspire].
Inspirant, in-spír-ít, *v.* to animate.
Inspiration, in-spír-ít-shun, *n.* a thickening.
Instability, in-stá-bí-lít, *n.* inconstancy; want of firm-
 ness. [instability].
Instable, in-stá-bí-l, *adj.* inconstant. [instability].
Install, in-stál, *v.* to invest; to place in office; to
 install. [session of an office].
Installation, in-stál-á-shun, *n.* the act of giving pos-
 session of an office.

day; áit; árm; éve; élk; thére; Ing; pín; nachine; bold; pót; stórm; máte; túb; bárn.

Instalment, in-staw'ment, *n.* the act of installing; payment of part.

Instance, in-stans, *n.* example; occurrence.

Instant, in'stant, *n.* a moment; *adj.* present; urgent.

Instantaneous, in-stan't-ne-us, *adj.* done in an instant.

Instantly, in-stan'tl, *adv.* immediately. [instant.]

Instate, in-stāt, *v.* to install.

Installation, in-stel-ā-shun, *n.* placing among the stars.

Instep, in'step, *n.* the upper part of the foot.

Instigate, in-sti-gāt, *v.* to urge to do; to incite.

Instill, in-stīl, *v.* to drop into; to infuse.

Instinct, in-sting't, *n.* nature; impulse.

Instinctive, in-sting'tiv, *adj.* animated with. [established.]

Institute, in-sti-tūt, *v.* to set up; begin; *n.* something instrumental.

Insubordinate, in-sub-ōr-din-āt, *adj.* disobedient.

Insufferable, in-su-fer-ā-bl, *adj.* intolerable. [unfit.]

Insufficiency, in-su-fish-en-ā, *n.* the state of being insular.

Insular, in-sū-lar, *adj.* pertaining to an island.

Insulate, in-sū-lāt, *v.* to separate.

Insult, in-sult, *v.* to abuse; to affront.

Insult, in-sult, *n.* abuse; affront.

Insuperable, in-sū-per-ā-bl, *adj.* not to be overcome.

Insupportable, in-sup-port-ā-bl, *adj.* insufferable.

Insurance, in-shoor-ans, *n.* the act of insuring.

Insure, in-shoor, *v.* to secure; to invest against loss.

Insurgent, in-sur-jent, *n.* one who rises against authority. [overcome.]

Insurmountable, in-sur-moun't-ā-bl, *adj.* not to be insurrection.

Insurrection, in-sur-ek-shun, *n.* a rising or revolt; rebellion. [to insurrection.]

Insurrectionary, in-sur-ek-shun-ār-l, *adj.* pertaining

Insusceptible, in-sus-sep't-ā-bl, *adj.* insensible to feeling.

Intact, in-takt, *adj.* entire; uninjured.

Intaglio, in-tal-yō, *n.* a figure cut into any substance.

Intangible, in-tan-jibl, *adj.* not perceptible to the

Intelligible, in-tel-ij-ā-bl, *adj.* acting as a means.

Integrable, in-tē-grā-bl, *adj.* complete.

Integrate, in-tē-grāt, *v.* to constitute one whole or total; to renew.

Integrity, in-tē-grit-l, *n.* uprightness; honesty.

Integument, in-tē-gū-ment, *n.* the external skin of animal or plant. [ing faculties.]

Intellect, in-tel-ekt, *n.* the understanding; the reason.

Intellectual, in-tel-ekt-ū-al, *adj.* pertaining to the intellect. [pure reason.]

Intellectualism, in-tel-ekt-ū-al-izm, *n.* the doctrine of intelligence.

Intelligence, in-tel-ij-ens, *n.* mental power.

Intelligent, in-tel-ij-ent, *adj.* mentally bright.

Intelligible, in-tel-ij-ā-bl, *adj.* easy to understand.

Intemperance, in-tē-per-ans, *n.* excess; drunkenness.

Intend, in-tend, *v.* to purpose; to incline to.

Intendant, in-tē-dant, *n.* superintendent; overseer.

Intenerate, in-tē-er-āt, *v.* to make tender.

Intense, in-tensē, *adj.* keen; tightly stretched; emotional.

Intensely, in-tē-sē-l, *adv.* to make more intense. [tional.]

Intensity, in-tē-si-tē, *n.* extreme application, power.

Intensive, in-tē-siv, *adj.* giving force. [or feeling.]

Intent, in-tent, *n.* purpose; *adj.* of close application.

Intention, in-tē-shun, *n.* having design towards.

Inter, in-ter, *v.* to bury.

Interact, in-ter-akt, *v.* a short piece between two chief pieces; the interval between the acts.

Interbreed, in-ter-brēd, *v.* to breed by crossing.

Intercalary, in-ter-kal-ār-l, *adj.* inserted; added.

Intercale, in-ter-kal-āt, *v.* to insert between.

Intercede, in-ter-sēd, *v.* to mediate; to plead.

Intercept, in-ter-sept, *v.* to stop in passage; to intercept.

Intercessor, in-ter-se-sor, *n.* a mediator. [obstruct.]

Interchain, in-ter-čhān, *v.* to chain together.

Interchange, in-ter-čhān, *v.* to exchange mutually.

Interchangeable, in-ter-čhān'ā-bl, *adj.* capable of exchange or alternation.

Intercoastal, in-ter-kōst-ā-l, *adj.* between the ribs.

Intercourse, in-ter-kōrs, *n.* mutual dealings; communion.

Interdash, in-ter-dash, *v.* to interpose. [ununion.]

Interdict, in-ter-dikt, *v.* to prohibit.

Interdictory, in-ter-dikt-ō-l, *adj.* prohibitory.

Interest, in-ter-est, *n.* concern; payment for the use of money; *v.* to arouse concern.

Interesting, in-ter-es't-ing, *adj.* worthy of attention.

Interfere, in-ter-fer, *v.* to meddle with; to interpose.

Interference, in-ter-fer-ens, *n.* act of interfering.

Interim, in-ter-im, *n.* intervening time.

Interior, in-ter-i-ōr, *adj.* inner; *n.* the inside of any.

Interject, in-ter-jekt, *v.* to throw between. [thing.]

Interject, in-ter-jekt, *v.* to throw between.

Interknit, in-ter-nit, *v.* to unite closely.

Interlace, in-ter-lās, *v.* to lace together.

Interlard, in-ter-lārd, *v.* to intermix.

Interleave, in-ter-lēv, *v.* to insert leaves.

Interline, in-ter-līn, *v.* to insert between lines.

Interlinear, in-ter-līn-ē-ar, *adj.* between lines.

Interlocution, in-ter-lō-kū-shun, *n.* conference; intermediate judgment. [between dialogue.]

Interlocutor, in-ter-lō-kū-tor, *n.* one who speaks before.

Interloper, in-ter-lōp, *v.* to intrude.

Interloper, in-ter-lōp, *n.* an intruder.

Interlude, in-ter-lūd, *n.* between the acts.

Interlunar, in-ter-lōo-ner, *adj.* relating to the period of the moon's invisibility.

Intermediate, in-ter-mē-dī-āt, *adj.* intervening.

Interment, in-ter-ment, *n.* burial.

Interminable, in-ter-mīn-ā-bl, *adj.* without end.

Intermission, in-ter-mīsh-un, *n.* interval.

Intermittent, in-ter-mīt-ent, *adj.* ceasing at intervals.

Internatural, in-ter-nū-ā-l, *adj.* between walls.

Intern, in-tern, *v.* to confine in neutral territory.

Internal, in-ter-nal, *adj.* inward.

International, in-ter-nash-un-ā-l, *adj.* between nations.

Internecine, in-ter-nē-sin, *adj.* mutually destructive.

Internode, in-ter-nōd, *n.* space between two nodes.

Interuncio, in-ter-nūn-shi-ō, *n.* papal representative at small courts.

Interpolation, in-ter-pel-ā-shun, *n.* interpolation.

Interpolate, in-ter-po-lāt, *v.* to insert words unfairly.

Interpolation, in-ter-po-lā-shun, *n.* what is interpolated.

Interposal, in-ter-pō-sā, *n.* the act of interposing.

Interpose, in-ter-pōs, *v.* to step between; to mediate.

Interpret, in-ter-prēt, *v.* to explain; to translate.

Interpretation, in-ter-pre-tā-shun, *n.* the act of explaining. [elucidates.]

Interpreter, in-ter-prē-ter, *n.* one who translates, or

Interregnum, in-ter-reg-nūm, *n.* time between the death of a ruler and the accession of successor.

Interrogate, in-ter-rō-gāt, *v.* to question.

Interrogatory, in-ter-rō-gāt-ō-l, *n.* a question.

Interrupt, in-ter-rup't, *v.* to interfere; to hinder; to interrupt.

Interrupt, in-ter-rup-shun, *n.* interference. [oppose.]

Interseapular, in-ter-skāp-ū-lar, *adj.* between the shoulder-blades.

Intersect, in-ter-sekt, *v.* to cut between.

Intersection, in-ter-sekt-shun, *n.* intersecting point.

Interperse, in-ter-spērs, *v.* to scatter among.

Interstellar, in-ter-stē-lar, *adj.* among the stars.

Interstice, in-ter-stis, *n.* a space between things.

Intertexture, in-ter-tekstūr, *n.* the state of being interwoven.

Intertwine, in-ter-twīn, *v.* to twine together.

Interval, in-ter-val, *n.* time between.

Intervention, in-ter-ven-shun, *n.* an interposing.

Interview, in-ter-vū, *n.* a meeting; *v.* to call upon a person and take down his views.

Interweave, in-ter-wēv, *v.* to weave together.

Intestate, in-tes-tā, *adj.* not qualified to execute a will.

Intestate, in-tes-tāt, *adj.* dying without a will. [will.]

Intestinal, in-tes-tin-ā-l, *adj.* relating to the bowels.

Intestine, in-tes-tin, *n.* domestic; internal.

Intestament, in-draw'ment, *n.* act of enslaving.

Intimacy, in-tim-ē-si, *n.* familiarity.

Intimate, in-tim-ē-si, *n.* near; familiar with. [known.]

Intimate, in-tim-ē-si, *v.* to hint; to suggest; to make intimate.

Intimidate, in-tim-id-āt, *v.* to frighten; to make timid.

Intolerable, in-tol-er-ā-bl, *adj.* insufferable.

Intolerance, in-tol-er-ans, *n.* lack of toleration; bigotry.

Intone, in-tōn, *v.* to chant.

Intonation, in-tōn-ā-shun, *n.* inflection of voice.

Intoxicant, in-tok-sik-ant, *n.* that which intoxicates.

Intoxicate, in-tok-sik-āt, *v.* to make drunk; to intoxicate.

Intractable, in-trakt-ā-bl, *adj.* unmanageable; unruly.

jabber, jab'er, *v.* to chatter.
 jacinth, ja'sinth, *n.* a precious stone.
 jack, jak, *n.* a pike; a spit turner; a playing card.
 jackal, jak'taw, *n.* a wild animal.
 jackanapes, jak'a-naps, *n.* an impudent fellow.
 jackass, jak'as, *n.* a male ass.
 jackboots, jak'boots, *n.* boots reaching above the
 ankles, jak'daw, *n.* a bird. [knee]
 jacket, jak'et, *n.* a short coat. [objects]
 jackcrow, jak'skrow, *n.* a spew for moving weighty
 acrobates, jak'o-bit, *n.* an adherent of the Stuarts.
 acquire, zhak'er-e, *n.* French peasants' revolt of 1793.
 ade, jid, *n.* a thirst horse; a mean woman.
 ade, jag, *n.* a notch.
 all, jai, *n.* a prison.
 aller, jai'er, *n.* a jail keeper.
 animam, jan'izm, *n.* a heterodox Hindu doctrine.
 am, *n.* preserved fruit; a crowd; *v.* to squeeze.
 amb, jam, *n.* door-post.
 ane, jan, *n.* Jean; a Genoese coin.
 angle, lang'gl, *v.* to wrangle; *n.* discordant voices or
 anitor, jan't-or, *n.* a doorkeeper; a porter. [sounds]
 anizary, jan't-zur-i, *n.* a Turkish foot-soldier.
 anus, jai'us, *n.* a Roman god.
 apas, ja'pas, *v.* to vanish in the Japanese style.
 ape, jap, *v.* to mock; to jest. [japhet]
 aphectic, ja-fet'ik, *adj.* relating to the descendants of
 ar, jar, *n.* an earthen vessel; *v.* to shake; to clash.
 ardimere, zhar-dan-i-ar, *n.* a vessel for flowers.
 argon, jar'gon, *n.* confused chatter.
 argonelle, jar-gon-el, *n.* a kind of pear.
 asay, jai't, *n.* a worsted wig.
 asmine, jas'min, *n.* a climbing plant.
 asper, jasper, *n.* a kind of quartz.
 aundice, jaw'dis, *n.* a liver disease.
 aundiced, jaw'dis-t, *adj.* prejudiced; afflicted with
 aunt, jawnt, *v.* to stroll; to ramble. [jaundice]
 aunty, jawnt, *adj.* airy.
 avelin, jav'e-lin, *n.* a spear.
 aw, *n.* the bone that holds the teeth.
 jealous, jel'us, *adj.* suspicious.
 ean, jen, *n.* twilled cotton cloth.
 eer, jer, *v.* to sneer.
 ehovah, je-ho'va, *n.* the Hebrew name of God.
 ejane, zheh-zhun, *adj.* (F-r), empty.
 elly, jel't, *n.* anything gelatinous.
 eopardise, jep'er-di-z, *v.* to endanger.
 eopardy, jep'er-di, *n.* danger.
 eremiad, jer-e-mi'ad, *n.* a lamentation.
 erk, *v.* to pull or throw suddenly.
 erkin, jer'kin, *n.* a short coat. [filmy structures]
 erry-builder, jer't-bild-er, *n.* a builder of cheap and
 less, *n.* a strap for holding a hawk's legs.
 esse, jes-si, *n.* a large branched candlestick.
 est, jest, *n.* a joke; *v.* to make fun of.
 ester, jes'ter, *n.* a maker of jests.
 estingy, jest'ing-ly, *adv.* jocosely.
 eustical, jez't-ik-al, *adj.* crafty.
 issue, jai'us, *n.* the Saviour. [gas bracket]
 et, *n.* a black fossil substance; a spout of water; a
 jetsam, jer'sam, *n.* floating wreckage.
 etton, jet'on, *n.* a stamped metal counter.
 etty, jet't, *n.* a small pier.
 ew, joo, *n.* a Hebrew.
 ew-baiting, joo-bait'ing, *n.* persecution of Jews.
 ewel, joo'el, *n.* a precious stone; an ornament of gems.
 eweller, joo'el-er, *n.* a dealer in jewels.
 ewellery, joo'el-ri, *n.* jewels in general.
 ewery, joo'ri, *n.* a Jewish quarter.
 ew's-harp, joo'harp, *n.* a small musical instrument
 played between the teeth by sinking a spring.
 ezebel, jez'e-bel, *n.* a virago.
 jib, *n.* a short movable triangular sail; *v.* to be restive.
 jib boom, *n.* the beam on which the jib is fixed.
 ig, jir, *n.* a dance.
 lit, jil, *n.* a coquette.
 ingie, jing'gl, *v.* to tinkle.
 ingo, jing'go, *n.* a headstrong politician.
 job, *n.* a piece of work; *v.* to hire.
 jobber, job'er, *n.* a dealer in stocks.

jobbery, job'er-i, *n.* fraudulent methods.
 jockey, jok't, *n.* one who rides racehorses.
 jocos, joko's, *adj.* merry; full of fun.
 jocular, jok'o-lar, *adj.* sportive.
 sound, jok'und, *adj.* gay; cheerful.
 jodel, jo'del, *v.* to sing falsetto.
 og, *v.* to shake.
 joggle, jog'l, *v.* to shake; to jostle.
 jog-trot, jog'trot, *n.* a humdrum pace.
 Johnsonese, john-son-er, *n.* the style of Dr. Johnson.
 join, join, *v.* to unite.
 joiner, join'er, *n.* a woodworker.
 joinery, join'er-i, *n.* the joiner's art.
 joint, joint, *n.* a joining.
 jointly, joint'ly, *adv.* together.
 joint stock, *n.* stock or capital jointly held.
 jointure, joint'ur, *n.* property settled on a woman on
 joist, joist, *n.* a supporting beam. [her marriage]
 joke, jok, *n.* a jest; *v.* to jest.
 jollification, jol-if-ik-a'shun, *n.* festivity.
 jollity, jol'li-ti, *n.* boisterous mirth.
 jolly, jol't, *adj.* merry.
 jollyboat, jol't-bot, *n.* a small boat or yawl.
 jolt, jolt, *v.* to shake jerkily.
 jonquil, jon'kwil, *n.* a flowering plant.
 joskin, jos'kin, *n.* a clown.
 jose, jos, *n.* a Chinese idol.
 jostle, jos't, *v.* to knock against.
 jot, jot, *n.* a small quantity; *v.* to set down concisely.
 jotting, jot'ing, *n.* a note or memorandum.
 joule, jool, *n.* a unit of electrical energy.
 ource, jowis, *v.* to jolt.
 journal, jur'nal, *n.* a record.
 journalism, jur-nal-izm, *n.* the journalistic profession.
 journalist, jur-nal-ist, *n.* a writer on the Press.
 journey, jur'ni, *v.* to travel.
 journeyman, jur'ni-man, *n.* a qualified hired work-
 man. [man]
 joust, joust, *n.* an encounter by two knights at a
 jorial, jo'ri-al, *adj.* mirthful. [tournament]
 jowl, *n.* the cheek.
 joy, joi, *n.* exultation; gladness.
 jubate, joo'bät, *adj.* having a name.
 jubilant, joo'bil-ant, *adj.* joyous. [celebration]
 jubilee, joo'bil-ee, *n.* a time of rejoicing; a fiftieth-year
 jubical, joo-dik'ik-al, *adj.* pertaining to the Jews.
 judaise, joo'di-z, *v.* to bring into conformity with
 Jewish ideas.
 Judaism, joo'di-izm, *n.* Jewish doctrines. [Judea]
 Judean, joo'de-an, *n.* a native of Judea; *adj.* relating to
 Jude, jui, *n.* one who passes judgment in law cases;
 one who decides in a dispute; *v.* to decide.
 judgeship, ju'diship, *n.* the office of judge.
 judgment, ju'dment, *n.* taste; a judicial decision.
 judicable, joo'dik-a-bl, *adj.* capable of being tried.
 judicator, joo'dik-a-to-ri, *adj.* pertaining to a judge.
 judicature, joo'dik-a-tür, *n.* the power of dispensing
 judicial, joo'dish'al, *adj.* relating to the law. [justice]
 judiciary, joo'dish'i-ri, *n.* the judges as a whole.
 judicious, joo'dish'us, *adj.* according to right judgment.
 jug, *n.* a vessel for holding liquors; the nightingale's
 jug, jui, *adj.* nalar. [note]
 juggle, jug'l, *v.* to conjure.
 juggler, jug'ler, *n.* one who juggles; a conjurer.
 jugglery, jug'ler-i, *n.* trickery.
 jugular, jug'u-lar, *n.* a vein in the neck.
 juice, joo's, *n.* sap.
 juicy, joo'st, *adj.* full of juice.
 jubbe, joo'joo, *n.* a kind of spring shrub; a sweet-
 uler, joo'lep, *n.* a sweet drink. [sweet]
 jumble, jum'bl, *v.* to mix confusedly.
 jump, *v.* to leap.
 junction, jung'shun, *n.* a joining.
 juncture, jung'chur, *n.* a critical time.
 jungle, jung'gl, *n.* thick forest.
 junior, joo'ni-er, *adj.* younger.
 juniper, joo'ri-p-er, *n.* a shrub and its berry.
 junk, jung'k, *n.* old ropes; hard salt beef;
 Chinese ship.
 Junker, jung'ker, *n.* a young German noble.
 junzet, jung'et, *n.* a sweetmeat; a picnic.
 Junta, jun'ta, *n.* Spanish Council of State.
 Juto, ju'to, *n.* a confederacy.

day; ät; ärm; äve; äik; there; ice; pin; machine; cold; pot; storm; müte; tüb; barm.

Jupon, *joo'pon*, *n.* a sleeveless jacket.
Juridical, *joo-ri'di-kal*, *adj.* relating to law admission.
Juriconsult, *joo-ris-kon'sult*, *n.* a jurist.
Jurisdiction, *joo-ris-dik-shun*, *n.* the district within which a court has power.
Jurisprudence, *joo-ris-proo'dens*, *n.* science of the law.
Uriet, *joo'riet*, *n.* one versed in civil law.
Jury, *joo'ry*, *n.* one of a jury.
Jury, *joo'ry*, *n.* a body of men to judge a cause.
Juryman, *joo'ri-man*, *n.* a member of a jury.
Jurymast, *joo'ri-mast*, *n.* a temporary mast.
Jury-rudder, *joo'ri-rudder*, *n.* an extemporised rudder.
Jussive, *jus'iv*, *adj.* indicating command.
Just, *adj.* right; lawful; upright.
Justice, *jus'tis*, *n.* impartiality; equity; a magistrate.
Justiceship, *jus'tis-ship*, *n.* the office of justice.
Justiciary, *jus'tis-ia-ry*, *n.* one who administers justice.
Justifiable, *jus'ti-f'abl*, *adj.* that can be justified;
Justification, *jus'ti-f'ik-ashun*, *n.* defence; vindication.
Justify, *jus'ti-fi*, *v.* to vindicate.
Jut, *v.* to project.
Jute, *joot*, *n.* a coarse kind of hemp.
Juvenescence, *joo-ven-es'ens*, *n.* youthfulness.
Juvenile, *joo'ven-il*, *n.* youth; *adj.* youthful.
Juxtaposition, *juk-ti-po-zish'un*, *n.* contiguity.

K

Kaleidoscope, *kal-i'do-skop*, *n.* an optical toy.
Kampulicon, *kamp-tu'li-kon*, *n.* a kind of floor-cloth.
Kanaka, *kan-a'ka*, *n.* a native of the Sandwich Islands.
Katydids, *kat'id-id*, *n.* a very fine clay.
Keel, *kēl*, *n.* the lower timber of a ship. (American).
Keel-haul, *kēl'hawl*, *n.* to haul under keel by ropes; a form of naval punishment.
Keelson, *kēl'son*, *n.* an inner keel.
Keen, *kēn*, *adj.* eager; alert; pungent; acute.
Keep, *kēp*, *v.* to retain; to last.
Keeper, *kēp'er*, *n.* one who guards.
Keepsake, *kēp'sak*, *n.* a gift of regard.
Keg, *n.* a small cask.
Kelp, *n.* seaweed.
Kelpie, *kēl'pi*, *n.* a fancied spirit of the water.
Ken, *kēn*, *v.* to know.
Kennel, *kēn'ol*, *n.* shelter for a dog.
Kerastine, *kēra-sēn*, *adj.* made of horn.
Kerbstone, see *Curbstone*.
Kerchief, *kēr'chif*, *n.* a small loose shawl.
Kern, *kērn*, *n.* the last sheaf of the harvest.
Kernel, *kēr'nel*, *n.* a grain; a seed within a shell.
Kerosene, *kē-ro-sēn*, *n.* coal oil.
Kersey, *kēr'si*, *n.* a kind of woolen cloth.
Kestrel, *kēst'rel*, *n.* a kind of falcon.
Ketch, *n.* a two-masted vessel. [nautical].
Ketchup, *ketch'up*, *n.* a flavouring made from Kettle.
Kettle, *kē'tl*, *n.* a vessel for boiling liquids in.
Kettle-drum, *kē'tl-drum*, *n.* a kind of drum.
Kex, *kēks*, *n.* hemlock stalk.
Key, *kē*, *n.* an instrument for opening or closing a lock; centre stone; fundamental note.
Keyboard, *kē'bōrd*, *n.* the keys of a piano or organ.
Keynote, *kē'nōt*, *n.* the fundamental note of a musical chord.
Khaki, *kā'ki*, *n.* dust-coloured uniform. [composition].
Khan, *kān*, *n.* an Asiatic chief.
Khanate, *kān'at*, *n.* the territory of a khan.
Kibe, *kib*, *n.* a chibblin.
Kick, *kik*, *v.* to give a blow with the foot; *n.* the blow.
Kickshaw, *kik'shaw*, *n.* something fanciful. [itself].
Kid, *n.* a young goat; kid leather.
Kidding, *kid'ling*, *n.* a young kid.
Kidnap, *kid'nāp*, *v.* to carry off a human being.
Kidnapper, *kid'nāp'er*, *n.* one who kidnaps.
Kidney, *kid'ni*, *n.* a gland for secretion of the urine.
Kildrinda, *kil'drin-dā*, *n.* a small bagel.
Kiley, *kil'ie*, *n.* a boomerang.
Kill, *kil*, *v.* to slay; to nullify.
Kiln, *n.* an oven for making lime, bricks, etc.
Kilo, *kē'lo*, *n.* a large oven. [Highlander's dress].
Kilt, *kilt*, *n.* a short petticoat forming part of a

Kimbo, *kim'bō*, *adj.* bent; arched.
Kind, *n.* kindred.
Kind, *kind*, *adj.* generous; good; gracious.
Kindle, *kind'l*, *v.* to set on fire; to inflame.
Kindliness, *kind'liness*, *n.* gentleness.
Kindness, *kind'ness*, *n.* the act of being kind; goodness.
Kindred, *kind'red*, *n.* relations.
Kine, *kin*, *n.* cows.
Kinematics, *kin-ē-mat'iks*, *n.* the science of motion.
Kinetic, *kin-et'ik*, *adj.* moving. [injection].
Kinetics, *kin-et'iks*, *n.* the science of force in con-
Kinetscope, *kin-et-skop*, *n.* a movable panorama.
King, *n.* a ruler.
Kingdom, *king'dom*, *n.* territory ruled over by a king.
Kingly, *king'l*, *adj.* king-like; noble.
King's-evil, *kingz-ē-vil*, *n.* scrofula.
Kink, *kingk*, *n.* a twist; a knot.
Kino, *ki'no*, *n.* a vegetable exudation.
Kinsfolk, *king'fok*, *n.* kindred.
Kiosk, *kē-nsk'*, *n.* a pavilion.
Kip, *n.* calf-skin.
Kipper, *kip'er*, *n.* male salmon after spawning; pre-
 served haddock or herring.
Kipskin, *kip-skin*, *n.* calf-skin.
Kirk, *n.* a church (Scottish).
Kirtle, *kir'tl*, *n.* a kind of gown; a mantle.
Kiss, *kis*, *v.* to salute with the lips; *n.* the act of kissing.
Kit, *n.* a workman's outfit of tools.
Kit-cat, *kit-kat*, *n.* a size of portrait (36 x 28 inches) so-called after the portraits done by Kneller for the Kit-cat Club.
Kitchen, *kir'chen*, *n.* place where food is cooked.
Kitchener, *kir'chen-er*, *n.* a cooking stove.
Kite, *kit*, *n.* a bird of prey; a flying toy.
Kith, *n.* kindred.
Kitten, *kit-en*, *n.* a young cat.
Klang, *n.* a confused tone.
Kleptomania, *klep-to-mā'n-i-ā*, *n.* a morbid impulse to steal.
Klick, *klik*, *n.* a sharp catching noise. [steal].
Kloof, *n.* a mountain cleft.
Knab, *nab*, *v.* to seize hold of.
Knack, *nak*, *n.* adroitness; special aptitude.
Knacker, *naker*, *n.* a buyer of dead horses.
Knag, *nag*, *v.* a knot.
Knag, *nag*, *v.* to break.
Knapsack, *nāp'sak*, *n.* a soldier's provision bag.
Knapskull, *nāp'skull*, *n.* a helmet.
Knarled, *nā'r'd*, *adj.* knotty.
Knave, *nāv*, *n.* a scamp; a playing card.
Knavey, *nā'ver-i*, *n.* villainy.
Knave, *nēd*, *v.* to work and press.
Knee, *nē*, *n.* the joint between the leg and thigh.
Kneel, *nēl*, *v.* to bend the knee.
Kneepan, *nē'pan*, *n.* a round bone at the knee; the
Knell, *nēl*, *n.* the sound of a funeral bell. [patella].
Knickerbockers, *nik'er-bok-ers*, *n.* short trousers, gathered in at the knee.
Knick-knack, *nick'nak*, *n.* a trifling object.
Knife, *nif*, *n.* a cutting instrument.
Knight, *nit*, *n.* a champion; the rank next below baronet, entitling the owner to be called "Sir."
Knight-errant, *nit-er-ant*, *n.* one who travelled in quest of adventures in olden times.
Knighthood, *nit'hood*, *n.* the dignity of a knight.
Knight-marshal, *nit-mar'shal*, *n.* a royal official.
Knight-service, *nit-ser'vis*, *n.* a land tenure based on military service.
Knit, *v.* to join; to make into network.
Knitting, *nit'ing*, *n.* work produced by knitting.
Knob, *nob*, *n.* a protuberance.
Knobby, *nob'l*, *adj.* covered with knobs.
Knock, *nok*, *v.* a rap. [door].
Knocker, *nok'er*, *n.* a knocking instrument fixed to a
Knock-kneed, *nok'nēd*, *adj.* knees inclined inward.
Knoll, *nōl*, *n.* a small round hill.
Knop, *nop*, *n.* a knob or cluster.
Knob, *nōt*, *n.* a group; a bunch; a cluster; a tie.
Knock-grass, *nok'gras*, *n.* a grass with knotty stems.
Knotty, *nōt'l*, *adj.* abounding in knots; difficult.
Knoutwork, *nok'werk*, *n.* fancy work formed of knots.
Knout, *nōwt*, *n.* a Russian whip of punishment.

day; ät; ärm; äve; älk; there; äc; pin; machine; böld; pöt; störm; müte; tüb; bürn.

Know, nō, *v.* to understand; to perceive.
Knowingly, nō'ing-ly, *adj.* intelligently.
Knowledge, nōl'ē, *n.* learning; information; instruction.
Knob, nūb, *n.* a knob.
Knuckle, nuk'l, *n.* joint of a finger.
Knurr, nur, *n.* a wooden ball.
Kodak, kō'dak, *n.* a small camera.
Koran, kō'ran, *n.* the Mohammedan Bible.
Koumiss, koo'mis, *n.* an intoxicating beverage made from mare's milk fermented.
Krasai, kral, *n.* a Hottentot village.
Kremlin, krem'lin, *n.* imperial palace at Moscow.
Kyanise, k'yan-iz, *v.* to protect wood by means of corrosive sublimate.
Kyllosis, kil-lō'sis, *n.* club-foot.
Kylos, k'lo, *n.* cattle of the Hebrides.

L

Labarum, lab'a-rum, *n.* Roman imperial standard.
Label, lā'bel, *n.* a slip for name or description.
Labellum, la-bel'um, *n.* the lower portion of a petal.
Labial, lā'bi-al, *n.* a lip consonant; *adj.* relating to the lips.
Labiodental, la-bi-o-dent'al, *adj.* of sound produced
Lab'um, lā'bi-um, *n.* a lip.
Laboratory, l.-bor'ā-to-ry, *n.* a chemist's workshop; place for scientific experiments.
Laborious, la-bō'r-i-ous, *adj.* with diligence; toilsome.
Labour, lā'bōr, *n.* toil; *v.* to exert effort.
Labourer, lā'bōr-er, *n.* one who works with his hands.
Laburnum, la-burn'um, *n.* a tree that bears clusters of yellow flowers.
Labyrinth, lab'y-rinth, *n.* a maze; a place of many
Labyrinthian, lab-i-rin'thi-an, *adj.* maze-like; winding.
Lac, lak, *n.* a resinous substance; 100,000 rупees.
Lace, lās, *n.* delicate net-work; a string or fastening.
Lacerate, la-cher-it, *v.* to rend; to wound; to tear.
Lacerta, las'er-ta, *n.* a class of Saurian reptiles.
Lacertian, las'er-ti-an, *adj.* pertaining to lizards.
Laches, lash'ēz, *n.* negligence; delay.
Lachrymal, lak'r'i-mal, *adj.* secreting tears.
Lachrymary, lak'r'i-mā-ry, *adj.* containing tears.
Lachrymose, lak'r'i-mōs, *adj.* tearful.
Lacinia, la-sin'ia, *n.* a lappet or fringe.
Lacing, lās'ing, *n.* a laced fastening; a lace.
Lack, lak, *v.* to want.
Lackadaisical, lak-ā-dā'zi-kal, *adj.* sentimental.
Lactadey, lak-a-dā'ri-er, *adj.* alas! the day. [dreamy].
Lackey, lak'ē, *n.* a servile attendant.
Laeonic, la-kōn'ik, *adj.* short; concise; pithy.
Laconism, lak'on-izm, *n.* a concise style.
Macquer, lak'er, *n.* a kind of varnish.
Lacquerer, lak'er-er, *n.* a worker with lacquer.
Lactate, lak'tāt, *n.* in the condition of giving milk.
Lactéal, lak'te-al, *adj.* milky.
Lacteous, lak'te-us, *adj.* pertaining to milk.
Lactiferous, lak'ti-fēr-us, *adj.* producing milk.
Lactometer, lak-tōm-ē-ter, *n.* a milk-measuring instrument.
Lactose, lak'tōs, *adj.* milky.
Lacuna, la-kū'na, *n.* an hiatus.
Lacustrine, la-kus'trin, *adj.* relating to lakes.
Lad, lad, *n.* a boy.
Ladder, lad'er, *n.* a means of ascent.
Lade, lad, *v.* to load; to throw out.
Laden, lād'n, *adj.* loaded.
Ladle, lād'l, *n.* an implement for lifting liquid.
Lady, lād'i, *n.* a female of rank or position.
Lag, lag, *v.* to linger.
Lagen-beer, lā'gen-bēr, *n.* light German beer.
Laggard, lag'ard, *adj.* slow; loitering.
Lagoon, la-goōn, *n.* a shallow lake.
Lalcal, lā'lkal, *adj.* pertaining to the laity.
Lair, lār, *n.* resting-place; retreat of wild animals.
Laird, lārd, *n.* a Scottish chief, or landed proprietor.
Lairdship, lārd'ship, *n.* the estate of a laird. [clergy].
Lait, lā'ti, *n.* the people, as distinguished from the
Lake, lak, *n.* a body of water surrounded by land.
Lakelet, lak'let, *n.* a small lake.
Lama, lā'ma, *n.* a Buddhist head priest in Tibet.

Lamb, lam, *n.* a young sheep.
Lambent, lam'bent, *adj.* flickering.
Lambkin, lam'kin, *n.* a small lamb.
Lame, lām, *adj.* halt or crippled.
Lamella, la-mel'ā, *n.* a thin plate or scale.
Lament, lā-ment, *n.* an expression of sorrow.
Lamentable, lam'ent-ā-bl, *adj.* sorrowful.
Lamentation, lam-ent-ā'shun, *n.* the act of sorrowing.
Lamina, lam'in-ā, *n.* a thin plate; a leaf-blade.
Lammas, lam'as, *n.* the 1st of August.
Lamp, *n.* an illuminant vessel.
Lamps, lam'ps, *n.* a swelling in a horse's mouth.
Lampblack, lamp'blak, *n.* soot from lamp smoke.
Lampoon, lam-poon, *n.* satire; skit.
Lamprey, lam'prē, *n.* an eel-like fish.
Lanate, lā'nāt, *adj.* woolly.
Lance, lāns, *n.* a pointed weapon; long-handled.
Lanceolated, lāns-ō-lā-ted, *adj.* in the shape of
Lancet, lan'set, *n.* a surgical knife. [lance-heads].
Land, *n.* the solid surface of the earth.
Land-agent, land'ā-jent, *n.* a land-owner's deputy.
Landau, lan'daw, *n.* a kind of coach.
Landfall, land'faw, *n.* a subsidence or slipping of ground.
Landgrabber, land-grab'er, *n.* an unscrupulous appropriator of real estate.
Landlady, land'lā-di, *n.* a woman innkeeper or land
Landlock, land'lok, *v.* to enclose by land. [owner].
Landloper, land'lō-per, *n.* a vagrant wanderer.
Landlord, land'lārd, *n.* landowner; inn-keeper.
Landmark, land'mārk, *n.* a boundary mark; an elevated object.
Landowner, land'owner, *n.* a proprietor of real estate.
Landscape, land'skip, *n.* a land view. [sea-farers].
Landshark, land'shark, *n.* one who essays to cheat
Landslip, land'slip, *n.* a slipping down of land.
Landsmān, land'smān, *n.* one who lives on land.
Landward, land'wērd, *adj.* towards the land.
Lane, lān, *n.* a narrow road.
Language, lang'gwāj, *n.* speech.
Languid, lang'gwāj, *adj.* feeble; sluggish.
Languish, lang'gwish, *v.* to pine.
Langueur, lang'gwēr, *n.* lassitude.
Lanuary, la-nū-ary, *n.* a shamblers.
Lank, *adj.* limp; thin; loose; weak.
Lankness, lank'ness, *n.* slenderness.
Lantern, lan'tern, *n.* a protected hand lamp; a roof.
Lanuginous, lan-ū-jin-us, *adj.* downy. [light].
Lanyards, lan'yards, *n.* ship's ropes.
Laodicean, lā-o-di-sē-an, *adj.* lukewarm in religion.
Lap, lap, *n.* upper part of the legs of a seated person; *v.* to overspread.
Lapel, lap-el, *n.* the fold of a garment.
Lapidary, lap'id-ā-ry, *n.* a cutter of precious stones.
Lapidescant, lap-id-es-ent, *adj.* turning to stone.
Lapper, lap'er, *n.* one who laps or enfolds.
Lappet, lap'et, *n.* a little flap.
Lapsable, lap'sa-bl, *adj.* liable to lapse.
Lapse, laps, *v.* to pass slowly; to slide. [beat leather].
Lapstone, lap'stōn, *n.* stone on which shoemakers
Laputan, la-pū'tan, *adj.* very small; from Gulliver's
Lapwing, lap'wing, *n.* the pewit. [Lapula].
Larboard, lār'bōrd, *n.* port side of a ship.
Larceny, lār'sen-ri, *n.* theft.
Lard, lārd, *n.* fat of swine.
Lardaceous, lārd-ā'shus, *adj.* lard-like.
Larder, lārd'er, *n.* place where provisions are kept.
Large, lārj, *adj.* big; extensive; profuse.
Largess, lār'jes, *n.* a prevent.
Lark, lārj, *n.* a singing bird; a frolic. [stage].
Larva, lār'va, *n.* a grub; an insect in its caterpillar
Laryngitis, lār-in-jit-is, *n.* inflammation of the larynx.
Larynx, lār'ingks, *n.* the organ of voice.
Lascar, lās'ker, *n.* an East Indian sailor.
Lascivious, las-siv'it-us, *adj.* wanton; lewd.
Lash, lash, *n.* the thong of a whip; *v.* to strike with a
Lasher, lash'er, *n.* one who lashes. [whip].
Lass, las, *n.* a girl or young woman.
Lassitude, las'it-ūd, *n.* languor.
Lasso, las'ō, *n.* a slip-noose.
Last, *n.* the ultimate; a shoemaker's wooden mould.
Latch, latch, *n.* a fastening; *v.* to fasten.
Latchet, latch'et, *n.* a shoe string.

day; āt; ārm; ēve; ēlk; ghere; ice; pīn; machine; fōld; pūt; stōrm; mūte; tīb; bōrn.

Late, *lāt*, *adj.* tardy; departed.
Lateen, *la-tēn*, *n.* a triangular sail, hoisted obliquely.
Laten, *lā'tēn*, *adj.* hidden.
Lateral, *lā'tē-rāl*, *adj.* indirect; relating to the side.
Lateritious, *lā'tēr-i-ti-ŭs*, *adj.* brick-coloured.
Lath, *lāth*, *n.* a thin strip of wood.
Lathe, *lāth*, *n.* a turner's machine.
Lather, *lāth-er*, *n.* foam; *v.* to foam.
Latifoliate, *lā'tī-fō-lī-āt*, *adj.* broad-leaved.
Latin, *lā'tīn*, *n.* Roman.
Latinise, *lā'tīn-īz*, *v.* to put in Latin form.
Latinist, *lā'tīn-īst*, *n.* one learned in Latin.
Latinity, *lā'tīn-ī-tē*, *n.* pure Latin style.
Latish, *lā'tīsh*, *adj.* rather late. [equator.
Latitude, *lā'tī-tūd*, *n.* width; distance from the
Latitudinal, *lā'tī-tūd-ī-nāl*, *adj.* possessing latitude.
Lattunarian, *lā'tī-tū-dā-rī-an*, *adj.* free; unrestrained in views.
Latria, *la-trī-a*, *n.* the highest worship. [building.
Latrine, *lā'trīn*, *n.* place of convenience in a large
Latten, *lā'tēn*, *n.* iron plate covered with tin.
Latter, *lā'tēr*, *adj.* the more recent or last of two.
Lattice, *lā'tīs*, *n.* open work of cross bars.
Lattice-work, *lā'tīs-wēr-k*, *n.* same as lattice.
Laud, *lāwd*, *v.* to praise.
Laudable, *lāwd'ā-bū*, *adj.* praiseworthy.
Laudanum, *lāwd'a-nūm*, *n.* tincture of opium.
Laudatory, *lāwd'a-tō-rī*, *adj.* praising.
Laugh, *lāf*, *v.* to make a merry sound; to be mirthful.
Laughable, *lāf'ā-bū*, *adj.* comical.
Launch, *lāwnch*, *v.* to send forth; *n.* a large boat.
Laundress, *lāwn'dres*, *n.* a washerwoman.
Laundry, *lāwn'drī*, *n.* a wash-house.
Laureate, *lāw'rē-āt*, *n.* the court poet; one decked
Laurel, *lāw'rēl*, *n.* a shrub. [with laurel.
Lave, *lā'v*, *v.* molten matter ejected from a volcano.
Lavatory, *lā'v-a-tō-rī*, *n.* place for washing.
Lave, *lā'v*, *v.* to wash or bathe.
Lavender, *lā'v-ē-nd-er*, *n.* a sweet-scented plant.
Laver, *lā'v-er*, *n.* a wash dish.
Laverock, *lā'v-er-ok*, *n.* the lark.
Lavish, *lā'vīsh*, *adj.* wasteful.
Law, *lāw*, *n.* a rule or ordinance, authoritatively
Lawful, *lāw'fūl*, *adj.* legal. [imposed and binding.
Lawn, *lāwn*, *n.* fine linen; a grass plot.
Lawsuit, *lāw'sīt*, *n.* an issue in law.
Lawyer, *lāw'y-er*, *n.* one who practises the law.
Lax, *lāks*, *adj.* flabby; soft; not firm.
Laxative, *lāks'a-tīv*, *n.* a purgative.
Laxity, *lāks-ī-tē*, *n.* looseness. [tive song.
Lay, *lā*, *v.* to place prone; *adj.* unclerical; *n.* a narra-
Lay-brother, *lā'brūth-er*, *n.* an unprofessional clerical
Layer, *lā'ēr*, *n.* a stratum. [assistant.
Layette, *lā-ēt*, *n.* an infant's outfit.
Layman, *lā'mān*, *n.* one of the laity.
Lazar, *lā'zār*, *n.* a person with a pestilential disease.
Lazaretto, *lā'zā-rē-tō*, *n.* a hospital; a pest-house.
Lazy, *lā'zī*, *adj.* indolent.
Lea, *lē*, *n.* a field.
Leach, *lēch*, *n.* the edge of a ship's sail.
Lead, *lēd*, *n.* a soft grey metal.
Lead, *lēd*, *v.* to direct or precede.
Leader, *lēd-er*, *n.* one who leads.
Leaf, *lēf*, *n.* one of the external parts of a plant or
 tree; a division of a flat body, as the leaf of a book.
Leaflet, *lēf-lēt*, *n.* a small leaf. [a table, etc.
Leafy, *lēf'ī*, *adj.* full of leaves.
League, *lēg*, *n.* an alliance; three miles.
Leak, *lēk*, *v.* to ooze out; *n.* a crack that lets out
Leakage, *lēk'īj*, *n.* loss by leaking. [water.
Leaky, *lēk'ī*, *adj.* having leaks.
Leal, *lēl*, *adj.* loyal; faithful.
Leam, *lēn*, *n.* a cord by which to lead a dog.
Lean, *lēn*, *v.* to incline; *adj.* meagre; not fat; poor.
Leap, *lēp*, *v.* to spring up or away from a base.
Leap-year, *lēp'y-ēr*, *n.* every fourth year which has
 one more day than others.
Learn, *lērn*, *v.* to acquire knowledge.
Learner, *lērn-er*, *n.* one who is learning.
Learning, *lērn-īng*, *n.* scholarship; knowledge.
Lease, *lēz*, *v.* to let for hire; *n.* a tenure of land or
 other property.

Leaseholder, *lēz'hōld-er*, *n.* one who occupies under
 lease.
Leash, *lēsh*, *n.* a leather thong; three animals.
Leasing, *lēsh-īng*, *n.* lease.
Least, *lēst*, *adj.* smallest in size, value or importance.
Leather, *lēth-er*, *n.* tanned hide.
Leathern, *lēth-ēr-n*, *adj.* composed of leather.
Leave, *lēv*, *v.* to discard or depart from; *n.* a term of
 permissive absence.
Leaved, *lēvd*, *adj.* provided with leaves.
Leaven, *lēv-en*, *n.* yeast.
Leavings, *lēv-īngs*, *n.* things left.
Lecher, *lēch-er*, *n.* a lewd person.
Lecherous, *lēch-er-ŭs*, *adj.* lustful.
Lectern, *lēk't-ēr-n*, *n.* reading-desk in churches.
Lecture, *lēk'tŭr*, *n.* a reading.
Lecternian, *lēk'tŭr-ē-n*, *n.* a book for use in public
 worship.
Lector, *lēk't-ŭr*, *n.* a scripture reader. [worship.
Lecture, *lēk'tŭr*, *n.* a discourse; *v.* to inform by dis-
 course.
Ledge, *lēj*, *n.* a ridge.
Ledger, *lēj-er*, *n.* an account book.
Ledgy, *lēj'ī*, *adj.* full of ledges.
Lee, *lē*, *n.* the side opposite the wind.
Leech, *lēch*, *n.* a blood-sucking worm.
Leek, *lēk*, *n.* a caustic gun.
Leek, *lēk*, *n.* dreg; sediment.
Lee-shore, *lē'sh-ŭr*, *n.* shore toward which the wind
 blows.
Leet, *lēt*, *n.* a court of record.
Leeward, *lē-w-erd*, *adj.* towards the lee.
Leeway, *lē-wā*, *n.* a movement towards the lee.
Leg, *n.* a pedal limb; a support.
Legacy, *lēg'a-sī*, *n.* a bequest.
Legal, *lē-gāl*, *adj.* conforming to law.
Legalise, *lē-gāl-īz*, *v.* to render lawful.
Legality, *lē-gāl-ī-tē*, *n.* lawfulness.
Legate, *lē-gāt*, *n.* an ambassador.
Legatee, *lē-gā-tē*, *n.* the recipient of a legacy.
Legatine, *lē-gā-tē-n*, *adj.* pertaining to a legate.
Legation, *lē-gā-shun*, *n.* an embassy.
Legato, *lē-gā-tō*, *adj.* smooth (*mus.*).
Legend, *lē-jend*, *n.* a story; a motto.
Leger, *lē-j-er*, *adj.* light; small.
Legerdemain, *lē-j-er-dē-mān*, *n.* sleight of hand.
Legging, *lē-j-īng*, *n.* a leg covering.
Legible, *lē-j-ī-bū*, *adj.* readable.
Legion, *lē-j-ŭn*, *n.* a great number; a body of soldiers.
Legionary, *lē-j-ŭn-ārī*, *adj.* relating to legions.
Legislate, *lē-j-ī-lāt*, *v.* to make laws.
Legislation, *lē-j-ī-lā-shun*, *n.* act of legislating.
Legislative, *lē-j-ī-lā-tīv*, *n.* enacting law.
Legislator, *lē-j-ī-lā-tŭr*, *n.* a law maker.
Legislature, *lē-j-ī-lā-tŭr*, *n.* a body of law-makers.
Legist, *lē-j-īst*, *n.* one learned in laws.
Legitimacy, *lē-j-ī-t-mā-sī*, *n.* lawfulness.
Legitimate, *lē-j-ī-t-māt*, *adj.* legal.
Legitimise, *lē-j-ī-t-m-īz*, *v.* to render legitimate.
Legitimist, *lē-j-ī-t-m-īst*, *n.* a supporter of legitimate
 authority.
Legume, *lē-gŭm*, *n.* a pod, as of peas.
Leguminous, *lē-gŭm-ŭs*, *adj.* legume-bearing.
Leisure, *lēz'hŭr*, *n.* spare time.
Leman, *lēm'an*, *n.* a mistress.
Lemma, *lēm'a*, *n.* an assumed proposition.
Lemming, *lēm-īng*, *n.* the Norwegian rat.
Lemon, *lēm'on*, *n.* an acid fruit of the orange order.
Lemonade, *lēm'on-ād*, *n.* a lemon drink.
Lemur, *lē'mŭr*, *n.* a species of Madagascar monkey.
Lemures, *lē'mŭ-rēz*, *n.* spectres.
Lend, *v.* to grant on loan.
Lengthy, *lēn-gth*, *adj.* of great length; longish.
Lenient, *lēn-ēnt*, *adj.* clement; gentle.
Lenity, *lēn-ī-tē*, *n.* gentleness; mercy; mildness.
Leno, *lē'no*, *n.* cotton gauze for curtains.
Lens, *lēnz*, *n.* a magnifying glass.
Lent, *lēnt*, *v.* a fast before Easter.
Lenten, *lēnt-en*, *adj.* pertaining to Lent; scanty.
Lenticular, *lēn-tīkŭ-lār*, *adj.* like lens or lentil seed.
Lentigo, *lēn'tī-gō*, *n.* a freckle.
Lentil, *lēn'tīl*, *n.* a pulse-bearing edible plant.
Lentils, *lēn'tīls*, *n.* mastic trees.
Lentous, *lēn'tŭs*, *adj.* viscid.
Leontine, *lē'ō-nīn*, *adj.* lion-like.
Leopard, *lēp'ard*, *n.* a spotted wild animal.

day; **āt**; **ārm**; **ēve**; **ēlk**; **thēre**; **īce**; **pīn**; **māchine**; **bōld**; **pōt**; **stōrm**; **mūte**; **tūb**; **būrn**.

Lepor, lep'er, *n.* a person afflicted with leprosy.
Lepidoptera, lep-id-op'ter-ā, *n.* four-winged insects.
Leprosy, lep'rō-si, *n.* a virulent skin disease.
Leprous, lep'rūs, *adj.* affected with leprosy.
Lesion, lē'zhun, *n.* an injury.
Leas, les, *adj.* in a smaller degree.
Leasee, les-sē, *n.* one to whom a lease is granted.
Lessen, les'en, *v.* to diminish; to make less.
Lesson, les'on, *n.* a task; a portion of study.
Leasor, les-or, *n.* a lease grantor.
Leat, leat, *conj.* for fear that.
Let, let, *v.* to permit, to lease.
Leach, lech, *v.* to wash by water percolation.
Letthal, lē'thal, *n.* deadly; mortal.
Lethargic, leth'ar-jik, *adj.* drowsy; dull.
Lethargy, leth'ar-jik, *n.* dullness; heaviness.
Lethé, lē'thé, *n.* the river of forgetfulness.
Lethiferous, leth-if'er-us, *adj.* deadly.
Letter, let'er, *n.* an epistle; a sign of the alphabet.
Lettered, let'er'd, *adj.* learned.
Letters, let'ers, *n.* literature; authorship.
Lettuce, let's, *n.* a well-known edible plant.
Levant, le-vant, *v.* to decamp.
Levantine, le-van'tin, *adj.* pertaining to the Levant.
Levee, le-vē, *n.* a promissory of visitors.
Level, lev'el, *n.* a horizontal plane; *v.* to make flat.
Leveler, lev'el-er, *n.* one who makes level; an advocate of equality.
Lever, lē'ver, *n.* a bar for raising weights.
Leverage, lē'ver-aj, *n.* lever power.
Leveret, lev'er-et, *n.* a young hare.
Leviable, lev'i-abil, *adj.* that may be levied.
Leviathan, le-vi'th-an, *n.* a huge sea animal.
Levigate, lev'i-gat, *v.* to make smooth.
Liberation, lib'er-i-shun, *n.* the act of lightening.
Levity, lev'i-ti, *n.* frivolity; thoughtlessness.
Levy, lev'i, *n.* to impose; to constrain; to collect.
Lewd, lūd, *adj.* lustful. [dictionaries]
Lexicographer, leks-i-kog'ra-fer, *n.* a compiler of Lexicography, leks-i-kog'ra-fi, *n.* dictionary making.
Lexicology, leks-i-kol'o-jī, *n.* the science of word-Lexicon, leks'i-kon, *n.* a dictionary. [signification]
Liability, li'ab-i-lit-i, *n.* responsibility.
Liabile, li'abil, *adj.* accountable; subject to.
Liaison, li-ā-zon, *n.* union; an illicit friendship between a man and a woman.
Liar, li'ar, *n.* a speaker of untruths. [oolitic system]
Lias, li'as, *n.* a limestone formation underlying the Libation, li-bā-shun, *n.* an offering of wine.
Libel, li-bel, *n.* to defame.
Libeller, li-bel-er, *n.* one who defames.
Libellous, li-bel-us, *adj.* defamatory.
Liberal, lib'er-al, *adj.* generous; *n.* a supporter of Liberal politics.
Liberalise, lib'er-al-iz, *v.* to expand; to enlighten.
Liberalism, lib'er-al-izm, *n.* Liberal principles.
Liberate, lib'er-ate, *v.* to set free.
Liberator, lib'er-ā-tor, *n.* one who sets free.
Libertine, lib'er-tin, *n.* a debauchee.
Libertinism, lib'er-tin-izm, *n.* licentiousness.
Liberty, lib'er-ti, *n.* freedom.
Libidinous, lib-id'in-us, *adj.* lewd.
Librarian, li-brā'ri-an, *n.* keeper of a library.
Library, li-brā-ri, *n.* a room where books are kept.
Librate, li-brāt, *v.* to balance.
Libration, li-brā-shun, *n.* act of balancing.
Libratory, li-brā-to-ri, *adj.* moving like a balance.
Libretto, li-bre'to, *n.* the book of words of an opera or other extended musical composition.
Licence, li-sens, *n.* permission.
Licencee, li-sen-sē, *n.* a license holder.
Licentiate, li-sen'sh-āt, *n.* one who holds licence for a profession.
Licentious, li-sen'shun, *adj.* unrestrained; immoral.
Lichen, li'ken, *n.* a plant of the moss order.
Licit, li'sit, *adj.* lawful; proper.
Lick, lik, *v.* to draw the tongue over the surface of.
Lictor, lik'tor, *n.* a court official of ancient Rome.
Lid, *n.* a movable cover.
Lie, li, *v.* to utter falsehood; to remain prostrate.
Lie, lē, *adv.* willingly; gladly.

Liege, lēj, *n.* a vassal.
Lien, li'en or lē'en, *n.* a legal claim.
Lieu, li, *n.* place; room;stead.
Lieutenant, lēf'ten-ant, *n.* an officer next below a Lieut. *n.* vitality; animal existence. [captain]
Life-guard, lif'gārd, *n.* a guard of the king.
Lifehold, lif'hōld, *n.* land held for life.
Lifeless, lif'les, *adj.* dead; inert.
Lift, lift, *v.* to raise to a higher position.
Ligament, lig'a-ment, *n.* a cord.
Ligation, lig-a'shun, *n.* act or condition of binding.
Ligature, lig-a-tūr, *n.* a bandage.
Light, lit, *n.* the agent which renders objects visible; knowledge; a point of view; a window.
Lighten, li'ten, *v.* to render lighter.
Lighter, li'ter, *n.* a river barge. [guidance at sea]
Light-house, li'thous, *n.* a house with a light for
Light-minded, li'tmind'ed, *adj.* volatile.
Lightning, li'tning, *n.* an electric flash in the sky.
Lights, lits, *n.* the lungs.
Lightsome, li'tsum, *adj.* light-hearted.
Ligneous, lig'nē-us, *adj.* woody.
Lignine, lig'nin, *n.* woody fibre.
Lignite, lig'nit, *n.* wood coal.
Lignum, lig'num, *n.* wood apart from tissues or bark.
Like, li'ke, *n.* a kind of precious stone.
Like, li'ke, *adj.* equal; similar; *n.* resemblance; *v.* to enjoy; to be pleased with.
Likelihood, lik'h-hood, *n.* probability.
Liken, li'ken, *v.* to compare.
Likeness, lik'ness, *n.* a portrait.
Liking, li'king, *n.* pleasure; inclination.
Lilac, li'lak, *n.* a shrub.
Lilaceous, li-lā-shus, *adj.* relating to lilies.
Lilliputian, li-li-pu'ti-an, *adj.* dwarfish.
Lit, lit, *v.* to sing cheerfully. [snail]
Litigious, li-ti-shus, *adj.* pertaining to shell-less
Limb, lim, *n.* an arm, leg, or foot, branch of a tree; *v.* to dismember.
Limber, lim'ber, *adj.* flexible; *n.* a two-wheeled attachment to a gun-carriage.
Limberness, lim'ber-ness, *n.* flexibility.
Limbo, lim'bō, *n.* a place of restraint.
Limit, lim'it, *n.* restriction; bounds.
Limitation, lim-it-i-shun, *n.* restriction.
Lima, lim, *v.* to draw or paint.
Limer, lim'er, *n.* a portrait painter.
Limous, li'mus, *adj.* slimy.
Limp, limp, *v.* to walk lame; *adj.* lacking stiffness.
Limpet, lim'pet, *n.* a small shell-fish that sticks to rocks.
Limpid, lim'pid, *adj.* clear.
Limpidity, lim-pid-i-ti, *n.* clearness.
Limy, li'mi, *adj.* viscous.
Linchpin, lin'sh-pin, *n.* a bolt for an axle.
Linden, lin'den, *n.* the lime tree.
Line, lin, *n.* a mark drawn, stretched, or scored from point to point; a cord; a longitudinal extension.
Lineal, lin'e-al, *adj.* hereditary.
Lineal, lin'e-al, *adj.* hereditary.
Lineament, lin'e-a-ment, *n.* feature; outline.
Linear, lin'e-ar, *adj.* straight; a line; composed of
Linen, lin'en, *n.* cloth made from flax. [flues]
Liner, lin'er, *n.* a ship making passages by a certain
Ling, *n.* heather. [line or route]
Linger, ling'er, *v.* to lag behind.
Lingerer, ling'er-er, *n.* a laggard.
Lingual, ling'wal, *adj.* pertaining to the tongue.
Lingulist, ling'wist, *n.* one skilled in languages.
Lingulate, ling'gwist, *adj.* pertaining to language.
Lingment, ling'ment, *n.* soft ointment.
Link, *n.* a connecting part; a torch; *v.* to connect.
Links, links, *n.* ground on which golf is played.
Linnean, lin'e-an, *adj.* pertaining to the Linnean
Linnet, lin'et, *n.* a small singing bird. [classification]
Linoleum, lin-ō-le-um, *n.* a kind of floor-covering.
Linotype, lin-ō-typ, *n.* a type-setting machine.
Linseed, lin'sed, *n.* flax-seed.
Linsey, lin'zi, *n.* a fabric of linen.
Linsey-woolsey, lin'si-wool'si, *n.* a mixture of linen
Linstock, lin'stok, *n.* a gunner's match. [and wool]
List, list, *n.* scraped flax fibre for wound dressing.
Intel, lin'tel, *n.* a head-piece.

day; ät; ärm; äve; älk; there; ice; pin; machine; boid; pöt; störm; müte; tüb; börn.

Lion, *l'ion*, *n.* a well-known carnivorous animal; a prominent person or object.
Lionise, *l'ion-iz*, *v.* to flatter; to treat as eminent.
Lip, *lip*, *n.* the fleshy covering of the front teeth; the outer edge of a vessel.
Lipogram, *lip-o'-gram*, *n.* a poem from which words containing a particular letter are omitted.
Liquation, *lik-wá-shun*, *n.* the act of rendering liquid.
Liquefaction, *lik-wé-fák-shun*, *n.* act of melting.
Liquefy, *lik-wé-fy*, *v.* to melt.
Liquefactive, *lik-wé-sent*, *adj.* melting.
Liqueur, *lik-ér*, *n.* a cordial.
Liquid, *lik-wid*, *n.* fluid.
Liquidate, *lik-wid-át*, *v.* to settle, or wind up.
Liquidation, *lik-wid-á-shun*, *n.* act of liquidating.
Liquidator, *lik-wid-á-tor*, *n.* one who winds up insolvent estates.
Liquidity, *lik-wid-ít-i*, *n.* the quality of being liquid.
Liquor, *lik-ór*, *n.* a liquid; strong drink; spirits.
Liquorice, *lik-ér-ís*, *n.* Spanish Juice.
Lisp, *v.* to whisper or pronounce syllables imperfectly.
Lisome, *lis-um*, *adj.* supple.
List, *n.* a catalogue; a kind of cloth; *v.* to desire; to list.
Listel, *lis-el*, *n.* a narrow fillet.
Listen, *lis-en*, *v.* to hearken; to give close attention.
Listener, *lis-er*, *n.* one who listens.
Listless, *lis-lis*, *adj.* carelessly.
Litany, *lit-an-i*, *n.* a form of public prayer.
Literai, *lit-ér-ai*, *adj.* real; exact.
Literary, *lit-ér-ai*, *adj.* varied in or relating to literature.
Literate, *lit-ér-át*, *adj.* learned.
Literati, *lit-ér-á-ti*, *n.* men of letters.
Literature, *lit-ér-á-túr*, *n.* books and writings collectively; the science of letters.
Lithe, *lit*, *adj.* flexible; nimble.
Litheness, *lit-hen-s*, *adj.* flexibility; tenderness.
Lithograph, *lit-ho-gráf*, *n.* a stone print; *v.* to write on stone and print therefrom.
Lithography, *lit-ho-gráf-i*, *n.* art of writing on stone.
Lithology, *lit-ho-ló-jí*, *n.* natural history of stones.
Lithophyte, *lit-ho-fít*, *n.* an object of combined stone and plant, as coral.
Lithotomy, *lit-ho-tó-mí*, *n.* operation of cutting stone.
Lithotrit, *lit-ho-trít*, *n.* the operation of crushing stone in bladder.
Litigable, *lit-ig-a-bl*, *adj.* contestable at law.
Litigant, *lit-ig-ant*, *n.* one engaged in a lawsuit.
Litigate, *lit-ig-át*, *v.* to engage in contention at law.
Litigation, *lit-ig-á-shun*, *n.* contention in law.
Litigious, *lit-ig-yus*, *adj.* inclined to legal contention.
Litmus, *lit-mus*, *n.* dye obtained from lichens.
Litre, *lit-ér*, *n.* a French liquid measure.
Litter, *lit-ér*, *n.* a hand carriage for the dead or injured; the young of an animal produced at one birth.
Little, *lit-l*, *adj.* small in size, quantity, or degree.
Littoral, *lit-to-rál*, *n.* pertaining to the shore.
Liturgical, *lit-ur-jik-ál*, *adj.* relating to liturgy.
Liturgy, *lit-ur-jí*, *n.* the ritual prescribed for public worship.
Live, *liv*, *v.* to have life; to dwell in a place; to regulate.
Livelihood, *liv-lí-hood*, *n.* subsistence; means of living.
Liveliness, *liv-lí-ness*, *n.* gaiety.
Livelong, *liv-lí-long*, *adj.* tedious; long-lasting.
Lively, *liv-lí*, *adj.* animated; active.
Liver, *liv-ér*, *n.* organ of bile secretion.
Livery, *liv-ér-i*, *n.* dress.
Liveryman, *liv-ér-i-man*, *n.* one who wears livery; a livery.
Livestock, *liv-stok*, *n.* farm animals.
Living, *liv-ing*, *adj.* discoloured; *n.* a lead colour.
Living, *liv-ing*, *v.* support; a benefice.
Livraison, *liv-rá-son*, *n.* a number of a book published in serial form.
Lixivation, *lik-siv-á-shun*, *n.* the process of washing substances in fluid for dissolving purposes.
Lizard, *liz-erd*, *n.* a saurian reptile.
Lizano, *liz-no*, *n.* a prairie.
Lloyd's, *loidz*, *n.* the London shipowners' exchange and marine insurance headquarters.
Loach, *loch*, *n.* a small river-fish.
Load, *lód*, *n.* a burden; *v.* to make heavy.
Loadstar, *lód-stár*, *n.* the polestar.
Loadstone, *lód-stón*, *n.* magnetic ore.

Loaf, *láf*, *n.* a shaped mass of bread or sugar; *v.* to loaf.
Loafer, *láf-er*, *n.* an idler.
Loam, *lóm*, *n.* soil; marl.
Loan, *lón*, *n.* money or object lent; *v.* the lending.
Loath, *láh*, *adj.* unwilling.
Loathe, *löh*, *v.* to detest.
Loathsomeness, *löh-sú-mi-ness*, *n.* the quality of loathing.
Lob, *lob*, *n.* a lout, a dolt.
Lobate, *lób-át*, *adj.* composed of lobes.
Lobby, *lób-l*, *n.* an anteroom.
Lobe, *lob*, *n.* a division of the brain, lungs, etc.
Loilet, *lób-lét*, *n.* a small lobe.
Lobelia, *lób-bé-lí-a*, *n.* a flowering plant.
Lobster, *lób-stér*, *n.* a shell-fish.
Local, *lók-ál*, *adj.* pertaining to a place; restricted.
Localise, *lók-ál-íz*, *v.* to render local.
Locality, *lók-ál-ít-i*, *n.* place; district; position.
Locate, *lók-kár*, *v.* to place; to mark the location of.
Location, *lók-ká-shun*, *n.* a site.
Loch, *loch*, *n.* a lake.
Lock, *lok*, *n.* an appliance for fastening doors, cabinets, etc.; the inclosure of a canal; *v.* to secure; to confine; to unite.
Lockage, *lók-áj*, *n.* the locks of a canal.
Locker, *lók-ér*, *n.* a chest or cupboard.
Locket, *lok-ét*, *n.* a little case.
Locust, *lók-ús*, *n.* a coarse cloth made at Locran.
Locsmith, *lók-smíth*, *n.* a maker and maker of locomotives.
Locomotive, *lók-mó-tív*, *n.* movement.
Locrestive, *lók-rest-ív*, *adj.* remaining stationary.
Locus, *lók-us*, *n.* place; curve described by a point.
Locust, *lók-ús*, *n.* a destructive winged insect; a thorny tree.
Location, *lók-ú-shun*, *n.* the art of speaking.
Lode, *lód*, *n.* a metallic vein; a channel.
Lodge, *lódj*, *n.* a cottage at the entrance to a park; a friendly society or place of meeting.
Lodger, *lódj-ér*, *n.* one who lives in the house of another.
Loft, *n.* the space above the roof; a gallery.
Logarithm, *lóg-á-rít-m*, *n.* mathematical term.
Log-book, *lóg-bók*, *n.* journal of a ship's course.
Loggerhead, *lóg-er-hed*, *n.* a duel.
Logic, *lój-ik*, *n.* the art of reasoning.
Logical, *lój-ik-ál*, *adj.* reasonable.
Logician, *lój-ik-án*, *n.* one versed in logic.
Log-line, *lóg-lín*, *n.* line for measuring a ship's way.
Logogram, *lóg-o'-gram*, *n.* an abbreviated word, symbol, or type.
Logomachy, *lóg-má-kí*, *n.* wordy dispute.
Logwood, *lóg-wood*, *n.* dark red wood used in dyeing.
Loin, *lón*, *n.* the part above the hip.
Loiter, *lój-ér*, *v.* to delay.
Loll, *lól*, *v.* to lean lazily.
Lollar, *lól-ér*, *n.* a follower of Wyclif.
Lombard, *lóm-bér-l*, *n.* an inhabitant of Lombardy.
Lone, *lón*, *adj.* solitary; alone.
Long, *lóng*, *adj.* drawn out; lengthily; protracted.
Longevity, *lóng-ev-ít-i*, *n.* long life.
Longimanous, *lóng-jún-á-nus*, *adj.* long-handed.
Longing, *lóng-ing*, *n.* craving; desire.
Longitude, *lóng-jít-ud*, *n.* length, distance from east to west.
Loon, *n.* a card game.
Look, *lók*, *v.* to observe; to take sight of.
Look-out, *lók-owt*, *n.* a watching for.
Loom, *n.* a weaving machine; *v.* to appear in sight.
Loon, *n.* a water-fowl; a mean fellow.
Loop, *n.* a noose; a bend; a thong.
Loophole, *lóp-hól*, *n.* hole in a wall; way of escape.
Loose, *lós*, *adj.* unfastened; not dense; lax.
Loosen, *lós-s*, *v.* to unfasten; to relax.
Loot, *n.* plunder; *v.* to plunder.
Lop, *v.* to hang down; to cut away.
Lopsided, *lóp-sid-ed*, *adj.* unequal; heavier or more inclined in one direction.
Loquacity, *lók-wás-ít-i*, *n.* talkativeness.
Lord, *lawrd*, *n.* a peer; a person of rank and authority.
Lordliness, *lawrd-lí-ness*, *n.* dignity.
Lording, *lawrd-ing*, *n.* a little lord; a presumptuous.
Lordship, *lawrd-shíp*, *n.* dominion; the condition of being a lord.

day; á; árm; áve; élk; thér; íce; pln; machine; bóld; pót; stórm; míte; táb; bóm.

Lore, lór, *n.* learning; doctrine.
Lorette, lo-ret', *n.* a loose woman.
Lorgnette, lór-nyet', *n.* an opera-glass.
Loricat, lór-lát, *v.* to plate over.
Lorry, lór', *n.* a six-wheeled wagon.
Lose, looz, *v.* to misplace; to waste; to suffer damage.
Lot, lot, *n.* a quantity; a portion.
Lotario, lo-tá-ri-o, *n.* a male flirt.
Lotion, lo'shun, *n.* a medicinal wash.
Lottery, lot'er-i, *n.* chance; prize-giving by lot.
Lotus, lo'tus, *n.* the Egyptian water-lily.
Lough, lok, *n.* a lake (Irish spelling).
Lounge, lounj, *v.* to loiter.
Lounger, loun'jer, one who lounges.
Lout, lowt, *n.* a stupid fellow.
Lovable, lov'able, *adj.* deserving of love.
Love, lov, *n.* affection; regard; esteem.
Love-feast, lov'fest, *n.* a religious festival.
Lower, lov'er, *n.* one who loves; a sweetheart.
Love-sick, lov'sik, *adj.* overcome with amorous feeling.
Low, lo, *adj.* of little elevation.
Low-bred, lo'bred, *adj.* of low birth; vulgar.
Lower, lo'er, *v.* to humble.
Lower, lo'er, *v.* to threaten; to appear dark.
Lowery, low'er-i, *adj.* cloudy.
Lowing, lo'ing, *adj.* bellowing; *n.* cry of cattle.
Lowliness, lo'li-nes, *n.* humility.
Lowness, lo'nes, *n.* dejection.
Low-water, lo'waw-ter, *n.* the lowest point of ebb.
Loxia, lox's-a, *n.* wry-neck.
Loyal, lo'al, *adj.* faithful.
Loyalty, lo'al-ti, *n.* fidelity in allegiance.
Lozenge, loz'enj, *n.* a rhomb; a small sweetmeat.
Lubber, lub'er, *n.* a clown; a clumsy fellow.
Lubricate, loo'brik-at, *v.* to make smooth.
Lubricity, loo'bri-si-ti, *n.* smoothness; slipperiness.
Luce, looz, *n.* a small river fish.
Lucent, loo'sent, *adj.* resplendent.
Lucernal, loo-ser-nal, *adj.* relating to a lamp.
Lucerne, loo-sern, *n.* a fodder plant.
Lucid, loo'sid, *adj.* clear; transparent.
Lucidity, loo'sid-i-ti, *n.* light.
Luck, luk, *n.* fortune; fate; chance.
Luckless, luk'less, *adj.* unfortunate.
Lucky, luk'i, *adj.* fortunate.
Lucrative, loo'kra-tiv, *adj.* gainful; profitable.
Lucubrate, loo'ku-brat, *v.* to write or study at night.
Lucubration, loo'ku-brá'shun, *n.* product of study.
Luculent, loo'ku-lent, *adj.* lucid; clear.
Ludicrous, loo'di-krus, *adj.* laughable.
Lues, lú'ez, a plague.
Luff, luf, *n.* the windward side.
Lug, v. to drag.
Luggage, lug'ij, *n.* personal travelling baggage.
Lugger, lug'jer, *n.* a small sailing ship.
Lugubrious, loo'gu-bri-us, *n.* doleful.
Lukewarm, loo'kwarm, *adj.* tepid.
Lull, lul, *n.* an interval of calm or silence.
Lullaby, lul'á-bi, *n.* a song to quieten children.
Lumbago, lum-bá-go, *n.* rheumatism in the loins.
Lum'bar, *adj.* pertaining to the loins.
Lumber, lum'ber, *n.* timber; anything cumbersome.
Luminary, loo'mín-á-ri, *n.* a body giving light.
Luminous, loo'mín-us, *adj.* shining.
Lump, *n.* a mass of unshapen form and uncertain size.
Lumper, lum'per, *n.* a ship labourer.
Lumping, lum'ping, *adj.* in a lump; bulky.
Lumpish, lum'ish, *adj.* bulky; heavy.
Lumpy, lum'pi, *adj.* full of lumps.
 Lunacy, loo'ná-si, *n.* insanity.
Lunar, loo'ner, *adj.* of the moon.
Lunarian, loo'ná-ri-an, *n.* an inhabitant of the moon.
Lunary, loo'ner-i, *adj.* pertaining to the moon.
Lunate, loo'nát, *adj.* half-moon shape.
Lunatic, loo'ná-tik, *n.* a madman; one insane.
Lunation, loo'ná'shun, *n.* the interval between two lunar revolutions.
Lunch, lunsh, *n.* a light repast between breakfast and
Lune, loon, *n.* anything of half-moon form.
Lunette, loo-net', *n.* a small moon; a detached bastion.
Lung, *n.* a breathing organ.
Lunge, lunj, *v.* a sudden push.

Lunt, *n.* a light.
Lupine, loo'pin, *adj.* wolf-like.
Lupulus, loo'pú-lus, *n.* the hop plant.
Lupus, loo'pus, *n.* a corroding skin disease.
Lurch, *v.* to shift; *n.* a sudden roll of a ship.
Lurchee, lurch'er, *n.* a lunker; a kind of sporting dog.
Lure, loor, *v.* to snare.
Lurid, loo'rid, *adj.* gloomy; ghastly.
Lurk, *v.* to skulk; to lie in wait.
Luscious, lush-us, *adj.* delicious; cloyingly rich.
Lush, *adj.* fresh; succulent.
Lusid, loo'si-ad, *n.* a Portuguese epic.
Lusory, loo'só-ri, *adj.* playful.
Lust, *n.* carnal desire; *v.* to crave immoderately.
Lustful, lustful, *adj.* sensual.
Lustral, lust'al, *adj.* used in the ceremony of purification.
Lustration, lus-trá'shun, *n.* purification by sacrifice.
Lustre, lust'r, *n.* brightness; splendour.
Lustring, lust'ring, *n.* a silky cloth.
Lustrous, lust'rus, *adj.* shining; luminous.
Lustrum, lust'rum, *n.* a period of five years.
Lusty, lus'ti, *adj.* robust; vigorous.
Lutarius, loo-tá-ri-us, *adj.* mud-like.
Lute, loot, *n.* a stringed instrument.
Lute-string, loot-string, *n.* string of a lute.
Lutheran, loo'ther-an, *adj.* relating to the doctrines of
Luxate, luk'sát, *v.* to put out of joint. [Luxate]
Luxuriant, lug-zú-ri-ant, *adj.* abundant. [excess]
Luxuriate, lug-zú-ri-át, *v.* to indulge; to grow to
Luxurious, 'luk-zú-ri-us, *adj.* pleasurable; given to
 luxury. [things]
Luxury, luks'ú-ri, *n.* a delicacy; indulgence in costly
Lycanthropy, li-kan'tró-pi, *n.* insanity with lupine
 imaginings. [where it meets]
Lycium, li-sí-um, *n.* a literary society; or the place
Lydian, lid'i-an, *adj.* soft and slow music; effeminate.
Lye, li, *n.* a solution from ashes or alkaline salt.
Lying, lí'ing, *n.* falsifying; *adj.* recumbent.
Lying-to, lí'ing-too, *v.* checking in sailing; sailing so
 as to front the waves.
Lymph, limf, *n.* a fluid contained in animal bodies.
Lymphatic, lum-fat'ik, *adj.* relating to lymph.
Lynch, linsh, *v.* to punish without legal trial.
Lyrate, lí-rát, *adj.* lyre-shaped.
Lyre, lír, *n.* a stringed musical instrument.
Lyric, lí-rik, *n.* a poem to be sung.
Lyrist, lí-rist, one who plays the lyre.

M

Mab, *n.* fairy queen.
Macadamise, mak-ad'am-iz, *v.* to line a road with
 macarise, mak'ar-iz, *v.* to bless. [broken stones]
Mace, más, *n.* a staff of authority.
Macerate, mas'er-át, *v.* to steep; to attenuate.
Machiavelian, mak-i-á-vé-yan, *adj.* cunning in politics.
Machination, mak-in-á'shun, *n.* an artful plot.
Machine, ma-shén, *n.* a mechanical contrivance pro-
 ducing action and force. [machines]
Machinist, ma-shén'ist, *n.* a constructor or worker of
Macrobiote, mak-kro'bi-ót, *n.* one of long life.
Macrocosm, mak-ro-kósm, *n.* the universe.
Macula, mak'ú-la, *n.* a surface spot.
Mad, *adj.* insane; furious.
Madden, mad'n, *v.* to enrage.
Madeira, ma-dé-ra, *n.* a wine produced in Madeira.
Mademaiselle, mad-mwa-zel', *n.* a young girl; miss.
Madonna, ma-don'a, *n.* the Virgin.
Madrepore, mad'r-pór, *n.* coral.
Madrigal, mad'ri-gal, *n.* a part song; short poem.
Maelstrom, má'stróm, *n.* a whirlpool. [house]
Magazine, mag-a-zén', *n.* a periodical; military store.
Magdalen, mag-da-len, *n.* a repentant woman.
Maggot, mag'ot, *n.* a worm; a grub.
Magi, má'ji, *n.* ancient Persian priests; wise men.
Magian, má'ji-an, *adj.* relating to the Magi.
Magpie, mag'pi, *n.* painter's mixture of linseed oil
 and mastic varnish.
Magic, má'jik, *n.* enchantment; sorcery.
Magical, má'jik-al, *adj.* produced by magic.
Magician, má-jesh'an, *n.* an enchanter.

dáy; á; árm; éve; éik; thére; íce; pín; machine; beld; pót; stórm; míte; tñb; bórn.

Magisterial, maj-is-tē-ri-āl, *adj.* magisterial.
Magistracy, maj-is-trā-si, *n.* the body of magistrates.
Magistrate, maj-is-trāt, *n.* a public civil officer.
Magnanimity, mag-na-nim'i-ti, *n.* high-mindedness.
Magnate, mag-nāt, *n.* a man of rank or influence.
Magnesia, mag-nē-shi-a, *n.* a light white powder.
Magnet, mag-net, *n.* loadstone.
Magnetism, mag-net-izm, *n.* power of attraction.
Magnetize, mag-net-iz, *v.* to influence; to attract.
Magnificence, mag-nif-i-sens, *n.* pomp; grandeur.
Magniloquence, mag-nif-i-kwens, *n.* high-sounding phrases. [bearing large flowers.
Magnolia, mag-nō-lī-a, *n.* a North American tree.
Magpie, mag-pī, *n.* a bird of the crow species.
Magabharata, ma-hā-bhā-ra-ta, *n.* the title of an Indian Mahogany, mah-ō-g'ā-ni, *n.* a fine hard wood. [epic.
Maim, mām, *v.* to injure; to make lame.
Mainland, mām-land, *n.* the land as distinct from sea.
Maintain, men-tēn, *v.* to support; to uphold.
Maintenance, men-ten-ans, *n.* sustenance.
Majesty, maj-es-ti, *n.* dignity; royal state.
Major, maj'er, *adj.* greater; elder; *n.* a military officer.
Major-domo, maj'er-dō-mo, *n.* a general steward.
Majority, ma-jor-i-ti, *n.* the larger number; full age; a major's rank.
Makebate, mak-bāt, *n.* one who fawns trifle.
Malachite, mal-ak'ti, *n.* a green mineral.
Maladministration, mal-ad-min-i-strā-shun, *n.* bad Malady, mal-ād-i, *n.* sickness; ailment. [government.
Malaise, mal-āz, *n.* uneasiness.
Malapert, mal-a-pert, *adj.* forward; bold.
Malapropism, mal-a-prop-izm, *n.* misapplication of Malar, mal-ār, *adj.* relating to the cheek. [words.
Malaria, mal-ā-ri-a, *n.* bad air from marshy ground.
Malcontent, mal-kon-tent, *n.* a discontented person.
Malediction, mal-e-dik-shun, *n.* a curse.
Malefactor, mal-ak-tor, *n.* a criminal.
Malevolence, mal-ev'ol-ens, *n.* enmity.
Malfeasance, mal-fē-as-ans, *n.* bad conduct.
Malformation, mal-form-ā-shun, *n.* wrong formation.
Malice, mal-is, *n.* spite; ill-will.
Malicious, mal-ish'us, *adj.* wicked; spiteful.
Malign, mal-lin, *v.* malicious; badly disposed.
Malignant, mal-lig'nant, *adj.* spiteful.
Malingering, mal-lin-ger-er, *n.* one who feigns sickness.
Maison, mal-iz-un, *n.* a curse.
Malleable, mal-ē-ā-bl, *adj.* ductile.
Malmsey, mal-si, *n.* a wine.
Malpractice, mal-prak'tis, *n.* evil practice.
Maltster, malw'ster, *n.* one who mashes malt.
Maltreatment, mal-trē-tment, *n.* improper treatment.
Malversation, mal-ver-si-shun, *n.* evil practices.
Mammillary, mam-mil-ār-i, *adj.* pertaining to the breasts.
Mammon, mam'on, *n.* the god of wealth; riches.
Mammoth, mam'uth, *n.* a large extinct animal of the elephant kind; *adj.* gigantic.
Manacles, man-ak-iz, *n.* handcuffs.
Manageable, man-ij-ā-bl, *adj.* governable.
Mandamus, man-dā-mus, *n.* writ of command from a higher court to a lower.
Mandarin, man-dā-rin, *n.* a Chinese official.
Mandatory, man-dā-tō-ri, *n.* one to whom a mandate is addressed.
Mandibular, man-dib'ū-lar, *adj.* pertaining to the jaw.
Manducation, man-dū-kā-shun, *n.* the act of chewing.
Manège, man-āzh', *n.* the art of horse-training.
Manes, mān'ez, *n.* tutelary spirits of the departed.
Manganese, mang-gan-ēz, *n.* a hard brittle metal.
Mangel-wurzel, mang'el-werz'l, *n.* plant grown for Manger, mān'jer, *n.* a feed box. [cattle food.
Mangy, mān'ji, *adj.* scabby.
Maniac, mā-ni-ak, *n.* a madman.
Maniacal, mā-ni-ak-āl, *adj.* affected with insanity.
Manicate, mān-i-kāt, *adj.* covered with matted hair.
Manifesto, mān-i-fes'tō, *n.* a public declaration.
Manikin, mān-i-kin, *n.* a dwarf. [to handle.
Manipulate, mān-i-pū-lāt, *v.* to work with the hands;
Manipulation, mān-i-pū-lā-shun, *n.* unmanly qualities.
Manism, mān-izm, *n.* peculiarity of writing, speech, or behaviour.
Manoeuvre, man-ō-ver, *n.* an adroit strategy.

Manometer, man-om'e-ter, *n.* an instrument for measuring gases.
Manor, man'or, *n.* a feudal lordship.
Manorial, man-ō-ri-āl, *adj.* pertaining to a manor.
Manuscriber, man-slaw-ter, *n.* wifal slaying.
Mantel, mān'tel, *n.* a shelf over a fireplace.
Mantelet, mān-tel-et, *n.* a small mantle.
Manual, mān'ū-āl, *adj.* pertaining to the hand.
Manufactory, mān-ū-fak'tō-ri, *n.* a factory.
Manufacture, mān-ū-fak'tūr, *v.* to make from raw materials; *n.* the thing manufactured.
Manumission, mān-ū-nish'un, *n.* the act of setting Manure, mān-ūr, *n.* fertilizing material. [free.
Manuscript, mān'ū-skrip't, *n.* written matter.
Manx, māngks, *adj.* pertaining to.
Mappery, māp'eri, *n.* the art of map-making.
Maranatha, mā-ran-ā'tha, *n.* anathema.
Maraschino, mā-ras-kē-no, *n.* a liqueur distilled from Marasmus, mā-ras'mus, *n.* a flesh wasting. [cherries.
Maraud, mā-rāw'd, *v.* to wander in quest of plunder.
Marcescent, mā-rēs-ent, *adj.* withering.
Marches, mārch'ez, *n.* borders of a country.
Marchioness, mārch-o-nēs, *n.* a wife or widow of a Marci, mā-rs'id, *adj.* withered. [Marquis.
Margarine, mārg-ar-ēn, *n.* a fatty imitation of butter.
Marginal, mārg-in-āl, *n.* the margin.
Margold, mārg'old, *n.* a yellow flowering plant.
Marine, mā-rin, *n.* a soldier serving on a ship; the navy; *adj.* relating to the sea. [Virgin.
Marionatry, mā-ri-ō-lā-tri, *n.* excessive worship of the Marital, mā-ri-tal, *adj.* relating to a husband.
Maritime, mā-ri-tim, *adj.* pertaining to the sea.
Mark, mārk, *n.* a sign; an impression; a badge; *v.* to make a mark; to note.
Marlaceous, mārl-ā-shus, *adj.* marl-like.
Marline, mārl-in, *n.* a small protective rope [oranges.
Marmalade, mārm-ā-lād, *n.* preserve made from Marmorean, mārm-ō-re-an, *adj.* like, or pertaining to marble.
Maroon, mā-roon, *n.* claret colour; a fugitive negro slave; *v.* to put ashore on an uninhabited island.
Marque, mārk, *n.* licence to make reprisals; a ship fitted out for captures.
Marquee, mārk-ē, *n.* a large field tent.
Marquetry, mārk-ē-tri, *n.* inlaid shell-work.
Marquis, mārk-wis, *n.* a title of nobility, ranking next below a duke.
Marrageable, mārij-ā-bl, *adj.* in condition to marry.
Marrow, mārz, *n.* essence; soft matter contained in Mars, mārz, *n.* a planet; the god of war. [bones.
Marsellaise, mārs-ē-lā-yāz, *n.* French revolutionary hymn. [ceremonies.
Marshal, mārs'hāl, *n.* an officer for regulating Marsupial, mārs-ū-pi-āl, *adj.* having pouch for cargo.
Martello, mārt-el-ō, *n.* a small round fort. [ing young.
Martial, mārs'hāl, *adj.* military; bold.
Martin, mārt-in, *n.* a small bird of the swallow kind.
Martinet, mārt-in-et, *n.* a severe disciplinarian.
Martingale, mārt-in-gāl, *n.* a horse strap. [Nov. 11.
Martinsmas, mārt-in's-mās, *n.* feast of St. Martin.
Martyr, mārt-ēr, *n.* one who suffers for a principle.
Martyrdom, mārt-ēr-dom, *n.* the suffering of a martyr.
Martyrology, mārt-ēr-ō-lō-jī, *n.* history of martyrs.
Marvellous, mārv-el-us, *adj.* astonishing; wonderful.
Masonic, mā-sō-n'ik, *adj.* pertaining to freemasonry.
Masonry, mā-sō-n-ri, *n.* stonework.
Masora, mā-sō-rā, *n.* a collection of Jewish comments on the Old Testament. [to assemble in masks.
Maskerade, māsk-er-ād, *n.* a masked revelry; *v.* Masacre, māsk-er, *n.* carnage; butchery; murder.
Masterkey, māst-ēr-kē, *n.* a key that opens a series of different locks. [skill.
Masterly, māst-ēr-lī, *adj.* master-like; with supreme Masterpiece, māst-ēr-pēs, *n.* a great work; a chief effort.
Mastery, māst-ēr-i, *n.* command over; dominion;
Mastic, māst'ik, *n.* a kind of resin; a cement made therefrom.
Mastiff, māst'if, *n.* a large kind of watch-dog.
Mastodon, māstō-don, *n.* a large extinct animal.
Mastoid, māst'oid, *adj.* like a nipple.
Matadore, mā-tā-dōr, *n.* a bull-fighter.

day; āt; ārm; ēve; ēlk; thēre; īn; nōn; machine; bōld; pōw; stōrm; mūte; tūb; bārn.

Material, mat-ē'ri-al, *adj.* essential; composed of matter.

Materialist, mat-ē'ri-al-ist, *n.* one who disbelieves in spiritual power.

Materiality, mat-ē'ri-al-ty, *n.* material existence.

Maternal, ma-ter-nal, *adj.* motherly.

Maternity, ma-ter-ni-ty, *n.* motherhood.

Mathematics, mat-hē-mat-iks, *n.* the science of numbers.

Matinée, mat-in-ē, *n.* morning performance. [bers.]

Matins, mat-ins, *n.* morning worship.

Matrass, mat-ras, *n.* a vessel used for chemicals.

Matrice, mat-ris, *n.* a mould.

Matricide, mat-ris-id, *n.* mother murder; the murderer of a mother.

Matriculate, ma-trik-ū-lāt, *v.* to enroll; to admit to matrimony.

Matrimony, mat-rī-mū-ni, *n.* marriage.

Matron, mat-rōn, *n.* an elderly lady; a married woman.

Mattock, mat-ok, *n.* a pick-axe.

Matress, mat-res, *n.* a bed made of stuffed material.

Maturity, mat-ū-r-i-ty, *n.* ripeness.

Matutinal, ma-tū-ti-nal, *adj.* relating to morning.

Maudlin, mawd-lin, *adj.* drunk; silly.

Maul-stick, maw-stik, *n.* a hand-rest used by painters.

Mausoleum, maw-so-lē-um, *n.* a stately tomb.

Mavis, mā-vis, *n.* the thrush.

Maw-maw, mā-maw, *n.* the stomach.

Mawkish, mawk-ish, *adj.* nauseous; sickening; silly.

Maxillary, maks-ī-l-er-i, *adj.* relating to the jaw.

Maxim, maks-im, *n.* a proverb.

Maximum, maks-ti-mum, *n.* the greatest number or

Mayoralty, mā-or-al-ty, *n.* office of mayor. [quantity.]

Mazarine, maz-er-ēn', *n.* a rich blue colour.

Maze, māz, *n.* a labyrinth; made to bewilder.

Mead, mēd, *n.* a drink made from honey; a meadow.

Meagre, mē-gr, *adj.* scanty; poor.

Mealy-mouthed, mē-lī-mowth'd, *adj.* soft-tongued.

Meander, mē-an-der, *v.* to wind in and out; *n.* a meandering.

Measles, mē-sles, *n.* a skin eruption [winding course.]

Measurement, mēz-ūr-ment, *n.* dimensions; the act of measuring.

Mechanic, me-kan-ik, *n.* an artisan; *adj.* pertaining to machines.

Mechanical, me-kan-ik-al, *adj.* machine-like.

Mechanics, me-kan-iks, *n.* science of the action of force.

Mechanism, mek-an-izm, *n.* the structure of a machine.

Mechanist, mek-an-ist, *n.* one who constructs or tends machines.

Medal, mē-dal, *n.* coin or token, with device.

Medallion, mē-dal-ē-on, *n.* a large medal.

Medallist, mē-dal-ist, *n.* one who has gained a medal.

Meddler, mēd-ler, *n.* one who interferes; a busybody.

Medial, mē-dial, *adj.* average; middle.

Mediate, mē-dī-āt, *v.* to intercede.

Mediation, mē-dī-ā-shun, *n.* the act of mediating.

Mediatorial, mē-dī-āt-ō-ri-al, *adj.* pertaining to a mediator.

Medical, mē-dī-k-al, *adj.* pertaining to medicine.

Medicament, mē-dī-k-ā-ment, *n.* a medicinal substance.

Medicinal, mē-dī-k-ē-nal, *adj.* possessing healing power.

Medicine, mē-dī-sin, *n.* substances used for curative purposes.

Medieval, mē-dī-ē-val, *adj.* relating to the Middle Ages.

Mediocre, mē-dī-ō-kr, *adj.* ordinary; moderate.

Meditative, mē-dī-tī-tiv, *adj.* thoughtful; contemplative.

Medium, mē-dī-um, *n.* middle; a means. [five.]

Medley, mēd-lē, *n.* a jumble; a miscellany.

Medullary, mē-dū-l-er-i, *adj.* composed of or like marrow.

Meed, mēd, *n.* reward.

Meely, mē-lē, *adv.* duly; suitably.

Megrim, mē-grim, *n.* pain in half of the head.

Melancholy, mē-lan-kō-lē, *n.* gloom; dejection.

Melée, mē-lē, *n.* a disordered conflict.

Mellorate, mēl-yor-āt, *v.* to improve.

Melliferous, mēl-ī-fer-us, *adj.* honey-like.

Mellifluous, mēl-ī-floo-us, *adj.* smoothly flowing.

Mellow, mēl-ō, *adj.* soft; ripe; mature.

Melodise, mēl-ō-diz, *v.* to make melodious.

Melodrama, mēl-ō-drā-mā, *n.* a sensational play.

Melody, mēl-ō-ē, *n.* sweet sound; an air; a tune.

Membranaceous, mem-bran-ā-shus, *adj.* composed of or relating to a membrane.

Memento, me-men-tō, *n.* a souvenir; a token.

Memoir, men-i-wār, *n.* a short biography.

Memorable, men-for-ā-bl, *adj.* famous; worthy of remembrance.

Memorandum, mem-ō-ran-dum, *n.* a record; a note.

Memorial, mem-ō-ri-al, *n.* a monument; something which keeps a thing or person in remembrance.

Memorialise, me-mō-ri-al-iz, *v.* to present a memorial.

Memorise, mem-ō-riz, *v.* to learn by heart. [to.]

Menace, men-ās, *v.* to threaten; *n.* a threat.

Menagerie, men-ā-j-er-i, *n.* a collection of wild animals.

Mendacity, men-das-ē-ti, *n.* falsehood; lying.

Menial, mē-ni-al, *adj.* servile; *n.* an inferior servant.

Meniacus, mē-nis-kus, *n.* new moon.

Menstrual, mens-trū-al, *adj.* monthly.

Menstruum, men-strū-um, *n.* a solvent.

Mensuration, men-sūr-ā-shun, *n.* the science of measuring.

Mentor, men-tor, *n.* an adviser.

Mephistophelean, mef-is-tō-fē-lē-an, *adj.* scoffing; cynical. [halations.]

Mephitic, mef-ī-tik, *adj.* pertaining to poisonous exhalations.

Mephitic, mef-ī-tis, *n.* nauseous exhalation.

Mercenary, mer-sen-er-i, *adj.* greedy; *n.* a hireling.

Mercery, mer-ser-i, *n.* a mercer's stock.

Merchandise, mer-chan-diz, *n.* merchantable goods.

Mercurial, mer-kū-ri-al, *adj.* active; spirited; consisting of quicksilver.

Mercury, mer-kū-ri, *n.* quicksilver.

Meretricious, mere-trish-us, *adj.* evil; showy; alluring.

Meridian, mer-id-i-an, *n.* noon.

Meritorious, mer-tō-ri-ūs, *adj.* having merit.

Merle, merl, *n.* a blackbird.

Merlin, mer-lin, *n.* a sort of hawk.

Merriment, mer-ment, *n.* jollity; gaiety; laughter.

Mesentery, mes-en-ter-i, *n.* an intestinal membrane.

Mesh, mesh, *n.* opening between the threads of a net; *v.* to ensnare.

Mesmerism, mes-mer-izm, *n.* the act of mesmerising.

Mesne, mēn, *adj.* intermediate.

Messenger, mes-en-j-er, *n.* a conveyer of messages.

Messuage, mes-wāj, *n.* a dwelling and lands.

Metal, met-l, *n.* a fusible mineral substance.

Metallurgy, met-al-ur-jī, *n.* the science of refining metals. [alter the shape of.]

Metamorphose, met-ā-mor-fōz, *v.* to transform; to metamorphosis.

Metamorphosis, met-ā-mor-fō-sis, *n.* a transformation.

Metaphorical, met-ā-for-ik-al, *adj.* figurative.

Metaphrastic, met-ā-fras-tik, *adj.* exact; literal.

Metaphysical, met-ā-fiz-ik-al, *adj.* pertaining to metaphysics.

Metaphysics, met-ā-fiz-iks, *n.* science of the mind.

Metayer, me-tā-yer, *n.* a farmer who pays part of his rent in crops.

Mete, mēt, *v.* to measure; *n.* boundary.

Metempsychosis, me-tem-sī-kō-sis, *n.* the passing of a soul from one body to another.

Meteor, mē-tē-or, *n.* a shooting star.

Meteorolite, mē-tē-or-ō-lit, *n.* a meteoric stone.

Meteorology, mē-tē-or-ō-lō-jī, *n.* the science of the atmosphere.

Meter, mē-ter, *n.* a measuring apparatus.

Methglin, meth-eg-lin, *n.* a liquor made from honey.

Methodical, meth-ō-d-ik-al, *adj.* according to method.

Methodism, meth-ō-d-izm, *n.* the doctrine of the Methodists. [Doric frieze.]

Metope, met-ō-pē, *n.* the space between triglyphs of a Metre, mētr, *n.* verse, poetic measure.

Metrical, met-rik-al, *adj.* pertaining to verse.

Metrology, mē-trol-ō-jī, *n.* science of weights and measures. [city; an archbishop.]

Metropolitan, met-ro-pol-ē-tan, *adj.* relating to a chief Metropolis, mē-trō-lē, *n.* spirit; courage.

Mettlesome, met-tsum, *adj.* spirited.

Mew, mū, *n.* a cat's cry; a sea fowl; *v.* to coop up.

Mews, mūz, *n.* a row of stables.

Mezzotint, me-zō-tint, *n.* a style of engraving on copper.

Miasma, mē-ā-mā, *n.* noxious exhalations. [copper.]

Michaelmas, mē-kel-mas, *n.* feast of St. Michael, 29th September.

Microscop, mī-kro-skōp, *n.* a little world.

Microscope, mī-kro-skōp, *n.* a magnifying instrument.

Midriff, mid-rif, *n.* the diaphragm.

Midshipman, mid-ship-man, *n.* a naval cadet.

Midwifery, mid-wif-er-i, *n.* childbirth assistance.

Day; āt; ārm; ēve; ēlk; thēre; Ice; pin; machine; bōld; pōt; stōrm; mūte; tūb; būrn.

Mien, mēn, *n.* look; aspect; bearing; expression.
Mignonette, mīn-yūn-ēf, *n.* a fragrant plant.
Migratory, mī-grā-tō-rī, *adj.* accustomed to migrate.
Milch, mīch, *adj.* yielding milk.
Mildew, mīldū, *n.* fungus on leaves, cloth, etc.
Mileage, mīl'j, *n.* fees for miles covered.
Milician, mī-lēz-yān, *adj.* pertaining to Ireland or the Militant, mīl-it-ant, *adj.* warlike; fighting. [Irish]
Militate, mīl-it-ā-tē, *v.* to contend or oppose.
Militia, mīl-is'hā, *n.* a subsidiary military body.
Milky-way, mīlk-i-wā, *n.* the galaxy.
Mill-cog, mīl'kōg, *n.* the tooth of a wheel.
Millenary, mīl-en-ār-ī, *n.* comprising a thousand.
Millennial, mīl-en-yāl, *adj.* pertaining to the Millennium. [Christ's reign on earth.]
Millennium, mīl-en-yūn, *n.* the promised 1,000 years of
Millet, mīl'et, *n.* an edible grain from grass.
Milliard, mīl-ārd, *n.* a thousand millions.
Milliner, mīl'n-er, *n.* a maker of or dealer in ladies'
Million, mīl-yūn, *n.* ten hundred thousand. [head-gear.]
Millionaire, mīl-yūn-ār, *n.* a man worth a million or
Milt, mīlt, *n.* the spleen; i.e. of fishes. [more.]
Mimetic, mīm-ē-tīk, *adj.* imitative.
Mimic, mīm'īk, *n.* one who imitates; *v.* to imitate.
Mimicry, mīm'īkrī, *n.* imitation.
Minaret, mīn-ār-ē, *n.* a turret on a mosque.
Mincingly, mīn-sing-īl, *adj.* affectedly.
Miner, mīn-er, *n.* one who works in a mine.
Mineral, mīn-er-āl, *n.* an inorganic substance found in the earth; any substance comprising metal.
Mineralogy, mīn-er-āl-ō-jī, *n.* science of minerals.
Miniature, mīn-i-tū-r, *n.* a small painting; *adj.* on a small scale.
Minum, nūn'im, *n.* half a semi-breve; a dwarf; a drop.
Minuteman, mīn-ū-mān, *n.* the least quantity.
Minion, mīn-yūn, *n.* a kind of type; a mean favourite.
Ministry, mīn-ī-strī, *n.* office of minister; the members of a Government.
Minor, mīn-er, *adj.* less, smaller; *n.* one under age.
Minority, mīn-ō-r-ī-tī, *n.* a smaller number; state under
Minster, mīn-ī-str, *n.* a monastic church or cathedral.
Minstrel, mīn-strēl, *n.* a wandering singer, a musician.
Minstrelsy, mīn-strēl-sī, *n.* minstrel music.
Mint, nūn, *n.* place where money is coined; an aromatic herb.
Mintage, mīn-tij, *n.* a thing coined; duty paid for
Minus, mī-nus, *n.* less; sign of subtraction.
Minute-book, mīn-ūt-bōok, *n.* book of notes of proceedings.
Minute-gun, mīn-ūt-gūn, *n.* a gun fired every minute
Minutiae, mī-nū-shē-ē, *n.* small details.
Mix, mīngks, *n.* a pert girl.
Miracle, mīr-ā-kl, *n.* a supernatural occurrence.
Mirage, mī-rāzī, *n.* the appearance of water on a flat
Miry, mīr'ī, *adj.* covered with mire. [expanse]
Misadventure, mī-sād-vent'ūr, *n.* misfortune.
Misanthropy, mī-sān-thrō-pī, *n.* hatred of humankind.
Misapprehension, mī-sāp-rē-hen'shun, *n.* misconception.
Misbecome, mī-sē-kūm, *v.* to be unfitting. [tion]
Misbehaviour, mī-sē-hā-v'yer, *n.* bad conduct.
Misbelief, mī-sē-lēf, *n.* wrong belief. [ing]
Miscalculation, mī-sā-kūl-ā'shun, *n.* a wrong reckon-
Miscall, mī-sāw'ī, *n.* to call wrongly. [prematurely]
Miscarriage, mī-sā-rīj, *n.* the act of bringing forth
Miscegenation, mī-sē-jen-ā'shun, *n.* mixture of races.
Miscellaneous, mī-sel-ā-ne-ū, *adj.* mixed; various.
Miscellany, mī-sel-ān-ī, *n.* a collection of varied com-
Mischance, mī-shāns, *n.* bad luck; mishap.
Mischief, mī-shīf, *n.* harm; injury.
Miscible, mī-sī-bīl, *adj.* capable of being mixed.
Misconception, mī-sān-sēp'shun, *n.* a wrong idea.
Misconduct, mī-sān-kōd'ukt, *n.* bad behaviour.
Miscreant, mī-skrē-ant, *n.* a vile person.
Misdeed, mī-sēd-ē, *n.* a wrongful act. [offence]
Misdemeanour, mī-sē-mē-nēr, *n.* an indictable
Misdirect, mī-sī-dī-rekt, *v.* to direct wrongly.
Mise, mīz, *n.* expenditure; money gift to superior.
Misemployment, mī-sē-mplōi-ment, *n.* unsatisfactory
Miserable, mī-zēr-ēbl, *adj.* wretched. [work]
Misere, mī-zēr-ē, *n.* a hymn appealing for Divine
Misery, mī-zēr-ī, *adj.* avaricious. [lpty]

Misery, mī-zēr-ī, *n.* distress; poverty.
Misfortune, mī-s-fōrtūn, *n.* calamity; bad fortune.
Misgiving, mī-s-gīv-ing, *n.* doubt; distrust.
Misgovernment, mī-s-gūv-ern-ment, *n.* wrongful government.
Misguidance, mī-s-gīd-āns, *n.* leading astray.
Mishap, mī-shāp, *n.* an accident.
Mishna, mīsh'nā, *n.* a collection of Jewish laws.
Misinform, mī-s-in-fōrm, *v.* to inform wrongly.
Misinterpret, mī-s-in-ter-pret, *v.* to interpret wrongly.
Misjudge, mī-s-jūj, *v.* to judge erroneously.
Mislay, mī-s-lā, *v.* to lay in the wrong place.
Mislead, mī-s-lēd, *v.* to lead wrongly.
Mislike, mī-s-līk, *v.* to dislike.
Mismanagement, mī-s-man-āj-ment, *n.* bad manage-
Misnomer, mī-s-nō-mēr, *n.* a wrong name. [ment]
Misogamist, mī-s-ō-gām-ist, *n.* one who dislikes mar-
Misogynist, mī-s-ō-gīn-ist, *n.* a woman hater. [riage]
Misprint, mī-s-prīnt, *n.* a printer's error. [looking]
Misprision, mī-s-prīzh'n, *n.* an oversight; an over-
Misquote, mī-s-kwōt, *v.* to quote wrongly.
Misrepresentation, mī-s-rep-rē-sent-ā'shun, *n.* an un-
Misrule, mī-s-rūl, *n.* unjust rule.
Misrule, mī-s-rūl, *n.* a Mass book.
Misshape, mī-shāp, *v.* to shape wrongly.
Missile, mī-s'il, *n.* a weapon thrown by the hand.
Mission, mī-shun, *n.* a duty a person or persons may be sent out to perform; persons sent.
Misive, mī-s'iv, *n.* a written message.
Misstatement, mī-s-tāt-ē-ment, *n.* a wrongful statement.
Mist, nūn, *n.* a watery vapour in the atmosphere.
Mistake, mī-s-tāk, *n.* error.
Mistime, mī-s-tīm, *v.* to time wrongly.
Mistress, mī-strēs, *n.* female head of a house; a con-
Mistrustful, mī-strust'fūl, *adj.* suspicious. [culture]
Misunderstanding, mī-s-un-der-stānd-ing, *n.* a mistake.
Misusage, mī-s-ūz-ij, *n.* mis-treatment. [disagreement]
Misuse, mī-s-ūs, *n.* wrongful use.
Mitre, mī-tr, *n.* head-covering worn by bishops.
Mitrailleuse, mī-trā'yāz, *n.* a breech-loading machine.
Mitten, mī-t'n, *n.* a kind of glove. [gun]
Mittimus, mī-t-mus, *n.* a warrant of commitment.
Mizzenmast, mīz'n-māst, *n.* mast that holds the mizzen.
Memories, mē-mōn-ēz, *n.* memory cultivation.
Memoir, mē-mōir, *n.* water trench round a castle.
Mobile, mō-bīl, *adj.* capable of being excited.
Mobilise, mō-bīl-iz, *v.* to prepare for war service.
Mocassin, mōk-ā-sin, *n.* shoe worn by Red Indians
Mockery, mōk-er-ī, *n.* derision; ridicule.
Modal, mō-dāl, *n.* pertaining to form.
Modality, mō-dāl-ī-tē, *n.* mode in its logical significance.
Model, mōd'l, *n.* an example; something to be imitated.
Moderation, mōd-er-ā'shun, *n.* temperance; avoidance of excess. [for university official]
Moderator, mōd-er-ā-ter, *n.* one who restrains; a church
Modernise, mōd-ern-iz, *v.* to make modern.
Modesty, mōd-est-ī, *n.* virtue; chastity; humility.
Modicum, mōd'ī-kūn, *n.* a small portion.
Modification, mōd-ī-fīk-ā'shun, *n.* change.
Modillion, mōd'ī-lūn, *n.* a bracket.
Modish, mō-dish, *adj.* fashionable.
Modiste, mō-dēst, *n.* a dressmaker.
Modulate, mōd-ū-lāt, *v.* to vary sounds. [to infect]
Modulator, mōd-ī-lā-tōr, *n.* one who modulates.
Module, mōd'ul, *n.* a small measure; a model.
Modulus, mōd'ul-us, *n.* a constant multiplier.
Mofussil, mō-fus'il, *n.* Indian country districts.
Mohair, mō-hār, *n.* the hair of the Angora goat; fabric
Moiety, mō-ē-tē, *n.* half. [made therefrom]
Moi, v. to drudge; to smear with dirt.
Moire antique, mō-ār-ān-tēk, *n.* watered silk.
Moist, *adj.* damp; humid.
Moisture, mō-ist-ūr, *n.* humidity.
Molar, mō-lār, *n.* a grinding tooth; *adj.* grinding.
Molasses, mō-lās-ēz, *n.* treacle.
Mole, mōl, *n.* a small burrowing animal; a permanent
Mole, mōl, *n.* mark on the skin. [matter]
Molecule, mōl-ē-kūl, *n.* one of the smallest particles of
Mole-skin, mōl'skīn, *n.* skin of a mole; a kind of cloth.
Molest, mō-lest, *v.* to annoy; to disturb.
Molestation, mō-lest-ā'shun, *n.* the act of molesting.

day; āt; ārm; ēve; ēlk; there; kōg; pīn; machine; bōld; pōt; stōrm; mūte; tūb; būrn.

Mollify, mol'i-ent, *adj.* assuaging; softening.
Mollify, mol'i-fi, *v.* to appease; to pacify.
Molten, mol'ten, *adj.* melted.
Moment, mo'ment, *n.* value; an instant of time.
Momentary, mo'ment-ar-i, *adj.* of short duration.
Momentous, mo'men-tus, *adj.* important.
Momentum, mo-men'tum, *n.* impetus; force.
Monachism, mon-ak-izm, *n.* the monastic life.
Monadic, mo-nad'ik, *adj.* relating to monads.
Monandrous, mo-nan'drus, *adj.* having but one stamen. [monarchy.]
Monarchical, mon-ark'ik-al, *adj.* pertaining to
Monastery, mon-as'ter-i, *n.* a house for monks.
Monetary, mun'i-ter-i, *adj.* relating to money.
Monetize, mun-'tíz, *v.* to convert into money.
Mongrel, mung'grel, *n.* of mixed breed.
Monism, mon-izm, *n.* doctrine of unity.
Monitor, mon'it-or, *n.* an admonisher; an instructor.
Monitory, mon'it-or-i, *adj.* giving warning.
Monochord, mon-o-kord, *n.* a one-chorded instrument.
Monocle, mon-o-kl, *n.* a single eye-glass.
Monody, mon-o'd-i, *n.* song of mourning for one voice.
Monogamy, mon-og'am-i, *n.* marriage to one wife.
Monogram, mon-o-gram, *n.* a design of interwoven initials. [thing.]
Monograph, mon-o-graf, *n.* a description of a single
Monolith, mon-o-lith, *n.* a column of a single stone.
Monologue, mon-ol-og, *n.* a soliloquy; entertainment given by one person.
Monomania, mon-o-má-ní-a, *n.* mental derangement on a particular subject. [in a thing.]
Monopoly, mon-op'y-ol-i, *n.* the sole right of dealing
Monospermous, mon-o-sper-mus, *adj.* of one seed
Monosyllabic, mon-o-syl-lab-ik, *n.* a one-syllable poem. [only.]
Monosyllable, mon-o-syl-lab-ol, *n.* a word of one syllable.
Monothism, mon-o-the-izm, *n.* belief in one God.
Monotony, mon-o-ton-i, *n.* sameness; lack of variety.
Monsoon, mon-soon, *n.* a periodical Indian wind.
Monster, mon'ster, *n.* something unnatural.
Monstrosity, mon-strós-i-t-i, *n.* an unnatural product.
Moody, moo'd-i, *adj.* gloomy; peevish.
Moonshine, moon'shin, *n.* the shine of the moon.
Moor, moor, *n.* a heath
Moorage, moor-aj, *n.* place for mooring vessels.
Moot, v. to discuss; to propose for debate.
Mope, móp, *v.* to be idle.
Moraine, mor-áin, *n.* rocks on the edge of glaciers.
Moral, mor'al, *adj.* relating to right or wrong; good.
Moralise, mor'al-iz, *v.* to apply moral lessons.
Morass, mo-ras' n. a marsh.
Morbid, mor'bid, *adj.* unsound; diseased
Morceau, mor-sú, *n.* a morsel; short composition.
Mordacity, mor-das'i-t-i, *n.* the quality of biting.
Mordant, mor'dant, *n.* substance for fixing colours.
Mores, mo-rén, *n.* a mixed textile fabric.
Moresque, mor-esk, *adj.* in the Moorish manner.
Morganatic, mor-gan-at'ik, *adj.* applied to marriage of a man with a woman of inferior rank.
Moribund, mor'i-bund, *adj.* dying.
Moroseness, mor-ós-es, *n.* sulkiness.
Morphew, mor'fi, *n.* a kind of scurf.
Morphia, mor'fi-a, *n.* extract of opium.
Morphology, mor'fo-l-ó-j-i, *n.* science of organic form.
Morsel, mor'sel, *n.* a small piece.
Mortality, mor-tal'i-t-i, *n.* liability to death.
Mortar, mor'tar, *n.* a cement; a vessel in which substances are pounded; a shell-throwing instrument.
Mortgage, mor'gaj, *n.* a deed of pledge.
Mortiferous, mor'ti-fér-us, *adj.* fatal. [dying part.]
Mortification, mor'ti-fi-ká-shun, *n.* shame; chagrin.
Mortifying, mor'ti-fi-ing, *adj.* humiliating; vexatious.
Mortise, mor'tis, *n.* an opening for a tenon.
Mortmain, mor't-main, *n.* alienable transfer of property to a body in trust.
Mortuary, mor'tú-ar-i, *n.* a burial place; building for temporary reception of the dead.
Mosaic, mo-zá'ik, *adj.* inlaid work.
Moslem, mos'len, *n.* a Mohammedan.
Mosque, mosk, *n.* a Mohammedan temple.
Mote, mó, *n.* a speck; a particle.
Motet, mó-tét, *n.* a short sacred musical composition.
Motherly, muth'er-li, *adj.* maternal; mother-like.

Motherwit, muth'er-wit, *n.* native wit.
Motion, mó-shun, *n.* the condition of moving.
Motive, mó'tiv, *n.* that which prompts to action; de-
Motley, mot'li, *n.* of various colours. [f.] [sign.]
Motory, mó'tor, *n.* a motion-producing machine.
Mottled, mot'ld, *adj.* dappled; speckled.
Motto, mó't-ó, *n.* a concise sentence; an inscription.
Moulder, mól'dér, *v.* to decay.
Mouldy, móld'i, *adj.* grown over with fungus.
Moult, mólt, *v.* to shed feathers. [taina.]
Mountainous, moun'tan-us, *adj.* abounding in moun-
Mountebank, moun't-bank, *n.* a quack; a pretender.
Mounting, moun'ting, *n.* an ascent; a setting.
Mournful, mórn'ful, *adj.* lamentable.
Moustache, mois-tash, *n.* hair on the upper lip.
Movables, moov'-a-biz, *n.* goods; furniture, etc.
Movingly, moov'ing-li, *adj.* with emotion.
Mow, mó, *v.* to cut down; *n.* a pile of hay, etc.
Mucilage, mú'sil-aj, *n.* gum.
Muck, múk, *n.* filth.
Mucus, mú'kus, *n.* slimy fluid.
Muddle, múd'l, *n.* confusion; disorder; *v.* to confuse.
Muffin, múf'in, *n.* a light cake. [dress while off duty.]
Mufti, múft-i, *n.* a Turkish legal official; an officer's
Muggy, múg'i, *adj.* heavy; damp; close.
Mulatto, mú-lá't-ó, *n.* offspring of a white and a black.
Mulch, múlk, *n.* rotted straw.
Mulet, múlt, *v.* to fine, *n.* a fine.
Muleteer, mú-lé-tér, *n.* a mule-driver.
Mulish, mú'lish, *adj.* stupid; obstinate.
Mull, múl, *v.* to heat and sweeten, to spoil *n.* a head-
Muller, múl-ér, *n.* a pulveriser; pestle. [land.]
Mullion, múl-yun, *n.* upright division of windows.
Mulse, múls, *n.* spiced wine.
Multifarious, múl-ti-fér-us, *adj.* of various kinds.
Multinomial, múl-ti-nó-mi-al, *adj.* an algebraic quan-
Multipled, múl'ti-pl-d, *n.* a many-footed insect. [city.]
Multiple, múl'ti-pl, *n.* an exactly divisible number; *adj.* of many parts.
Multiplex, múl'ti-pléks, *adj.* with many folds.
Multiplicity, múl'ti-plás-i-t-i, *n.* the condition of being numerous.
Multiply, múl'ti-pli, *v.* to increase in numbers.
Multitude, múl'ti-tú-d, *n.* a crowd; a large number;
Mum, mú, *adj.* silent; *n.* silence. [the people.]
Mumple, múm-pl, *v.* to mumber.
Mummer, múm-ér, *n.* an actor; a buffoon.
Mummy, múm'i, *n.* an embalmed body.
Mumpish, mump'ish, *adj.* sullen; glum.
Mumpsimus, mump-sí-mus, *n.* an error stuck to after it has been exposed.
Munch, múnsh, *v.* to chew with closed lips. [world.]
Mundane, mún'din, *adj.* worldly; pertaining to the
Municipal, mú-ni-síp-al, *adj.* pertaining to a town or city having local governing power. [liberality.]
Munificence, mú-ni-fí-sens, *n.* generosity; bounty;
Muniment, mú-ni-ment, *n.* title deed; a stronghold.
Munition, mú-nish-ún, *n.* war materials.
Munition, mún-yun, *n.* (same as *Munition*).
Mural, mú'ral, *adj.* relating to a wall.
Murder, múr-der, *n.* the act of killing; *v.* to slay.
Muriatic, mú-ri-at'ik, *adj.* pertaining to sea-salt.
Murky, múrk'i, *adj.* obscure; gloomy; dark.
Murray, múr-án, *n.* infectious disease among cattle.
Muscle, mús'l, *n.* fleshy fibres; animal tissue.
Muscolid, músk'oid, *adj.* insect-like.
Muscovado, músk-ó-vá'd-ó, *n.* sugar before refinement.
Muscular, músk'ú-lar, *adj.* strong; relating to the muscles. [treasures are exhibited.]
Museum, mú-zé-um, *n.* place where curiosities and
Musical, mú'zik, *n.* the science of sounds; melody.
Musk, *n.* a strong scent obtained from the musk-deer.
Muslin, múz'lin, *n.* fine cotton fabric.
Musselman, múst'-man, *n.* a Mohammedan. [pelled.]
Must, múst, *n.* new fermented wine; *v.* to be com-
Musty, múst-i, *adj.* mouldy; [review of soldiers.]
Mutable, mú-tá-bl, *adj.* variable; changeful.
Mute, mút, *adj.* silent; dumb.
Mutate, mú-tá-té, *v.* to cut; to maim.
Mutiny, mú-tin-i, *n.* revolt against authority.
Mutton, mút'n, *n.* the flesh of the sheep.

dáy; áit; árm; éve; ělk; ghere; íce; pín; machine; bôld; pôst; stôrm; múte; túb; búrn.

Mutual, mŭ-tŭ-ŭ-al, *adj.* reciprocal; in common.
Muscle, mŭ-s'l, *n.* a snout; a fastening for the mouth;

Mycology, mi-kol-ŭ-jl, *n.* the science of fungi.
Myopy, mi-ŭ-pl, *n.* short-sightedness.
Myotomy, mi-ŭ-ŭ-ŭ-mi, *n.* dissection of muscles.
Myriad, mi-ŭ-ŭ-ŭ, *n.* a large number.
Myrmidon, mŭ-ŭ-mi-dŭn, *n.* a member of a ruinously
Myrra, mŭ-ŭ-ŭ, *n.* an aromatic gum. [band.
Myrtle, mŭ-ŭ-ŭ-ŭ, *n.* an evergreen shrub. [mysteries.
Mystagogue, mi-s't-a-gog, *n.* a teacher of religious
Mystery, mi-s't-ŭ-ŭ, *n.* a deep secret; something un-
 revealed. [course with God.
Mystic, mi-s't-ŭ-ŭ, *adj.* one who professes direct inter-
Mystical, mi-s't-ŭ-ŭ-al, *adj.* obscure; emblematical.
Mythify, mi-s't-ŭ-ŭ-ŭ, *v.* to confuse; to involve in obscurity.
Myth, mi-th, *n.* a fable; a concocted story.

N

Nab, nab, *v.* to pounce upon and carry off.
Nacre, nă-kr, *n.* mother-of-pearl.
Nacreous, nă-kr-ŭ-s, *adj.* of a pearly lustre.
Nadir, nă-dir, *n.* opposite the zenith.
Nag, nag, *n.* a pony; *v.* to carp.
Nail, nă-l, *n.* a pointed piece of metal for fastening
 substances; horny scale at the backs of the finger
Nalvate, nă-ŭ-ŭ-ŭ, *n.* natural simplicity. [tends
Naked, nă-kr-ŭ, *adj.* unclothed; bare. [trifling.
Namby-pamby, nam-bi-pam-bi, *n.* silly; affected;
Name, nă-m, *n.* appellation; designation; title.
Namesake, nă-m-să-k, *n.* one with like name to another.
Nankeen, nan-kên, *n.* a buff-coloured cloth.
Nap, nap, *n.* woolly surface; a short sleep.
Nape, nă-p, *n.* the back of the neck.
Napery, nă-p-ŭ-ŭ, *n.* table linen.
Napiform, nă-p-ŭ-ŭ-ŭ, *adj.* turnip-shaped.
Narcotic, nă-kr-ŭ-ŭ, *adj.* sleep-producing; *n.* sleep-
 producing medicine.
Nard, nă-rd, *n.* an aromatic plant.
Narrative, nar-ă-tiv, *n.* a story; an account of events.
Narrows, nar-ŭ-ŭ, *n.* a contracted passage.
Nasal, nă-ză-l, *adj.* pertaining to the nose.
Nascent, nă-s-ŭ-ŭ, *adj.* early stages of existence; in-
Nasute, nă-s-ŭ-ŭ, *adj.* long-nosed. [capient.
Natal, nă-tă-l, *adj.* pertaining to birth; native.
Natatory, nă-tă-tor-i, *adj.* relating to swimming.
Nation, nă-shŭn, *n.* a distinct people; a people living
Nativity, nă-tiv-i-ŭ-ŭ, *n.* birth. [under one government
Natural, nat-ŭ-ŭ-ŭ, *adj.* inborn; relating to nature;
 unartificial. [rights of native citizenship
Naturalise, nat-ŭ-ŭ-ŭ-l-ŭ-ŭ, *v.* to grant to a foreigner the
Nature, nă-tŭ-ŭ, *n.* the system of created things.
Naught, nă-wt, *n.* nothing. [vonifit.
Nausea, nă-w-ŭ-ŭ-ŭ, *n.* loathing; producing tendency to
Nauseate, nă-w-ŭ-ŭ-ŭ-ŭ, *v.* to sicken; to disgust.
Nautical, nă-w-ŭ-ŭ-ŭ-ŭ, *adj.* naval; relating to navigation.
Naval, nă-val, *adj.* marine; relating to ships.
Nave, nă-v, *n.* body of a church; the hub.
Navel, nă-v-ŭ-ŭ, *n.* the middle of the abdomen.
Navigable, nav-i-gă-bl, *adj.* sailable; permitting of the
 passage of ships.

Navy, nă-vi, *n.* fleet of ships.
Navy, nă-vi, *n.* a labourer on excavations, railways,
Neap-tide, nă-p-ŭ-ŭ-ŭ, *n.* low tide. [etc.
Neat, nă-t, *adj.* pertaining to cattle; tidy; a cow.
Nebula, nă-b-ŭ-ŭ-ŭ, *n.* a gauzy cloud; film; star cluster.
Necessarianism, nes-ŭ-ŭ-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* fatalism.
Necessary, nes-ŭ-ŭ-ŭ-ŭ, *adj.* inevitable; needful; that
Necessitate, nes-ŭ-ŭ-ŭ-ŭ-ŭ, *v.* to compel. [must be.
Necessitous, nes-ŭ-ŭ-ŭ-ŭ-ŭ, *adj.* needy; indigent.
Necrology, nă-kr-ŭ-ŭ-ŭ-ŭ, *n.* record of deaths.
Necromancy, nă-kr-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* enchantment; conjur-
Necropolis, nă-kr-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* a cemetery. [ing.
Necrosis, nă-kr-ŭ-ŭ-ŭ-ŭ, *n.* mortification.
Nectar, nek-tă-ŭ, *n.* the drink of the gods.
Née, nă, *adj.* born. [Fr.
Need, nă-d, *n.* necessity.
Needy, nă-d-i, *adj.* poor.
Nefarious, nă-fă-ŭ-ŭ-ŭ-ŭ, *adj.* wicked; villainous.
Negative, neg-ă-ŭ-ŭ, *n.* a proposition that denies.

Negligence, neg-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* habitual carelessness.
Negotiate, neg-ŭ-ŭ-ŭ-ŭ-ŭ, *v.* to treat with; to traffic.
Negus, nă-gus, *n.* diluted wine.
Neigh, nă-y, *v.* to whinny.
Neighbourhood, nă-ber-hood, *n.* the district around.
Nematite, nem-ă-ŭ-ŭ-ŭ, *n.* fibrous hydrate of magnesite.
Nemesis, nem-ŭ-ŭ-ŭ, *n.* the goddess of revenge; retri-
Neologism, nă-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* a new doctrine.
Neology, nă-ŭ-ŭ-ŭ-ŭ, *n.* the introduction of new words
 or doctrines; rationalism.
Neophyte, nă-ŭ-ŭ-ŭ-ŭ, *n.* a novice; a new convert.
Neo-platonism, nă-ŭ-ŭ-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* a philosophical
 system combining Platonic and Oriental teachings.
Nepenthe, nă-pen-thē, *n.* a drug that allays pain.
Nephritic, nă-frī-tik, *adj.* relating to the kidneys.
Nephroid, nă-frōid, *adj.* kidney-shaped.
Nepotism, nă-pot-ŭ-ŭ-ŭ, *n.* favouritism to kindred.
Neptunian, năp-tŭ-ni-ŭ-ŭ, *adj.* relating to the ocean.
Nereid, nă-rē-ŭ-ŭ, *n.* a sea-nymph.
Nerve, nă-rv, *n.* self-command; an organ of sensation.
Nervous, nă-rv-ŭ-ŭ, *adj.* strong; easily agitated.
Nescience, nă-shi-ŭ-ŭ-ŭ, *n.* ignorance.
Nestorianism, nes-tō-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* the doctrine of
 Nestor. [lurds; *adj.* free of deductions.
Net, net, *n.* a contrivance of twine for catching fish or
Nether, nă-th-ŭ-ŭ, *adj.* lower.
Neuralgic, nă-ră-l-ŭ-ŭ, *adj.* pertaining to nerve pain
Neurology, nă-rŭ-ŭ-ŭ-ŭ-ŭ, *n.* science of the nerves.
Neutrality, nă-trŭ-ŭ-ŭ-ŭ-ŭ, *n.* condition of not taking sides.
Newfangled, nă-fang-g'ld, *adj.* newly-formed.
Nibble, nă-b-l, *v.* to bite lightly.
Nicety, nis-ŭ-ŭ-ŭ, *n.* minute accuracy; fastidiousness.
Niche, nă-ŭ-ŭ, *n.* a small recess.
Nick, nă-k, *n.* a notch; the exact moment.
Nick-nacks, nă-k-năks, *n.* trifles.
Nickname, nă-k-nă-m, *n.* an appellation of familiarity or
Nictitate, nă-k-tă-t-ŭ-ŭ, *v.* to wink. [derision.
Nidification, nid-i-fi-kă-ŭ-ŭ, *n.* the process of nest
 building and bird rearing.
Nidulation, nid-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* nest building.
Niece, nă-s, *n.* daughter of a brother or sister.
Niggardly, nig-ă-rd-l-ŭ-ŭ, *adj.* miserly; mean.
Nightmare, nă-măr, *n.* a violent dream.
Nigrescent, nig-res-ŭ-ŭ-ŭ, *adj.* becoming black.
Nihility, nă-hi-l-ŭ-ŭ-ŭ, *n.* nothingness.
Nimble, nă-m-bl, *adj.* brisk; active. [a rain cloud.
Nimbus, nă-m-b-ŭ-ŭ, *n.* a circlet of light round the head;
Nincompoop, nă-m-kŭm-pŭ-ŭ-ŭ, *n.* a foolish fellow.
Nippers, nă-p-ŭ-ŭ-ŭ, *n.* small pincers.
Nipple, nă-p-l, *n.* a teat.
Nisus, nă-s-ŭ-ŭ, *n.* effort; attempt.
Nit, nit, *n.* the egg of insects.
Nitrate, nă-tră-t, *n.* salt of nitric acid.
Nitre, nă-tr, *n.* nitrate of potash.
Nitric, nă-trik, *adj.* containing nitre.
Noblesse, nob-ŭ-ŭ-ŭ-ŭ, *n.* dignity; the body of nobles.
Noctambulist, nok-tă-m-bu-l-ŭ-ŭ, *n.* a sleep-walker.
Nocturnal, nok-tŭ-rnă-l, *adj.* nightly; relating to night.
Noctuous, nok-ŭ-ŭ-ŭ-ŭ, *adj.* harmful.
Noddy, nod-d-ŭ, *n.* the booby.
Noddy, nod-d-ŭ, *n.* a sea fowl; a sunpleton.
Node, nă-d, *n.* a knob; a knot.
Nodose, nă-dŭ-ŭ-ŭ, *adj.* knotty.
Nodular, nod-ŭ-ŭ-ŭ-ŭ, *adj.* knob-like.
Noetic, nă-ŭ-ŭ-ŭ-ŭ, *adj.* intellectual.
Noggin, nog-ŭ-ŭ, *n.* a small liquid measure.
Noisy, noi-zl, *adj.* turbulent; clamorous; loud.
Nokes, nă-k-ŭ-ŭ, *n.* a silly fellow.
Noil, nă-ŭ-ŭ, *n.* the head.
Nomad, nă-măd, *n.* a wanderer.
Nomadic, nă-măd-ŭ-ŭ, *adj.* pastoral; roving. [name.
Nomancy, nă-nă-m-ŭ-ŭ, *n.* divination from letters in a
Nomenclature, nă-men-kă-l-ŭ-ŭ, *n.* names.
Nominal, nom-i-nă-l, *adj.* in name only; not real.
Nominalism, nom-i-nă-l-ŭ-ŭ, *n.* the doctrine that
 general terms are without corresponding reality.
Nominee, nom-i-nă-ŭ-ŭ, *n.* one nominated.
Nomistic, nă-mis-tik, *adj.* pertaining to sacred laws.
Nomage, nom-ă-ŭ, *n.* minority.
Nomagearian, nă-mă-ŭ-ŭ-ŭ-ŭ-ŭ-ŭ, *n.* one who is ninety
Nones, nă-n-ŭ-ŭ, *n.* the present. [years old.
Nonchalance, nă-nă-shă-l-ŭ-ŭ, *n.* coolness; indifference.

day;ăt;ăr;ēve;ēik;thēre;fœ;pin;machīne;bôld;pôt;stôrm;mūte;tīb;bôrn.

Nonconductor, non-kon-duk'tor, *n.* a non-transmitter of heat or electricity. [what is not yet claf ed.]
Non-descript, non-de-skript, *n.* odd; indescribable;
Nonentity, non-en-ti-ti, *n.* a nobody.
Nonet, nō-net', *n.* a musical composition in nine parts.
Nonjurer, non-joo'r-or, *n.* one who declined to take the oath of allegiance in 1688.

Nonpareil, non-par-el, *n.* a kind of type; *adj.* unequalled, non-plus, *v.* to puzzle. [equalled.]
Nonsense, non-sens, *n.* absurdity; meaningless talk.
Nonsensical, non-sens-ik-al, *adj.* foolish; without meaning.

Nonsuit, non-sūt, *n.* stoppage of a suit to secure Noodle, nō'di, *n.* a witless fellow. [a fresh trial.]

Nook, nook, *n.* a corner; a recess.

Noology, nō-o-lō-jī, *n.* the science of mental

Noose, nooz, *n.* a running knot. [phenomena.]

Normal, nor-mal, *adj.* regular; usual.

Nosegay, nōz-gā, *n.* a small bouquet.

Nosology, nōz-o-lō-jī, *n.* classification of diseases.

Nostalgia, nōs-tal-jī-a, *n.* home-sickness.

Nostril, nōs-tril, *n.* nose passage.

Nostrum, nōs-trūm, *n.* a quack medicine.

Notable, nōt-ā-bl, *adj.* remarkable; distinguished.

Notary, nō-tā-ri, *n.* a testifying legal officer.

Notation, nō-tā-shun, *n.* the act of noting by figures.

Notch, noch, *n.* a cut or indentation. [signs, etc.]

Nothingness, nōt-ing-nes, *n.* want of existence; lack

Noticeable, nōt-īs-ā-bl, *adj.* worthy of note. [of value.]

Notify, nōt-ī-fī, *v.* to make known.

Notoriety, nō-tō-rī-ti, *n.* public note. [credit]

Notorious, nō-tō-rī-us, *adj.* infamous; known to dis-

Nourishment, nūr-shē-ment, *n.* sustaining food.

Nous, nous, *n.* intelligence.

Novelist, nōv-el-ist, *n.* one who writes novels.

Novelty, nōv-el-ī-ti, *n.* something new.

Novitiate, nōv-ī-shi-āt, *n.* the state of being a novice.

Noxious, nok-shus, *adj.* ill-favoured; evil smelling;

Noyous, nōi-us, *adj.* troublesome. [bad.]

Nozzle, nōz-l, *n.* the mouth of an aperture.

Nuance, nū-āns, *n.* a delicate shade of difference.

Nubile, nū-bil, *adj.* marriageable.

Nucleus, nū-klē-us, *n.* a central point; the head of a

Nudity, nū-dī-ti, *n.* nakedness. [connet.]

Nugatory, nū-gat-ō-ri, *adj.* futile.

Nugget, nug-et, *n.* a lump of ore.

Nuisance, nū-sāns, *n.* something offensive.

Nullify, nul-ī-fī, *v.* to render of no avail.

Nullity, nul-ī-ti, *n.* lack of life or force.

Numb, num, *adj.* dead to sensation. [figures.]

Numeral, nū-mer-al, *n.* a figure; *adj.* pertaining to

Numeration, nū-mer-ā-shun, *n.* the act of numbering.

Numerator, nū-mer-ā-tor, *n.* one who numbers.

Numerismatics, nū-mer-ist-iks, *n.* the study of coins.

Numskull, num-skul, *n.* a foolish fellow.

Nun, nun, *n.* a female who retires to a convent.

Nuncio, nun-shi-ō, *n.* a papal ambassador.

Nuncupative, nun-kū-pā-tīv, *adj.* publicly declared.

Nunnery, nun-er-i, *n.* a convent.

Nuptial, nup-shal, *adj.* relating to marriage.

Nursery, nur-ser-i, *n.* an apartment for children;

ground set apart for bringing forward young plants;

Notation, nōt-ā-shun, *n.* notion of the earth's axis.

Nutzgall, nut-gawl, *n.* an excrescence of the oak.

Nutmeg, nut-meg, *n.* an aromatic nut

Nutritment, nū-trī-ment, *n.* nourishing food.

Nutritious, nū-trīsh-ū, *adj.* possessing nourishing

Nuzzle, nūz-l, *v.* to rub the nose against. [qualities.]

O

Oaf, ōf, *n.* a foolish person.

Oak, ōk, *n.* a tree, yielding a valuable timber.

Oaken, ō-ken, *adj.* composed of oak.

Oakling, ōk-ling, *n.* a young oak.

Oakum, ōk-um, *n.* loose hemp.

Oasis, ō-ā-sis, *n.* a fertile spot in a desert.

Oat, ōt, *n.* a plant from whose seed oatmeal is made.

Oaten, ō-ten, *adj.* relating to oats.

Oatgrass, ōt-gras, *n.* a kind of oat used as fodder.

Oath, ōth, *n.* a solemn declaration in God's name.

Obligato, ob-lī-gā-to, *n.* a special accompaniment.

Obduracy, ob-dū-rā-si, *n.* sternness of heart. [obey.]

Obedience, ō-bē-dī-ens, *n.* dutifulness; willingness to

Obeisance, ō-bē-sāns, *n.* an act of reverence or homage.

Obelisk, ō-bē-līsk, *n.* a pyramidal pillar.

Obesity, ō-bē-sī-ti, *n.* fatness.

Obex, ō-bēks, *n.* a barrier.

Obeys, ō-bā, *v.* to act as desired; to yield to.

Obscure, ob-fus-kāt, *v.* to obscure; to confuse.

Obit, ō-bit, *n.* death.

Object, ob-jekt, *n.* a thing seen or striven after;

Object, ob-jekt, *v.* to make opposition to. [motive.]

Objection, ob-jek-shun, *n.* opposition; act of objecting.

Objective, ob-jek-tīv, *adj.* comprised in the object;

Objure, ob-joor, *v.* to swear. [external to the mind.]

Oburgation, ob-jur-gē-shun, *n.* reproof.

Oblate, ob-lit, *adj.* flattened at the poles.

Oblation, ob-lā-shun, *n.* a sacrifice or offering.

Obligation, ob-lī-gā-shun, *n.* duty; debt.

Oblige, ō-blij, *v.* to gratify; to bind to.

Oblique, ob-lēk, *adj.* indirect; slanting.

Obliiterate, ob-lit-er-āt, *v.* to efface.

Oblivious, ob-lī-vi-us, *adj.* forgetful; out of cogni-

Oblong, ob-lōng, *adj.* longer than broad. [incline.]

Obloquy, ob-lō-kwī, *n.* calumny; blame.

Obnoxious, ob-nok-shus, *adj.* odious, offensive.

Oboe, ō-bō-ē, *n.* a reed instrument.

Obovate, ob-ō-vāt, *adj.* egg-shaped.

Obscene, ob-sēn, *adj.* impure; indecent; lewd.

Obscure, ob-skūr, *v.* to conceal; *adj.* dark; indistinct.

Obscure, ob-sēkrāt, *v.* to beseech

Obscuration, ob-sēkrā-shun, *n.* supplication

Obsèques, ob-sēkrā-shun, *n.* funeral rites.

Obscure, ob-sēkrā-shun, *adj.* submissive; humble;

Observable, ob-zerv-ā-bl, *adj.* noticeable. [servile.]

Observance, ob-zerv-āns, *n.* attention, a religious rite.

Observatory, ob-zerv-ā-tō-ri, *n.* a look-out; a place

where astronomical observations are taken

Observe, ob-zerv, *v.* to note, to remark.

Obsession, ob-sē-shun, *n.* persistence of attack.

Obsidian, ob-sīd-i-an, *n.* a natural glass

Obstinate, ob-sig-nāt, *v.* to confirm; to seal

Obsolescent, ob-sō-lē-sent, *adj.* going out of use.

Obsolete, ob-sō-lēt, *adj.* out of date, disused.

Obstacle, ob-stākl, *n.* an obstruction

Obstetric, ob-stē-trīk, *adj.* relating to midwifery.

Obstinacy, ob-stīn-ā-si, *n.* stubbornness

Obstrepacious, ob-strep-er-ūs, *adj.* uncontrollable;

Obstruct, ob-strukt, *v.* to hinder; to impede. [noisy.]

Obstruction, ob-struk-shun, *n.* the act of obstructing;

Obstruct, ob-struk-shun, *adj.* obstructing. [obstacle.]

Obtain, ob-tān, *v.* to gain, to hold

Obtest, ob-test, *v.* to call upon to testify.

Obtrude, ob-trood, *v.* to intrude, to force upon

Obtrusive, ob-troo-siv, *n.* presuming, apt to obtrude.

Obtuse, ob-tū, *adj.* blunt, dull

Obvelation, ob-vel-ā-shun, *n.* concealment.

Obverse, ob-vers, *n.* the head side of a coin.

Obverse, ob-vers, *adj.* turned towards one. [wards.]

Obversion, ob-ver-shun, *n.* the act of turning front-

Obviate, ob-vi-āt, *v.* to prevent, to free from difficulty.

Obvious, ob-vi-us, *adj.* clear, undisputable, evident.

Obvolute, ob-vō-lūt, *adj.* turned inward [opportunity.]

Occasion, ō-kā-shun, *n.* a happening, an event;

Occasional, ō-kā-shun-al, *adj.* occurring now and then.

Occident, ōk-sī-dent, *n.* the west

Occidental, ōk-sī-dent-al, *adj.* western.

Occipital, ōk-sip-ī-tal, *adj.* relating to the back of the

Occiput, ōk-sip-ūt, *n.* the back part of the skull [head.]

Occlude, ōk-klood, *v.* to absorb

Occult, ōk-kult, *adj.* hidden; abstruse; secret.

Occultism, ōk-kult-izm, *n.* theosophy.

Occupant, ōk-ū-pant, *n.* a dweller

Occupy, ōk-ū-pī, *v.* to possess, to hold.

Occur, ōk-kur, *v.* to happen; to appear.

Occurrence, ōk-kur-ens, *n.* an incident.

Ocean, ō-shun, *n.* the vastest seas.

Ochlocracy, ōk-lōk-rā-si, *n.* mob-rule.

Ochre, ō-kr, *n.* a kind of clay.

Octagon, ōk-tā-gon, *n.* an eight-sided plane.

Octandrous, ōk-tān-drus, *adj.* having eight stems.

Octangular, ōk-tāng-gū-lar, *adj.* with eight angles.

Octant, ōk-tant, *n.* eighth part of a circle.

day; ät; ärm; äve; älk; tlère; ice; pñ; machine; beld; pöt; störm; müte; tüb; büra.

Octave, okt'äv, *n.* the musical eighth.
 Octavo, ok-tä'vo, *n.* having eight leaves to a sheet.
 Octennial, ok-ten'näl, *adj.* occurring every eighth year.
 Octogenarian, ok-to-jen-ä-rän, *n.* a person 80 years old.
 Octuple, ok'tü-pl, *adj.* eightfold. [old.
 Ocular, ok'ü-lär, *adj.* by actual sight; relating to the eye.
 Oculist, ok'ü-list, *n.* an eye specialist. [eye.
 Odalisque, ö-däl-isk, *n.* a harem inmate.
 Odd, öd, *adj.* not pairable; strange.
 Oddity, öd-it-i, *n.* something peculiar; a singular person.
 Odds, ödz, *n.* the difference; inequality.
 Ode, öd, *n.* a poem for music.
 Odious, ö-di-us, *adj.* hateful.
 Odium, ö-di-um, *n.* hatred.
 Odontoid, ö-dont'oid, *adj.* tooth-shaped.
 Odontology, ö-dont-ö-lö-jy, *n.* the science of the teeth.
 Odorous, ö-der-us, *adj.* fragrant.
 Odour, ö-der, *n.* smell; perfume.
 Oesophagus, ö-söf-ä-gus, *n.* the gullet.
 Offal, ö-fäl, *v.* refuse, entrails.
 Offend, ö-fend', *v.* to displease.
 Offender, ö-fend-er, *n.* one who offends.
 Offer, ö-fer, *v.* to propose; *n.* that which is offered.
 Offertory, ö-fer-to-ri, *n.* alms given at church.
 Off-hand, ö-fänd, *adj.* without demur; readily.
 Office, ö-fis, *n.* position, place where clerical work is done. [of position in the army.
 Officer, ö-fis-er, *n.* the holder of an office; any man official.
 Official, ö-fish'i-äl, *adj.* a public officer.
 Officiate, ö-fish'i-at, *v.* to serve; to act.
 Officious, ö-fish'us, *adj.* meddling, forward.
 Offing, ö-fing, *n.* off the shore.
 Offscouring, ö-fshö-ü-ü-ü, *n.* refuse.
 Offset, ö-set, *n.* a balance, equivalent.
 Off, öft, *adv.* often.
 Ogham, ö-gäm, *n.* an ancient kind of Irish writing.
 Ogive, ö-jiv, *n.* a pointed arch.
 Ogile, ö-gil, *n.* to glance at amorously.
 Ogre, ö-gr, *n.* a monster.
 Oldium, ö-d'fü-um, *n.* a kind of parasite fungi.
 Oil, oil, *n.* any greasy liquid, *v.* to lubricate with oil.
 Oil-cloth, oil'kloth, *n.* coloured floor-covering.
 Ointment, öint'ment, *n.* salve.
 Old, öd, *adj.* aged, worn out, ancient.
 Oleaginous, ö-lé-ä-jin-us, *adj.* oily; unctuous.
 Oleander, ö-lé-än-der, *n.* an evergreen shrub.
 Oleaster, ö-lé-äs-ter, *n.* wild olive.
 Olein, ö-lé-in, *n.* natural fat.
 Olenat, ö-lent, *adj.* redolent.
 Oleograph, ö-lé-ö-gräf, *n.* an oil print.
 Oleomargarine, ö-lé-ö-mär-gär-én, *n.* artificial butter.
 Olfactory, ö-lä-fä-ri, *n.* the organ of smell.
 Oligarchy, ö-lig-är-ki, *n.* government by a few.
 Olio, ö-lé-ö, *n.* a medley.
 Olitory, ö-lé-ö-ri, *adj.* relating to vegetables.
 Olivaceous, ö-liv-ä-shus, *adj.* olive-coloured.
 Olivet, ö-lé-vet, *n.* an imitation pearl.
 Olla Podrida, ö-lä-pö-dä-ä, *n.* an ongruous mixture.
 Omega, ö-mé-gä, *n.* the last letter of the Greek alphabet.
 Omen, ö-men, *n.* a foreboding.
 Omissible, ö-mis-si-bil, *adj.* that may be left out.
 Omission, ö-mis-sün, *n.* neglect, failure.
 Omit, ö-mit', *v.* to leave out.
 Omniparity, ö-mi-ni-pär-i-ti, *n.* equality.
 Omnibus, ö-mi-ni-bus, *n.* a large passenger vehicle; *adj.* covering all.
 Omnifarious, ö-mi-ni-fä-ri-us, *adj.* of every sort.
 Omnipotence, ö-mi-ni-pö-tens, *n.* indefinite power.
 Omnipresence, ö-mi-ni-pré-sens, *n.* pre-existence.
 Omniscient, ö-mi-ni-sent, *adj.* all-knowing. [where.
 Omnivorous, ö-mi-ni-vé-er-us, *adj.* all-devouring.
 Oneness, wun'ness, *n.* singleness.
 Oneirology, ö-ni-ro-lö-jy, *n.* divination of dreams.
 Onerous, ö-nér-us, *adj.* burdensome.
 Onicolo, ö-nik'ö-lo, *n.* a variety of onyx.
 Onlooker, ön'look-er, *n.* an observer.
 Onset, ön-set, *n.* a sudden attack.
 Onslaught, ön'släwt, *n.* a violent attack.
 Ontology, ön'tö-lö-jy, *n.* the science of being.
 Onus, ö-nus, *n.* responsibility.
 Onyx, ön'iks, *n.* a kind of agate.

Oöidal, ö-ö-däl, *adj.* egg-shaped.
 Oolite, ö-ö-lit, *n.* a kind of limestone.
 Oology, ö-ö-lö-jy, *n.* the study of eggs.
 Oolong, ö-ö-lö-ü-ü, *n.* a kind of black tea.
 Ooze, ö-üz, *v.* to percolate; *n.* soft mud.
 Opacity, ö-pä-si-ti, *n.* opacity.
 Opal, ö-päl, *n.* a precious stone.
 Opaque, ö-päk, *adj.* untransparent.
 Open, ö-pen, *adj.* not closed; spread out; frank; *n.* a opera, ö-pér-ä, *n.* musical drama. [clear space.
 Operate, ö-pér-ät, *v.* to work; to exert; to perform a surgical operation.
 Operative, ö-pér-ät-iv, *n.* a workman; a labourer; *adj.* having power to operate.
 Operculum, ö-pér-ku-lum, *n.* a cover or lid.
 Operose, ö-pér-ös, *adj.* laborious.
 Ophicleide, ö-ft-ik-lid, *n.* a large brass musical instrument.
 Ophidian, ö-ft-id-än, *adj.* relating to serpents. [ment.
 Ophiology, ö-ft-ö-lö-jy, *n.* the study of serpents.
 Ophthalmia, ö-ftäl-mi-ä, *n.* eye inflammation.
 Ophthalmic, ö-ftäl-mik, *adj.* relating to the eye.
 Opium, ö-pi-ät, *n.* drug containing opium.
 Opine, ö-pin, *v.* to suppose.
 Opinion, ö-pin-yun, *n.* view; belief; judgment.
 Opium, ö-pi-um, *n.* juice of the white poppy.
 Opipulation, ö-pi-ä-shun, *n.* stoppage.
 Opponent, ö-pö-pent, *n.* one who opposes.
 Opportune, ö-pör-tün, *adj.* timely, reasonable.
 Opportunity, ö-pör-tü-ni-ti, *n.* a favourable chance.
 Opposite, ö-pö-zit, *adj.* facing; adverse. [party.
 Opposition, ö-pö-zis-yun, *n.* resistance, an opposing.
 Oppress, ö-pres', *v.* to burden, to press upon.
 Opprobrious, ö-prö-bri-us, *adj.* disgraceful.
 Opprobrium, ö-prö-bri-um, *n.* reproach; infamy.
 Oppugn, ö-pün, *v.* to oppose.
 Optative, ö-ptä-tiv, *adj.* expressive of desire.
 Optic, ö-ptik, *adj.* relating to sight.
 Optics, ö-ptiks, *n.* science of light.
 Optimism, ö-ptim-iz-m, *n.* the belief that everything is for the best.
 Option, ö-pshun, *n.* power of choice.
 Optional, ö-pshun-äl, *adj.* left to choice.
 Opulence, ö-pü-lens, *n.* wealth.
 Opus, ö-pus, *n.* work.
 Oracle, ö-rä-kl, *n.* a wise opinion.
 Oracular, ö-rä-kl-är, *adj.* authoritative.
 Oragious, ö-rä-jin-us, *adj.* stormy.
 Oral, ö-räl, *adj.* spoken; verbal.
 Orange, ö-räng, *n.* a well-known fruit; a colour.
 Orangeman, ö-räng-män, *n.* an Irish Protestant.
 Orangery, ö-räng-ri, *n.* an orange plantation or garden.
 Oranian, ö-rä-ni-än, *adj.* relating to the coast. [den.
 Orator, ö-rä-tör, *n.* a public speaker.
 Oratorio, ö-rä-tö-ri-ö, *n.* a sacred musical drama.
 Oratory, ö-rä-tö-ri, *n.* the art of public speaking.
 Orb, örb, *n.* a circle; a sphere.
 Orbicular, örb-ik-ül-är, *adj.* round.
 Orbit, örb-it, *n.* course of a planet.
 Orcaidian, örk-ä-dän, *adj.* relating to the Orkneys.
 Orchard, örk'ärd, *n.* garden of fruit trees.
 Orchestra, örk-es-trä, *n.* a band of musicians.
 Ordain, örd-än, *v.* to appoint; to set apart.
 Ordeal, örd-äl, *n.* a severe trial. [command.
 Order, örd, *n.* method; rule, a fraternity; *v.* to order.
 Orderly, örd-er-lü, *adj.* methodical; regular.
 Ordinal, örd-in-äl, *adj.* showing order.
 Ordinance, örd-in-ans, *n.* a statute, a rite.
 Ordinary, örd-in-är-l, *adj.* usual; common.
 Ordinate, örd-in-ät, *adj.* regular; in order.
 Ordnance, örd-nans, *n.* artillery; cannon.
 Ordnance, örd-on-ans, *n.* harmonious combination of parts in a picture or building.
 Ordure, örd-ür, *n.* filth.
 Ore, örd, *n.* crude metal.
 Oread, örd-ä, *n.* a mountain nymph.
 Organ, örgän, *n.* a large wind instrument; a vital part; a newspaper. [set in operation.
 Organise, örgän-iz, *v.* to form parts into a whole; to organise, örgän-izm, *n.* system; organic structure.
 Organon, örgän-on, *n.* rules for scientific investigation.
 Orgies, örg-jiz, *n.* drunken revels. [non.
 Oriel, ö-ri-el, *n.* projecting window.
 Orient, ö-ri-ent, *n.* the east; *adj.* eastern.

day; ät; ärm; äve; älk; there; læ; pän; machine; böld; pör; störm; müte; tüb; börm.

Orifice, or'f-is, *n.* an opening. [standard of France.
Oriflamme, or'f-lam, *n.* the ancient "gold flame"
Origan, or'gan, *n.* wild marjoram.
Origin, or'i-jin, *n.* source; cause.
Original, or'i-jin-al, *adj.* first in order. [original.
Originality, or'i-jin-a-lit, *n.* the quality of being
Originate, or'i-jin-at, *v.* to commence; to bring into
Orison, or'i-zon, *n.* a prayer. [existence.
Ormer, or'mer, *n.* an ear-shell.
Ormolu, or'mo-lu, *n.* brass or copper gilt.
Ornament, or'n-ment, *n.* an embellishment; a decora-
Ornate, or'n-at, *adj.* adorned; decorative. [tion.
Ornitholite, or-nith'o-lit, *n.* a fossil bird.
Ornithology, or-nith'o-l'ji, *n.* science of birds.
Orology, or'o-l'ji, *n.* the science of mountains.
Orphan, or'fan, *n.* child without father or mother.
Orphanage, or'fan-ij, *n.* a home for orphans.
Orpharion, or'f-ri-an, *n.* a stringed instrument.
Orpin, or'pin, *n.* a deep gold colour.
Orra, or'ra, *adj.* odd; discordant.
Orsery, or'er-i, *n.* an instrument for illustrating the
 movements of the planets.
Orthodox, or'tho-doks, *adj.* according to general
Orthoepy, or'tho-e-pi, *n.* right pronunciation. [belief.
Orthographer, or'th-o-g'r-fer, *n.* a correct speller.
Orthography, or'th-o-g'r-phi, *n.* spelling. [instruction.
Orthometry, or'th-o-m'e-tri, *n.* the art of verse con-
Orthopædic, or'th-o-pæ'dik, *adj.* relating to bodily
Ortive, or'tiv, *adj.* eastern. [deformenty.
Os, or, *n.* a bone.
Oscillate, os'il-at, *v.* to sway; to swing.
Oscillatory, os'il-at-to-ri, *adj.* swinging.
Oscitancy, os'it-an-si, *n.* drowsiness; denseness.
Oscitation, os'it-a'shun, *n.* gaping.
Osculant, os'ku-lant, *adj.* kissing; adhering.
Osculate, os'ku-lat, *v.* to kiss.
Osier, o'zier, *n.* a kind of willow.
Osmanni, os-man'ni, *adj.* belonging to Turkey.
Oseous, os'e-us, *adj.* bony.
Ossicle, os'ikl, *n.* a small bone.
Ossivorous, os'iv-or-us, *adj.* feeding on bones.
Ossuary, os'u-ar-i, *n.* charnel-house.
Ostensible, os'ten-si-bl, *adj.* apparent; plausible.
Ostensive, os'ten-siv, *adj.* showing; exhibiting.
Ostentatious, os'ten-ti'sh-us, *adj.* pompous; showy.
Osteology, os'te-o-l'ji, *n.* science of bones.
Ostlary, os'tu-ri, *n.* a church doorkeeper.
Ostracise, os'tra-siz, *v.* to banish.
Ostracism, os'tra-siz-m, *n.* proscription.
Otic, o'tik, *adj.* relating to the ear.
Otiose, o'shi-os, *adj.* lazy; careless.
Otology, o'to-l'ji, *n.* science of the ear.
Ottar, ot'ar, *n.* a fragrant oil distilled from flowers.
Ottoman, ot'o-man, *n.* a Turk; a cushioned seat.
Oubli, oo'bit, *n.* hairy caterpillar. [ing.
Oubliette, oo-bit-et, *n.* a dungeon with no side open
Ourology, oo-ro-l'ji, *n.* the study of urinary matters.
Ouat, owt, *v.* to expel; to force out.
Owt, owt, *adv.* not in; abroad; off the mark.
Owtid, owt'id, *v.* to be higher than others.
Owtcry, owt'kri, *n.* a cry of distress.
Owtido, owt-doo, *v.* to surpass; to outwit.
Owtface, owt-fas, *v.* to confront; to brazen out.
Owtfit, owt-fit, *n.* equipment.
Owtgo, owt-gō, *n.* expenditure; what goes out.
Owtthouse, owt'how, *n.* a small building adjacent to
 the chief one.
Owtine, owt'ing, *n.* an airing; an excursion.
Owtlandish, owt-land'ish, *adj.* strange; vulgar;
Owtlast, owt-last, *v.* to last longer than. [uncouth.
Owtlaw, owt-law, *n.* a proscribed person.
Owtlay, owt-lay, *v.* to lay out; *n.* expenditure.
Owtlet, owt'let, *n.* means of egress.
Owtline, owt'lin, *n.* a sketch; exterior lines of a draw-
Owtpace, owt-pas, *v.* to outstrip. [ing.
Owtpost, owt-pōst, *n.* military post away from camp.
Owtput, owt'put, *n.* yield of metal or mineral.
Owt rage, owt'rāj, *n.* insult; violence.
Owtreasonable, owt-rā'sh-us, *adj.* beyond reason; furious.
Owtreason, owt-rān, *n.* the utmost extremity; the
 bitter end.
Owtred, oo trā, *adj.* strained; extravagant; unusual.

Owtride, owt-rid, *n.* to ride faster than.
Owt rider, owt'ri-der, *n.* an advance rider; an attendant
 on horseback.
Owtright, owt-rit, *adv.* entirely; at once.
Owtset, owt'set, *n.* beginning; setting out.
Owt skirt, owt'skirt, *n.* border; suburb.
Owtstrip, owt-strip, *v.* to leave behind; to pass.
Owtwit, owt-wit, *v.* to overreach.
Owtwork, owt'work, *n.* work outside the chief line of
Oval, o'val, *adj.* egg-shaped. [fortification.
Ovarious, o'vā-ri-us, *adj.* comprising eggs.
Ovary, o'vā-ri, *n.* the part where the egg is formed.
Ovation, o'vā'shun, *n.* public homage.
Oven, uv'n, *n.* cavity where baking is done.
Ov'er, o'v'er, *adv.* higher; above; beyond.
Overalls, o'v'er-awz, *n.* loose over-trousers.
Overbearing, o'v'er-bā'ring, *adj.* haughty.
Overcast, o'v'er-kast, *v.* to cloud.
Overcharge, o'v'er-chā'j, *n.* excessive change.
Overdraw, o'v'er-draw, *v.* to exaggerate; to draw
 excessively.
Overgrowth, o'v'er-growth, *n.* what is overgrown.
Overhaul, o'v'er-hawl, *v.* to investigate.
Overhear, o'v'er-hēr, *v.* to hear what was not intended.
Overlook, o'v'er-look, *v.* to look over; to survey.
Overpoise, o'v'er-pōiz, *v.* to outweigh.
Overreach, o'v'er-rēch, *v.* to get the better of; to go
Overrun, o'v'er-run, *v.* to run or spread over. [too far.
Overseer, o'v'er-sē'er, *n.* a superintendent.
Overshot, o'v'er-shot, *adj.* surpassed.
Overstight, o'v'er-sit, *n.* a mistake; something omitted
Over, o'v'er, *adj.* open. [to be noted.
Overtake, o'v'er-tāk, *v.* to come even with. [fan offer.
Overture, o'v'er-tūr, *n.* an introductory piece of music;
Overweening, o'v'er-wēn'ing, *adj.* conceited.
Overwhelm, o'v'er-whelm, *v.* to crush; to overcome;
 to flow over.
Ovicular, o'vik'ū-lar, *adj.* pertaining to an egg.
Oviform, o'vit-form, *adj.* egg-shaped.
Oviparous, o'viv'ar-us, *adj.* egg-laying.
Ovule, o'vūl, *n.* a little egg; a seed.
Owing, o'ing, *adj.* due; imputable to.
Own, ōn, *v.* to possess.
Oxidation, oks-id-a'shun, *n.* act of oxidising.
Oxide, oks'id, *n.* a chemical compound.
Oxygen, oks'i-jen, *n.* the gaseous element which
 sustains life.
Oxygenate, oks'i-jen-at, *v.* to unite with oxygen.
Oxygenous, oks'i-jen-us, *adj.* pertaining to oxygen.
Oxymel, oks'i-mel, *n.* a compound of honey and
 vinegar.
Oxymoron, oks-i-mō'ron, *n.* ideas of contrary mean-
Oyer, o'yer, *n.* the hearing of trials. [ing combined.
Ozone, o'zōn, *n.* oxygen augmented by electric
 influence.

P

Pabular, pab'ū-lar, *adj.* esculent; fit for food.
Pabulum, pab'ū-lum, *n.* food; nourishment. [steps.
Pace, pās, *n.* a step; a stride; speed; *v.* to measure
Pacha, pā-shā, *n.* a Turkish governor.
Pachalic, pā-shā'lik, *adj.* the territory of a pacha.
Pachyderm, pak't-derm, *n.* a thick-skinned animal.
Pachypod, pak't-pod, *adj.* thick-footed.
Pacific, pā-sif'ik, *adj.* peace-making; calm; peaceful.
Pacify, pas'if-i, *v.* to appease; to soothe.
Pack, pak, *n.* a bundle; *v.* to arrange close. to start
Packman, pak'man, *n.* a pedlar. [off rapidly.
Pact, pakt, *n.* a contract.
Pad, pad, *n.* anything stuffed with soft material; *v.* to
 stuff; to walk.
Paddle, pad'l, *v.* to play in water with feet or
Paddock, pad'ok, *n.* an inclosure.
Padlock, pad'lok, *n.* a hanging lock.
Pagan, pē-an, *n.* son of a trumpet.
Pagan, pā'gan, *n.* a heathen.
Page, pā, *n.* a boy attendant. [tacle.
Pageant, paj'ant, *n.* a pompous show; public spec-
Pageoda, pā-gō'da, *n.* an Eastern idol temple.
Palædica, pā-dū'tika, *n.* the science of teaching.

day; āt; ārm; ēve; ēlk; thère; ice; pīn; machine; bōll; pōt; stōrm; mātē; tūb; būrn.

Pallasse, pal-yas', *n.* an under mattress of straw.
Pain, pân, *n.* physical or mental suffering.
Painter, pân'ter, *n.* an artist; one who paints; roper.
Pair, pâr, *n.* a couple. [for fastening boots]
Palace, pal'is, *n.* a royal or noble residence.
Paladin, pal'â-din, *n.* a knight-errant.
Palaeography, pal-ê-og'raf-i, *n.* study of ancient writings. [Stone Age]
Palaeolithic, pal-ê-ô-lith-ik, *adj.* pertaining to the early
Palaeology, pal-ê-ô-lô-j-i, *n.* study of antiquities
Palaeontology, pal-ê-ô-lô-j-i, *n.* science of fossils.
Palanquin, pan-k'in, *n.* Eastern covered conveyance carried on men's shoulders. [taste]
Palatable, pal'at-â-bl, *adj.* savoury; agreeable to the taste.
Palate, pal'at, *n.* the roof of the mouth; taste. [palace]
Palatial, pal'â-shal, *adj.* relating to or resembling a
Palatinate, pal'ât-in-it, *n.* province of a palatine.
Palatine, pal'â-tin, *adj.* enjoying royal privileges.
Palaver, pal'â-ver, *n.* flattering talk.
Pale, pal, *adj.* light; white.
Palaeous, pal-ê-ô-shus, *adj.* chaffy.
Palestra, pal-es'tra, *n.* wrestling-place.
Paletot, pal'ê-tô, *n.* a light overcoat.
Palette, pal'et, *n.* oval board used by painters for
Palfrey, pal'fri, *n.* a saddle horse. [colour mixing]
Palinal, pal'in'al, *adj.* going backward.
Palindrome, pal'in-drûn, *n.* a word, sentence, or line that reads the same backward as forward.
Paling, pâl'ing, *n.* a fence.
Palingenesis, pal-in-je-ni-sis, *n.* regeneration.
Palinode, pal'in-ô-d, *n.* a poem of recantation.
Palisade, pal-i-sâd', *n.* fortification of pales.
Pallander, pal-a-wân'der, *n.* rosewood.
Pall, pawl, *v.* to render vapid, *n.* coffin covering.
Palladium, pal'â-di-um, *n.* means of safety.
Palliah, pal'ah, *n.* an African antelope.
Palliative, pal-yâ-tiv, *n.* that which mitigates.
Pallid, pal'id, *adj.* pale; wan.
Pallium, pal'i-um, *n.* a large Roman mantle.
Pallor, pal'lor, *n.* paleness of face.
Palm, pâin, *n.* inner part of hand; a tropical tree; *v.* to pass off wrongly. [the hand]
Palmated, pal-mâ'ted, *adj.* shaped like the palm of
Palmer, pâm'er, *n.* a pilgrim.
Palmiferous, pal-mîf'er-us, *adj.* palm-bearing.
Palmist, pal'mîst, *n.* divining by the hand.
Palmite, pal'mit-in, *n.* fat, obtained from palm oil.
Palm-wine, pal'm-wîn, *n.* wine from fermented palm
Palmy, pâin'i, *adj.* prosperous.
Palpebra, pal'pê-brâ, *n.* visible
Palpebral, pal'pê-bral, *adj.* pertaining to the eyelids.
Palpitate, pal'pî-tit, *v.* to throb; to pulsate.
Palper, paw'ter, *v.* to shuffle; to trifle.
Palterer, paw'ter-er, *n.* a trifier.
Paltry, paw'tri, *adj.* mean; trifling; contemptible.
Paludal, pal-u-dal, *adj.* relating to marshes.
Pamper, pâm'per, *v.* to glut
Pamphlet, pâin'flet, *n.* an unbound book.
Pamphleteer, pâin-fet'er, *n.* a pamphlet writer.
Pân, pâin, *n.* a sword.
Panacea, pâin-â-sê-â, *n.* a universal cure.
Panary, pâin'â-ri, *adj.* relating to bread.
Panax, pa-naks', *n.* a kind of shrub.
Pancake, pâin'kêk, *n.* a thin cake made in a frying pan.
Panch, pâinsh, *n.* a mat made of rope.
Pancratium, pâin-kra'sh-um, *n.* combined boxing and
Pand, pâ, *n.* bed curtain. [wrestling match]
Pander, pâin'der, *v.* to minister to; to procure.
Panderess, pâin-der-es, *n.* procurer.
Pandiculation, pâin-dik-ô-lî-shun, *n.* yawning; stretch-
Pandon, pâin-dôn, *n.* a kind of trespere. [jugg]
Pane, pâin, *n.* a plate of glass.
Pangeryic, pâp ê-jî-ik, *v.* a eulogy.
Panel, pâin'el, *n.* a rectangular space of wainscot, door, or wall.
Pang, pâ, *n.* a sudden pain. [for wall]
Pân, pâin, *n.* a sudden fright. [for wall]
Pangloss, pâin-dro'sis, *n.* general bodily perspira-
Pannace, pâin'âs, *n.* food picked up in words by hypocrites.

Panner, pan't-er, *n.* a basket carried on horse- or mule-back.
Pannikin, pan'-kin, *n.* a small pan.
Pannoply, pan'-pŭl, *n.* full equipment in armour.
Panopticon, pan-op'ti-kon, *n.* a show-room; a prison admitting of all prisoners being seen from one point.
Panorama, pan-o'-ran'-a, *n.* a complete view; a series of pictures on a roll.
Panotype, pan-op'tip, *n.* a collodion picture.
Pansy, pan'z, *n.* a cultivated violet.
Pant, v, to breathe rapidly; to throb.
Pantolon, pan-to'-lon, *n.* a pantomime buffoon.
Pantheism, pan-'thē-izm, *n.* the theory that the universe is God.
Pantheon, pan-'thē-on, *n.* temple dedicated to deities.
Pantoufle, pan'toof'l, *n.* a slipper.
Pantograph, pan-to'-graf, *n.* a copying instrument.
Pantology, pan-to'-lo-ji, *n.* universal knowledge.
Pantometer, pan-to-mē't-er, *n.* instrument for measuring angles.
Pantomime, pan-to'-mim, *n.* dumb show; a Christmas play.
Papac, pap'-pā-si, *n.* the papal office. [piece.]
Papaverous, pap-av'er-ŭs, *adj.* poppy-like.
Paper, pā'per, *n.* material made from rags or fibres.
Paphian, pā'fian, *adj.* lascivious.
Papilion-maché, pap'yā-mā'-shā, *n.* Japanese pulp.
Papilionaceous, pap-pil-yō-un'-shus, *adj.* butterfly-shaped.
Papillary, pap-il-lar'y, *adj.* furnished with or resembling papillae.
Papillae, pap'il-lŭ, *n.* a curl; a pacer. [nipples.]
Papoose, pa-poos', *n.* a Red Indian infant.
Paprika, pap'-rik-ŭ, *n.* a pepper with brown.
Papulous, pap'yū-lŭs, *adj.* covered with blisters.
Papyrus, pap'yū-rŭs, *n.* paper made from an Egyptian plant.
Par, par, *adj.* equal value. [part.]
Parable, par'abl, *n.* an allegorical narrative.
Parablepsis, par-ablep'sis, *n.* distorted division.
Parabola, par-ā'bŭ-lŭ, *n.* a conic section.
Parabolic, par-ā'bŭ-lŭ, *adj.* shown by parable.
Parachute, parā-shoot, *n.* an umbrella-like apparatus used in descending from a balloon.
Parade, parād'-ŭ, *n.* an advocate; the Holy
Parade, parād'-ŭ, v. to march; to show off; *n.* military display; place for promenading.
Paradigm, parā-dim, *n.* an example.
Paradise, parā-dīs, *n.* Eden; heaven; a-ode of bliss.
Paradox, parā-doks, *n.* an apparent contradiction.
Parage, parāj', *n.* legal equality. [terms.]
Paragenesis, par-a-jen-ē-sis, *n.* hybridism.
Paragon, parā-gŭn, *n.* a perfect example.
Paragram, par-ā-gram, *n.* play on words.
Paraglyph, par-ā-grāf, *n.* a variety of an article.
Parallax, par-ā-laks, *n.* seeming change of position in a heavenly body as seen from due cent points.
Parallel, parāl-el, *n.* the same direction; similar.
Parallelogram, par-al-elŭ-gram, *n.* a plane of four sides, the opposite sides being equal.
Paralysis, par-āl-ŭ-tis, *n.* loss of power in any part.
Parnamo, par-amō, *n.* a wide, high plain. [palsy.]
Parnamout, par-ā-mŭnt, *adj.* dominant; superior.
Parnamorous, par-ā-mŭr, *n.* a lover, in an illicit sense.
Parang, par-ang', *n.* a knife.
Parapet, parā-pet, *n.* a breastwork of defence.
Paraphernalia, parā-fēr-nā'l-ŭ, *n.* trappings; apparel.
Paraphrase, parā-frā-ŭ, *n.* a free translation.
Parapsis, par-ap'us, *n.* defective sense of touch.
Paraselsene, par-as-ē-lē-nē, *n.* mock moon seen when lunar rainbow visible. [phant.]
Parasite, par-as-it, *n.* one living upon another; a syco-
Paratonic, par-ā-ton'ik, *adj.* retarding vegetation.
Parboil, par'bŭil, v. to par-boil.
Parcel, par'sel, *n.* a bundle.
Parcentary, par-sen'-ar'y, *n.* joint heirship.
Parchment, parch'ment, *n.* sheepskin for writing.
Pard, pard, *n.* a leopard. [upon.]
Pardon, pard'on, v. to forgive; *n.* forgiveness.
Pare, par, v. to cut off the skin of fruit, vegetables, etc.
Paragoric, par-ā-gŭrik, *n.* tincture of opium.
Parella, par-elā, *n.* a lichen.
Parapherent, par-a-fer-er, *n.* a father or mother; a beguiler.
Paraphrase, par-ā-frē-sis, *n.* words inserted without the mark.

Paragon, pa-'rer-gon, *n.* subsidiary work.
Parais, par-'e-sis, *n.* partial paralysis.
Parjet, par-'jet, *n.* gypsium.
Parishion, par-'he-l-ion, *n.* a mock sun.
Parish, par-'ish, *n.* an incast. [porcelain.
Parian, par-'i-an, *adj.* relating to Paros; *n.* a fine
Parietal, par-'i-et-al, *adj.* relating to or part of a wall.
Paring, par-'ing, *n.* a thin strip cut off.
Parish, par-'ish, *n.* a church district.
Parisian, par-'i-z-i-an, *n.* a resident of Paris.
Parisyllabic, par-'i-sil-'a-bi, *adj.* having the same
 number of syllables.
Parity, par-'i-ti, *n.* analogy; equality.
Parke, park, *n.* enclosed pleasure-land.
Parlance, par-'lan, *n.* speech; talk.
Parley, par-'li, *v.* to discuss.
Parlour, par-'lor, *n.* a sitting-room.
Parochial, par-'o-ki-al, *adj.* relating to a parish.
Parody, par-'o-di, *n.* a burlesque.
Parole, par-'ol, *n.* word of honour; pass-word.
Parosmia, par-'o-si-mi, *n.* defective sense of smell.
Parotid, par-'o-tid, *n.* the largest of the salivary glands.
Paroxysm, par-'o-k-s-i-z-m, *n.* sudden fit of pain.
Parquet, par-'ket, *n.* the pit of a theatre.
Parquetry, par-'ket-ri, *n.* inlaid woodwork for floors.
Parr, par, *n.* a young salmon.
Parrhesia, par-'e-si-a, *n.* forwardness of speech.
Parricide, par-'i-sid, *n.* a murderer.
Parry, par-'i, *v.* to prevent; to ward off.
Parse, pars, *v.* to state the grammatical sense of words
 and sentences.
Parsee, par-'se, *n.* a Zoroastrian Indian.
Parsonomy, par-'so-ni-mi, *n.*iggadfulness; frugality.
Parson, par-'son, *n.* a clergyman, minister, or preacher.
Part, part, *n.* less than the whole; character in a play.
Partake, par-'tek, *v.* to have a share in, as of two l.
Parterre, par-'ter, *n.* a flower plot.
Partogenesis, par-'te-no-je-ni-'e-sis, *n.* repro-
 duction of insects by the female only.
Partial, par-'shal, *adj.* partial; one-sided, in part.
Partible, par-'tib-ol, *adj.* divisible.
Participate, par-'tis-i-pat, *v.* to partake.
Participle, par-'tis-i-pl, *n.* a word containing the
 qualities of both verb and noun.
Particle, par-'ti-k-ll, *n.* a jot; a minute part; an atom.
Particular, par-'ti-k-yl-ur, *adj.* special; relating to a
 Partim, par-'ti-mi, *in part* [specified thing.
Partisan, par-'ti-z-an, *n.* an adherent.
Partite, par-'ti-ti, *adj.* divided into parts.
Partition, par-'ti-sh-un, *n.* a division.
Partlet, par-'let, *n.* a ruff.
Partner, par-'tner, *n.* a business associate.
Part-song, par-'song, *n.* a song sung in parts.
Parturition, par-'tu-rish-un, *n.* delivery; act of birth.
Party, par-'ti, *n.* persons acting together for any special
 purpose.
Parvenu, par-'ven-u, *n.* an upstart.
Paschal, pas-'kal, *n.* the Passover.
Pasquade, pas-'ku-adi, *n.* a cattle-pasture.
Pasha, Paschalic. See *Pasha*, *Paschalic*.
Pasquinade, pas-'kwin-adi, *n.* a lampoon.
Pass, pas, *v.* to move by; to elapse.
Passable, pas-'abl, *adj.* tolerable.
Passage, pas-'aj, *n.* act of passing; hall-way; voyage.
Passé, pas-'e, *adj.* faded; out of date [veryance].
Passenger, pas-'en-jer, *n.* a traveller in a public con-
 veyance.
Passer, pas-'er, *n.* one who passes.
Passerine, pas-'er-in, *adj.* relating to the sparrow
 tribe.
Passim, pas-'im, *adv.* here and there.
Passing, pas-'ing, *adj.* going by; happening.
Passion, pas-'hun, *n.* strong emotion; excessive desire.
Passive, pas-'iv, *adj.* inactive; unresisting. [travel].
Passport, pas-'port, *n.* licence; written permission to
 pass.
Paste, past, *n.* a soft cement made of flour, water, etc.
Pasteboard, past-'bord, *n.* card-board.
Pastile, pas-'tel, *n.* a chalk drawing.
Pastern, pas-'tern, *n.* part of hoof.
Pastiche, pas-'tish, *n.* a mixture, in music, painting,
 etc.
Pastille, pas-'tel, *n.* a lozenge.
Pastime, pas-'tim, *n.* recreation.
Pastor, pas-'tur, *n.* a clergyman; a shepherd.
Pasture, past-'ur, *n.* grazing grass.

Pat, pat, *adj.* to the point; apt.
Patch, pach, *n.* a piece sewed on; a plot; *v.* to mend.
Pate, pat, *n.* the head.
Patera, pa-'t-er-a, *n.* a small dish; the knee-pan.
Patent, pat-'ent, *n.* plate used in the eucharist.
Paternal, pa-'ter-nal, *adj.* fatherly [tion].
Paternoster, pat-'ter-nos-ter, *n.* Lord's Prayer.
Path, path, *n.* a way; a track.
Pathetic, path-'et-ik, *adj.* touching; affecting.
Pathetism, path-'et-i-z-m, *n.* animal magnetism.
Pathic, path-'ik, *adj.* relating to disease. [passions].
Pathognomy, path-'og-no-mi, *n.* the science of the
 Pathology, path-'ol-o-ji, *n.* science of diseases.
Patibular, pat-'ib-yl-ur, *n.* pertaining to a gallows.
Patience, pi-'shens, *n.* endurance; forbearance.
Patina, pat-'in-a, *n.* a pan.
Patois, pat-'waw', *n.* dialect.
Patriarch, pa-'tri-ark, *n.* a head of a church or family.
Patrician, pa-'tri-sh-i-an, *n.* a noble.
Patricide, pa-'tri-sid, *n.* the murderer or murderer of a
 father.
Patriism, pat-'ri-i-z-m, *n.* property inherited.
Patriot, pa-'tri-ot, *n.* one devoted to his country.
Patristic, pat-'ris-tik, *adj.* relating to the early
 Christian fathers. [camp or district].
Patrol, pi-'trol, *v.* to guard; to go the rounds of a
 Patron, pa-'tron, *n.* an encourager, a protector.
Patronymic, pat-'ro-nim-ik, *n.* the family name.
Patten, pat-'en, *n.* a clog; base of a column.
Patter, pat-'er, *n.* rapid sound or utterance.
Pattern, pat-'ern, *n.* a model.
Paucity, paw-'sit-i, *n.* meagreness; fewness.
Pauline, paw-'lin, *adj.* relating to the Apostle Paul.
Pauper, paw-'per, *n.* one who receives parish relief.
Pause, pawz, *n.* cessation; *v.* to make a pause.
Pave, pav, *v.* to prepare; to lay stones on a road.
Pavid, pav-'id, *adj.* timid.
Pavilion, pa-'vil-yun, *n.* a large tent; a domed building.
Pavonine, pav-'o-nin, *adj.* relating to or resembling the
 peacock.
Paw, paw, *n.* the foot of an animal; *v.* to beat the ground.
Pawn, *n.* a thing given as security; *v.* to pledge.
Pawnbroker, pawn-'bro-ker, *n.* one who lends money
 on security of things left in his charge.
Pax, paks, *n.* the kiss of peace. [to settle an account].
Pay, pa, *n.* salary; wages; *v.* to requite with money;
Paymise, pa-'miz, *v.* to harden and preserve.
Peace, pes, *n.* quiet; calmness; tranquillity.
Peak, pek, *n.* a point; a headland.
Peal, pel, *n.* a ringing.
Peariash, per-'ash, *n.* refined potato.
Pearl, pert, *adj.* saucy.
Peasant, per-'ant, *n.* a country labourer.
Pease, pez, *n.* crushed peas.
Peat, pet, *n.* decayed vegetable matter, turf.
Pebble, peb'l, *n.* a small rounded stone.
Peccable, pek-'abl, *adj.* liable to sin.
Peccadillo, pek-'ad-ill, *n.* a petty fault.
Peccavi, pek-'a-vi, *exc.* I have sinned.
Peck, pek, *n.* quarter of a bushel; *v.* to strike with
 pectic, pek-'tik, *adj.* curdling. [the beak].
Pectinal, pek-'tin-al, *adj.* comb-like.
Pectoral, pek-'to-ral, *n.* pertaining to the breast.
Peculate, pek-'ul-lit, *v.* to embezzle.
Peculiar, pe-'k-yl-ur, *adj.* singular.
Pecuniary, pe-'k-yl-ur, *adj.* relating to money.
Pedagogue, ped-'og-og, *n.* a schoolmaster; a teacher.
Pedal, ped-'al, *adj.* relating to the foot.
Pedant, ped-'ant, *n.* a scholastic pretender.
Peddle, ped'l, *v.* to hawk goods.
Peddling, ped-'ling, *adj.* trifling.
Pedestal, ped-'es-tal, *n.* the base of a column.
Pedestrian, ped-'es-tri-an, *n.* one who walks.
Peccular, pek-'ul-ur, *adj.* lousy.
Pedure, ped-'ur, *n.* treatment of corns.
Pedigree, ped-'i-gré, *n.* particulars of lineage.
Pedant, ped-'ant, *n.* the pack over a portico.
Pedobaptist, ped-'o-bap-'tist, *n.* a believer in infant
 baptism. [tiring steps].
Pedometer, ped-'om-'e-ter, *n.* an instrument for regis-
 tering steps.
Pedotrophy, ped-'ot-ro-fi, *n.* children rearing.
Pedum, pe-'dum, *n.* shepherd's crook.

day; ät; ärm; ève; èik; thège; ice; pîn; machine; bôlé; pôit; stôrm; mûte; tûb; bûrn.

Peduncle, *pē-dung'kl*, *n.* stem of flower or fruit.
Peek, *pēk*, *v.* to spy; to peer.
Peer, *pēr*, *n.* one of equal status; a nobleman.
Peeress, *pēr-es*, *n.* the wife of a peer.
Peerless, *pēr-lēs*, *adj.* unequalled; matchless.
Peevish, *pē-vish*, *adj.* fretful; ill-humoured.
Peg, *n.* a wooden fastening pin.
Pegasus, *pēg-as-us*, *n.* the winged horse; a constellation.
Pegmatite, *pēg-mat'it*, *n.* a kind of granite.
Pegoriation, *pē-gōr'ish-ūn*, *n.* deterioration.
Pelagic, *pē-laj'ik*, *adj.* inhabiting ocean depths.
Pelérine, *pē-lēr-in'*, *n.* a tippet with long ends.
Pelf, *n.* money; booty.
Pelisse, *pē-lēs'*, *n.* a sleeved cloak for ladies.
Pell, *pēl*, *n.* a skin or hide.
Pellet, *pēl-et*, *n.* a small ball.
Pellicle, *pēl'ikl*, *n.* film; thin external skin.
Pellucid, *pēl-ū-sid*, *adj.* clear, transparent.
Pelma, *pēl-mā*, *n.* the sole of the foot.
Pelt, *n.* raw hide; *v.* to throw out.
Pelvis, *pē-lis*, *n.* bones at the lower part of the belly.
Pemmican, *pēm'ik-an*, *n.* cakes of dried meat.
Pen, *n.* an instrument to write with; place for confining animals; *v.* to confine.
Penal, *pē-nal*, *adj.* relating to punishment.
Penalty, *pē-nal-ti*, *n.* a fine.
Penance, *pē-nans*, *n.* atonement.
Pennanular, *pē-nar'ū-lar*, *adj.* ring-shaped.
Pennates, *pē-natēs*, *n.* house-hold gods.
Penchant, *pēn-čānt*, *n.* bias; strong inclination.
Penial, *pē-ni-al*, *n.* a pointed brush or instrument for writing or drawing.
Pendant, *pē-n-dānt*, *n.* appendage; an ear-ring; a flag.
Pendicle, *pē-n'dikl*, *n.* an appendage.
Pending, *pē-n'ding*, *adj.* undetermined.
Pendulum, *pē-n'dū-lum*, *n.* a swinging weight.
Penetrabilia, *pē-nē-trā'b'il-ā*, *n.* the inner parts of a build.
Penetrate, *pē-nē-trāt*, *v.* to pierce into; to enter.
Penetration, *pē-nē-trā'shūn*, *n.* discernment; entrance.
Pennsula, *pē-n'sū-lā*, *n.* a neck of land.
Pensilvane, *pē-n'sil-vān*, *n.* a coarse cloth.
Penitent, *pē-n'tēnt*, *adj.* penitential.
Penitentiary, *pē-n'tēn'shā-ri*, *n.* a prison.
Penna, *pē-nā*, *n.* a feather.
Pennant, *pē-n'ant*, *n.* a long, narrow flag.
Pennate, *pē-nat*, *adj.* winged.
Pennon, *pē-non*, *n.* a flag; a pennon.
Pennyweight, *pē-ni-wēyt*, *n.* 24 grains.
Penny-wise, *pē-ni-wīz*, *adj.* wise over small sums.
Penology, *pē-nō-lō-jī*, *n.* the study of punishment.
Pensile, *pē-n'sil*, *adj.* hanging.
Pension, *pē-n'shun*, *n.* a retiring allowance.
Pensive, *pē-n'siv*, *adj.* sad; thoughtful.
Pentagon, *pē-n'tā-gon*, *n.* a five-sided plane.
Pentagram, *pē-n'tā-gram*, *n.* a five-pointed star.
Pentameter, *pē-n'tam-ē-ter*, *n.* a verse metre of 5 feet.
Pentangular, *pē-n'tāng'ū-lar*, *adj.* having five angles.
Pentarchy, *pē-n'tārk-i*, *n.* government by five people.
Pentateuch, *pē-n'tā-tēuk*, *n.* the five books of Moses.
Penteteric, *pē-n'tē-ter'ik*, *adj.* happening every five years.
Pent-house, *pē-n't-hōus*, *n.* shed sloping from a main roof.
Pentroof, *pē-n't-rōof*, *n.* roof sloping only on one side.
Pennultimate, *pē-n'ū-ltīm-āt*, *adj.* last syllable but one.
Pennumbra, *pē-n'ū-brā*, *n.* a dun shadow.
Penurious, *pē-n'ū-ri-ūs*, *adj.* mean; stingy.
Penury, *pē-n'ū-ri*, *n.* excessive poverty.
People, *pē-pl*, *n.* mankind generally; inhabitants of a place.
Pepsin, *pēp'sin*, *n.* a constituent of the gastric juice.
Peptic, *pēp'tik*, *adj.* helpful to digestion.
Peracut, *pē-rak'ūt*, *adj.* violent.
Perambulate, *pē-rāmb'ū-lāt*, *v.* to walk.
Perceant, *pē-rē-si-āt*, *adj.* percing.
Perceive, *pē-rē-sēv'*, *v.* to discern; to observe.
Perception, *pē-rē-sēp'shūn*, *n.* power or act of perceiving.
Perceptible, *pē-rē-sēp'tib'l*, *adj.* one who perceives.
Percoct, *pē-rē-kōkt*, *adj.* well-cooked.
Percolate, *pē-rē-kō-lāt*, *v.* to filter through; to strain.
Percurrent, *pē-rē-kū-rēnt*, *adj.* running through.
Perquass, *pē-rē-kū-s*, *v.* to strike violently.
Perdition, *pē-rē-dish'ūn*, *n.* hades; ruin.
Perdu, *pē-rū*, *adj.* lost to sight.

Perdurable, *pē-rū-rā-bl*, *adj.* lasting.
Pergrination, *pē-rē-grim'ā-shūn*, *n.* wandering.
Peremptory, *pē-rē-mptō-rī*, *adj.* commandful; decisive.
Perennate, *pē-rē-nāt*, *v.* to live continually.
Perennial, *pē-rē-ni-al*, *adj.* perpetual.
Perfect, *pē-rēkt*, *adj.* complete; without fault.
Perfidious, *pē-rē-fid'ius*, *adj.* treacherous; hateful.
Perforate, *pē-rē-fōrāt*, *v.* to pierce; to penetrate.
Perforce, *pē-rē-fōrs*, *adv.* by force.
Perform, *pē-rē-fōrm'*, *v.* to do; to achieve; to act; to perform.
Perfume, *pē-rē-fūm*, *n.* sweet odour.
Perfumery, *pē-rē-fūm'ē-ri*, *n.* stock of perfumes.
Perfunctory, *pē-rē-fungktō-rī*, *adj.* indifferent; careless.
Perfuse, *pē-rē-fuz'*, *v.* to pour over.
Peribolus, *pē-rē-bō-lus*, *n.* a wall-enclosed court.
Pericardium, *pē-rē-kārd'ium*, *n.* relating to the heart.
Pericarp, *pē-rē-kārp*, *n.* shell or skin of fruits.
Pericranium, *pē-rē-kān'ium*, *n.* membrane surrounding the cranium.
Peridental, *pē-rē-dēn'tal*, *adj.* surrounding the teeth.
Perigee, *pē-rē-jē*, *n.* the point of the moon's orbit nearest to the earth.
Perihelion, *pē-rē-hē-li-on*, *n.* the point of planet's orbit nearest to the sun.
Peril, *pē-ril*, *n.* danger; *v.* to endanger.
Perimeter, *pē-nū-ē-ter*, *n.* outer boundary of a figure.
Perimorph, *pē-rē-mōrf*, *n.* one mutual enclosing another.
Period, *pē-rī-od*, *n.* a series of years, an interval of time; conclusion; a sentence mark.
Peripatetic, *pē-rē-pat'et'ik*, *adj.* walking about.
Periphery, *pē-rē-frī*, *n.* a circumference.
Periphrase, *pē-rē-frāz*, *n.* circumlocutory speech.
Periplus, *pē-rē-plūs*, *n.* a circumnavigation.
Peripterous, *pē-rē-ptēr-ūs*, *adj.* feathered on all sides.
Perish, *pē-rish*, *v.* to die; to decay.
Perispheric, *pē-rē-sēf'ik*, *adj.* globular.
Peristaltic, *pē-rē-stā'tik*, *adj.* worm-like.
Peristyle, *pē-rē-stīl*, *n.* columns circling a building.
Periwig, *pē-rē-wīg*, *n.* a small wig.
Periwinkle, *pē-rē-wīngkl*, *n.* a small shell-fish.
Perjury, *pē-rē-jū*, *n.* false swearing.
Perk, *pērk*, *v.* to peer.
Permanence, *pē-rē-man-ēns*, *n.* fixedness.
Permeable, *pē-rē-mē-ābl*, *adj.* penetrative.
Permian, *pē-rē-mi-an*, *n.* strata of the Palaeozoic series.
Permissive, *pē-rē-mis'iv*, *adj.* allowing.
Permit, *pē-rē-mit*, *v.* to allow.
Permutable, *pē-rē-mut'ābl*, *adj.* capable of being substituted for another.
Pernicious, *pē-rē-ni-ūs*, *adj.* hurtful; bad.
Peroration, *pē-rē-ōrā'shūn*, *n.* the concluding part of a speech.
Perpend, *pē-rē-pēnd'*, *v.* to consider.
Perpendicular, *pē-rē-pēn-dik'ū-lar*, *adj.* upright.
Perpetrate, *pē-rē-trāt*, *v.* to commit; to do.
Perpetual, *pē-rē-pet'ū-al*, *adj.* everlasting.
Perplex, *pē-rē-plēks*, *v.* to confuse.
Perquisite, *pē-rē-kwīz*, *n.* gift beyond wages.
Perrier, *pē-rē-ri-er*, *n.* a stone hurling machine.
Perry, *pē-rī*, *n.* a beverage made from pears.
Persecute, *pē-rē-kūt*, *v.* to oppress; to afflict.
Persecutor, *pē-rē-kūtō-r*, *n.* one who persecutes.
Persevere, *pē-rē-sē-vēr*, *v.* to persist.
Perseverance, *pē-rē-sē-vēr-āns*, *n.* perseverance.
Perseverant, *pē-rē-sē-vēr-ānt*, *adj.* persevering.
Person, *pē-rē-shūn*, *n.* an individual.
Personage, *pē-rē-shūn-āj*, *n.* an eminent person.
Personality, *pē-rē-shūn-al'ti*, *n.* personal property.
Personation, *pē-rē-shūn-ā'shūn*, *n.* the act of personating.
Personnel, *pē-rē-shūn-ēl*, *n.* persons comprised.
Perspective, *pē-rē-spektiv*, *n.* a view; art of drawing so as to express distance.
Perspicacious, *pē-rē-spi-kā'shūs*, *adj.* clear; lucid.
Perspire, *pē-rē-spir*, *v.* to sweat.
Persuade, *pē-rē-wād*, *v.* to influence; to coax.
Pert, *pērt*, *n.* saucy; lively.
Pertain, *pē-rē-tān*, *v.* to belong.
Pertinacity, *pē-rē-tin-ā-si'ti*, *n.* obstinate insistence.
Pertinent, *pē-rē-tin-ēt*, *adj.* suitable; fit; to the point.
Perturb, *pē-rē-turb*, *v.* to agitate; to disturb.
Pertusion, *pē-rē-tū'shūn*, *n.* a hole pierced by some thing sharp.
Perruse, *pē-rē-uz*, *v.* to read.

day; āt; ārm; ēve; ēlk; thēre; lē; pin; machine; bōld; pōt; stōrm; mūte; tūb; bōrn.

Pervade, per-vád', *v.* to spread over; to pene- te.
Perverse, per-vers', *adj.* stubborn; contradicto-
Perversion, per-ver-si-un, *n.* a wrong use. [toward.
Pervert, per-ver't, *v.* to mislead; to corrupt; to distort.
Pervious, per-vi-us, *adj.* penetrable.
Peaky, pesk't, *adj.* annoying.
Peasimism, pes'im-izm, *n.* the theory that things are
Pest, *n.* a plague; an annoying person. [generally bad.
Pester, pes'ter, *v.* to annoy.
Pestilent, pest'il-ent, *adj.* noxious; infectious; cor-
Pestle, pes'l, *n.* pounding instrument. rupting.
Petalous, pet'al-us, *adj.* having petals.
Petard, pe-tard', *n.* a mortar for blowing up fortifica-
Petary, pe-tar'i, *n.* a pest log. tions.
Petechial, pet-ek'al, *adj.* fever-spotted.
Petiole, pet'i-ol, *n.* a leaf stalk.
Petition, pe-tish'un, *n.* a request; an ap-
Petresan, pe-tré'an, *adj.* relating to rock. [peal.
Petrel, pet'rel, *n.* a sea-bird.
Petrify, pet'r-i-fi, *v.* to transform to stone.
Petrol, pe'trol, *n.* oil fuel for motors.
Petroleum, pe-tró-le-um, *n.* a crude oil.
Petronel, pet'rón-el, *n.* a horse-pistol.
Petticoat, pet't-kot, *n.* a woman's under garment.
Pettyfogger, pet'ty-fog-er, *n.* a petty lawyer.
Pettish, pet'ish, *adj.* peevish.
Petty, pet't, *adj.* trifling; small.
Petulance, pet'u-lans, *n.* irritability; peevishness.
Few, pí, *n.* an enclosed sitting in a place of worship.
Pewter, pew'ter, *n.* an alloy of tin and lead.
Phalanx, fan'al-ang, *n.* a dense body of soldiers.
Phantasm, fan'tazm, *n.* a hallucination, a vision.
Phantasmagoria, fan-taz-má-gó-ri-a, *n.* illusive
Phantom, fan'tom, *n.* a spectre [images.
Pharisaical, far-is-á-ik-al, *adj.* hypocritical.
Pharmacy, fá-má-si, *n.* medicine preparation.
Phase, fá-z, *n.* a view; aspect.
Phenomenon, fé-nom'é-non, *n.* an unusual appearance.
Phial, fi'al, *n.* a small bottle.
Philander, fil-an-dér, *v.* to flirt; to make love.
Philanthropy, fil-an'tro-pi, *n.* love of mankind.
Philately, fil-at'é-li, *n.* stamp collecting.
Philharmonic, fil-hár-món'ik, *adj.* loving harmony.
Philippic, fil'ip-ik, *n.* an acrimonious declamation.
Philistine, fil-is-tin, *n.* an uncultured person.
Philogyny, fil-ó-yi-ni, *n.* love of women.
Philology, fil-ó-f'i, *n.* study of language.
Philomath, fil-ó-má-th, *n.* one devoted to learning.
Philomel, fil-ó-mel, *n.* the nightingale. [discussion.
Philopolemic, fil-ó-pó-len'ik, *adj.* eager for war or
Philoprogenitiveness, fil-ó-pró-jen'it-i-vi-ness, *n.* love of
Philosopher, fil-ós-ó-fer, *n.* a reasoner. [offspring.
Philotechnic, fil-ó-tek'nik, *adj.* devoted to the arts.
Philter, fil'ter, *n.* a love charm.
Phlebotomy, fé-bot'om-i, *n.* the art of vein opening.
Phlegm, flem, *n.* viscid matter.
Phlegmatic, fleg-mat'ik, *adj.* cold; sluggish.
Phonate, fónát, *v.* to make vocal utterance.
Phonetics, fón-é-tiks, *n.* science of articulate sounds.
Phonograph, fón-ó-gráf, *n.* a sound recording and
Phonogram, fón-ó-grám, *n.* a sound recording and
Phonography, fón-ó-gráf-i, *n.* shorthand.
Phonology, fón-ó-f'i, *n.* phonetics.
Phonotype, fón-ó-tip, *n.* type indicating sound.
Phosphor, fos'for, *n.* the morning star.
Phosphorescence, fos-for-es'ens, *n.* luminousness.
Phosphorus, fos'for-us, *n.* a combustible substance.
Phossy-jaw, fos'jaw, *n.* phosphorus poisoning.
Photogenic, fót-ó-jen'ik, *adj.* pertaining to photo-
graphy, fót-ó-gráf, *n.* a picture produced by the
Photography, fót-ó-gráf-i, *n.* a picture produced by the
Photography, fót-ó-gráf-i, *n.* a picture produced by the
Photology, fót-ó-f'i, *n.* the science of light.
Photophone, fót-ó-fón, *n.* a speech-transmitting ap-
Photosphere, fót-ó-sfer, *n.* a sphere of light. [paratus.
Phrase, fráz, *n.* words expressing an idea.
Phraseology, fráz-é-ó-f'i, *n.* diction.
Phren, fren, *n.* mind.
Phrenetic, fren-ét'ik, *adj.* frantic.
Phrenology, fren-é-ó-f'i, *n.* the science of the mind as
indicated by the formation of the head.

Phrenzy, fren'zi, *n.* madness.
Phronesis, frón-é-sis, *n.* practical wisdom.
Phthisical, tíz-ik-al, *adj.* pertaining to lung dis- ase.
Phylogeny, fí-ik-ó-f'i, *n.* study of seaweeds.
Phylactery, fí-lak'tér-i, *n.* a charm.
Phyllite, fí-lit, *n.* clay-slate.
Phylloid, fí-loid, *adj.* leaf-like. [nature.
Physical, fíz-ik-al, *adj.* pertaining to the body, or
Physician, fíz-í-shan, *n.* one skilled in the use of
Physicist, fíz-í-sist, *n.* a student of nature. [physic.
Physics, fíz-iks, *n.* the science of nature.
Physiognomy, fíz-í-og'no-mi, *n.* face study.
Physiography, fíz-í-og'ra-fi, *n.* physical geography.
Physiology, fíz-í-ó-f'i, *n.* nature worship.
Physiology, fíz-í-ó-f'i, *n.* the science of life.
Physique, fíz-ék, *n.* physical organisation.
Phytoid, fí-toid, *adj.* plant-like.
Phytology, fí-tol-ó-f'i, *n.* botany.
Piacular, pí-ak'ú-lar, *adj.* expiatory.
Pianist, pí-an-ist, *n.* a pianoforte player.
Pianoforte, pí-an-ó-fór'té, *n.* a well-known keyed instru-
Piazza, pí-at-zá, *n.* a portico. [ment.
Pibroch, pí-bróh, *n.* an air played on the bagpipes.
Pica, pí-ka, *n.* a size of type; a magpie.
Picaroone, pí-ka-roon, *n.* a pirate; a cheat.
Picayune, pí-á-yoon', *n.* a small American coin.
Piccolo, pí-kó-lo, *n.* a small flute.
Pick, pik, *v.* to pierce; to gather; to choose; *n.* a
striking implement.
Pickaninny, pí-á-ni-ni, *n.* a negro baby.
Pickle, pí-ik, *n.* articles preserved in salt and vinegar.
Pickpocket, pí-ik-pok-et, *n.* a pocket rifter.
Picnic, pí-ik-nik, *n.* an open-air pleasure party.
Pictorial, pí-ik-tó-ri-al, *adj.* pertaining to pictures
Picture, pí-ik-tur, *n.* a painting; a representation.
Piddle, pí-dl, *v.* to trifle.
Pied, pí-d, *adj.* varicoloured.
Piece, pí-s, *n.* a part of anything; a play.
Piece, pí-d, *adj.* spotted; variegated. [into the sea.
Pier, pí-r, *n.* a wharf; a projecting roadway extending
Pierce, pí-rs, *v.* to penetrate.
Pier-glass, pí-r-glas, *n.* a mirror between windows.
Pierian, pí-é-ri-an, *adj.* relating to the Muses.
Pierrot, pí-er-ró, *n.* a buffoon; a pantomime character.
Pietism, pí-ét-izm, *n.* doctrine of the Pietists.
Piety, pí-ét-i, *n.* religious veneration; goodness
Pig, pí-g, *n.* a swine; a mass of metal.
Pigment, pí-gment, *n.* paint; colouring matter.
Pigmy, pí-gmi, *n.* a dwarf.
Pike, pí-ik, *n.* a weapon with a spear-like head; a fish.
Pilar, pí-lar, *adj.* hairy.
Piles, pí-lz, *n.* hemorrhoids.
Pilfer, pí-lfer, *v.* to steal small things.
Pilgrim, pí-grim, *n.* one who journeys to a holy place
Pill, pí-l, *n.* a small medicine ball.
Pillage, pí-láj, *n.* plunder.
Pillar, pí-lar, *n.* a detached column or support.
Pillion, pí-l'yun, *n.* a seat for a woman to ride behind a
man on horseback.
Pillory, pí-l'ri, *n.* a frame in which offenders were
publicly exposed.
Pillow, pí-ló, *n.* a stuffed cushion to rest the head
Pilot, pí-lot, *n.* one who guides ships in and out of
Pilous, pí-lus, *adj.* hairy. [harbour.
Pump, pí-mp, *n.* a pander.
Pumple, pí-mp'l, *n.* a pustule.
Pinafore, pí-ná-fór, *n.* a child's apron.
Pince-nez, pí-né-zé, *n.* eye-glasses.
Pincers, pí-n-sers, *n.* pincers. [waste away.
Pine, pí-n, *n.* a cone-bearing tree; *v.* to grieve; to
Pine, pí-né-ál, *adj.* relating to the pine.
Punfild, pí-n-fild, *n.* a pound for cattle.
Ping, pí-ng, *n.* a whistling sound, as of a bullet.
Pinion, pí-n'y-an, *n.* a wing; *v.* to bind.
Pink, pí-nt, *n.* light red colour; *v.* to stab.
Pin-money, pí-n-mú-ni, *n.* a wife's pocket-money.
Pinnacle, pí-nás, *n.* a small vessel.
Pinnacle, pí-ná-kl, *n.* a turret; highest point.
Pinnate, pí-nát, *adj.* feather-shaped.
Pintle, pí-n'tl, *n.* a small pin.
Pioneer, pí-ó-nér, *n.* one who clears the way for
Plout, pí-us, *adj.* reverential; good. [others

dáy; á; árm; éve; ěk; thése; Ice; pín; machine; bôl; pôt; stôrm; mûte; tûb; búrn.

Pipkin, pip'kin, *n.* a small earthen vessel.
Pippin, pip'in, *n.* a kind of apple.
Piquancy, pik'an-si, *n.* sharpness; smartness.
Pique, pik', *n.* injured pride.
Piqué, pik', *n.* a corded cotton fabric.
Piracy, pi'ra-si, *n.* sea robbery.
Pirn, *n.* a reel or bobbin. [dance].
Pirouette, pi-roo-et', *n.* a graceful wheeling round in a circle.
Piscatorial, pis-kat'ri-al, *adj.* relating to fishing.
Pisciculture, pis-ku'l-tür, *n.* fish-breeding.
Pistol, pis'til, *n.* female organ in plants.
Pistol, pis'tol, *n.* a hand gun.
Piston, pis'ton, *n.* a rod; a cylinder. [theatre].
Pit, pit, *n.* a hole in the earth; ground floor of a pit.
Pitch, pit', *n.* boiled tar; *v.* to cast. [who pitches].
Pitcher, pitch'er, *n.* a vessel for holding water; one who pitches.
Pitchpipe, pitch'píp, *n.* instrument for sounding the pitch.
Piteous, pit'e-us, *adj.* sorrowful; bad. [keynote].
Pitfall, pit'fawl, *n.* a snare.
Pithy, pik'i, *adj.* concise; forcible.
Pitiable, pit'i-ábl, *adj.* sorrowful.
Pitiful, pit'i-fúl, *adj.* worthy of pity; despicable.
Pit-saw, pit'saw, *n.* a two-handed vertical saw.
Pittance, pit'an-s, *n.* a meagre allowance.
Pituitous, pit'u-i-tüs, *n.* secreting mucus.
Pity, pit'i, *n.* sympathy.
Pivot, piv'ot, *n.* point on which a thing turns.
Placable, plak'ábl, *adj.* appeasable.
Placard, plak'árd, *n.* a printed paper publicly posted.
Place, plás, *n.* a spot; position; office.
Placeman, plas'man, *n.* an office-holder.
Placid, plak'id, *adj.* serene. [another].
Plagiarism, plá-jí-á-riz, *n.* to adopt the words of another.
Plagiarist, plá-jí-á-riz-m, *n.* the act of plagiarising.
Plague, plág, *n.* pestilence; an annoyance.
Plaid, pláid, *n.* variegated cloth.
Plain, pláin, *n.* level country.
Plaint, pláint, *n.* complaint.
Plaintive, pláint'iv, *adj.* sad.
Plait, plát, *n.* a fold; braid; *v.* to fold or braid.
Plan, *n.* sketch of building or project; *v.* to design.
Plane, plán, *n.* a joiner's tool; a level surface.
Planet, plan'et, *n.* a celestial body.
Plangent, plan'jent, *adj.* noisy.
Planisphere, plan'is-fer, *n.* a sphere projected on a plane. [common way-side British plant].
Plantain, plan'tán, *n.* a broad tropical plant, also a plantation, plan'ta-shun, *n.* a large cultivated estate; tract where young trees are planted.
Planter, plant'er, *n.* a plantation owner; one who plants.
Plash, *v.* to splash. [plants].
Plasm, plazm, *n.* a mould; protoplasm.
Plasma, plaz'ma, *n.* fluid part of the blood; a kind of plasma.
Plasmatic, plaz-mat'ik, *adj.* formative. [quartz].
Plaster, plás'ter, *n.* an adhesive salve; a limy composition for overlaying walls.
Plastic, plas'tik, *adj.* easily moulded.
Plastron, plas'trón, *n.* a breast covering.
Plat, plat, *n.* a plot of ground.
Platane, plat'an, *n.* plane-tree.
Plateau, plat'ó, *n.* a high plane.
Platinum, plat'in-um, *n.* a metal.
Platitude, plat'it-üd, *n.* a stale phrase, trite remark.
Platonic, plat-on'ik, *adj.* pure; relating to Plato.
Platoon, plá-toon', *n.* half a company of soldiers.
Plaudite, plaw'dit, *n.* applause; praise.
Plausible, plawz'ibul, *adj.* reasonable; specious.
Play, plá, *n.* pastime; a game; theatre piece; theatre.
Playful, plá'fúl, *adj.* sportive.
Plea, plé, *n.* an excuse; entreaty.
Pleasant, plé-á-n't, *n.* gaiety; sprightly speech.
Please, plé-z, *v.* to gratify.
Plebeian, plé-bé-yan, *adj.* vulgar; common.
Pleblacite, pleb'is-it, *n.* a referendum.
Pledge, pléj, *n.* a promise; a security.
Pledget, pléj'et, *n.* lint covering for a wound.
Pleiades, plé-yá-dé-z, *n.* a cluster of stars in Taurus.
Plenary, plen'á-ri, *adj.* full; complete.
Plenipotentiary, plen-i-pot-en-shi-á-ri, *n.* an ambassador.
Plethora, plé-th'ra, *n.* to provide.
Plethora, plé-th'ra, *n.* plentiful.
Plethorism, plen'ti-riz-m, *adj.* fulness.

Pleonastic, plé-on-as'tik, *adj.* redundant.
Plethora, plé-th'ra, *n.* excess of blood; repletion.
Pliable, plí-ábl, *adj.* pliant; flexible.
Pliers, plí-erz, *n.* pinchers.
Plight, plit, *v.* to pledge; *n.* condition; state.
Plinth, plín'h, *n.* the square at the base of a column.
Plod, plod, *v.* to toil; to move steadily on.
Plough, plow, *n.* an implement for turning up the soil.
Plumage, plúm'áj, *n.* feathers of a bird. [pendicular].
Plumb, plúm, *n.* a leaden weight on a line; *adj.* perpendicular.
Plumber, plúm'er, *n.* a worker in lead and piping.
Plumb-line, plúm'lin, *n.* the line of a plummet.
Plume, plúm, *n.* a feather.
Plummet, plúm'et, *n.* a weighted line.
Plumous, plúm'us, *adj.* feathery.
Plump, *adj.* fat.
Plunder, plún'dr, *v.* to rob; *n.* spoil.
Plunge, plunj, *v.* to dive; to rush into; to immerse.
Pluralist, plú-rál-ist, *n.* a holder of more than one.
Plus, *n.* sign (+) of addition. [benefice].
Plush, *n.* a velvet cloth.
Plutocracy, plú-to-k'rá-si, *n.* government by the wealthy.
Plutology, plú-to-l'ó-jí, *n.* science of wealth. [wealthy].
Plutonian, plú-to-ní-an, *adj.* infernal.
Pluvial, plú-ví-ál, *adj.* rainy.
Ply, pli, *v.* to work at; to importune.
Pneumatic, nú-mat'ik, *adj.* relating to air. [fluids].
Pneumatology, nú-mat'ó-l'ó-jí, *n.* science of elastic fluids.
PNYX, niks, *n.* political meeting-place in ancient Athens.
Poach, póch, *v.* to steal game. [Athens].
Poachy, póch'i, *adj.* soft; wet.
Pock, pok, *n.* a pustule on the skin.
Pod, pod, *n.* covering of peas, beans, etc.
Podagra, pó-da-grá, *n.* gout in the feet.
Podesta, pó-des'tá, *n.* a magistrate of the Italian republics.
Poetry, pó-é-trí, *n.* short and fast.
Poem, pó-ém, *n.* a composition in verse. [republics].
Poetaster, pó-et-as'ter, *n.* an inferior poet.
Poetist, pó-et-ist, *n.* a rhythmical embodiment of thoughts and fancies.
Pogrom, pó-grom, *n.* a destructive disturbance. [ful].
Poignant, pó-ín-ant, *adj.* bitter, stinging; acutely pungent.
Point, póint, *n.* a sharp end; spot; gist of an argument; *v.* to indicate; to direct.
Pointed, póint'ed, *adj.* sharp, direct, keen.
Poise, póiz, *v.* to balance.
Poisun, póis-un, *n.* any substance that, taken into the system, destroys or impairs life; *v.* to infect with poison.
Polar, pó-lar, *adj.* pertaining to the poles. [poison].
Polarisation, pó-lá-r-izá-shun, *n.* the act of communicating polarity. [Poland].
Pole, pó-l, *n.* a rod; a measure of length; native of Pole-axe, pó-laks, *n.* a hatchet with a long handle.
Polemical, pó-len'ik, *n.* disputant; *adj.* controversial.
Pole-star, pó-l'star, *n.* the north star.
Police, pó-les', *n.* civil force.
Politic, pó-lis-i, *n.* prudence; the art of governing.
Polish, pó-lis, *v.* to make glossy; to refine; *n.* the substance used to produce polish.
Polite, pó-lit', *adj.* courteous.
Politic, pó-lis-ik, *adj.* discreet.
Politics, pó-lis-iks, *n.* science of government.
Polity, pó-lit-i, *n.* structure of a state.
Poll, pó-l, *n.* head; a list; an election.
Pollard, pó-l'árd, *n.* a lopped tree.
Pollen, pó-len, *n.* the fertilising powder in flowers.
Polute, pó-lut', *v.* to taint; to corrupt.
Poltroon, pó-l'troon, *n.* a coward.
Polygamist, pó-lí-gám-ist, *n.* plurality of wives.
Polyglot, pó-lí-glót, *adj.* many-languaged.
Polygon, pó-lí-gon, *n.* a many-angled figure.
Polygram, pó-lí-gram, *n.* a figure of many lines.
Polygraph, pó-lí-gráf, *n.* a copying instrument.
Polygraphy, pó-lí-gráf-i, *n.* art of writing in ciphers.
Polyhistor, pó-lí-his'tor, *n.* one of profound learning.
Polyphylous, pó-lí-fil-us, *adj.* many-leaved.
Polyporous, pó-lí-por-us, *adj.* having many pores.
Polyssyllable, pó-lí-sil-ábl, *n.* word of more than three syllables.
Polytechnic, pó-lí-tek'ník, *adj.* including many arts.
Polytheism, pó-lí-thé-izm, *n.* the doctrine of more than one God.
Pomace, pó-más, *n.* crushed apples. [than one God].

dáy; áit; árm; éve, élk; théré; ícg; pín; machine; bóld; póg; stórm; máte; túb; búrn.

Pommel, pum'el, *n.* the knob of a saddle; *v.* to beat.
 Pomology, pom-ol-ō-jī, *n.* science of fruit raising.
 Pomp, pomp, *n.* ceremony; show; display.
 Poncho, pon'chō, *n.* a short cloak.
 Pond, pond, *n.* a pool.
 Ponder, pon'der, *v.* to consider.
 Ponderous, pon'der-us, *adj.* weighty; heavy.
 Pone, pōn, *n.* bread made from maize.
 Pongee, pon'jē, *n.* silk from cocoons of wild silkworms.
 Pontard, pon'yard, *n.* a small dagger.
 Pons, pōnz, a part connecting two parts.
 Pontage, pon'tāj, *n.* bridge toll.
 Pontiff, pon'tif, *n.* a high priest; the Pope.
 Pontificate, pon'tif-ik-āt, *n.* the rule of a Pope.
 Pontil, pon'til, *n.* rod used in glass-making.
 Pontoon, pon-toon, *n.* a floating bridge; a flat boat.
 Pood, pōod, *n.* a Russian weight, 30 lbs.
 Pool, *n.* a small pond.
 Poor, poor, *adj.* needy; weak; depressed.
 Pope, pōp, *n.* the head of the Roman Catholic Church.
 Popedom, pop'dom, *n.* jurisdiction of the Pope.
 Popinjay, pop'in-jā, *n.* a pop.
 Poplar, pop'lar, *n.* a well-known tree.
 Poplin, pop'lin, *n.* fabric of worsted and silk.
 Populace, pop'u-lās, *n.* the people.
 Popular, pop'u-lar, *adj.* generally liked.
 Population, pop-u-lā-shun, *n.* act of populating; the people in general.
 Populous, pop'u-lus, *adj.* full of people.
 Porcelain, por'sē-lān, *n.* fine earthenware.
 Porch, pōrch, *n.* a covered entrance-way.
 Porcine, por'sin, *adj.* pertaining to swine.
 Pore, pōr, *n.* minute passage in the skin; *v.* to study [intently].
 Porifera, pō-rif-er-ā, *n.* sponges.
 Pork, pōrk, *n.* flesh of swine.
 Porous, pō-rus, *adj.* full of pores.
 Porphyry, por'fi-ri, *n.* a variegated hard stone.
 Porridge, por'ij, *n.* boiled meal and water.
 Porringer, por'in-jer, *n.* a porridge pan.
 Port, pōrt, *n.* a harbour, an opening; a Portuguese wine; bearing.
 Portable, pōrt-ā-bil, *adj.* movable; that can be carried.
 Portage, pōrt-āj, *n.* carrying; price of carriage.
 Portal, pōrt'al, *n.* a gateway; an entrance.
 Portcullis, pōrt-kul'is, *n.* a sliding framework suspended over a gateway.
 Porte, pōrt, *n.* the Turkish court.
 Portend, pōrt-tend', *v.* to forebode.
 Portentous, pōrt-en'tus, *adj.* ominous. [liquor].
 Porter, pōrt-er, *n.* one who carries parcels; a malt.
 Portfolio, pōrt-fō-li-ō, *n.* case for holding papers; the office of a State minister.
 Porthole, pōrt'hōl, *n.* gun-hole; any opening in a ship's side for air or light. [way].
 Portico, pōrt-ik-ō, *n.* a piazza; a columned entrance.
 Portly, pōrt'li, *adj.* dignified; corpulent.
 Portmanteau, pōrt-man'tō, *n.* a hand-bag.
 Portray, pōrt-trā, *v.* to draw; to describe.
 Portrayal, pōrt-rā'al, *n.* the act of portraying.
 Pose, pōz, *v.* to assume an attitude; to puzzle; *n.* attitude.
 Pose, pōz, *n.* a place, situation. [tude].
 Positive, pōz-itiv, *adj.* actual, absolute.
 Posnet, pos'net, *n.* a small pan.
 Posse, pos'se, *n.* power; possibility.
 Possess, pos-zes', *v.* to own.
 Possessor, pos-zes-er, *n.* owner. [liquor].
 Posset, pos'et, *n.* milk curdled with wine or other.
 Post, pōst, *n.* an upright piece of timber; pillar; place for the receipt of mail letters; *v.* to post.
 Postal, pōst'al, *adj.* pertaining to the post-office.
 Post-chaise, pōst-shāz, *n.* a stage coach. [service].
 Post-date, pōst-dāt, *v.* to postdate.
 Postdiluvian, pōst-dil-ū-vi-an, *adj.* after the Deluge.
 Poste-restante, pōst-rest-ant', *n.* place in post-office where letters are kept till called for.
 Posterior, pos-tē-ri-ör, *adj.* later; subsequent.
 Posterity, pos-ter-i-ti, *n.* descendants.
 Post-haste, pōst-hās't, *n.* top speed.
 Posthumous, pōst-hū-mus, *adj.* after death.
 Postil, pōst'il, *n.* marginal note.
 Postilion, pōst-il-yun, *n.* a rider of a carriage horse.
 Postmeridian, pōst-mer-i-d'i-an, *n.* afternoon.

Post-mortem, pōst-mort'em, *adj.* after death.
 Post-obit, pōst-ō-bit, *n.* bond given by heirs securing repayment of money advanced.
 Postpone, pōst-pōn', *v.* to defer.
 Post-prandial, pōst-pran'di-al, *adj.* after d'ner.
 Postscript, pōst-skript, *n.* writing added after a letter has been signed.
 Postulate, pōst-ül-ät, *n.* self-evident position.
 Posture, pōs'tür, *n.* attitude; position.
 Posy, pō'zi, *n.* nasegay; motto on a ring.
 Pot, *n.* an utensil; a pan.
 Potation, pō-tā-shun, *n.* a drink.
 Poteen, pō-tēn, *n.* Irish whisky.
 Potent, pō-tent, *adj.* powerful; having authority.
 Potentiality, pō-ten-shi-ä'l-i-ti, *n.* a potential thing.
 Pother, pōth'er, *n.* bustle; confusion.
 Potion, pō'shun, *n.* a dose; a draught.
 Potsherd, pōt'sherd, *n.* a piece of broken pot.
 Pottage, pōt'āj, *n.* a thick soup.
 Potter, pōt'er, *v.* to trifle; *n.* an earthenware manufacturer.
 Pottery, pōt'ar-i, *n.* earthenware. [factures].
 Pouch, pōch, *n.* a chalice.
 Poultry, pōl'tri, *n.* fowls.
 Pounce, pōwns, *v.* to fall upon; *n.* a fine powder.
 Pound, pōwnd, *v.* to bruise; *n.* a standard weight, varying in different countries.
 Poundage, pōwnd'āj, *n.* duty per pound.
 Pout, pōwt, *v.* to sulk.
 Powder, pow'der, *n.* a dust; gunpowder.
 Power, pow'ar, *n.* force; strength; might.
 Practicable, prak'tik-äb'l, *adj.* possible.
 Practical, prak'tikal, *adj.* useful.
 Practice, prak'tis, *n.* habit. [doctor].
 Practitioner, prak-tish'un-er, *n.* one who practises; a.
 Præmunire, præ-mū-ni-rē, *n.* the act of ignoring the governing power.
 Pragmatical, prag-mat'ik-al, *adj.* officious; meddling.
 Prairie, prā'ri, *n.* a grassy plain.
 Prakrit, prak'rit, *n.* Sanskrit-derived languages.
 Prance, prāns, *v.* to strut; to ride gaily.
 Frank, prāngk, *n.* a trick; a frolic.
 Prasinous, präs'in-us, *adj.* light-green.
 Pratique, prā-tēk, *n.* leave to trade after quarantine.
 Prawn, *n.* a small crustacean fish.
 Pray, prā, *v.* to entreat; to supplicate the Almighty.
 Preach, prēch, *n.* to publicly expound religious views.
 Preacher, prēch'er, *n.* one who preaches.
 Preamble, præ-am'bl, *n.* introduction; preface.
 Preaudience, præ-aw'di-ens, *n.* right to prior hearing.
 Prebend, prēb'end, *n.* stipend granted to a canon.
 Prebendary, prēb'end-är-i, *n.* cathedral stipendiary.
 Precarious, præk-ä'ri-us, *adj.* uncertain; doubtful.
 Precarious, præk-ä'ri-us, *n.* previous care.
 Precede, prē-sed', *v.* to go before.
 Precedence, prē-sed'ens, *n.* priority.
 Precedent, prē-sed-ent, *adj.* going before; anterior.
 Precedent, præs'e-ent, *n.* example.
 Precursor, præs-en'sor, *n.* choir-leader.
 Precept, prēs'ept, *n.* doctrine; rule of action.
 Precinct, prēs'ingkt, *n.* boundary.
 Precious, prēs'hi-us, *adj.* worthy; valuable.
 Precipice, prēs'ip-ē, *n.* an abyss.
 Precipitate, prēs'ip-it-ans, *n.* rash haste.
 Precipitate, prēs'ip-it-ät, *v.* to cast down.
 Precipitous, prēs'ip-it-ät, *adj.* rash; steep.
 Precis, präs'e, *n.* an abstract or summary.
 Precise, präs-is, *adj.* exact.
 Precision, präs-izh'un, *n.* accuracy.
 Preclude, prē-klood', *v.* to shut out. [out].
 Preclusion, prē-klood'zhun, *n.* exclusion; a shutting.
 Precoit, prē-kōit, *n.* premarital cohabitation.
 Preconception, prē-kog-nish'un, *n.* foresight.
 Preconceive, prē-kon-sēv', *v.* to imagine; to conceive beforehand.
 Preconception, prē-kon-sēp'zhun, *n.* forethought.
 Preconcerted, prē-kon-sert'ed, *adj.* prearranged.
 Precursor, præs-en'sor, *n.* a forerunner. [plunder].
 Predaceous, präd-ä'sh-us, *adj.* ravenous; living by.
 Predatory, präd-ä-to-ri, *adj.* plundering.
 Predecessor, präd-de-sēs-ör, *n.* forerunner.
 Predetermination, präd-des-tin-ä-shun, *n.* the belief that everything is foreordained.

day; ät; ärm; äve; älk; äre; äce; äin; ämachine; äöd; pöt; ästörn; äüte; äüb; äbärn.

Predial, prē'di-əl, *adj.* pertaining to land.
Predicable, prē'di-kə-bl, *adj.* attributable.
Predicament, prē'di-kə-ment, *n.* plight.
Predicate, prē'di-kət, *v.* to affirm.
Predication, prē'di-kə-shun, *n.* act of affirming.
Predict, prē'dikt, *v.* to foretell.
Prediction, prē'di-kə-shun, *n.* a prophecy. [favour of.]
Predilection, prē'di-ek-shun, *n.* prepossession.
Predisposition, prē-dis-po-zish-un, tendency.
Predominate, prē-dō-mi-nāt, *v.* to rule.
Pre-eminence, prē-em-in-ens, *n.* superiority.
Pre-emption, prē-em-ū-shun, *n.* first option of buying.
Preen, prēn, *v.* to arrange feathers, as birds.
Preface, prē-fas, *n.* an introduction.
Prefect, prē-fekt, *n.* a governor.
Prefer, prē-fer, *v.* to esteem before others; to choose.
Preferable, prē-fer-ə-bl, *adj.* worthy of preference.
Preference, prē-fer-ens, *n.* choice.
Preferment, prē-fer-ment, *n.* promotion.
Prefigure, prē-fig-ur, *v.* to show beforehand.
Prefix, prē-fiks, *n.* a letter or word put before.
Prefix, prē-fiks, *v.* to place before.
Pregnant, prē-gnant, *adj.* with young; fruitful.
Prehensible, prē-hen-si-bl, *adj.* that can grasp.
Prejudice, prē-juj, *v.* to judge beforehand.
Prejudice, prē-ju-dis, *adj.* bias; prejudgment.
Prelacy, prē-lā-si, *n.* the office of a prelate.
Prelate, prē-lāt, *n.* a church dignitary.
Prellection, prē-lek-shun, *n.* lecture read to others.
Preliminary, prē-lim-i-nā-ri, *adj.* previous; preparatory.
Prelude, prē-lūd, *n.* introduction; preface. [hasty.]
Premature, prē-māt-ūr, *adj.* before its time, too.
Premeditate, prē-med-i-tāt, *v.* to plan beforehand.
Premier, prē-mi-er, *n.* prime minister. *adj.* first.
Premise, prē-miz, *v.* to state beforehand.
Premises, prē-mis-es, *n.* a building and its adjuncts.
Prerogative, prē-rog-a-tiv, *n.* reward; payment for insurance.
Premonish, prē-mon-ish, *v.* to admonish beforehand.
Premonitory, prē-mon-i-tō-ri, *adj.* giving prior notice.
Preoccupy, prē-ok-ū-pi, *v.* to occupy beforehand. [of.]
Preoption, prē-op-shun, *n.* right of first choice.
Prepare, prē-pār, *v.* to get ready.
Prepense, prē-pens, *adj.* premeditated.
Preponderate, prē-pōn-dēr-āt, *v.* to outweigh.
Preposition, prē-po-zish-un, *n.* part of speech showing relation. [invite favour.]
Prepossessing, prē-po-zes-ing, *adj.* in condition to
Preposterous, prē-pos-tēr-us, *adj.* absurd.
Prerogative, prē-rog-a-tiv, *n.* exclusive privilege.
Presage, prē-sāj, *v.* to predict. *n.* anything that fore-
Presbyter, prēz-bi-ter, *n.* a priest. [shows.]
Prescience, prē-shi-ens, *n.* foreknowledge [down.]
Prescribe, prē-skrīb, *v.* to appoint; to order; to lay
Prescription, prē-skrip-shun, *n.* a written instruction
 for preparation of medicine; any act of directing.
Prescriptive, prē-skrip-tiv, *adj.* acquired by usage.
Presentable, prē-zent-ə-bl, *adj.* that may be presented.
Presentment, prē-zent-ment, *adj.* pre-perceiving.
Presentment, prē-zent-ment, *n.* a premonition.
Presentment, prē-zent-ment, *n.* the act of presenting.
Preservative, prē-zēr-vā-tiv, *n.* that which preserves.
Preserve, prē-serv, *v.* to keep safe; to defend.
President, prē-si-dēt, *n.* one at the head of a state,
 company, or society.
Presidential, prē-si-dēn-ti-əl, *adj.* relating to a garrison.
Press, pres, *v.* to squeeze; to clasp; *n.* printing
 machine; newspapers generally.
Press-gang, prēz-gang, *n.* a body of men who in war-
 time forcibly carry off men to serve on warships.
Pressing, prēz-ing, *adj.* urgent. [press; a journalist.]
Pressman, prēz-man, *n.* one who works at a printing
 press.
Prestige, prēst-ēzh, *n.* moral influence.
Presto, prēstō, *adv.* quickly.
Presume, prē-zūm, *v.* to take for granted; to arro-
Presumption, prē-zūmp-shun, *n.* arrogance. [gate.]
Presumptuous, prē-zūmp-tū-us, *adj.* over-confident.
Preterence, prē-tens, *n.* excuse; assumption.
Preterite, prē-tēr-it, *adj.* gone by. *n.* past tense.
Pretermission, prē-tēr-mish-un, *n.* the act of omitting.
Preternatural, prē-tēr-nat-ū-ral, *adj.* supernatural.
Pretext, prē-tēxt, *n.* semblance; excuse; pretence.

Prevail, prē-vāl, *v.* to overcome; to induce.
Prevalence, prē-vāl-ens, *n.* custom; predominance.
Prevaricate, prē-vār-ik-āt, *v.* to equivocate.
Prevenient, prē-vē-ni-ent, *adj.* going before.
Prevent, prē-vent, *v.* to hinder.
Preventive, prē-ventiv, *adj.* tending to prevent.
Previous, prē-vi-ūs, *adj.* prior.
Prevision, prē-vi-zh-un, *n.* forethought.
Prey, v. to seize upon; *n.* spoil; plunder.
Price, pris, *n.* sum asked for a thing; reward.
Prick, prik, *v.* to spur; *n.* a sharp-pointed instrument;
Prickly, prik'li, *adj.* thorny. [a strig.]
Pride, prid, *n.* self-esteem.
Priest, prēst, *n.* a clergyman; a religious minister.
Priestcraft, prēst'krāft, *n.* priestly policy.
Prig, prig, *n.* a conceited person.
Prim, prim, *adj.* precise.
Primacy, pri-mā-si, *n.* office of archbishop.
Primal, pri-mal, *adj.* first.
Primarily, pri-mār-i-ly, *adv.* in the first place.
Prime, prim, *adj.* chief; five, first; strong; full.
Primer, pri-mēr, *n.* first book of instruction.
Primeval, pri-mē-vāl, *adj.* original; belonging to early
Primigenial, pri-mi-jē-ni-əl, *adj.* first-born. [times.]
Priming, prim-ing, *n.* first coating of colour.
Primitive, pri-mi-tiv, *adj.* original; first. [eldest son.]
Primogeniture, pri-mō-jen-i-tūr, *n.* inheritance
 by Primordial, pri-mōr-di-āl, *adj.* original; first in order.
Prince, prins, *n.* a king's son; a ruler.
Princess, prin-ses, *n.* a prince's consort; a king's
Principal, prin-si-pal, *adj.* chief; capital. [daughters.]
Principia, prin-si-pi-ā, *n.* first principles.
Prink, prink, *v.* to deck for show.
Print, print, *v.* to mark by impression.
Prior, pri-or, *adj.* former; *n.* the head of a monastery.
Priority, pri-or-i-ti, *n.* precedence.
Prism, prizm, *n.* a solid whose ends are regular and
 parallel planes, and whose sides are parallelograms.
Prison, prizn, *n.* a jail; place of detention.
Pristine, pri-vi-n, *adj.* primitive; original.
Prattle, prāt-əl, *n.* empty chatter. [soldier.]
Private, privāt, *adj.* alone, secret, an ordinary
Privateer, pri-vā-tēr, *n.* a ship of war privately manned.
Privation, privā-shun, *n.* destitution; act of depriving.
Privilege, priv-i-leej, *n.* right; special advantage.
Privily, priv-i-li, *adv.* secretly.
Privy, priv-i, *adj.* secret; private.
Prize, priz, *n.* a reward; something seized from an
 enemy. [prize.]
Probable, prob-ə-bl, *adj.* likely.
Probate, prob-āt, *n.* legal proof of a will.
Probation, prob-ā-shun, *n.* trial; a kind of testing.
Probative, prob-ā-tiv, *adj.* serving for proof.
Probe, prob, *v.* to search; *n.* a surgeon's instrument.
Probity, prob-i-ti, *n.* sincerity, uprightness.
Problem, prob-lēm, *n.* a question for solution.
Problematical, prob-lēm-at-ik-əl, *adj.* questionable.
Proboscis, prob-ōs-is, *n.* a trunk; nose.
Procedure, pro-sē-dūr, *n.* legal process; mode of pro-
Proceed, pro-sē-d, *v.* to advance; to go on. [ceeding.]
Proceeds, pro-sē-ds, *n.* returns; produce; rents.
Process, pro-sēs, *n.* operation.
Proclaim, pro-klaim, *v.* to publicly announce.
Proclivity, pro-kli-vi-ti, *n.* tendency; inclination.
Proconsul, pro-kon-sul, *n.* a Roman governor.
Procrastinate, pro-kras-ti-nāt, *v.* to postpone.
Procreate, pro-kre-āt, *v.* to generate. [formity.]
Procrustean, pro-krus-tē-an, *adj.* forcing into con-
Proctor, prok-tor, *n.* an ecclesiastical lawyer; a uni-
Procure, pro-kūr, *v.* to obtain. [versity official.]
Prodigal, prod-i-gal, *adj.* extravagant; lavish.
Prodigious, prod-i-jus, *adj.* huge; wonderful.
Prodigy, prod-i-j, *n.* a wonder.
Produce, prod-ūs, *n.* yield; that which is produced.
Produce, prod-ūs, *v.* to yield; to bring forth.
Product, prod-ukt, *n.* fruit; yield, thing produced.
Proem, pro-em, *n.* prelude.
Profane, pro-fan, *adj.* secular; unholy.
Profess, pro-fes, *v.* to avow; to own.
Profession, pro-fesh-un, *n.* occupation; a vocation.
Proffer, pro-fer, *v.* to offer.
Proficient, pro-fish-ent, *adj.* skilled; able.
Profile, pro-fil, *n.* outline; side view.

day; ä; ärm; äve; älk; thäre; ice; pñ; machine; bold; pöt; störm; müte; dñb; būra.

- Profit, profit**, *n.* gain; advantage.
Profligate, profligat, *adj.* abandoned; dissolute.
Profound, pro-fownd, *adj.* deep; intense.
Profuse, pro-fus, *adj.* lavish.
Prog, prog, *n.* begged food.
Progeny, pro-jen-i, *n.* offspring.
Prognathous, prog-nath-us, *adj.* with projecting jaws.
Prognosis, prog-no-sis, *n.* a forecast of the course of a disease.
Programme, pro-gram, *n.* particulars of an entertainment.
Progress, pro-gres, *n.* advancement; improvement.
Prohibit, pro-hib-it, *v.* to forbid.
Project, pro-jekt, *n.* a scheme; a plan.
Project, pro-jekt, *v.* to extend; to throw outward.
Projectile, pro-jekt-il, *adj.* projecting; *n.* a missile.
Projector, pro-jekt-or, *n.* one who forms plans.
Prolegomena, pro-leg-om-en-a, *n.* introduction to a treatise.
Proleptic, pro-lep-tik, *adj.* previous.
Proletarian, pro-le-ta-ri-an, *adj.* pertaining to the labouring classes.
Prolific, pro-lifik, *adj.* productive; fruitful.
Proliz, pro-liz, *adj.* tedious; diffuse.
Prolizity, pro-liz-i-ti, *n.* great length; tediousness.
Prologue, pro-log, *n.* introduction.
Prolong, pro-long, *v.* to extend. [walking].
Promenade, prom-en-ad, *v.* to walk; *n.* a place for promenade, prom-in-ens, *n.* conspicuousness.
Promiscuous, pro-mis-kus, *adj.* without order.
Promise, prom-is, *v.* to engage to do; *n.* expectation.
Promissory, prom-is-or, *adj.* relating to a promise.
Promontory, prom-on-to-ri, *n.* a headland.
Promote, pro-mot, *v.* to advance; to encourage.
Prompt, prompt, *adj.* ready; quick; *v.* to incite.
Promptitude, prompt-it-ud, *n.* readiness; quickness.
Promulgate, pro-mul-gat, *v.* to publish.
Prone, pron, *adj.* disposed; face downward.
Prong, pron, *n.* branch of a fork. [pronoun].
Pronominal, pro-nom-in-al, *adj.* pertaining to a pronoun.
Pronounce, pro-nouns, *v.* to speak; to utter.
**Proof, n. trial; evidence; a first printed impression; *Prop*, *n.* a support. [adv. resting].
Propagate, prop-a-gat, *v.* to produce; to spread.
Propel, pro-pel, *v.* to force forward.
Propeller, pro-pel-er, *n.* screw wheel of a steamer.
Propensity, pro-pen-si-ti, *n.* tendency; inclination.
Proper, prop-er, *adj.* correct; suitable.
Property, prop-er-ti, *n.* estate; inherent quality.
Prophet, pro-fet, *n.* one who foretells.
Prophylactic, pro-fil-ak-tik, *n.* a preventive medicine.
Prophylaxis, pro-fil-ak-sis, *n.* fitness; good behaviour.
Propitiate, pro-pish-i-at, *v.* to conciliate.
Propitious, pro-pish-us, *adj.* favourable.
Propolis, prop-o-lis, *n.* a substance with which bees close the holes of their hives. [ratios].
Proportion, pro-por-shun, *n.* adjustment; equality of
Proposal, pro-po-zal, *n.* a suggestion; an offer.
Propose, pro-poz, *v.* to offer.
Propound, pro-pownd, *v.* to set forth.
Proprietor, pro-pri-er, *n.* an owner.
Propriety, pro-pri-er-ti, *n.* fitness; good behaviour.
Proprition, pro-pri-shun, *n.* act of driving forward.
Prorector, pro-rekt-or, *n.* deputy rector.
Proteroge, pro-rög, *v.* to postpone.
Prosaic, pro-zä-ik, *adj.* prosy; commonplace.
Proscenium, pro-sen-ni-um, *n.* the front part of a stage.
Proscribe, pro-skrīb, *v.* to denounce; to prohibit.
Prosecute, pro-ses-küt, *v.* to sue; to follow.
Prose, pro-sä, *n.* a convert. [on versification].
Prosody, pro-sö-di, *n.* the part of grammar treating
Prospect, pro-spekt, *n.* expectation; view; aspect.
Prospecting, pro-spekt-ing, *n.* searching for indications of precious minerals.
Prospectus, pro-spekt-us, *n.* the plan of a work or
Prosper, pro-sper, *v.* to succeed. [public undertaking].
Prosperous, pro-sper-us, *adj.* successful.
Prostitute, pro-sit-it, *n.* a strumpet; *v.* to debase.
Prostrate, pro-strät, *adj.* fallen; *v.* to throw down.
Prostyle, pro-stil, *n.* a front row of columns.
Prosy, pro-si, *adj.* tedious; tiresome.
Protagonist, pro-tag-on-ist, *n.* a leading character.
Protean, pro-tä-an, *n.* the first part of a conditional
Protean, pro-tä-an, *adj.* changing shape. [sentence].
Protect, pro-tek, *v.* to shield; to defend.
Protection, pro-tek-shun, *n.* preservation; defence; refuge; a fiscal policy favouring taxation of imports.
Protégé, pro-tä-zhä, *n.* one under another's protection.
Protein, pro-tä-in, *n.* the first element in any compound.
Protest, pro-tend, *v.* to hold out.
Protest, pro-test, *v.* to object; to declare openly.
Prothonotary, pro-ton-ö-tä-ri, *n.* a chief notary.
Protocol, pro-tö-kol, *n.* the original writing of a treaty.
Protomartyr, pro-tö-märtyr, *n.* the first martyr.
Protophyte, pro-tö-fit, *n.* the lowest order of plants.
Protoplasm, pro-tö-plazm, *n.* living matter.
Prototype, pro-tö-tip, *n.* the original of a copy.
Protozoa, pro-tö-zö-ä, *n.* the lowest order of animal
Protract, pro-trakt, *v.* to prolong. [life].
Protrude, pro-trood, *v.* to shoot out.
Protruberance, pro-tü-ber-ans, *n.* a prominence; a
Proud, prowd, *adj.* arrogant. [jutting out].
Prove, prov, *v.* to test; to demonstrate.
Provenider, prov-en-der, *n.* dry food for horses.
Proverb, prov-erb, *n.* a maxim. [sight]; God.
Providence, prov-id-ens, *n.* divine supervision; fore-
Provident, prov-id-ent, *adj.* prudent; thrifty.
Province, prov-ins, *n.* a territory; a district; a duty.
Provincial, pro-vin-shal, *adj.* pertaining to a province or the country; unpolished.
Provision, pro-vizh-un, *n.* food; what is provided.
Proviso, pro-vi-zo, *n.* a condition.
Provoked, prov-ök, *v.* to excite to anger; to summon.
Provost, prov-ost, *n.* chief magistrate of a Scottish
**Prow, n. fore part of a vessel. [city].
Prowess, prow-es, *n.* valour.
**Prowl, v. to roam in quest of plunder.
Proximity, proks-im-iti, *n.* nearness.
Proxy, proks-i, *n.* substitute; a deputy.
Prude, prood, *n.* a woman of affected modesty.
Prudent, prood-ent, *adj.* discreet; frugal.
Prudential, prood-en-shal, *adj.* discretionary.
Prudish, prood-ish, *adj.* over-modest; affectedly
Puerile, proo-ri-ens, *n.* burning desire. [modest].
Puff, pü, *v.* to puff up; to lift with lever.
Psalin, säm, *n.* a sacred song.
Psalter, sawl-ter, *n.* psalm book.
Psalttery, sawl-ter-i, *n.* a stringed instrument.
Pseudochromia, sü-dö-kro-mi-ä, *n.* false idea of colour.
Pseudonym, sü-dö-nim, *n.* an assumed name.
Psychic, sä-kik, *adj.* relating to the soul.
Psychology, sä-kol-ö-ji, *n.* the study of the mind.
Pythalism, tä-liz-izm, *n.* salvation.
Puberty, pü-ber-ti, *n.* adult age; maturity.
Public, pub-lik, *adj.* common; open; *n.* the people.
Publican, pub-lik-an, *n.* an inn or public-house keeper.
Publication, pub-lik-ä-shun, *n.* a thing published.
Publicist, pub-lik-ist, *n.* a writer on public affairs.
Publish, pub-lish, *v.* to put in circulation; to proclaim.
Puck, puk, *n.* a tricky fairy.
Pucker, puk-er, *v.* to corrugate; to wrinkle.
Puddle, pud-l, *n.* a small muddy pool.
Pudenda, pu-den-da, *n.* the genitals.
Puerile, pü-er-il, *adj.* childish.
**Puff, v. to blow in whiffs; to pant; *n.* whiff of air.
Puffery, pü-er-i, *n.* excessive laudation.
**Pug, n. a dog; a fox; a monkey.
Pugilist, pü-ji-list, *n.* a boxer.
Pugnacious, pug-nä-shus, *adj.* quarrelsome.
Pugree, pug-ré, *n.* a hat scarf.
Pulsant, pü-sant, *adj.* powerful.
Pulse, pul, *v.* to vomit.
Pule, pul, *v.* to whine.
Pulicene, pü-lis-en, *adj.* flea-infested.
Pull, pul, *v.* to haul; to drag; to draw; *n.* advantage.
Pulley, pul-l, *n.* a wheel.
Pululate, pul-ü-lät, *v.* to germinate.
Pulmonary, pul-mon-ä-ri, *adj.* pertaining to the lungs.
**Pulp, n. soft part of fruit, etc.; any soft mass; *v.* to
Pulpit, pul-pit, *n.* a preacher's desk. [make into pulp].
Pulsate, pul-sät, *v.* to throb.
Pulse, pul, *n.* the heart-throb.
Pulscopus, pul-sä-shus, *n.* a ceratod.
Pulverize, pul-ver-iz, *v.* to reduce to powder.
Pumice, pug-is, *n.* a spongy volcanic stone.************

day; ät; ärm; äve; älk; there; Ice; pln; machine; böld; pöt; störm; mütte; tiff; büra.

Pump, *n.*, an apparatus for raising water; a low shoe; *v.* to work a pump; to extract information.
Pumpkin, *n.*, a plant of the gourd order.
Pun, *n.*, a play upon words.
Punch, *n.*, a drink; a tool for making holes; *v.* to poke; to hit; to perforate.
Puncheson, *n.*, a large cask; a tool.
Punchinello, *n.*, a buffoon.
Punctilio, *n.*, a nice point.
Punctilious, *adj.*, very exact.
Punctual, *adj.*, exact as to time.
Punctuate, *v.*, to insert points in a writing.
Puncture, *n.*, a small hole made by a point; *v.* to prick a hole.
Pundit, *n.*, a man of learning.
Pungent, *adj.*, biting; keen.
Punish, *v.*, to enforce penalty; to chastise.
Punster, *n.*, a maker of puns.
Punt, *n.*, a flat-bottomed boat.
Puny, *adj.*, small; feeble.
Pup, *n.*, a young dog; *v.* to give birth to puppies.
Pupil, *n.*, a scholar.
Puppet, *n.*, a doll.
Puppyism, *n.*, conceit.
Purana, *n.*, sacred Sanskrit books.
Pure, *adj.*, unpolluted; real.
Purblind, *adj.*, short-sighted.
Purgatory, *n.*, the place wherein, the Roman Catholic faith teaches, souls are purified after death.
Purge, *v.*, to cleanse; to clear the bowels. [death]
Purist, *n.*, one who upholds purity of style.
Purl, *v.*, to flow gently.
Purieu, *n.*, environs; district.
Purloin, *v.*, to pilfer.
Purport, *n.*, meaning; tendency.
Purpose, *n.*, aim; object.
Purr, *v.*, to murmur, as a cat.
Purser, *n.*, a ship's paymaster.
Pursue, *v.*, to chase; to follow.
Pursuivant, *n.*, a state official.
Purvey, *v.*, to supply; to cater.
Purview, *n.*, scope, extent.
Pus, *n.*, matter of an ulcer.
Push, *v.*, to press; to urge; *n.*, pressure.
Pusillanimity, *n.*, cowardice.
Pustule, *n.*, a pimple.
Putative, *adj.*, supposed; reputed.
Putid, *adj.*, mean.
Putrefaction, *n.*, decomposition.
Putrid, *adj.*, rotten.
Putty, *n.*, a cement.
Puzzle, *n.*, to perplex; *n.*, a problem; a riddle.
Pygmean, *adj.*, dwarfish.
Pyramid, *n.*, a solid, with triangular sides sloping upward to a terminating point.
Pyre, *n.*, a pile on which corpses are burned.
Pyretology, *n.*, the science of fevers.
Pyrriform, *adj.*, pear-shaped.
Pyrogenous, *adj.*, caused by fire.
Pyrolytic, *adj.*, produced by the distillation of wood.
Pyrology, *n.*, fire-worship.
Pyromancy, *n.*, divination by fire.
Pyrometer, *n.*, an instrument for measuring heat expansion.
Pyrotechnics, *n.*, the art of making fireworks.
Pyrrhonism, *n.*, universal scepticism.
Pythian, *adj.*, relating to the Pythoness or the Python games.

Q

Quack, *n.*, a medical pretender; *v.* to cry like a duck.
Quadra, *n.*, a frame of bas-relief. [buildings]
Quadrangle, *n.*, a square bounded by four straight lines.
Quadrant, *n.*, a fourth part of a circle.
Quadrat, *n.*, a metal space in printing.

Quadrante, *n.*, a square. [or turf]
Quadrant, *n.*, a square piece of stone, wood, or metal, occurring every four years.
Quadrantennial, *adj.*, pertaining to a period of 400 years.
Quadriceps, *n.*, muscle between leg and thigh.
Quadricorn, *n.*, a four-horned. [rhug]
Quadricycle, *n.*, a four-wheeled cycle.
Quadrifoliate, *adj.*, of fourfold form.
Quadrifid, *adj.*, four-toothed.
Quadriform, *adj.*, of fourfold form.
Quadrivium, *n.*, the four branches of mathematics.
Quadrumanous, *adj.*, four-handed.
Quadruped, *n.*, four-footed animal.
Quadruple, *adj.*, to multiply by four; *n.*, fourfold.
Quaff, *v.*, to drink copiously.
Quagmire, *n.*, a boggy land; a marsh.
Quaint, *adj.*, odd; old-fashioned.
Quake, *v.*, to tremble. [Friends]
Quaker, *n.*, a member of the Society of Friends.
Qualify, *v.*, to render legal or capable.
Quality, *n.*, character; rank; nature.
Qualm, *n.*, nausea.
Quandary, *n.*, perplexity; a hard plight.
Quantity, *n.*, amount; a hard plight.
Quaquaversal, *adj.*, facing all ways.
Quarl, *n.*, freestone covering for retorts.
Quarrel, *n.*, a dispute; a brawl.
Quarry, *n.*, a stone-pit; game pursued.
Quartan, *n.*, a fever occurring every fourth day.
Quarter, *n.*, a fourth part.
Quarterdeck, *n.*, the upper deck.
Quarterly, *adj.*, held every three months.
Quartermaster, *n.*, an officer who attends to the supplies.
Quartette, *n.*, music for four parts.
Quash, *v.*, to annul; to crush.
Quasi, *adj.*, as if; and *adv.* as it were.
Quassation, *n.*, concussion.
Quaternion, *n.*, a set of four.
Quatrain, *n.*, a stanza of four lines.
Quaver, *v.*, to tremble; to shake the voice.
Quay, *n.*, a landing place.
Quean, *n.*, a saucy woman.
Queasy, *adj.*, fastidious.
Queen, *n.*, a female sovereign; wife of a king.
Queer, *adj.*, odd; dubious.
Quell, *v.*, to stop; to subdue.
Quench, *v.*, to allay; to destroy.
Querulous, *adj.*, irritable; complaining.
Query, *n.*, a question.
Quest, *n.*, a search; pursuit.
Quibble, *n.*, an inquiry; a debatable point.
Quick, *adj.*, nimble; rapid; living.
Quicklime, *n.*, lime.
Quicksand, *n.*, shifting sand.
Quickset, *n.*, consisting of living shrubs.
Quicksilver, *n.*, mercury.
Quiddity, *n.*, a cavil.
Quiddle, *v.*, to trifle.
Quidnunc, *n.*, a pretender to knowledge.
Quiescence, *n.*, state of repose.
Quiet, *adj.*, at peace; silent; still.
Quill, *n.*, a reed; a feather-pen; *v.* to plait.
Quilt, *n.*, a bed cover.
Quinary, *n.*, arranged in fives.
Quincentenary, *n.*, relating to 500 years; *n.*, a 500th anniversary.
Quincunx, *n.*, an arrangement of five things in a square, with one in the centre.
Quintant, *n.*, the king's saloon.
Quinquanglar, *adj.*, having five angles.
Quinquennial, *n.*, occurring every five years.
Quinsy, *n.*, inflammation of tonsils.
Quint, *n.*, sequence of five.

day; æ; æm; æve; ælk; there; ipe; pin; machine; bold; pæ; störm; müte; tüb; bärn.

Quintal, kwint'al, *n.* a hundred weight.
Quintan, kwint'an, *adj.* occurring every fifth day.
Quintessence, kwint-es-ens, *n.* concentrated extract.
Quintette, kwint-et', *n.* music arranged for five parts.
Quintoon, kwint-oon, *n.* offspring of white and one possessing one-sixteenth of negro blood.
Quintuple, kwint'u-pl, *adj.* fivefold.
Quip, kwip, *n.* a gibe; sharp retort.
Quire, kwir, *n.* 24 sheets.
Quirk, kwirk, *n.* a quibble; a quick turn.
Quit, kwit, *v.* to pay; to release; to depart.
Quitch, kwich, *n.* couch-grass.
Quitclaim, kwit'klam, *n.* deed of release.
Quite, kwit, *adv.* completely.
Quittance, kwit'tent, *n.* a rent by which other obligations are discharged.
Quittance, kwit'tans, *n.* a discharge from obligation.
Quitter, kwit'er, *n.* a hoof sore.
Quiver, kwiv'er, *v.* to tremble; a case for arrows.
Quixotic, kwiks-ot'ik, *adj.* absurdly romantic.
Quiz, kwiz, *v.* to banter; *n.* a comical fellow.
Quof, kwif, *n.* a hooi.
Quoin, koin, *n.* a corner.
Quondam, kwon'dam, *adj.* former.
Quop, kwop, *v.* to move.
Quorum, kwu'm, *n.* number sufficient for business.
Quota, kwot'a, *n.* a proportionate part.
Quotidian, kwot'id'ian, *adj.* daily.
Quotient, kwot'shent, *n.* result of division.
Quotum, kwu'tum, *n.* share; proportion.

R

Rabate, ra-hat', *v.* to beat down.
Rabbi, rab'i, *n.* a Jewish doctor of law.
Rabble, rab'l, *n.* mob.
Rabid, rab'id, *adj.* furious; mad.
Raccoon, rak-koon, *n.* a small American wild animal.
Race, ras, *n.* mankind; a breed; a speed contest.
Raceme, ra-sim', *n.* a cluster.
Rachis, rak'is, *n.* the spine.
Racial, ras'al, *adj.* relating to race [ness].
Raciness, ras'al-ness, *n.* strength of flavour; spirited.
Rack, rak, *n.* an instrument of torture; framework for holding articles.
Racket, rak'et, *n.* clamour.
Rack-rent, rak'rent, *n.* rent to the utmost value.
Raconteur, ra-kong'teur, *n.* a narrator of stories.
Radial, rad'ial, *adj.* pertaining to a ray or radius.
Radiant, rad'i-ant, *adj.* luminous; brilliant.
Radiator, rad'i-ator, *n.* apparatus for throwing out light or heat.
Radical, rad'ik-al, *adj.* extreme; *n.* an ultra liberal.
Radicle, rad'ik-l, *n.* a small root; plant embryo.
Radius, rad'i-us, *n.* semi-diameter.
Raff, raf, *n.* a jumble; the rabble.
Raffle, raf'l, *v.* to throw dice for a prize.
Raft, raf, *n.* pieces of timber fastened together for floating.
Rafters, raf'ters, *n.* roof timbers. [upon].
Ragamuffin, ra-gum'fin, *n.* a low fellow.
Rage, raj, *n.* excessive anger; object of desire.
Ragged, rag'ed, *adj.* tattered; jagged; uneven.
Ragout, rag-oo', *n.* a seasoned stew.
Raid, rad, *n.* inroad; hostile invasion for plunder.
Rail, ral, *n.* a bar of metal or wood.
Railery, ral'er-i, *n.* banter. [cars to pass over].
Railway, ral'wa, *n.* a road laid with rails for trains or
Raiment, ral'ment, *n.* clothing; vesture.
Rainbow, ran'bu, *n.* bow in the clouds caused by the refraction and reflection of the sun's rays.
Rake, rak, *n.* a garden tool; a dissolute fellow; *v.* to scrape.
Raki, rak'i, *n.* a spirituous liquor drunk in the East.
Rally, ral'i, *v.* to unite.
Rambling, ram'bling, *adj.* wandering; desultory.
Ramification, ram-i-fik-a'shun, *n.* a subdivision.
Ramose, ra'mos, *adj.* branching.
Rampant, ramp'ant, *adj.* unbridled; *n.* an heraldic term applied to figures of animals on their hind legs.
Rampart, ramp'art, *n.* wall round a fortified place.
Ranch, ransh, *n.* a cattle range; stock farm.

Rancid, ran'sid, *adj.* sour; musty.
Rancorous, rang'k'er-us, *adj.* malignant; spiteful.
Random, ran'dom, *adj.* haphazard.
Rankle, rang'kl, *v.* to fester.
Rankness, rang'nes, *n.* sourness.
Ransack, ran'sak, *v.* to plunder; to search through.
Ransom, ran'son, *v.* to redeem; *n.* price paid for freedom.
Ranula, ran'u-la, *n.* tumour on the tongue of cattle.
Rapacious, rap-a'shus, *adj.* greedy. [Raphael].
Raphaelism, rap-a-el-izm, *n.* the art principles of
Rapids, rap'id, *n.* rapid current in a river.
Raploch, rap'loh, *n.* homespun.
Rapparee, rap-ar-ee', *n.* a wild Irish rover.
Rappel, rap-el', *v.* a drum call.
Rapt, rapt, *adj.* overcome with ecstasy.
Rare, rar, *adj.* uncommon.
Rarefaction, ra-re-fak'shun, *n.* expansion of bodies.
Rarefy, ra-re-fi, *v.* to make porous.
Rarity, ra-r'i-ty, *n.* an uncommon thing.
Rascality, ras-kal'i-ty, *n.* villainy.
Rase, raz, *v.* to erase; to demolish.
Rasorial, ra-so'rial, *adj.* belonging to the birds which scrape the ground for food.
Rasp, rasp, *v.* to grate; *n.* a rough file.
Rateable, ra-table, *adj.* liable to be rated.
Ratan, rat'an, *n.* a cane; a kind of palm.
Ratchet, rat'shet, *v.* check for a toothed wheel.
Rate, rat, *v.* to chide; to estimate; *n.* tax; value;
Ratification, rat-i-fik-a'shun, *n.* sanction. [standard].
Ratio, ra-shi-o, *n.* rate relation of one quantity to
Ration, ra-shun, *n.* allowance. [another].
Rational, rash-un'al, *adj.* reasonable.
Ratline, rat'lin, *n.* a small ship's rope.
Ratoon, ra-ton', *n.* a new shoot from sugar-cane
Rat's-bane, rat's-ban, *n.* rat poison. [root].
Ratteen, rat-en', *n.* thick kind of woollen.
Ratten, rat'en, *v.* to demolish a workman's tools because of disobedience to trades-union.
Rating, rat'ing, *n.* setting dogs to kill rats; deserting principles; working for lower wages than others.
Rattle, rat'l, *v.* to clatter.
Raucity, raw'st'i, *n.* hoarseness; harshness.
Ravel, rav-el, *v.* to untwist.
Ravellin, rav-el-in, *n.* a detached fortification.
Raven, ra'ven, *n.* a species of crow.
Ravenous, rav-en-us, *adj.* greedily; hungry; voracious.
Ravine, ra-ven', *n.* a gorge; hollow between hills.
Ravish, rav'ish, *v.* to transport with joy; to carry off by force; to violate.
Rawhead, raw'head, *n.* a spectre.
Rayah, ra'ya, *n.* a non-Mohammedan subject of
Raze, raz (same as *Rare*). [Turkey].
Razor, raz'or, *n.* a shaving instrument.
Re-absorb, re-ab-sorb', *v.* to absorb afresh.
React, re-akt', *v.* to act one on another; to return an impulse.
Reagent, re-a-jent, *n.* a substance that reacts.
Real, re'al, *adj.* actual; true; sincere. [money].
Reality, re-al-ty, *v.* to comprehend; to convert into
Realize, re-al-iz, *v.* truth; certainty; that which
Realty, re-al-ty, *n.* real estate. [exists].
Realm, relm, *n.* a kingdom.
Ream, rem, *n.* 20 quires. [rear].
Rearguard, rer-gard, *n.* the guard that protects the
Reason, rez'n, *n.* intellect; the reasoning faculty;
Reassure, re-assert, *v.* to assert anew. [motive].
Reassure, re-a-shoor, *v.* to assure again.
Rebatement, re-hat'ment, *n.* deduction.
Rebellion, re-bel-yun, *n.* sedition; opposition to established government.
Rebuff, re-buff, *n.* a check; repulse.
Rebuke, re-buk', *v.* to reprove; to chide.
Rebus, re-bus, *n.* a riddle.
Rebut, re-but', *v.* to repel.
Recalcitrant, re-kal'si-trant, *adj.* refractory.
Recantation, re-kan-ta'shun, *n.* the act of recanting.
Recapitulate, re-kap-i-tu-lat, *v.* to reiterate; to recall; to summarize. [back].
Recaptation, re-kap'shun, *n.* reprisal; act of taking
Recede, re-sed', *v.* to retreat; to draw back.
Receipt, re-siv', *n.* an acknowledgment; a recipe.

day; at; arm; eve; elk; there; ice; pin; machine; boid; pot; storm; mite; tub; burn.

Recency, *rĕ-sen-sĭ*, *n.* newness.
Revision, *rĕ-sen-shun*, *n.* a critical revision.
Receptacle, *rĕ-sep'ta-kĭ*, *n.* a place for holding things.
Recess, *rĕ-sees*, *n.* a cavity; a niche; vacation.
Recession, *rĕ-sesh'un*, *n.* act of ceding back.
Recherche, *rĕ-shĕr-shĕ*, *adj.* refined; tasty; rare.
Recipe, *re-sĭ-pĕ*, *n.* a prescription; formula for making up compounds of food, etc.
Recipient, *rĕ-sĭ-pĕ-ent*, *n.* one who receives.
Reciprocal, *rĕ-sĭ-p'rō-kal*, *adj.* mutual; alternating.
Reciprocate, *rĕ-sĭ-p'rō-kāt*, *v.* to interchange; to reciprocate.
Reciprocity, *rĕ-sĭ-p'rō-sĭ-tĭ*, *n.* interchange. [requisite.]
Rectal, *rĕ-sĭ-tal*, *n.* repetition of words or music.
Reckless, *rek'les*, *adj.* heedless. [narration.]
Reclaim, *rĕ-k'lām*, *v.* to claim back; to recover.
Recluse, *rĕ-k'loos*, *n.* one who lives in solitude.
Recognise, *rek'og-nĭz*, *v.* to know.
Recoil, *rĕ-kōil*, *v.* to rebound. [membering.]
Recollection, *rek-ō-lek-shun*, *n.* memory; act of remembering.
Recommendation, *rek-ō-mund-ā-shun*, *n.* advice; commendation.
Recompense, *rek'om-pens*, *n.* reward; remuneration.
Reconcile, *rek'on-sil*, *v.* to pacify; to render consistent.
Recondite, *rek'on-dit*, *adj.* profound; abstruse.
Reconnaissance, *rek-on-sĭ-āns*, *n.* act of reconnoitring.
Reconnoitre, *rek-on-sĭ-tr*, *v.* to survey with a view to military operations.
Record, *rĕ-kord*, *v.* to enroll; to write an account of.
Record, *rĕ-kord*, *n.* a register; a history; an account.
Recorder, *rĕ-kord'er*, *n.* a municipal judge.
Recount, *rĕ-kownt*, *v.* to relate.
Recoup, *rĕ-koop*, *v.* to indemnify.
Recourse, *rĕ-kōrs*, *n.* resort; application for aid.
Recover, *rĕ-kuv'er*, *v.* to regain.
Recreate, *rek'rĕ-ant*, *adj.* cowardly; mean.
Recreation, *rek-rĕ-ā-shun*, *n.* diversion; relaxation.
Recurrent, *rek'rĕ-ment*, *n.* reflux. [sation.]
Recriminat, *rĕ-krim-in-ā-shun*, *n.* a retorted accusation.
Recurrent, *rĕ-kroo-dev'ant*, *adj.* growing again.
Recruit, *rĕ-kroot*, *n.* a new soldier; *v.* to supply deficiency; to improve in health. [gram.]
Rectangle, *rek'tang-gĭ*, *n.* a right-angled parallelogram.
Rectify, *rek'tĭ-fĭ*, *v.* to amend. [lines.]
Rectilinear, *rek-tĭ-lĭn-ĕ-ā*, *adj.* bounded by straight lines.
Rectitude, *rek'tĭ-tūd*, *n.* integrity; uprightness.
Rector, *rek'tor*, *n.* a parish clergyman.
Rectum, *rek'tum*, *n.* the third of the large intestines.
Recurrent, *rek'm-ent*, *adj.* recurring.
Recurative, *rĕ-kū-per-ā-tiv*, *adj.* recovering.
Recur, *re-kur*, *v.* to return; to revert.
Recusant, *rek'ū-zant*, *n.* one who refuses to conform.
Redactor, *re-dakt'or*, *n.* an editor.
Redden, *red'n*, *v.* to make red.
Redeemer, *rĕ-dĕ-mer*, *n.* the Saviour, one who redeems.
Reintegrate, *re-din'tĕ-grāt*, *v.* to renew.
Red-letter, *red'let'r*, *adj.* marked with red letters; remarkable, as a day.
Redolent, *red-ō-lĕnt*, *adj.* diffusing a sweet odour.
Redoubt, *re-dow't*, *n.* a small outer fort.
Redoubtable, *re-dow't-ābl*, *adj.* formidable.
Redound, *re-downd*, *v.* to conduce.
Redress, *re-dres*, *v.* recompense; *v.* to remedy.
Red-short, *red'short*, *adj.* denoting iron at red-heat.
Red-tape, *red-tāp*, *n.* formality; official routine.
Reduce, *re-dūs*, *v.* to diminish; to subdue.
Redundant, *re-dun'dant*, *adj.* excessive.
Reduplicate, *red-dū-plĭk-āt*, *v.* to double again.
Reef, *ref*, *n.* a chain of rocks; part of a sail.
Reek, *rek*, *n.* smoke; vapour.
Re-eligible, *re-ĕlĭ-gĭ-bl*, *adj.* eligible again.
Re-enactment, *re-ĕn-akt'ment*, *n.* the act of acting afresh. [strengthen.]
Re-enforce, *re-ĕn-fors*, *v.* to enforce again; to strengthen.
Reeve, *rev*, *n.* a steward.
Re-export, *re-ĕks'port*, *v.* to export again what has been imported. [travels and convents.]
Refectory, *re-ĕkt'orĭ*, *n.* refreshment hall in monasteries.
Refer, *re-fĕr*, *v.* to appeal; to submit to another.
Refine, *re-fĭn*, *v.* to purify.
Reflect, *re-fĕkt*, *v.* to think; to throw back.
Reflex, *rĕ-fleks*, *adj.* turned backward; *n.* a reflection.

Reflorescence, *rĕ-flor-es-ens*, *n.* reflowering.
Reflorescent, *ref-loo-ens*, *n.* a flowering back.
Reform, *re-form*, *v.* to change for the better.
Reformatory, *re-form-ā-tō-rĭ*, *n.* a house of correction for juvenile offenders.
Refract, *rĕ-frakt*, *v.* to bend; to turn aside.
Refractory, *re-frakt'orĭ*, *adj.* unruly.
Refrain, *re-frān*, *v.* to abstain.
Refrangible, *rĕ-fran'ĭ-bl*, *adj.* that may be refracted.
Refresher, *re-fresh'er*, *n.* fee to counsel for continued service; that which, or one who, refreshes.
Refrigerate, *rĕ-frĭj-ĕt*, *v.* to make cool.
Refuge, *ref'ūj*, *n.* shelter. [fallen.]
Refugee, *ref-ū-jĕ*, *n.* one who takes refuge; an refugee.
Refulgent, *re-ful-jens*, *n.* brightness; lustre; splendour.
Refund, *re-fund*, *v.* to repay; to reimburse. [dour.]
Refusal, *re-fū-zal*, *n.* denial.
Refuse, *ref'ūs*, *n.* dross; waste matter.
Refutation, *ref-ū-tā-shun*, *n.* proof of error.
Regal, *rĕ-gal*, *adj.* royal.
Regale, *rĕ-gāl*, *v.* to refresh.
Regalia, *rĕ-gālĭ-ā*, *n.* insignia; ensigns of royalty.
Regatta, *re-gat'a*, *n.* boat or yacht races.
Regenerate, *re-jen-ĕr-āt*, *v.* to produce anew.
Regent, *rĕ-jent*, *n.* deputy ruler.
Regicide, *rejĭ-sĭd*, *n.* murderer of a king.
Régime, *rĕ-jĕm*, *n.* administration; dietary.
Regiment, *rej'ment*, *n.* a body of soldiers.
Register, *rejĭ-str*, *n.* a list; a record.
Registrar, *rejĭ-strar*, *n.* a recorder.
Registry, *rejĭ-strĭ*, *n.* office of registration.
Regnant, *rej'nant*, *adj.* reigning.
Regression, *rĕ-gresh'un*, *n.* return.
Regret, *re-gret*, *n.* sorrow; lament.
Regular, *reg'ū-lar*, *adj.* orderly; uniform; periodical.
Regur, *reg'ur*, *n.* soil for Indian cotton.
Regurgitate, *reg'ur-jĭt*, *v.* to pour back from a [depth.]
Rehabilitate, *re-hab-ĭ-lĕ-āt*, *v.* to restore.
Rehearsal, *re-her'sal*, *n.* a trial performance.
Rehearse, *re-her's*, *v.* to repeat; to practice.
Reification, *re-ĭ-fĭ-k-ā-shun*, *n.* materialisation.
Reign, *reyn*, *n.* rule; prevalence.
Reimbursement, *re-im-burs'ment*, *n.* act of repaying.
Rein, *reyn*, *n.* strap of a bridle; *v.* to curb.
Reins, *reynz*, *n.* the kidneys.
Reinsure, *re-in-shoor*, *v.* to insure again.
Reis, *reis*, *n.* a Portuguese coin.
Reiterate, *re-ĭ-ter-āt*, *v.* to repeat often.
Rejoinder, *re-jōin'der*, *n.* a reply.
Rejuvenate, *re-jōv-en-āt*, *v.* to make young again.
Relapse, *re-laps*, *v.* a falling back; *v.* to fall back.
Relative, *rel-ā-tiv*, *adj.* having relation to.
Relaxation, *rel-laks-ā-shun*, *n.* relaxation; slackening.
Relay, *rel-ā*, *n.* fresh supply; *v.* to lay again.
Release, *re-lĕs*, *v.* to free; to discharge.
Relegation, *rel-ĕ-g-ā-shun*, *n.* a sending away; exile.
Relentless, *re-len't-less*, *adj.* without relenting; unrelenting.
Reliance, *rel-ĕ-vāns*, *n.* pertinence. [pitiful.]
Reliance, *re-lĭ-āns*, *n.* trust; confidence.
Relic, *relĭk*, *n.* a memorial; a corpse.
Relict, *relĭkt*, *n.* a widow.
Relief, *re-lĕf*, *n.* succour; release from.
Relievo, *re-lĕ-vō*, *n.* figures in relief.
Religion, *re-lĭ-jun*, *n.* piety; belief; system of worship.
Relinquish, *re-lĭnk'ish*, *v.* to give up; to resign.
Reliquary, *relĭk-werĭ*, *n.* casket for holding relics.
Relish, *relĭsh*, *v.* to enjoy; *n.* something tasty.
Relocate, *re-lō-kāt*, *v.* to locate again.
Reluctance, *re-luk'tans*, *n.* unwillingness.
Remainder, *re-mān'der*, *n.* what remains.
Remand, *re-mānd*, *v.* to postpone; to send back.
Remedial, *re-mĕ-dĭ-al*, *adj.* curative.
Remembrancer, *re-mem-bran-ser*, *n.* a memento; an exchequer officer.
Remigrate, *re-mĭ-grāt*, *v.* to migrate again.
Reminiscence, *rem-in-is-ens*, *n.* reminiscence; a past event recalled.
Remise, *re-mĭz*, *v.* to tender back; to release.
Remission, *re-mĭsh'un*, *n.* relinquishment; relief.
Remissness, *re-mĭs-ness*, *n.* the act of being remiss; negligence.
Remit, *re-mĭt*, *v.* to pardon; to resign; to transmit.

dāy; āt; ārm; ēve; ēlk; thĕre; fĕs; pĭn; machine; bōld; pōt; stōrm; mŭste; tŭb; bŭrn.

Remittent, re-mit'tent, *adj.* alternately increasing and abating. [main part has been removed.]
Remnant, rem'nant, *n.* a fragment; what is left after.
Remonstrate, re-mon'strāt, *v.* to urge against.
Remorse, re-mors', *n.* penitent anguish; regret.
Removal, re-moov'al, *n.* the act of removing.
Remunerative, re-mu'ner-at-iv, *adj.* lucrative; profitable.
Renaissance, re-nā'sans, *n.* a new birth. [able.]
Renal, rē'nal, *adj.* relating to the kidneys.
Rencounter, ren-koun'ter, *n.* a sudden combat; casual meeting. [returning; a version.]
Rendering, ren-dring, *n.* an impersonation; a play.
Rendezvous, rāng-dā-voos, *n.* a meeting place.
Renegade, ren-ē-gād, *n.* an apostate; a deserter.
Renewal, re-nū'al, *n.* act of renewing.
Rennet, ren'et, *n.* inner membrane of a calf's stomach.
Renounce, rē-nouns', *v.* to cast off; to forsake.
Renovate, ren-ō-vāt, *v.* to renew. [fissure; v. torn.]
Rent, rent, *n.* money received for use of property; a
Renunciation, re-nūn-si-fā'shun, *n.* act of renouncing;
Repair, re-pair, *v.* to restore. [abandonment.]
Repast, rep-ar'tē, *n.* a smart retort.
Repeal, re-pel', *v.* to revoke; to rescind.
Repeat, re-pet', *v.* to do again; to rehearse.
Repeater, re-pet'er, *n.* anything that repeats; a
Repel, re-pel', *v.* to drive back. [striking watch.]
Repeal, re-pet', *v.* to drive back. [striking watch.]
Repetitory, re-pet-ō-ri, *n.* a treasury.
Repine, re-pin, *v.* to murmur; to fret.
Replenish, re-plen'ish, *v.* to re-stock.
Replete, re-plet', *adj.* full. [of a seizure of goods.]
Replevin, re-plev'in, *n.* a writ to determine the legality
Replica, rep'li-ka, *n.* a copy done by the original
Replication, rep-li-kā'shun, *n.* rejoinder. [artistic.]
Repone, re-pōn', *v.* to replace.
Reposal, re-pōz'al, *n.* act of reposing.
Repository, re-pōz-it-ō-ri, *n.* a store-house.
Repousse, re-pōo-sē', *adj.* raised in relief by hammer-
Reprehend, rep-reh'end, *v.* to censure; to blame. [ing.]
Represent, rep-rezent', *v.* to show; to personate.
Repress, re-pres', *v.* to hold back.
Reprive, re-prēv', *v.* to suspend a death sentence.
Reprimand, rep-ri-mānd, *v.* to reprove.
Reprisal, re-priz'al, *n.* seizure in retaliation. [proach.]
Reproachable, re-proch'abl, *adj.* deserving of re-
Reprobate, rep-rō-bāt, *n.* a depraved person; *v.* to
Reproof, re-proov', *n.* censure. [disapprove.]
Reptile, rep-til, *n.* a crawling animal.
Republic, re-pub'lik, *n.* a commonwealth; state
 governed without a sovereign.
Repudiation, re-pū-di-ā'shun, *n.* a rejection; disclama-
Repugnant, re-pug'nant, *adj.* offensive; hostile. [tun.]
Repulse, re-puls', *v.* to repel; to force back.
Repute, re-pūt', *n.* good character; *v.* to hold in esteem.
Request, re-kwest', *v.* to ask; to solicit.
Requiem, rē'kwī-ēm, *n.* a mass for the dead.
Requirement, re-kwīr'ment, *n.* demand; thing re-
 quired.
Requisite, rek-wiz'it, *adj.* necessary; needful.
Requital, rek-wi'tal, *n.* recompense.
Reverence, rē'r-mōns, *n.* a bat.
Rescission, re-siz'hun, *n.* the act of rescinding.
Rescript, re-skript, *n.* an edict.
Rescue, res-kū, *v.* to save; to deliver.
Research, res-verch', *n.* investigation.
Resent, re-zent', *v.* to resist; to be angered at. [land.]
Reservation, rez-er-vā'shun, *n.* a proviso; reserved
Reserve, re-zerv', *n.* caution; coldness; *v.* to retain.
Reservoir, rez-er-vwair, *n.* place where water is
 Residence, res'id-ēns, *n.* a dwelling. [collected.]
Residuum, re-sid'ū-um, *n.* the residue; what remains.
Resignation, rez-ig-nā'shun, *n.* patience; submission.
Resile, re-zil', *v.* to recoil; to leap from.
Resin, rez'in, *n.* a substance exuded from certain trees.
Resistance, re-zis'tāns, *n.* opposition.
Resolute, rez-ō-lūt, *adj.* determined; fixed.
Resolve, re-zolv', *v.* to decide; to analyse.
Resonance, rez-ō-nāns, *n.* sonority; reverberation.
Resort, re-zort', *n.* place much frequented; *v.* to have
 recourse.
Resource, re-zors', *n.* expedient; source of aid; means.
Respect, res-pekt', *n.* regard; esteem.

Respirator, res-pir-ā-tor, *n.* an apparatus to breathe
 through in bad weather.
Respite, res-pit, *n.* delay; suspension of punishment.
Respondent, res-pien'dent, *adj.* glowingly by right.
Respond, res-pōnd', *v.* to reply.
Responsible, res-pōn'sibl, *adj.* accountable.
Responsions, res-pōn'shuns, *n.* the University "little
Responsive, res-pōn'siv, *adj.* answering. [go.]
Restaurateur, res-tō-rā-ter, *n.* a restaurant keeper.
Restitution, res-tit'ū'shun, *n.* restoration of rights.
Restive, res'tiv, *adj.* stubborn; unwilling.
Restoration, res-tō-rā'shun, *n.* recovery.
Restraint, re-strānt, *n.* repression.
Restriction, re-strik'thun, *n.* restraint; limitation.
Restricting, re-strin'gent, *n.* an astringent.
Resultant, re-zult'ant, *n.* the thing resulting.
Resume, re-zūm', *v.* to begin again. [dead.]
Resuscitate, rez-ur-ek'shun, *n.* a raising from the
Resuscitate, rez-ur-ek'shun, *n.* a raising from the
Retail, re-tāil', *v.* to sell in detail to consumers.
Retainer, re-tān'er, *n.* an attendant; advance fee paid
 to secure services.
Retaliate, re-tāli-āt, *v.* to strike back.
Retard, re-tārd', *v.* to delay; to hinder.
Retch, rech, *n.* ineffectual attempt to vomit.
Retention, re-ten'shun, *n.* act of retaining.
Reticence, re-ti'sens, *n.* reserve; silence.
Reticular, ret-ik'ū-lar, *adj.* like network.
Retina, ret'i-nā, *n.* the inner coating of the eye.
Retinue, ret'in-ū, *n.* body of retainers.
Retiracy, re-ti-rā-si, *n.* retirement.
Retort, re-tort', *v.* to answer back sharply.
Retraction, re-trak'shun, *n.* withdrawal.
Retreat, re-trēt', *n.* place of retirement; act of retir-
 ing; *v.* to draw back.
Retrenchment, re-trench'ment, *n.* curtailment.
Retribution, re-tri-bū'shun, *n.* retributive.
Retrievable, re-triv'abl, *adj.* that may be regained.
Retrim, re-trim', *v.* to trim again.
Retrocade, re-trō-sēd', *v.* to go back.
Retrograde, re-trō-grād, *adj.* going backward.
Retrospect, re-trō-spekt, *n.* view of past scenes.
Reunion, re-ūn'yun, *n.* union after separation.
Reveal, re-vēl, *v.* to show; to make known.
Revel, rev'el, *n.* a boisterous feast.
Revelation, rev-el-ā'shun, *n.* disclosure.
Revenge, re-venj', *n.* vengeance; desire for retalia-
 tion; *v.* to injure in retaliation.
Revenue, rev'ē-nū, *n.* income, especially of a State.
Reverberate, re-ver-ber-āt, *v.* to resound; to echo.
Reverse, re-ver', *v.* to adore; to respect.
Reverie, rev'er-ē, *n.* a day dream; meditation.
Reverse, re-ver', *n.* misfortune; *adj.* turned back-
 ward; *v.* to turn in the opposite direction.
Reversion, re-ver'shun, *n.* succession in expectancy.
Revestment, re-ver'tment, *n.* a retaining wall or facing.
Review, re-vū, *n.* an inspection; a periodical; *v.* to
 inspect; to consider again.
Reville, re-vil', *v.* to reproach; to defame.
Revise, re-viz', *v.* to examine and correct.
Revoke, re-viv', *v.* to re-animate; to refresh.
Revocable, rev-ō-kā-bl, *adj.* that can be revoked.
Revolt, re-volt', *n.* act of rebellion; *v.* to rebel; to
 turn away.
Revolution, rev-ō-lū'shun, *n.* a sweeping governmental
 change; a motion round a centre.
Revolver, re-volv'er, *n.* a pistol with revolving barrel.
Revolunt, re-vul'shun, *n.* disgust; repugnance.
Rhabdomancy, rab-dō-man-si, *n.* divination by rods.
Rhadamanthine, rad-ā-man'thin, *adj.* judicially in-
 flexible. [writing.]
Rhapsody, rap-sō-dē, *n.* a rambling discourse or
 Rhinisch, rin'ish, *adj.* pertaining to the Rhine.
Rhetoric, re-tō-rik, *n.* elegance of form in speaking
 or writing.
Rheum, room, *n.* fluid secreted by the glands.
Rhino, ri'no, *n.* a slang for rhinoceros. [ing the nose.]
Rhinoscopy, ri'no-skōp, *n.* an instrument for exam-
 ining the nose.
Rhomb, rom, *n.* a figure of four equal sides but
 unequal angles.
Rhomboid, rom-boid, *n.* a figure like a rhomb, but
 with the opposite sides only equal.

day; ät; ärm; äve; älk; thäre; Ice; pñ; machine; bold; pöt; störm; müte; tüb; bürm.

Rhyme, *rim*, *n.* verse with accordant sounds at the line endings.
 Rhythm, *ritm*, *n.* a measured arrangement of words according to sound.
 Rialto, *ri'äl'tö*, *n.* old Venetian exchange; a bridge over the Grand Canal.
 Ribaldry, *rib'äl'dr*, *n.* obscenity; scurrility.
 Ribbon, *rib'on*, *n.* a narrow strip of silk.
 Rick, *rik*, *n.* a pile of hay or straw.
 Rickets, *rik'ets*, *n.* a children's disease.
 Ricochet, *rik-o-shä'*, *n.* rebounding shot.
 Riddance, *rid'äns*, *n.* deliverance; a moving away.
 Riddle, *rid'l*, *n.* a puzzle; a sifter; *v.* to solve.
 Ridge, *rij*, *n.* an elevation; an upper protuberance.
 Ridicule, *rid'ik'ül*, *n.* derision.
 Rificamento, *re-fä-chi-ment'o*, *n.* literary recasting.
 Rife, *rif*, *adj.* abounding.
 Rifle, *rif'l*, *n.* a gun with grooved bore.
 Rift, *rift*, *n.* a cleft; a fissure.
 Righteous, *rit'yus*, *adj.* upright; virtuous.
 Rightful, *rit'ful*, *adj.* just; legal; proper.
 Rigid, *ri'gid*, *adj.* stiff; severe; exact.
 Rigmarole, *rig'mä-role*, *n.* nonsense; confused state.
 Rigorous, *rig'or-us*, *adj.* severe. [ment.]
 Rigvæda, *rig'væ-dä*, *n.* Danish Parliament.
 Rill, *ril*, *n.* a small brook.
 Rime, *rim*, *n.* hoar-frost.
 Rind, *rim*, *n.* skin of fruit; bark. [disease.]
 Rinderpest, *rin'dër-pest*, *n.* an infectious cattle
 Ringbolt, *ring'bolt*, *n.* a ring through the head of a
 Ringleader, *ring'leä'dr*, *n.* leader of a gang. [bolt.]
 Ringlet, *ring'let*, *n.* a curl.
 Ringworm, *ring'worm*, *n.* a skin disease.
 Rinse, *rins*, *v.* to cleanse with water.
 Riotous, *ri'o-us*, *adj.* tending to riot.
 Riparian, *rip-ä'ri-an*, *adj.* pertaining to a river bank.
 Ripen, *ri'pen*, *v.* to mature.
 Rippling, *rip'ling*, *adj.* in ripples.
 Risible, *riz'ib'l*, *adj.* causing laughter.
 Ritual, *rit'u-al*, *n.* formula; ceremonial; book of
 Rival, *ri'val*, *n.* a competitor. [religious rites.]
 Rivet, *ri'vet*, *n.* a one-headed bolt that is fastened by
 having its other end hammered to a head.
 Road-hog, *road'hog*, *n.* a reckless motorist or cyclist.
 Roadstead, *road'steäd*, *n.* place near shore where ships
 Roan, *ron*, *adj.* dark variegated colour. [can anchor
 Robbery, *rob'ë-ri*, *n.* theft.
 Robust, *rob'üst*, *adj.* strong; hardy.
 Rochet, *roch'et*, *n.* a vestment worn by bishops
 Rocket, *rok'et*, *n.* a firework projectile.
 Rococo, *ro-kö'kö*, *adj.* an architectural style full of
 ornamental details.
 Rod, *rod*, *n.* a twig; a pole; 5½ yards.
 Rodent, *rod'ent*, *n.* a gnawing mammal; *adj.* gnawing.
 Roe, *ro*, *n.* eggs of fish; female deer.
 Rogation, *ro-gä'shun*, *n.* the litany; supplication.
 Roguery, *rog'ë-ri*, *n.* fraud; mischief.
 Roll, *roll*, *v.* to disturb or stir up.
 Rôle, *röl*, *n.* part sustained by an actor.
 Rollicking, *rol'ik-ing*, *adj.* sportful; frolicsome.
 Romaic, *ro-mä'ik*, *n.* modern Greek.
 Romance, *ro-man's*, *n.* an exciting fiction.
 Romanesque, *ro-man-esk'*, *adj.* pertaining to romance.
 Romantic, *ro-man'tik*, *adj.* sentimental; fanciful.
 Romp, *romp*, *n.* a frolicsome girl.
 Rondeau, *ron'dö*, *n.* a special form of poem. [cross.
 Root, *root*, *n.* quarter of an acre; the figure of the
 Rookery, *rook'ë-ri*, *n.* collection of rooks' nests; a
 crowded lot of old buildings.
 Rool, *rool*, *v.* to ruffle.
 Roost, *roost*, *v.* to perch; *n.* a perch.
 Root, *root*, *n.* the part of a plant which is embedded
 in the earth and draws sap from the soil.
 Ropewalk, *rop'wä'k*, *n.* place where ropes are made.
 Ropy, *rop'i*, *adj.* stringy.
 Rosal, *ro'säl*, *adj.* pertaining to dew.
 Roseate, *ro'së-ät*, *adj.* blooming; *rosy*.
 Rosebud, *ro'së-bud*, *n.* the bud of a rose.
 Roseate, *ro'së-ät*, *n.* a ribbon rose.
 Rosewater, *ro'së-wä'tër*, *n.* water tintured with rose
 Rosin, *ro'sin*, *n.* drops of turpentine. [essence.]
 Rose, *ros*, *n.* scale on trees.

Roster, *ros'tër*, *n.* a list of persons selected for duty.
 Rostral, *ros'tral*, *adj.* beak-like.
 Rostrum, *ros'trum*, *n.* a sale platform.
 Rosy, *ro'si*, *adj.* red; rose-lined; of good promise.
 Rot, *rot*, *v.* to putrify; to decompose.
 Rotary, *ro'tär-i*, *adj.* revolving.
 Roté, *rot*, *n.* repeating from memory.
 Rotunda, *ro-tün'dä*, *n.* a round house.
 Rotundity, *ro-tün'di-ti*, *n.* roundness.
 Roué, *roo-ä'*, *n.* a fashionable profligate.
 Rough, *ruf*, *adj.* uneven; coarse. [gravel.]
 Rough-cast, *ruf'kast*, *adj.* rude; *n.* plaster mixed with
 Rough-shod, *ruf'shod*, *adj.* having shoes armed with
 Roulade, *roo-lä'd*, *n.* a musical embellishment. [points.]
 Round, *round*, *adj.* circular; globular; plump.
 Roundelay, *roün'de-lä*, *n.* an ancient song.
 Roundrobin, *round-robin*, *n.* a writing signed in
 circular form so that one name does not have a
 more prominent position than another.
 Rout, *roüt*, *n.* a rabble; in assembly; a defeat.
 Route, *route*, *n.* course; road.
 Routine, *roo-tén*, *n.* the regular course.
 Rowdyism, *row'di-izm*, *n.* rude conduct.
 Rowel, *row'el*, *n.* the wheel of a spur.
 Rowen, *ro'en*, *n.* a second bay crop.
 Rowlock, *row'lok*, *n.* an oar seat.
 Royalist, *roi'al-ist*, *n.* an adherent to a king.
 Royalty, *roi'al-ti*, *n.* kingship.
 Rubbish, *rub'ish*, *n.* refuse; waste material.
 Rubble, *rub'l*, *n.* small undressed stones.
 Rubedity, *roo-bed'it-i*, *n.* redness.
 Rubia, *roo'bi-ä'*, *n.* gamopetalous plants, including
 Rubicund, *roo'bil-kund*, *adj.* red. [madder.]
 Rubidium, *roo-bid'üm*, *n.* a white metallic element.
 Ruby, *roo'bi*, *n.* a precious stone.
 Ruction, *ruk-tä'shun*, *n.* the act of belching.
 Rudder, *rud'er*, *n.* a helm.
 Ruddy, *rud'i*, *adj.* red.
 Rudimental, *roo-diment'al*, *adj.* elementary.
 Rue, *roo*, *v.* to regret.
 Ruff, *ruf*, *n.* a plaited cloth worn round the neck.
 Ruffian, *ruf'ian*, *n.* a brutal fellow.
 Ruffle, *ruf'l*, *v.* to agitate; to annoy; to form like ruff.
 Rugged, *rug'ed*, *adj.* rough; stormy.
 Ruminous, *roo-in-us*, *adj.* destructive.
 Rumbling, *rum'bling*, *n.* a low continuous sound.
 Rumble, *rum'bä*, *n.* a strong liquor.
 Ruminant, *roo'min-ant*, *n.* a cud-chewing animal.
 Rump, *rump*, *n.* the buttocks.
 Rump, *rump'l*, *v.* to wrinkle; to crush.
 Runagate, *run'a-gät*, *n.* a vagabond; a wanderer.
 Runaway, *run'a-wä*, *n.* a fugitive.
 Runch, *runsh*, *n.* wild radish.
 Rundle, *run'dl*, *n.* rung of a ladder; a bull.
 Runlet, *run'let*, *n.* a small cask.
 Rupture, *rup'tür*, *v.* to fracture; *n.* hernia.
 Rust, *rust*, *adj.* rusty.
 Ruse, *rooz*, *n.* a trick.
 Rushy, *rush'i*, *adj.* full of rushes.
 Russet, *rus'et*, *adj.* reddish brown.
 Rustic, *rust'ik*, *adj.* rural. [country for a time.]
 Rustication, *rus-tik-ä'shun*, *n.* a sending into the
 Rusty, *rust'i*, *adj.* covered with rust.
 Rut, *rut*, *n.* the track of a wheel.
 Ruthless, *rooth'les*, *adj.* pitiless.
 Rye, *ri*, *n.* a kind of grain.
 Ryo, *ryö*, *n.* a Hindu tiller of the soil.

S

Sabbath, *sab'äth*, *n.* Sunday; first day of the week.
 Sabian, *sä'bi-an*, *n.* a worshipper of heavenly bodies.
 Sable, *sä'b'l*, *n.* an animal of the weasel species; *adj.*
 Sabot, *sä-böt*, *n.* a wooden shoe. [black; of sable fur.]
 Sabre, *sä'br*, *n.* a broad-bladed sword.
 Sabulous, *sä'b'ü-lus*, *adj.* gritty.
 Saccharite, *sak'hä'rit*, *n.* a fine kind of feldspar.
 Sachem, *sä'chem*, *n.* an American Indian chief.
 Sachet, *sä-shä*, *n.* a bag of perfume.
 Sack, *säk*, *n.* a coarse bag; a loose garment.
 Sackbut, *sak'but*, *n.* a wind instrument.

day; ät; ärm éve; älk thére; ice; pin; machine; böld; pöt; störm; müte; tüb; büra

Sackcloth, sak'kloth, *n.* a coarse cloth.
Sacrament, sak'rā-mēt, *n.* the eucharist.
Sacrifice, sak'rī-fis, *v.* to kill and offer up to God; to yield up with loss. [*sacred things.*]
Sacrilegious, sak-rī-lē-jus, *adj.* profane; violating.
Sacrist, sak'rīst, *n.* a sacristan; a sexton.
Saddle, sad'l, *n.* a rider's seat.
Sadiron, sad'i-rūn, *n.* a smoothing-iron.
Safety-valve, safē-ti-valv, *n.* valve of a steam boiler to sag, *v.* to bend; to give way. [*obviate bursting.*]
Sagacious, sā-gā-shus, *adj.* shrewd; of ready perception.
Sage, sāj, *adj.* wise; discreet; *n.* a wise man; a herb.
Sagittaria, sā-jī-tā-rī-ā, *n.* a species of aquatic plants.
Sagum, sā-gūm, *n.* a Roman military cloak.
Sail-loft, sā-lōft, *n.* loft where sails are made.
Sainfoin, sān-fōin, *n.* a fodder plant.
Saint, sānt, *n.* an eminently pious person.
Saker, sā-ker, *n.* a kind of falcon.
Salaam, sā-lām, *n.* Mohammedan word of salutation; *homage*; *v.* to make the salaam.
Salamander, sā-lā-man-dēr, *n.* a striped yellow and Salary, sā-lā-rī, *n.* wages; stipend. [*black amphibian.*]
Salient, sā-lē-ent, *adj.* prominent.
Salify, sā-lī-fī, *v.* to form into salt.
Saline, sā-līn, *adj.* salty.
Saliva, sā-lī-vā, *n.* spittle.
Salivary, sā-lī-vā-rī, *adj.* pertaining to saliva.
Sallow, sā-lō, *adj.* pale yellow.
Sally, sā-lī, *n.* a sudden rush out of troops; witty ebullition; *v.* to rush out suddenly.
Salmagundi, sal-mā-gūn'dī, *n.* a pot-pourri.
Salon, sā-lōn, *n.* a reception room.
Saloon, sā-lōon, *n.* a large hall.
Salutation, sal-tā-shūn, *n.* the act of leaping.
Salubrious, sal-oo-bri-us, *adj.* healthful; wholesome.
Salvage, sā-lvāj, *n.* that which is saved; reward for saving a ship or cargo at sea.
Salvation, sal-vā-shūn, *n.* redemption; deliverance.
Salver, sā-lvēr, *n.* a small tray.
Salvo, sā-lvō, *n.* a salute with guns; an exception.
Savior, sā-lvōr, *n.* one who saves cargo.
Sambo, sam-bō, *n.* a negro.
Samuel, sā-mū-el, *n.* an Arabian simoon [*embroidery.*]
Sampler, sam-plēr, *n.* one who samples; a piece of
Sanatory, san-ā-tō-rī, *adj.* conducive to health.
Sanctify, sangk'tī-fī, *v.* to make holy
Sanction, sangk'shūn, *n.* ratification; *v.* to ratify; to
Sanctity, sangk'tū-tī, *n.* holiness; piety. [*confirm.*]
Sanctum, sangk'tūm, *n.* a sacred place.
Sand, sand, *n.* fine strong particles. [*indifference.*]
Sangfroid, sang-frwō, *n.* coolness; self-possession;
Sanguine, sang-gwīn, *adj.* hopeful; confident.
Sanguineous, sang-gwīn-ē-us, *adj.* abounding in
Sandline, san't-dīn, *n.* a variety of orthoclase. [*blood.*]
Sanies, san't-ēz, *n.* discharge from wounds or sores
Sanitarium, san-it-ā-rī-ūm, *n.* a health institution.
Sanitary, san'tī-ā-rī, *adj.* hygienic.
Sanity, san'tī-tī, *n.* saneness; soundness of mind.
Sans, sanz, *prep.* without.
Sansa, sanz-sā, *n.* a tambourine.
Sans souci, san-soo-sē, *n.* freedom from care
Sapping, sā-pīng, *adj.* wise
Sapling, sā-pīng, *n.* a young tree.
Saponaceous, sā-pō-nā-shus, *adj.* soapy.
Saponific, sā-pō-nī-fīk, *adj.* imparting flavour.
Sapphic, sā-pīk, *adj.* in the style of Sappho, the Greek
Sapphire, sā-fīr, *n.* a blue precious stone. [*poetess.*]
Saracen, sā-rā-sen, *n.* an Arab of the Middle Ages.
Sarcasm, sā-rā-kāz, *n.* a scornful remark; irony.
Sarcenet, sā-rē-nēt, *n.* a kind of fine silk.
Sarcoma, sā-rō-mā, *n.* a kind of tumour.
Sarcophilus, sā-rō-fī-lus, *n.* a group of marsupials, including the Tasmanian devil.
Sarcosis, sā-rō-sīs, *n.* a fleshy tumour. [*as laughter.*]
Sardonic, sā-rō-nīk, *adj.* bitter; forced; malignant.
Sartorial, sā-rō-rī-āl, *adj.* relating to tailoring.
Satanic, sā-tā-nīk, *adj.* devilish.
Satchel, sach-el, *n.* a small hand-bag.
Satellite, sat-el-ī, *n.* a small star, one of a group attendant upon a planet; an obsequious follower.
Satlety, sā-tē-tī, *n.* surfeit.

Satin, sat'īn, *n.* a thick lustrous kind of silk.
Satinet, sat-in-ēt, *n.* a thin kind of satin.
Satire, sat'īr, *n.* literary ridicule; spoken ridicule.
Satisfy, sat'is-fī, *v.* to gratify; to supply to the full.
Saturate, sat'ū-rāt, *v.* to fill to excess; to soak.
Saturnalia, sat-ur-nā-lī-ā, *n.* unrestricted revelry.
Saturnine, sat'ur-nīn, *adj.* gloomy; sad.
Satyr, sat'ēr, *n.* a sylvan god, part god and part man.
Saucy, saw'sī, *adj.* pert; mischievous; insolent.
Sauerkraut, sow'r-krowt, *n.* cabbage sliced and spiced.
Saunter, saw'tēr, *v.* to lounge around; to stroll.
Sausage, saw'sāj, *n.* chopped meat stuffed into a skin.
Savage, sav'āj, *adj.* uncivilized; wild; *n.* a barbarian.
Savant, sav-ang, *n.* a learned person.
Saviour, sā-vī-er, *n.* one who saves; Jesus.
Savour, sā-vōr, *n.* flavour; taste.
Sawyer, saw'yer, *n.* one who saws.
Scabbard, skab'ard, *n.* sword sheath.
Scabious, skā-bī-us, *adj.* scabby. [*small points.*]
Scabrous, skā-brus, *adj.* rough; harsh; covered with
Scaffold, skafold, *n.* a temporary wooden erection; platform upon which criminals are put to death.
Scalliole, skal-yō-lē, *n.* imitation marble.
Scalade, skā-lād', *n.* an escalade.
Scald, skald, *v.* to burn with a hot liquid; *n.* an ancient Scandinavian poet. [*climb.*]
Scale, skāl, *n.* a balance; covering of fish; *v.* to
Scalene, skā-lēn, *adj.* having three unequal sides.
Scallop, skol'up, *n.* an oyster-like valve with sinuous ridges; a shallow dish.
Scalp, skalp, *n.* outer covering of the skull; *v.* to cut
Scalpel, skā-pel, *n.* surgical knife; off the scalp
Scam, skān, *v.* to scurries; to cheat; to cheat; to cheat.
Scandalise, skān-dal-īz, *v.* to shock; to disgrace.
Scandent, skān-dent, *adj.* climbing.
Scant, skant, *adj.* meagre; insufficient.
Scantle, skān'tl, *v.* to separate into pieces.
Scantling, skān'tlīng, *n.* a small piece.
Scanty, skān'tī, *adj.* small; narrow; not full.
Scape, skāp, *n.* an escape.
Scape-goat, skāp-gōt, *n.* one who is made to answer for the defaults of another.
Scaphism, skā-fīz-m, *n.* the punishment of smearing a victim with honey and leaving him to wasp.
Scapular, skāp'ū-lar, *adj.* relating to the shoulder.
Scar, skār, *n.* mark left by wound; a cicatrice; a rugged bank.
Scarcity, skār-sī-tī, *n.* deficiency; rareness.
Scarecrow, skār-kro, *n.* an effigy or thing put up to frighten away birds.
Scarf, skārī, *n.* a loose garment for neck or shoulders;
Scarfskin, skār'skīn, *n.* the surface skin. [*as cravat.*]
Scarfily, skār-fīlī, *v.* to scratch and cut the skin.
Scarp, skārp, *n.* a steep slope.
Scathless, skā-th'les, *adj.* unharmed.
Scavenger, skav'en-jēr, *n.* a street cleaner.
Scenery, sē-nēr-ī, *n.* natural landscape; painted representations on the stage.
Scenography, sē-nōg'raf-ī, *n.* the art of perspective.
Scetre, sep'tēr, *n.* staff borne by monarchs as emblem of supreme authority.
Schedule, shed'ul, *n.* a list; an inventory.
Schemer, shkēm, *n.* one who schemes.
Schism, shkīz-m, *n.* church division.
Schnapps, shknap-s, *n.* Holland gin.
Scholar, skol-ār, *n.* a student; a learned man.
Scholastic, skol-as'tīk, *adj.* relating to schools.
Schooner, skoō'nēr, *n.* a two-masted vessel.
Science, shkēns, *n.* classified knowledge.
Scimitar, sim'it-ār, *n.* a curved Turkish sword.
Scintillation, sin-tī-lā-shūn, *n.* the act of sparkling; a twinkling shining.
Sciolist, shkī-ō-līst, *n.* a person of superficial knowledge.
Scion, shkōn, *n.* an offshoot; a descendant.
Scirrhus, shkīr-us, *n.* a hardened tumorous gland.
Scirtopod, shkīr-topod, *adj.* fitted for leaping.
Scissel, shkīz-el, *n.* metal clippings.
Scissors, shkīz-ōrs, *n.* a clipping instrument.
Sconce, shkōns, *n.* a candlestick; a fort; a skull.
Scoop-net, shkōop-net, *n.* hand-net.
Scopulate, shkōp'ū-lāt, *adj.* broom-shaped.
Scorify, shkōr-īfī, *v.* to reduce to scoria.

day; āt; ārm; ēve; ēlk; thēre; īce; pln; machine; bōld; pōt; stōrm; mūte; tūb; bōm.

Scorious, skô'ri-us, *adj.* of the nature of slag
Scorn, skôr'n, *n.* contempt; disdain.
Scot-free, skô't'fré, *adj.* free from payment.
Scotia, skô'shi-a, *n.* Scotland. [ful conduct.
Scoundrelism, skôwn'drel-iz-m, *n.* baseness; disgrace.
Scourge, skûrj, *n.* a whip made for punishing purposes; *v.* to whip excessively.
Scout, skôwt, *n.* one sent out to watch the operations of an enemy; *v.* to reject.
Scow, skow, *n.* a flat-bottomed boat.
Scrabble, skral'f, *v.* to scrawl.
Scraggy, skrag'j, *adj.* lean; bony; rough.
Scramble, skram'bl, *v.* to clutch eagerly; to climb.
Scranch, skran'ch, *v.* to crunch. [surface.
Scratch, skrat'ch, *v.* to rub with the nails; to tear the
Scrawl, skraw'l, *v.* to scribble; to make rough marks.
Scawny, skaw'nj, *adj.* raw-honed.
Screech, skré'ch, *v.* to scream; to cry in shrill tone.
Speed, skred, *n.* a shred; a piece of wood used for leveling plaster.
Screen, skrin, *n.* anything which shelters or conceals.
Screw, skron, *n.* a spiral nail; *v.* to fasten with a screw.
Scribe, skrib, *n.* a writer.
Scrim, skrin, *v.* to feign.
Script, skrip, *n.* a wallet; certificate of shares.
Script, skrip, *n.* a type in imitation of writing.
Scriptural, skrip'tû-ral, *adj.* according to the Scriptures.
Scrivener, skriv'en-er, *n.* one who draws up contracts.
Scrofulous, skrof'û-lus, *adj.* afflicted with scrofula.
Scroll, skrol, *n.* a writing that can be rolled up; an architectural ornament.
Scrubby, sku'b'l, *adj.* mean; stunted.
Scuff, skruf, *n.* a scrape of the neck.
Scruple, skroo'pl, *n.* conscientious hesitation; scruples.
Scrutinise, skroo'tin-iz, *v.* to examine minutely.
Scudo, skroo'to, *n.* a movable stage-trap.
Scud, skud, *v.* to sail or run swiftly.
Scull, skul, *n.* a short oar; a boat; *v.* to propel by
Sculley, skul-er, *n.* place for kitchen utensils. [bars.
Sculion, skul'j-on, *n.* an inferior kitchen servant.
Sculptor, skulp'tor, *n.* a carver in stone or wood.
Scum, skum, *n.* refuse; froth.
Scupper, skup'er, *n.* a hole through which water is run off from a ship's deck.
Scuppet, skup'et, *n.* a shovel.
Scurl, skurl, *n.* dry scale.
Scurlous, skur'l-us, *adj.* abusive; vulgar.
Scut, skut, *adj.* short-tailed.
Scutiform, skû'ti-fôr-m, *adj.* formed like a shield.
Scuttle, skurtl, *v.* to sink a ship by cutting holes in it.
Scythe, sith, *n.* a grass-cutting tool; a sickle.
Sea, sé, *n.* a large body of salt water.
Sea-borne, sé'bôrn, *adj.* borne on the sea.
Seal, sél, *n.* an aquatic animal; a stamp with device; *v.* to affix a seal. [together, a vein of mineral.
Seam, sém, *n.* a joining where two edges are stitched.
Seamstress, séms'tres, *n.* a needlewoman.
Seance, sé'ans, *n.* public gathering.
Sea-pie, sé'pí, *n.* a dish of meat and paste.
Sear, sér, *v.* to scorch; to cauterise.
Sea-room, sé'roon, *n.* the open sea.
Season, sé-zén, *n.* a period of time; *v.* to make tasty.
Sebacous, sé-bâ'sh-us, *adj.* pertaining to fat.
Secant, sé-kant, *adj.* cutting; dividing into two parts.
Secession, sé-sesh'ôn, *n.* separation.
Seclude, sé-klood', *v.* to place in retirement.
Secondary, sé-kûn-dâr-í, *adj.* subordinate.
Second, sé-kûnd, *adj.* next after the first; inferior; no wind supports; the ooth part of a minute.
Secrecy, sé-kres-í, *n.* privacy.
Secretary, sé-kre'târ-í, *n.* one employed to write; a chief departmental officer.
Secrete, sé-kret', *v.* to hide.
Sectarianism, sek-târ-í-an-iz-m, *n.* sect devotion.
Sector, sek'tor, *n.* a mathematical instrument.
Secular, sek'û-lar, *adj.* temporal; worldly.
Scintillate, sé-kûn-rit, *n.* an explosive powder.
Security, sé-kûrit-í, *n.* safety; a thing pledged.
Sedan, sé-dan', *n.* a portable chair-conveyance.
Sedate, sé-dat', *adj.* calm; quiet.
Sedentary, sed'en-târ-í, *adj.* inactive; sitting.
Sedge, sej, *n.* a coarse grass.

Sedimentary, sed-i-men'târ-í, *adj.* relating to sediment.
Sedulous, sé-dû-sh-us, *adj.* connected with sedition.
Seduce, sé-dûs, *v.* to allure; to entice from virtue.
Sedulous, sé-dû-sh-us, *adj.* diligent; assiduous.
See, sé, *n.* a diocese; *v.* to behold.
Seedling, séd'ling, *n.* a plant from the seed.
Seemingly, séem'ing-lí, *adv.* in appearance.
Seemly, séem'lí, *adj.* proper; becoming.
Seesaw, sé'saw, *n.* an up and down movement; *v.* to coil; *v.* to concoct.
Seggar, seg'gar, *n.* clay shell in which fine pottery is
Segment, seg'ment, *n.* a section. [baked.
Segregate, seg're-gát, *v.* to separate.
Seignior, séi'yôr, *n.* dominion; lordship; manor.
Seismic, séi'smik, *adj.* pertaining to earthquake.
Seismometer, séi-mom'e-ter, *n.* an apparatus for measuring earth tremors.
Seizin, séi-zin, *n.* possession.
Seizure, séi-zûr, *n.* the act of seizing.
Select, sé-lekt', *adj.* choice; *v.* to choose. [moon.
Selenography, sé-lén-og'raf-í, *n.* description of the
Seli-denial, séli-den'ál, *n.* denial of personal gratification.
Selfishness, sélf'ish-nés, *n.* absorption in self-interest.
Self-love, sélf-lov, *n.* love of one's self.
Self-will, sélf-wil, *n.* willfulness; obstinacy.
Selva, sélvá, *n.* edge of cloth.
Semaphore, sem'a-fôr, *n.* a signal apparatus.
Sematology, sé-mat-ol'ô-jí, *n.* the science of verbal
Semblance, sémb-lans, *n.* likeness. [signs.
Semerology, sé-mér-ol'ô-jí, *n.* the science of gesture.
Semese, sé-més, *adj.* half-eaten.
Semibreve, sé-mí-brév, *n.* the longest note in music.
Semicolon, sé-mí-kô-lôn, *n.* a punctuation mark. [h.
Sepinal, sé-p'nal, *adj.* relating to seed.
Seminary, sé-mí-nâr, *n.* a superior school.
Seminiferous, sé-mí-ní-fér-us, *adj.* seed-bearing.
Semitic, sé-mít'ik, *adj.* pertaining to the descendants
Semivowel, sé-mí-vôv-el, *n.* a half-vowel. [of Shem
Semivocal, sé-mí-vôk-al, *adj.* indistinct, perpetual.
Senary, sé-nâr-í, *adj.* containing six.
Senator, sé-n'a-tôr, *n.* member of a senate.
Seneschal, sé-nés-shal, *n.* a steward.
Semle, sé-níl, *n.* old.
Seniority, sé-mór-it-í, *n.* priority in age or length of
Sennight, sé-nít, *n.* a week. [service.
Sennit, sé-nít, *n.* a sort of cordage.
Sensation, sen-si'sh-un, *n.* feeling.
Sense, séns, *n.* intelligence; meaning; feeling.
Sensitive, sé-nít-iv, *adj.* easily affected.
Sensual, sén'shu-al, *adj.* carnal; relating to the senses.
Sentence, sén'tens, *n.* a decision. [punitive in speech.
Sententious, sen'ten'sh-us, *adj.* pithy in sentences;
Sentient, sén'shent, *adj.* feeling; perceiving.
Sentiment, sén'ti-ment, *n.* feeling; thought; senti-
Sentry, sén'trí, *n.* a sentinel; a guard. [biffy.
Separable, sé-p'ar-á-bl, *adj.* capable of separation.
Sepoy, sé-pô, *n.* native Indian soldier.
Sepais, sé-pais, *n.* rattlesnakes.
Septan, sép'tan, *adj.* occurring every seventh day.
Septangular, sép'tan-g'û-lar, *adj.* with seven angles.
Septenary, sép'ten-âr-í, *n.* consisting of seven.
Septennial, sép'ten'ní-al, *adj.* occurring every seven
Septic, sép'tik, *adj.* making putrid. [years.
Septuagint, sép'tû-â-jint, *n.* Greek version of the Old
Sepulchre, sep'ul-ker, *n.* a tomb. [Text.
Sequece, sé-kwés, *n.* succession.
Sequester, sé-kwés-trít, *v.* to separate; to disperse.
Seraglio, sé-râ'lyo, *n.* palace; harem.
Seraphic, sér-af'ik, *adj.* angelic.
Sere, sér, *adj.* withered.
Serenade, sér-e-nâd', *n.* an out-door night-song.
Serenity, sér-en'ít-í, *n.* calmness.
Serf, sérf, *n.* a slave.
Sergeant, sér-jent, *n.* a non-commissioned officer.
Serial, sé-rí-al, *adj.* appearing periodically; *n.* a story issued in a series.
Seriatim, sé-rí-â-tim, *adv.* one following another.
Sericeous, sér-í-sh'us, *adj.* silky.
Serious, sé-ri-us, *adj.* grave.
Sermon, sér-môn, *n.* a discourse on a text.
Sermon, sér-môn, *n.* package of drugs.

day; ât; ârm; êve; êlk; thêre; íce; pín; machine; bôld; pôt; stôrm; mûte; tûb; bûrn.

Simious, sim'io-us, *adj.* relating to the monkey tribe.
Simmer, sim'er, *v.* to boil gently.
Simony, sim'o-ni, *n.* dealing in church preferments.
Simoom, sim'o-m, *n.* a hot wind.
Simous, sim'us, *adj.* flat-nosed.
Simper, sim'per, *v.* to smile affectedly.
Simplicity, sim-plis'i-ty, *n.* artless-ness.
Simplify, sim-pli-fi, *v.* to make plain.
Simulate, sim'u-lat, *v.* to assume.
Simultaneous, sim-ul-ta-ne-us, *adj.* at the same time.

Sin, sin, *n.* violation of duty or divine law.
Sinapism, sin'a-piz-m, *n.* a mustard plaster.
Sincerity, sin-er'i-ty, *n.* honesty.
Sinciput, sin-si'put, *n.* front of the head.
Size, sin, *n.* a straight line from the end of an arch.
Secure, si-né-kür, *n.* an office without labour.
Sinew, sin'ü, *n.* a tendon; a muscle.
Single, sing'l, *adj.* one; unmarried.
Single-minded, sing'l-min'd-ed, *adj.* upright; sincere.
Singlet, sing'l-et, *n.* an undershirt.
Singular, sing-gu-lar, *adj.* uncommon; rare; peculiar.
Sinister, sin-is-ter, *adj.* unlucky; evil.
Sinistorsal, sin-is-tro-sal, *adj.* turning spirally.
Sinistrous, sin-is-trus, *adj.* left-sided; wrong.
Sinking-fund, sing'ing-fund, *n.* fund for reducing public debt.

Sinuate, sin'u-ät, *v.* to twist in and out.
Sinuosity, sin-u-ös'i-ty, *adj.* the quality of winding.
Siphon, si'fon, *n.* tube for drawing off liquor.
Sirdar, sir-dar', *n.* a Persian or Egyptian chief.
Sire, sir, *n.* a father.

Siren, si-ren, *n.* an enticing woman; a sea-nymph.
Sirloin, sir-loin, *n.* loin of beef.
Sirocco, si-ro'ko, *n.* a hot wind.
Sitology, si-to-lö-ji, *n.* science of diet.
Situation, si-tü-ä-shun, *n.* location.
Sizable, si'za-bl, *adj.* of suitable size; bulky.
Sizar, si'zar, *n.* a lower Cambridge student.
Size, siz, *n.* bulk; magnitude; a glues substance.
Skein, skän, *n.* a roll of yarn; a kind of thread.
Skeleton, skel'e-ton, *n.* frame of an animal.
Skip, skep, *n.* a large wicker basket open at the top.
Sketch, sketch, *n.* an outline.
Skewer, skü'er, *n.* a pin for holding meat together.

Skid, skid, *n.* a drag.
Skidful, skil'ful, *adj.* expert.
Skillet, skil'et, *n.* small boiler.
Skimmings, skim'ings, *n.* skimmed matter.
Skiffant, skif'ant, *n.* a miserly person.
Skirmish, skir'mish, *n.* a light military encounter.
Skittish, sket'ish, *adj.* easily frightened; fickle.
Skiver, skü'ver, *n.* a split sheep-skin.
Skull, skul, *n.* bone of the head.
Sky-rocket, skü-rok-et, *n.* a firework projectile.
Sky-sail, skü-sal, *n.* small sail above the royal.

Slabber, slab'er, *v.* to slaver; to drive.
Slack, slak, *v.* to quench.
Slacker, slak'er, *n.* a defamator.
Slang, slang, *n.* vulgar language.
Slash, slash, *v.* to cut; to hit out at random.
Slat, slat, *n.* a thin piece of wood.
Slatern, slat'ern, *n.* a slovenly person.
Slate, slät, *adj.* like, or consisting of, slate.
Slaughter, slaw'ter, *n.* carnage; butchery.
Slaver, släv'er, *n.* a sailor running from the mouth.

Slavery, släv'er-i, *n.* bondage.
Seave, släv, *n.* knotted part of silk.
Sledge, slej, *n.* a heavy hammer; a sleigh.
Sleek, slick, *adj.* smooth; glossy. [for rails, etc]
Sleeper, slä'per, *n.* one who sleeps; a timber support.
Sleet, slät, *n.* a mixture of rain and hail.
Sleeve, släv, *n.* a sleeve.
Sleigh, slä, *n.* a vehicle with runners & sliding over.
Sleight, slit, *n.* trick, cunning. [the snow]
Sleuth-hound, slöuth'hound, *n.* a dog that follows.
Sley, slä, *n.* the roof of a loom. [game by scent]
Slight, slit, *n.* neglect; a snub; *adj.* small; feeble.
Slimy, slim-i, *adj.* moist; sticky.
Slink, slängk, *v.* to sneak away.
Slipper, slip'er, *n.* a low, easy shoe.

Slippery, slip'er-i, *adj.* in condition to cause one's feet to slip; uncertain; shifting.

Silpaoe, slip'shoe, *n.* a slipper.
Silver, sil'er, *n.* a lengthwise mass of wool or other material combed out.
Sloe, slö, *n.* the blackthorn and its fruit.
Slogan, slö'gan, *n.* a war-cry.
Sloop, sloop, *n.* a one-masted boat.
Slop, slop, *v.* to spill; *n.* dirty water.
Slope, slöp, *n.* slant; an incline.
Sloppy, slop't, *adj.* wet and muddy.
Slouch, slöch, *n.* laziness; an annual.
Slough, sluf, *n.* cast-off skin of a serpent; *v.* to cast off. [like a slough]
Sloven, slöv'en, *n.* a slattern.
Sudge, sluj, *n.* thick mud.

Slug, slug, *n.* a shell-less snail.
Sluggard, slug'erd, *n.* a lazy person; a drone.
Sluice, sloos, *n.* a floodgate.
Slum, slum, *n.* a mean street or neighbourhood.
Slump, slump, *v.* to sink in.

Slur, slur, *v.* to sully; *n.* a reproach; a stain.
Slut, slut, *n.* a slattern. [in the hand]
Small-arms, smäl'Arms, *n.* fire-arms that can be held.
Smaragdyne, smä-rag'din, *adj.* emerald green.

Smart-money, smärt'mun-i, *n.* money paid for a recruit's release before being sworn in.
Smatter, smät'er, *v.* to talk or write superficially.
Smear, smär, *v.* to daub; to soil. [smelling]
Smelter, smelt'er, *n.* one who smelts; a place for smirch, smirch, *v.* to smear; to cloud; to degrade.

Smirk, smerk, *n.* an affected smile.
Smittle, smit'l, *v.* to infect.
Smock, smok, *n.* blouse; chemise. [with smoke]
Smoky, smö'ki, *adj.* sending forth smoke; covered.
Smother, smö'ther, *v.* to smother; to stifle.
Smouldering, smöld'er-ing, *adj.* burning slowly.

Smudge, smuj, *v.* to smear with smoke or dirt; *n.* a dirty mark.
Smuggle, smug'l, *v.* to import or export goods illegally.
Smutch, smuch, *v.* to blacken with smoke. [legally]
Smuttiness, smut'iness, *n.* dirt caused by smoke; obscenity.

Snack, snæk, *n.* a small portion; a share, a light.
Snaffle, snäfl, *n.* a bridle with a slender bit.
Snag, snag, *n.* a shoot; a tooth standing out; a knot.
Snappish, snap'ish, *adj.* harsh in reply; peevish.
Snarl, snär, *v.* to growl.

Snare, snär, *n.* the handle of a scythe.
Sneer, snär, *v.* to scoff; *n.* scorn; disdain. [nostrils]
Sneeze, snöz, *v.* to eject air violently through the snif, snif, *v.* to draw air audibly up the nose.

Snigger, sung'er, *v.* to laugh in a half-suppressed way.
Snivel, sniv'el, *v.* to whine; *n.* running of the nose.
Snob, snob, *n.* a pretentious person; one who affects a higher position than he can rightfully claim.
Snood, snood, *n.* a fillet.

Snore, snör, *v.* to breathe audibly in sleep.
Snort, snort, *v.* to force air noisily through the nose.
Snow, snö, *n.* frozen vapour; *v.* to fall in flakes of frozen vapour.

Snub, snub, *v.* to check; to slight; *n.* a rebuke.
Snuffers, snuff'ers, *n.* instrument for snuffing candles.
Snuffles, snuff'l, *n.* obstructions in the nose.
Sock, sök, *v.* to drench; to steep.

Soap, söp, *n.* a compound of oils or fats and alkali, divided broadly into toilet soaps and domestic soaps. Pears' Soap is the leading toilet soap.
Soar, sür, *v.* to fly aloft.

Sobriety, sö-br'i-ty, *n.* temperance; seriousness.
Sobriquet, sö-bré-kä', *n.* a nickname. [service]
Socage, sök'äji, *n.* land-tenure on terms of a fixed.
Sociable, sö-sä-bl-i, *adj.* social; friendly; familiar.
Socialism, sö-säl-i-zm, *n.* communism in its varied forms.

Society, sö-si-ty, *n.* a community; an association, the fashionable world; social intercourse.
Sociology, sö-si-ö-lö-ji, *n.* science of social existence.
Sock, sök, *n.* a short stocking.
Socket, sök'et, *n.* a cavity for holding something.
Sodality, sö-lä-t-i, *n.* fellowship. [inserted ad]
Soddy, söd'i, *adj.* turfy; covered with sods.

day; Ä; ärm; äw; Älk; tuc; tuc; pin; machine; bold; pöt; störm; müte; tüb; bürn.

Sodomy, *sod'ô-mî*, *n.* an unnatural crime.
Soggy, *sog'î*, *adj.* wet; soaked.
Soil, *soil*, *n.* land; earth; *v.* to tarnish.
Soiree, *swa'îr*, *n.* an evening party.
Sojourn, *sô'jurn*, *v.* to abide.
Solace, *sô'âs*, *n.* comfort; consolation; *v.* to console.
Solder, *sôl'der*, *v.* to fasten together with metallic
Soldier, *sôl'djer*, *n.* a man in military service. [clement.
Sole, *sôl*, *n.* a fish; bottom part of foot or boot.
Solecism, *sôl'ê-sizn*, *n.* incorrect language; unfitness.
Solely, *sôl'î*, *adv.* singly; only.
Solemnity, *sôl-en'î-tî*, *n.* sacred ceremony; gravity.
Solicit, *sôl-î-sî't*, *v.* to request; to entreat.
Solitariness, *sôl-î-târ-î-nî*, *n.* singleness of interest.
Solidity, *sôl-î-dî-tî*, *n.* firmness.
Soliloquise, *sôl-î-lô-kwîz*, *v.* to talk to one's self.
Solitude, *sôl-î-tûd*, *n.* seclusion; a lonely spot. [ment.
Solo, *sô'lô*, *n.* performance by one voice or one instru-
Solstitial, *sôl-î-tî-sh'î-l*, *adj.* pertaining to a solstice.
Soluble, *sôl'u-bîl*, *adj.* dissolvable.
Solution, *sô-lû-shun*, *n.* explanation; process of dis-
 solving; the result of the unsolving. [substances.
Somatology, *sô-mat'ô-lô-jî*, *n.* the science of material
Sombre, *sôm-br'*, *adj.* gloomy; dark; melancholy.
Somersault, *sôm-er-sôlt*, *n.* a leap in which the
 leaper turns round and alights on his feet.
Sognambulist, *sôm-nâm'bû-list*, *n.* a sleep-walker.
Somniferous, *sôm-nî-fêr-us*, *adj.* causing sleep.
Somniloquist, *sôm-nî-lô-kwîst*, *n.* one who talks in his
 Somnolent, *sôm-nô-lent*, *adj.* sleepy; drowsy. [sleep.
Sonata, *sô-nâ-tâ*, *n.* a musical composition in three or
 more movements.
Sonneteer, *sôn-ê-têr*, *n.* a composer of sonnets.
Sonorous, *sô-nô-rus*, *adj.* resonant.
Soot, *sôot*, *n.* dust from smoke.
Sooth, *sôph*, *v.* to pacify; to calm; to console.
Soothsayer, *sôth-sâ-yêr*, *n.* a fortune-teller.
Sophism, *sô-fî-zm*, *n.* a plausible fallacy.
Sophist, *sô-fîst*, *n.* a fallacious reasoner.
Sophisticate, *sô-fî-tî-kâ-t*, *v.* to corrupt; to adulterate.
Soporiferous, *sô-pô-rî-fêr-us*, *adj.* tending to sleep.
Soprano, *sô-prâ-nô*, *n.* the highest voice (treble); one
 who sings in such a voice.
Sorcery, *sôr-ser-î*, *n.* magic.
Sordid, *sôr-dîd*, *adj.* mean; avaricious.
Sortes, *sôr-têz*, *n.* a logical formula [sponging.
Sorner, *sôr-nêr*, *n.* one who gets entertainment by
 Sorrel, *sôr-l'*, *n.* an acid plant; *adj.* rather red.
Sorrowful, *sôr-ô-fûl*, *adj.* sad; regretful; melancholy.
Sorry, *sôr'l*, *adj.* sad for something done, or for some
 person; worthless.
Sortie, *sôr-tê*, *n.* a sally of troops from a besieged
 Sot, *sôt*, *n.* a drunkard [place.
Soteriology, *sô-têr-î-ô-lô-jî*, *n.* belief in salvation
 through Christ.
Sough, *sôw*, *v.* to sigh, as the wind. [a comedy.
Soul, *sôl*, *n.* the spirit; life; intellect.
Sounding, *sôund'îng*, *n.* the act of ascending the
 depth of water.
Soundness, *sôund'nês*, *n.* health; vital completeness.
Soup, *sôop*, *n.* a nutritious concoction made by boiling
 meat or vegetables in stock.
Source, *sôrs*, *n.* origin; a spring.
Souse, *sôws*, *v.* to duck; to plunge into water.
Soutaine, *sô-tân*, *n.* a cnscock.
Souvenir, *sôo-vên-îr*, *n.* a keepsake.
Sovereign, *sôv-ê-rîn*, *n.* ruler; a gold coin worth
Sow, *sôw*, *n.* a female pig. *sôs*, *adj.* supreme.
Sow, *sô*, *v.* to scatter seed for it to grow.
Spa, *spaw*, *n.* a mineral water spring.
Space, *spâs*, *n.* room; distance; interval.
Spalt, *spalt*, *n.* a mineral used as a flux in smelting
Span, *span*, *n.* nine inches; a period of time [metals.
Spangle, *spîng-gl*, *n.* a small boss of shining metal;
v. to deck with spangles.
Spaniel, *span-yel*, *n.* a sporting dog.
Spang, *spangk*, *v.* to slap.
Spanker, *spangk'er*, *n.* a sail; anything dashing; a fast
Spar, *spâr*, *n.* a mast or beam; a mineral. [horse.
Spareness, *spâr-nês*, *n.* leanness.
Sparerib, *spâr-rîb*, *n.* ribs of pork.

Sparkish, *spârk'îsh*, *adj.* gay; volatile.
Sparse, *spârs*, *adj.* thin; scattered.
Spasian, *spâs-tan*, *adj.* severe; hardy.
Spasm, *spâzm*, *n.* a cramp; sudden twitching.
Spatula, *spât'û-lâ*, *n.* a trowel; knife for spreading
 ointment.
Spavin, *spav'in*, *n.* a disease of the joints in horses.
Spawn, *spawn*, *n.* fish eggs.
Spay, *spâ*, *v.* to castrate.
Speakable, *spêk'â-blê*, *adj.* that which may be spoken.
Special, *spesh'î-l*, *adj.* specific; distinctive.
Specie, *spê-shî*, *n.* cash.
Species, *spê-shîs*, *n.* a kind; a class.
Specific, *spes'î-fîk*, *adj.* definite; *n.* a remedy.
Specify, *spes'î-fî*, *v.* to designate.
Specious, *spê-shî-us*, *adj.* plausible. [spock.
Speckle, *spêk'l*, *v.* to mark with specks; *n.* a small
Spectacle, *spêk'tâ-kî*, *n.* a scene; a sight; a pageant.
Spectacles, *spêk'tâ-kîz*, *n.* eye-glasses.
Spectator, *spêk'tâ-tôr*, *n.* an eye-witness.
Spectral, *spêk'trâl*, *adj.* ghostly.
Spectroscope, *spêk'trô-skôp*, *n.* an instrument used in
 examining spectra. [eyes.
Spectrum, *spêk'trûm*, *n.* image seen after closing the
Speculation, *spêk'û-lâ-shun*, *n.* investment; com-
Speculative, *spêk'û-lâ-tîv*, *adj.* theoretical. [lecture.
Speculum, *spêk'û-lûm*, *n.* a reflector.
Speechless, *spêch'î-lês*, *adj.* dumb.
Speedy, *spêd'î*, *adj.* quick; swift; rapid.
Spelter, *spêl'ter*, *n.* impure zinc.
Spendthrift, *spend'thrîft*, *n.* a prodigal.
Sperm, *n.* animal seed. *spaw'n*
Spermacei, *spêr-mâ-sê'i*, *n.* whale oil.
Spherical, *spêr'î-kâl*, *adj.* globular [completely round.
Sphereoid, *spêr-î-ôid*, *n.* a thing of sphere form but not
Sphincter, *spînkt'er*, *n.* a muscle that contracts an
 aperture round which it is placed.
Sphinx, *spîngks*, *n.* a mythological monster with the
 head of a woman and the body of a lioness.
Sphygmometer, *spîg-mô-mê-têr*, *n.* an instrument for
 testing the tension of arterial blood.
Spicery, *spî-ser-î*, *n.* spices.
Spicular, *spîk'û-lâr*, *adj.* sharp-pointed.
Spicy, *spî-sî*, *adj.* tasty; pungent; showy.
Spigot, *spîg'ot*, *n.* peg for a faucet.
Spine, *spîk*, *n.* a large nail; a bar of iron.
Spindle, *spînd'l*, *n.* a pin round which yarn is spun.
Spine, *spî-n*, *n.* the backbone.
Spinel, *spî-nêl*, *n.* a mineral whose main components
 are magnesia and alumina.
Spinosity, *spî-nô-sî-tî*, *n.* thorniness.
Spinster, *spîn-stêr*, *n.* an unmarried woman; a
 whe.
Spiacle, *spîr'â-kî*, *n.* breathing-hole.
Spiral, *spîr'al*, *adj.* winding like the thread of a screw.
Spire, *spîr*, *n.* a steeple.
Spirit, *spîr'î-t*, *n.* vital force; soul; liveliness.
Spirited, *spîr'î-t'êd*, *adj.* lively.
Spiritual, *spîr'î-t'û-l*, *adj.* holy; divine; not material.
Spirituality, *spîr'î-t'û-l'î-tî*, *n.* holiness, immateriality.
Spirituous, *spîr'î-t'û-s*, *adj.* ardent; volatile.
Spirograph, *spîrô-grâf*, *n.* an instrument for measur-
 ing breathing.
Spit, *spî-t*, *n.* saliva; an iron prong for roasting meat;
v. to eject saliva from the mouth.
Spite, *spî-t*, *n.* a grudge; malice.
Spiteoon, *spî-t'oon*, *n.* a spit-box. [ward.
Splay-footed, *spîl'fôot'êd*, *adj.* with feet turned out.
Spleen, *spî-lê*, *n.* anger, melancholy; the mit.
Spplendour, *spîen'dôr*, *n.* brilliancy; magnificence.
Splenetic, *spîen-ê-tîk*, *adj.* morose; peevish.
Splenic, *spîen'îk*, *adj.* relating to the spleen. [ping.
Splice, *spîs*, *v.* to unite by interweaving or overlap-
Spint, *spînt*, *n.* thin piece of wood for holding
 fractured bones in place.
Spoil, *spôil*, *v.* to injure; to rob; *n.* plunder; booty.
Spokesman, *spîks'mân*, *n.* one who speaks for him-
 self and others.
Spoilation, *spô-lî-â-shun*, *n.* pillage; plunder.
Spondee, *spôn'dê*, *n.* a metrical foot of two long
Spondyl, *spôn'dîl*, *n.* a joint. [syllables.
Sponge, *spun*, *n.* a soft, porous marine substance.

day; ât; ârm; êve; êlk; thêr; îce; pln; machine; bôld; pôr; stôrm; mûte; tûb; bûrn.

Sponsal, spon'sal, *adj.* relating to betrothal or
Sponsor, spon'sor, *n.* surety; a godfather. [marriage].
Spontaneous, spon'te-ne-us, *adj.* voluntary; of one's
Spontaneous, spon'te-ous, *n.* a short pike. [from accord].
Spool, spool, *n.* a hollow cylinder for holding yarn.
Sporeadic, spó-rad'ic, *adj.* scattered, applied to
 epidemics.

Sporangium, spó-ran'j-i-um, *n.* spore case.
Spore, spór, *n.* a seed germ.
Sporran, spór'an, *n.* pouch worn in front of a kilt.
Spoutful, spórt'ful, *adj.* full of spout; puffy.

Spousal, spou'zal, *adj.* nuptial.
Spouse, spouz, *n.* husband or wife. [filigaments].
Sprain, sprán, *v.* to strain; *n.* an overstrain of the
Sprawl, sprawl, *v.* to spread; to lie stretched out.
Spre, spré, *n.* a carousal.

Sprightly, sprit'ly, *adj.* lively.
Springe, spring, *n.* a trap; a snare.
Spring-gun, spring'gun, *n.* a trap gun that goes off
 when trespassers step upon it.

Spring-tide, spring'tid, *n.* tide at the period of the
 new and full moon.
Springy, spring'ly, *adj.* full of springs, elastic.

Spirit, spírit, *n.* a spirit.
Sprod, spórd, *n.* a second year salmon.
Sprout, sprowt, *v.* to shoot; to bud; *n.* shoot of a
Spry, spri, *adj.* nimble. [plant].

Squamous, spú'mus, *adj.* frothy.
Spunk, spunk, *n.* pluck; touchwood.
Spur, spúr, *n.* an instrument with sharp points worn on
 a horseman's heels and used for goading horses.

Spurious, spú'ri-us, *adj.* counterfeit.
Spurt, spúrt, *v.* to throw out, a short sudden effort.
Sputter, spú'ter, *v.* to speak indistinctly.

Spy, spi, *n.* one who gets information for others
 secretly; *v.* to watch secretly; to look; to detect.
Squab, skwól, *adj.* short and fat; *n.* a young pigeon.
Squabble, skwól, *v.* to dispute noisily.

Squadron, skwó'drón, *n.* a small fleet; a company of
Squalid, skwól'id, *adj.* foul, mean, dirty. [cavalry].
Squall, skwál, *n.* gust of wind; a violent scream.
Squalor, skwól'or, *n.* dirt; filth; raggedness.

Squamous, skwám'us, *adj.* scaly. [scatter].
Squander, skwón'dér, *v.* to spend foolishly; to
Square, skwár, *adj.* having four equal sides; *v.* to
 make square.

Squash, skwólsh, *v.* to crush; to press flat; *n.* a sort
 of ground.
Squat, skwót, *adj.* short and thick; crouching; *v.* to
Squatter, skwót'er, *n.* a settler on w. w. land.

Squaw, skwaw, *n.* a Red Indian wife.
Squeak, skweh, *n.* a shrill, quick sound; *v.* to make
 a sound.

Squeamish, skwé'mish, *adj.* dainty; fastidious.
Squeeze, skwéz, *v.* to crush or press; to hug.
Squill, skwíl, *n.* a bulbous rooted plant of the
 Liliaceae order.

Squint, skwint, *v.* to look obliquely.
Squire, skwír, *n.* a knight's attendant; a gallant; a
 country landowner.

Squirm, skwírm, *v.* to wriggle; to shrink.
Squirt, skwírt, *v.* to eject in a stream.
Stab, stáb, *v.* to wound with a sharp weapon.

Stability, stá-bil'it-é, *n.* steadiness; firmness. [horses].
Stable, stá'bl, *adj.* firm; durable; *n.* stable for
Stack, sták, *n.* pile of hay or grain; group of chim-
 neys; *v.* to pile.

Staddle, stád'l, *n.* a support. [English feet].
Stadium, stá'di-um, *n.* a Greek length measure, 600
Staff, staf, *n.* a stick; a lotion; lines and spaces for
 music characters; special officers.

Stage, stáj, *n.* the theatre; a raised platform; halt-
 ing place on a journey.
Stage-coach, stáj'kóch, *n.* coach plying for hire
 between certain stages.

Stagger, stag'er, *v.* to shock; to reel.
Stagger, stag'er, *n.* a disease in horses.
Stagnation, stag-ni'shun, *n.* inaction; absence of
Staid, stáid, *adj.* steady; serious. [movement].

Stake, sták, *n.* a sharp-pointed stick; a post; anything
 exposed; *v.* to wager; to pledge.
Stalactic, stal-ák'tik, *adj.* pertaining to stalactite.

Stalactite, stal-ák'tit, *n.* pendant of limestone in
 State, sták, *adj.* tasteless; worn out. [caves].
Stalk, stáwk, *n.* stem; *v.* to walk with long strides.

Stall, stáwl, *n.* division of a stable; a bench on which
 articles are arranged for sale; special seat for
 clergy in a church; a certain seat in a theatre.

Stallion, stál'yún, *n.* a male horse for breeding.
Stalwart, stáwl'wért, *adj.* robust; sturdy.
Stamen, stá'mén, *n.* male organ of a flower.

Stamina, stá'mi-ná, *n.* the chief strength.
Stammer, stán'ér, *v.* to speak with impediment; *n.*
 hesitating utterance.

Stampede, stám-pé'd, *n.* sudden panic among and
 rushing away of horses, cattle, etc.
Stanch, stánsch, *adj.* firm in principle; sound; *v.* to
 air-t the floor. [support].

Stanchion, stánsch'ún, *n.* a bar or beam used as a
 Standard, stánd'ard, *n.* an ensign; an established
 measure or quality; a test.

Standish, stánd'ish, *n.* an indistinct dish for pens and ink.
Stannary, stán'ar-á, *n.* tin mine; *adj.* relating to tin
 mines.

Stanza, stán'zá, *n.* a verse. [chief products].
Staple, stá-pl, *n.* iron hoop; mart for merchandise;
Starch, stárch, *adj.* stiff; *n.* a sort of starch.

Starchy, stárch'ly, *adj.* stiff; precise.
Stark, stárk, *adj.* wholly; *adj.* downright.
Starry, stárl, *adj.* adorned with stars.

Startle, stártl, *v.* to frighten; to alarm.
Starveling, stárl'ing, *n.* a poor, hungering person.
Stately, stá'tel-é, *adj.* fixed times.

Stately, stá'tel, *adj.* dignified; grand.
State-room, stá'te-rúum, *n.* a bedroom on a vessel.
Statesman, stá'ts-mán, *n.* a politician, one skilled in
 government.

Statics, stá'tiks, *n.* the science of bodies at rest.
Station, stá'shun, *n.* an assigned post; rank; stop-
 ping place on a railway.

Stationary, stá'shun-er-é, *adj.* fixed; settled.
Stationery, stá'shun-er-é, *n.* things sold by a stationer.
Statistics, stá'tis-tiks, *n.* a collection of facts and
 figures.

Statue, stá'tú, *n.* an image carved in stone or metal.
Statuette, stá'tú-ét, *n.* a small statue.
Status, stá'tus, *n.* condition; rank.

Statute, stá'tút, *n.* a law; an Act of Parliament.
Staunch, stánsch, *adj.* firm; steadfast.
Stave, stáv, *n.* a narrow piece of wood; *v.* to break;

Stays, stá, *n.* a bodice; to amuse. [to thrust away].
Stays, stá, *n.* a bodice; to amuse; any support.
Steady, stéd-é, *adj.* firm; regular; sober.

Steak, sták, *n.* a slice of beef.
Steal, stél, *v.* to rob.
Stealth, stéltch, *n.* a secret act.

Steam, stéim, *n.* vapour of heated water.
Steamer, stéi'm-ér, *n.* chief component of solid fat.
Strait, stéi't, *n.* a narrow passage.

Strait, stéi't, *n.* a narrow passage.
Steep, stéip, *n.* a steep.
Steer, stér, *n.* an ox; *v.* to guide.

Steerage, stér-é, *n.* guidance; the fore part of a ship.
Steganography, sté-gan-og'rá-fí, *n.* the art of writing
Stellar, stél'ar, *adj.* relating to stars. [in cipher].

Stench, sténch, *n.* an evil odour.
Stencil, stén'sil, *n.* a piece of thin metal containing
 letters or design cut out when a can be printed on
 another surface by passing ink or paint brush over.

Stenography, stén-og'rá-fí, *n.* shorthand. [it].
Stepchild, stép'chíld, *n.* a child to whom one is paren-
 tally by marriage.

Step-father, stép-fáthér, *n.* father by marriage.
Steppe, stép, *n.* an uncultivated plain.
Stereobate, stér-é-o-bát, *n.* substructure of a building.

Stereometer, stér-é-om-é'tér, *n.* instrument for measur-
Sterile, stér'il, *adj.* barren. [ing specific gravity].
Stern, stérn, *adj.* severe; *n.* rear of ship; hind part.

Stern-chase, stérn'chás, *n.* a chase in which one ship
 keeps close to the stern of another.
Sternum, stérn-um, *n.* the breast-bone.
Sternutation, stérn-ú-tá'shun, *n.* the act of sneezing.

day; ár; árn; éve; élk; there; ice; pín; machine; bold; pórt; stórm; müre; túb; bórm.

Stertorus, ster'to-rus, *adj.* breathing heavily; snoring.
Seward, ster'u-ard, *n.* a manager of an estate.
Stickle, stik'l, *v.* to contend stubbornly.
Suffe, stuf, *v.* to smother; to suppress.
Stigma, stig'ma, *n.* a blot; mark of disgrace.
Stigmatise, stig'ma-tiz, *v.* to brand.
Stiletto, stil-et'to, *n.* a small dagger.
Still-born, stil'bawn, *adj.* dead at birth. [walking.
Still, stilt, *n.* a stick used to elevate a person when
 Stimulant, stim'u-lant, *n.* that which stimulates; and
 an alcoholic beverage.
Stingy, stin'ji, *adj.* niggardly; mean.
Stink, stink, *n.* a bad smell.
Sint, sint, *v.* to limit; *n.* a limit.
Sipend, stip'ent, *n.* salary; pay.
Stipulate, stig'u-lat, *v.* to contract; to prescribe terms.
Stirrup, stir'up, *n.* a rest for a horseman's foot.
Stitch, stich, *v.* to sew.
Stiver, stiv'er, *n.* a small Dutch coin.
Stockade, stok-ad', *n.* an enclosure of pointed stakes.
Stockbroker, stok'br'ker, *n.* a dealer in stocks and
Stocking, stok'ing, *n.* hose. [shares.
Stocks, stoks, *n.* public funds.
Stoic, sto'ik, *n.* one indifferent to pain or pleasure.
Stolid, sto'id, *adj.* stupid; dull.
Stomach, stom'ak, *n.* the organ of digestion; the
Stomacher, stom'ak'er, *n.* breast covering. [belly.
Stoche, stron, *n.* a mineral; a gem; a weight of 14 lbs.;
 v. to cast stones.
Stone-fruit, ston'froot, *n.* a fruit containing a stone.
Stook, stook, *n.* a group of sheaves set up.
Stoppage, stop'aj, *n.* the act of stopping.
Stopple, stop'l, *n.* a plug or stopper for bottle or vessel.
Storage, stor'aj, *n.* place where things are stored;
 rent for storing.
Store, stor, *n.* a shop; a warehouse; a quantity.
Storied, stor'id, *adj.* historical, containing stories.
Stot, stot, *n.* a young ox.
Stout, stowt, *adj.* plump; large; strong.
Stove, stov, *n.* place for a fire. [stowed away.
Stowage, sto'aj, *n.* act of stowing; room for articles
Straddle, strad'l, *v.* to sit astride; to walk with legs
Straight, strat, *adj.* direct; in a right line. [apart.
Straightforward, strat-for-ward, *adj.* in a direct
 course; upright. [filter; to overtake.
Straightway, strat'waj, *adv.* immediately.
Strain, strain, *n.* a sound; music; v. to stretch; to
 Strainer, strain'er, *n.* a filtering apparatus.
Strait, strait, *adj.* narrow; strict.
Strait-jacket, strat'jak-et, *n.* jacket used for restrain-
 ing the arms of lunatics. [ship-plankling.
Strake, strak, *n.* iron band of a wheel; a breadth of
Strand, strand, *n.* shore; a thread of rope; v. to run
Strangle, strang'l, *v.* to choke. [aground.
Strangles, strang-gl, *n.* a disease in young horses.
Strapping, strap'ing, *adj.* tall; big; fine.
Stratagem, strat'a-jem, *n.* an artifice; a trick.
Strategist, strat'e-jist, *n.* one skilled in military tactics.
Strath, strath, *n.* a valley through which a river runs.
Stratification, strat-if-i-k'a-shun, *n.* the condition of
 being stratified.
Stratum, strat'um, *n.* a layer of earth.
Streak, strak, *n.* a stripe; v. to mark with streaks.
Stream, stream, *n.* a long narrow flag; a beam of
 light.
Strenuous, stren'u-us, *adj.* resolute; active; vigorous.
Stress, stres, *n.* pressure; force.
Stretch, stretch, *v.* to strain; to draw out.
Stretcher, stretch'er, *n.* a litter that which stretches.
Strew, strow, *v.* to scatter.
Striated, striat'ed, *adj.* marked with stripes.
Strickle, strik'l, *n.* a straight-edge; instrument for
Strict, strikt, *adj.* exact; severe; rigid. [leveling.
Stricture, strikt'ur, *n.* censure; contraction.
Stridulous, strid'u-lus, *adj.* harsh-sounding.
Strife, strif, *n.* contention.
Strike, strik, *v.* to hit; *n.* cessation from work by body
 of work-people in order to enforce or resist
Striking, strik'ing, *adj.* impressive. [demands.
Stringent, strinj'ent, *adj.* urgent; exacting; hard-
Strinkle, string'l, *v.* to sprinkle slightly. [pressing.
Stripping, strip'ing, *n.* a youth.

Strophe, stro'fe, *n.* introductory stanza by chorus in
 Greek drama, responded to by antistrophe.
Structure, strukt'ur, *n.* a building; a frame.
Struggle, strug'l, *n.* a striving; a contention.
Strumpet, strum'pet, *n.* a wanton.
Stub, stub, *n.* a small stump of a tree.
Stubble, stub'l, *n.* stumps of grain.
Stubborn, stub'orn, *adj.* obstinate.
Stucco, stuk'6, *n.* plaster.
Stud, stud, *n.* a set of horses; a small button.
Studio, stu'di-o, *n.* an artist's workshop.
Study, stud'i, *n.* room for study; application.
Stuff, stuf, *n.* a fabric; useless things.
Stultify, stut'i-fi, *v.* to make foolish.
Stumbling-block, stum'bling-blok, *n.* an obstacle to
 progress.
Stump, stump, *n.* stub of a tree.
Stun, stun, *v.* to confound; to stupefy.
Stupe, stup, *n.* cloth used in applying fomentation.
Stupefy, stu'pe-fi, *v.* to make dull. [immense.
Stupendous, stu pen'dus, *adj.* wonderful; amazing;
Stupidity, stu-pid'i-ti, *n.* dullness; foolishness.
Stupor, stu'por, *n.* torpor of mind.
Sturdy, stur'di, *adj.* strong; hardy; stout.
Stutter, stut'er, *v.* to stammer.
Sty, sti, *n.* pen for swine; boil on the eye.
Stygian, stj'i-an, *adj.* infernal.
Stytle, stj'l, *n.* manner; title; filament of a pistil;
 pin of a dial.
Stylite, stj'lit, *n.* one of a class of anchorites who lived
Styptic, stip'tik, *adj.* that stops bleeding.
Suasion, swa'zhun, *n.* persuasion.
Suave, swav, *adj.* pleasant; bland.
Sub, sub, *n.* a subordinate; a portion of wage in
Subacid, sub-as'id, *adj.* rather sour. [advance.
Subagency, sub-aj'en-si, *n.* office of a sub-agent.
Subaltern, sub-al'tern, *n.* subordinate.
Subalternity, sub-al'ter-ni-ti, *n.* following by turns.
Subaqueous, sub-ak'w-u-s, *adj.* being under water.
Subdue, sub-due, *v.* to conquer; to overcome.
Suberosus, sub'er-us, *adj.* cork-like.
Subinfeudation, sub-in-fu-da'shun, *n.* the right of an
 inferior lord over his vassals.
Subject, subj'ekt, *adj.* being under authority; hable,
 n. one who is under another; member of a state.
Subject, subj'ekt, *v.* to bring under power; to expose;
 Subjoin, sub-join, *v.* to annex. [to subdue.
Subjoiner, sub-join'er, *n.* a remark succeeding
 Subjuga, sub-ig'at, *v.* to subdue. [another.
Subjunctive, sub-junk'tiv, *adj.* subjoined; added.
Sublimate, sub-lim'at, *v.* to raise up; to exalt; to
 purify by heat.
Sublime, sub-lim', *adj.* lofty; noble; grand.
Sublunary, sub'loo-na-ri, *adj.* relating to the world, or
 things beneath the moon.
Submarine, sub-ma-ren', *adj.* under the sea.
Submit, sub-mit', *v.* to yield; to refer to.
Subordinate, sub-or-di-nat', *adj.* inferior.
Suborn, sub-orn', *v.* to perjure; to bribe.
Suborn, sub-orn', *n.* a summons to a witness.
Subpolar, sub-po-lar, *adj.* below the poles.
Subscribe, sub-skrib', *v.* to contribute; to give; to
 Subsequent, sub-se-kwent, *adj.* coming after. [sign.
Subserve, sub-serv', *v.* to serve subordinately; to help.
Subside, sub-sid', *v.* to abate; to sink down.
Subsidy, sub-sid'i, *n.* money aid.
Subsistence, sub-sist'ens, *n.* means of support; the
 condition of living. [earth.
Subsoil, sub-soil, *n.* a layer of earth below the surface.
Subspecies, sub-sp'e-shies, *n.* a subdivision of a species.
Substantial, sub-stan'shal, *adj.* real; tangible.
Substantiate, sub-stan'shal-iz, *v.* to prove; to support.
Substitute, sub-stit'ut, *v.* to put in place of.
Substratum, sub-strat'um, *n.* an under stratum.
Substructure, sub-strukt'ur, *n.* foundation; under
Subtend, sub-tend', *v.* to extend under. [structure.
Subterfuge, sub-ter-fu-j, *n.* an evasion.
Subterranean, sub-ter-a-ne-an, *adj.* underground.
Subtle, sub'til, *adj.* thin; fine.
Subtle, sub'til, *adj.* artful; cunning.
Subtract, sub-trakt', *v.* to deduct.
Suburb, sub-ur-ban, *adj.* relating to suburbs. [side.
Subvention, sub-ven'shun, *n.* a giving in aid; a sub-

dây; ät; ärm; äve; älk; there; Ice; pln; machine; bold; pöt; störm; müte; tüb; bürn.

Subversion, sú-*ver*'shun, *n.* an overthrowing; ruin.
Succedaneum, sú-*se*-dā-nō-um, *n.* a substituted thing or person.

Successful, sú-*ses*'ful, *adj.* prosperous; having achieved that which was aimed at.

Succession, sú-*ses*'-v, *adj.* following in order.

Succinct, sú-*sink*'t, *adj.* short, clear.

Succour, sú-*kur*, *v.* to aid; to relieve.

Succulence, sú-*u*'lens, *n.* juiciness.

Succumb, sú-*um*, *v.* to yield.

Sucker, sú-*ker*, *n.* that which sucks; piston of a pump; a shoot; a river fish.

Sudorific, sú-*lō*-rif-ik, *adj.* causing perspiration.

Suds, súds, *n.* soap and water.

Sue, sú, *v.* to prosecute; to entreat.

Sufficiency, sú-*fi*'en-si, *n.* endurance; permission.

Sufficiency, sú-*fi*'en-si, *n.* plenty.

Suffocate, sú-*fō*-kāt, *v.* to smother.

Suffragan, sú-*rā*-gan, *n.* an assistant bishop.

Suffrage, sú-*rā*, *n.* a vote; testimony. [franchis]

Suffragette, sú-*rā*-jet, *n.* a female advocate of women's

Suffragist, sú-*rā*-jist, *n.* an upholder of votes for women.

Suggest, sú-*jes*'t, *v.* to hint; to intimate. [women]

Suggestion, sú-*jī*-ā'shun, *n.* mark from a blow.

Suicidal, sú-*si*-dāl, *adj.* of the nature of suicide.

Suint, sú-*int*, *n.* the natural oil matter from wool.

Suit, sú, *n.* action at law.

Suitable, sú-*ābl*, *adj.* proper; befitting.

Suite, swēt, *n.* a body of followers; a set of articles of furniture; a series of rooms.

Sultor, sú-*tor*, *n.* a lover; one who sues at law.

Sulkiness, sú-*l*'kness, *n.* sullenness.

Sullen, sú-*en*, *adj.* morose; sulky.

Sulphuretted, sú-*l*'fur-et, *n.* sulphur combined with an alkali, earth, or metal.

Sulphurous, sú-*l*'fur-us, *adj.* of the nature of sulphur.

Sultan, sú-*tan*, *n.* the monarch of Turkey.

Sultana, sú-*tā*-nā, *n.* another wife, or daughter of a

Sultry, sú-*trī*, *adj.* hot; close. [sultan]

Summary, sú-*mā*-rī, *adj.* short; *n.* an abstract.

Summation, sú-*mā*-ā'shun, *n.* the act of reckoning; the

Summit, sú-*mīt*, *n.* top. [total]

Summon, sú-*mōn*, *v.* to call

Sump, sú-*m*, *n.* pit for receiving fusing metal.

Sumptuary, sú-*m*'ptū-ā-ri, *adj.* relating to or limiting

Sumptuous, sú-*m*'ptū-us, *adj.* costly; rich; splendid.

Sunbeam, sú-*ben*, *n.* a sun ray.

Sundial, sú-*ndāl*, *n.* an instrument for telling the

Sundry, sú-*ndrī*, *adj.* several.

Sun-myth, sú-*mī*'th, *n.* solar myth.

Sunstroke, sú-*strōk*, *n.* a disease resulting from ex-

Sup, sú, *v.* to swallow liquid; to take supper.

Super, sú-*p*'er, *n.* a stage superman.

Superable, sú-*p*'er-ābl, *adj.* capable of being overcome.

Superabundance, sú-*p*'er-ā-būn-dāns, *adj.* more than

Superannuate, sú-*p*'er-ā-nū-āt, *v.* to grant pension to.

Superb, sú-*p*'er-b, *adj.* magnificent.

Supercargo, sú-*p*'er-kār-go, *n.* an officer having charge

Supercilious, sú-*p*'er-sīl'ār-l, *adj.* above the eyebrow.

Supercilious, sú-*p*'er-sīl'us, *adj.* proud; overbearing.

Supereminence, sú-*p*'er-en-in-ent, *adj.* eminent in a high

Supererogation, sú-*p*'er-er-ō-gā'shun, *n.* a doing of

Superficial, sú-*p*'er-fī'sh-āl, *adj.* shallow; on the surface.

Superfluous, sú-*p*'er-floo-us, *adj.* unnecessary.

Superinduce, sú-*p*'er-in-dūs', *v.* to bring upon; to

Superintend, sú-*p*'er-in-tend-ent, *n.* an overseer.

Superiority, sú-*p*'er-i-ō-rī-tē, *n.* excellence; higher

Superlative, sú-*p*'er-lā-tiv, *adj.* best; in the highest

Supernal, sú-*p*'er-nāl, *adj.* celestial. [degree]

Supernatural, sú-*p*'er-nātū-āl, *adj.* miraculous;

Supernumerary, sú-*p*'er-nū-mer-ār-l, *adj.* above the

Superscription, sú-*p*'er-skrīp'shun, *n.* act of super-

Scripting, sú-*p*'er-skrīp'shun, *n.* act of super-

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Superseisable, sú-*p*'er-sens'ib'l, *adj.* beyond the senses.

Superseign, sú-*p*'er-sesh'un, *n.* a setting aside.

Supernatural, sú-*p*'er-nātū-āl, *n.* belief in supernatural

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day; Æt; Æm; Æve; Ælk; Ære; Æce; Æln; machine; bold; pōt; stōrn; mōte; tūb; bōrn.

Swingle, swin'gl, *v.* to beat flax.
Swinish, swin'ish, *adj.* pigish; gross.
Switch, swich, *n.* a straight twig; a movable rail - *v.* to beat with a switch; to turn aside by switch-rail.
Switchman, swich'man, *n.* one who operates a railway switch.
Swivel, swivel, *n.* a ring that turns on a staple.
Swoon, swoon, *v.* to faint; *n.* a fainting fit.
Swoop, swoop, *v.* to sweep down upon.
Sybarite, sib'ar-it, *n.* one given up to luxury.
Sycophant, sik'ô-fant, *n.* a fawning flatterer.
Syllable, sil'a-bl, *n.* a letter or combination of letters forming one sound.
Syllabus, sil'a-bus, *n.* a compendium; an outline.
Syllogism, sil'ô-jizm, *n.* an argument consisting of two propositions and a conclusion.
Sylph, silf, *n.* a fairy.
Sylvan, sil'van, *adj.* relating to woods.
Symbol, sim'bôl, *n.* an emblem, a token; a type.
Symbolics, sim-bol'iks, *n.* study of creeds.
Symmetry, sim'ê-tri, *n.* the condition of proper proportion of parts.
Sympathetic, sim-pâ-thet'ik, *adj.* compassionate.
Symphony, sim'ô-ni, *n.* an orchestral composition.
Symphysis, sim'fi-sis, *n.* union of parts normally separate.
Symposium, sim-pô-z-um, *n.* banquet of philosophers;
Sym-tomatic, sim-to-mat'ik, *adj.* relating to symp-
Synagogue, sin'jô-gô, *n.* a Jewish church. *tons.*
Synachronal, sing-kro-nal, *adj.* happening simultane-
 ously. [long a note of music.]
Syncope, sing'kô-pê, *v.* to contract a word; to pro-
Syncope, sing'kô-pê, *n.* the omission of letters in a
Syndic, sin'dik, *n.* a magistrate. [word; a swoon.]
Synod, sin'od, *n.* an ecclesiastical body.
Synonym, sin'ô-nim, *n.* a word having the same
 meaning as another word.
Synoptical, sin-op'tikl, *adj.* offering a general view.
Syntax, sin'taks, *n.* the proper arrangement of words
 in sentences. [separate parts.]
Synthesis, sin'the-sis, *n.* making a whole out of
 Synch, sin'ing, *n.* an instrument for injecting liquids.
Syrup, sir'up, *n.* sweet juice.
System, sis'tem, *n.* a formulated method; methodical
 arrangement; the human organism.
Systyle, sis'til, *n.* an arrangement of columns so that
 they are only two diameters apart.
Szyggy, siz'j-i, *n.* the conjunction of two heavenly
 bodies in a line with the earth.

T.

Tab, tab, *n.* a small tag or flap.
Tabard, tab'ard, *n.* an old-time military tunic.
Tabaret, tab'â-ret, *n.* striped silk for upholstering.
Tabby, tal't, *adj.* brindled; *n.* a kind of watered silk.
Ta-bella, tâ-bel'â, *n.* a medicated lozenge.
Tabernacle, tab'er-nak'l, *n.* place of worship; tent.
Tabid, tab'id, *adj.* wasted by disease. [thing tubular.]
Tablature, tab'lê-tür, *n.* a pointing on a wall; any
 Table, tî'b'l, *n.* a flat board supported by legs; a list.
Tableau, tab'lô, *n.* a picture, human representation
 in imitation of a picture.
Table d'hôte, tâ'b'l-dôt, *n.* a fixed-price meal at hotel
 or restaurant. [land.]
Table-land, tâ'b'l-land, *n.* an elevated flat tract of
 Table, tab'let, *n.* a small flat surface for painting or
 writing upon.
Taboo, tâ-boô, *n.* a prohibition.
Tabout, tâ'bor, *n.* a small drum.
Tabret, tâ'bret, *n.* a small tabour.
Tachometer, tî-kouf'ê-ter, *n.* an instrument for
 measuring velocity.
Taciturn, tas't-urn, *adj.* reserved; silent.
Tackle, tak'l, *n.* apparatus for raising weights;
 fishing implements; *v.* to catch hold of.
Tackling, tak'ling, *n.* harness; ship-rigging.
Tacky, tak'l, *adj.* sticky.
Tact, tak't, *n.* discernment; alertness; skill.
Tactics, tak'tiks, *n.* science of manoeuvring in war.
Tactual, tak'tû-al, *adj.* relating to touch. [farc.]
Taffarel, taf'er-el, *n.* upper part of a ship's stern.
Taffeta, taf'ê-tâ, *n.* a kind of silk.

Tag, tag, *n.* any small thing tacked to another.
Taggers, tag'ers, *n.* thin sheet iron.
Taint, tant, *v.* to infect; *n.* corruption; infection.
Talent, tal'ent, *n.* ability; natural gift; a weight.
Talentsman, tâ'lez-man, *n.* one chosen to supply vacancy
 in jury complement.
Talisman, tal'iz-man, *n.* a charm.
Talkative, tak'ât-iv, *adj.* loquacious.
Tallith, tal'tith, *n.* Jewish prayer mantle.
Tallow, tal'ô, *n.* melted animal fat.
Talma, tal'ma, *n.* the name of a mantle for women
 and of a kind of overcoat for men.
Talon, tal'on, *n.* claw of a bird of prey.
Talus, tal'us, *n.* slope of a rampart.
Tambour, tam'boor, *n.* a small drum.
Tambourine, tam-boor'ên, *n.* a shallow drum held in
 the hand.
Tamper, tam'per, *v.* to interfere with. [the hand.]
Tampon, tam'pu-on, *n.* cotton stopper.
Tan, tan, *adj.* light brown colour; *v.* to convert skins
 into leather; to beat.
Tandem, tan'dem, *adv.* one before the other.
Tang, tang, *n.* a strong taste, tongue of a buckle.
Tangent, tan'jent, *n.* a line that touches a curve
 without cutting into it.
Tankard, tank'ard, *n.* a drinking vessel.
Tannery, tan'ê-ri, *n.* place where leather is tanned.
Tantalising, tan'tal-iz-ing, *adj.* teasing; tormenting.
Tantalismont, tan'tal-mont, *adj.* equivalent.
Tap, tap, *v.* to strike gently; to pierce; to let out
 liquid; *n.* a pipe through which liquors are drawn.
Tape, tâp, *n.* a narrow fillet or band. [diminish.]
Taper, tâ'per, *n.* a small wax candle; *v.* to gradually
 Tape-worm, tâp'worm, *n.* an intestinal worm.
Tapis, tâp'ê, *n.* carpet.
Tap-room, tap'room, *n.* room where liquors are
 Tap-root, tap'root, *n.* the central root. [served.]
Tapet, tap'et, *n.* a machine lever.
Tardy, târ'di, *adj.* late.
Tare, târ, *n.* allowance weight for cask or bag; a
 Target, târ'get, *n.* a mark to shoot at. [weird.]
Targum, târ'gum, *n.* the Aramaic versions of the
 Tarn, târn, *n.* a small lake. [Testament.]
Tarnish, târ'nish, *v.* to soil; to taint.
Tarpaulin, târ-paw'lin, *n.* tar-covered canvas.
Tarry, târ'ri, *v.* to linger; to delay.
Tart, târt, *n.* an article of pastry; *adj.* sour.
Tartarise, târt'ar-iz, *v.* to impregnate with tartar.
Tartuffe, târ-too'f, *n.* a hypocrite.
Task, task, *n.* lesson, an imposed duty.
Tassel, tas'l, *n.* a bunch of silk. [discernment.]
Taste, tâst, *v.* to partake of; to try the flavour of;
 Tatter, tât'er, *n.* a rag; *v.* to tear into pieces.
Tattle, tât'l, *n.* idle gossip; *v.* to prate.
Tattoo, tâ-too', *n.* a drum and bugle call to soldiers;
 designs pricked into the skin.
Taut, tawt, *adj.* tight.
Taunt, tawnt, *v.* to deride.
Tautology, taw'tô'ô-jî, *n.* needless repetition.
Tawdry, taw'dri, *adj.* to dress white leather.
Tawdry, taw'dri, *adj.* gaudy.
Tawny, taw'ni, *adj.* brownish yellow.
Tax, tak, *n.* a public rate; *v.* to impose a tax.
Taxidermy, tak-sid'er'mi, *n.* the art of preserving
 Teacher, têch'er, *n.* an instructor. [skins.]
Team, têm, *n.* two or more horses.
Tease, têz, *v.* to annoy; to raise nap on cloth.
Teasel, têz'l, *n.* bur used in cloth dressing.
Teat, têt, *n.* the nipple.
Technical, tek'nî-k'l, *adj.* scientific; pertaining to an
 art or a profession.
Tectonic, tek-ton'ik, *adj.* relating to building.
Tectorial, tek-tô'ri-al, *adj.* covering.
Ted, ted, *v.* to spread new-mown grass.
Tedious, tê'di-us, *adj.* irksome.
Teem, têm, *v.* to be full.
Teens, tênz, *n.* years of age between 12 and 20.
Teetotum, tê-tô'tum, *n.* a spinning toy.
Regular, teg'u-lâr, *adj.* pertaining to files.
Teleology, tel'ê-ô'ô-jî, *n.* science of final causes.
Telepathy, tel'ê-pâth-i, *n.* thought transmutation.
Telephoto, tel'ê-fô-tô, *n.* an electrical instrument for
 reproducing images of objects at a distance.

day; ât; ârm; êve; Êlk; thêre; ice; pin; machine; buld; pôr; stôrm; mûte; tûb; bôrn.

Telesia, tel-ē'si-a, *n.* the sapphire.
Teller, tel'er, *n.* paying officer at a bank; one who tells.
Telluric, tel-ū'rik, *adj.* relating to the earth. [tells.
Temerity, tem-er-i'ti, *n.* rashness.
Temper, tem'per, *n.* frame of mind; mood; *v.* to moderate; to soften.
Temperate, tem'per-āt, *adj.* moderate.
Temperature, tem'per-āt-ūr, *n.* condition in reference to heat or cold.
Tempestuous, tem-pest'ū-us, *adj.* stormy; violent.
Temple, temp'l, *n.* place of worship.
Templet, tem'plet, *n.* pattern for moulding.
Tempo, tem'pō, *n.* time; rhythm. [spiritual.
Temporal, tem'por-al, *adj.* transient; worldly; un-
Temporary, tem'por-ā-ri, *adj.* only for a time.
Temporise, tem'pō-rīz, *v.* to compromise; to delay.
Tempt, tempt, *v.* to test; to allure.
Tenaculum, tem'ū-lens, *n.* intoxication.
Tenable, ten'ā-bl, *adj.* maintainable.
Tenacity, ten-as'i-ti, *n.* firmness. [handing veins.
Tenaculum, ten-ak'ū-lum, *n.* a surgical instrument for
Tenancy, ten'an-si, *n.* the holding of property at a
Tend, tend, *v.* to guard; to watch. [rental.
Tender, ten'der, *n.* a fuel car attached to a locomotive;
 an offer; *adj.* soft; delicate.
Tendon, ten'don, *n.* a ligament.
Tendrill, ten'dril, *n.* spiral shoot of a plant.
Tenebrous, ten'ē-bri-us, *adj.* gloomy.
Tenement, ten'ē-ment, *n.* a dwelling; an apartment.
Tenet, ten'et, *n.* opinion; doctrine; principle.
Tenon, ten'on, *n.* piece of timber fitting in a mortice.
Tenor, ten'or, *n.* continued course; purport; part in
 music between bass and alto; a tenor singer.
Tense, tens, *n.* time-expressing inflection of a verb;
adj. tightly stretched.
Tentacle, ten'tā-kli, *n.* feeler of insects.
Tentative, ten'tā-tiv, *adj.* experimental.
Tenuity, ten-ū'i-ti, *n.* slenderness.
Tenure, ten'ūr, *n.* the act of holding.
Tepefaction, tep'ē-fak'shun, *n.* the act of making tepid.
Tepid, tep'id, *adj.* lukewarm.
Teraphim, ter-ā'fīm, *n.* household gods.
Tercentenary, ter-sen'tē-nā-ri, *n.* a 300th anniversary.
Tergiversation, ter-jiv'er-sā'shun, *n.* shiftness of con-
 tem, term, *n.* a limited time; an expression. [duct.
Terminant, ter'mī-nant, *n.* a hot-tempered woman;
Terminal, ter'mī-nal, *adj.* final; ending. [a shrew.
Terminology, ter-mī-nō'j-i, *n.* explanation of terms.
Term, term, *n.* an aquatic fern. [used.
Terrace, ter-rās, *n.* an elevated bank; an elevated row
 of houses; a flat roof. [and water
Terraqueous, ter-āk'wē-us, *adj.* composed of both land
Terrene, ter-en', *adj.* relating to the earth.
Terrestrial, ter-es'tri-al, *adj.* pertaining to the earth
Territory, ter'it-ō-ri, *n.* country; state; domain.
Terror, ter'ur, *n.* excessive fear.
Terse, ters, *adj.* concise; short; forcible.
Tertian, ter-shi-in, *adj.* happening every three days.
Tessellate, tes'el-āt, *v.* to put down revealed squares
Tesserae, tes'el-ā-ri, *n.* shelled animals. for tiles
Testamentary, tes-tā-ment-ār-i, *adj.* relating to a will.
Testamur, tes-tā-mur, *n.* university certificate of ex-
 amination.
Testator, tes-tā'tor, *n.* a man who leaves a will.
Tester, tes'ter, *n.* bed canopy; an earthen pot.
Testicle, tes'ti-kli, *n.* seed-secreting gland.
Testify, tes'ti-fi, *v.* to bear witness.
Teasty, test'i, *adj.* fretful.
Tetanus, tes-tā-nus, *n.* cramp in the muscles; lockjaw.
Tetchy, tet'chi, *adj.* touchy; peevish.
Tether, tet'er, *v.* to restrain a beast by tying it with
 a rope; to tethering rope.
Tetragon, tet'ra-gon, *n.* a figure with four angles.
Tetonic, tew-ton'ik, *adj.* German.
Tew, tew, *v.* to toil; to work up; to worry.
Textile, teks'til, *adj.* woven.
Textual, teks'tū-al, *adj.* relating to or comprised in
Thack, thak, *n.* thatch (Old English). [the text.
Thallium, thal'i-um, *n.* a metal resembling lead.
Thasitoid, thas-i'toid, *adj.* ghastly; deadly. ●
Thasie, thās, *n.* an Anglo-Saxon noble.
Thatch, thach, *n.* a straw roof; *v.* to cover with straw.

Theatre, thē'ā-tor, *n.* a playhouse; place for exhi-
 bitions or lectures; any scene of action.
Thave, thēv, *n.* a first year's ewe.
Theist, thē'ist, *n.* a believer in theism.
Theism, thē-ism, *n.* subject. [ment.
Theocracy, thē-ō-k-rā-si, *n.* a state of divine govern-
Theodicy, thē-ō-dī-si, *n.* the theory of Divine Pro-
 vidence.
Theologian, thē-ō-lō'j-i-an, *n.* one learned in theology.
Theomorphic, thē-ō-mor'fik, *adj.* in the form of a
 god. [presence.
Theophany, thē-ō-fā-ni, *n.* manifestation of divine
Theorem, thē-ō-rem, *n.* a proposition submitted for
Theory, thē-ō-ri, *n.* abstract principles. [proof.
Theotechny, thē-ō-tek'nī, *n.* divine intervention.
Thermal, thēr-mal, *adj.* pertaining to heat.
Thermostat, thēr-mo-stāt, *n.* a heat regulator.
Thesis, thē-sis, *n.* subject propounded for discussion.
Thespian, thēs-pi-an, *adj.* relating to tragedy; also
 applied to acting generally.
Thurgy, thē'ur-jī, *n.* supernatural magic.
Thew, thū, *n.* sinew.
Thible, thī-bl, *n.* a porridge stirrer.
Thicket, thīk'et, *n.* low, closely set trees or shrubs.
Thievery, thēv'er-i, *n.* theft; roguery.
Thigh, thī, *n.* top part of leg.
Thill, thīl, *n.* cart-shaft.
Thimble, thūm-bl, *n.* finger-cap used in sewing. ●
Thole, thōl, *v.* to endure; to wait patiently.
Thong, thong, *n.* a leather strap.
Thorough, thur'ō, *adj.* complete.
Thought, thawt, *n.* the action of the mind; reasoning
 power; idea; meditation.
Thousand, thow'zand, *n.* ten hundred.
Thraldom, thraw'dom, *n.* slavery.
Thrash, thrash, *v.* to beat [to insert a thread. ●
Thread, thred, *n.* a small twist of fibre; a filament; *v.*
 Threading, thred'ding, *adj.* worn out; hackneyed.
Threat, thret, *n.* a menace.
Threnody, thren'ō-dī, *n.* ode of lament.
Threshold, thresh'old, *n.* door-sill.
Thridacium, thrid-ā-si-um, *n.* thickened lettuce juice
Thrift, thrit, *n.* frugality.
Throat, thro't, *n.* the front part of the neck.
Throe, thro, *n.* extreme pain.
Throng, throng, *n.* a crowd.
Throttle, thro'tl, *n.* the windpipe; *v.* to choke.
Throughout, throo-owt', *prep.* in every part; all
 Thro'out, thro'out, *n.* a silk-twister. [through.
Thrum, thrum, *n.* unused ends of weaver's yarn; *v.*
 to play carelessly with the fingers.
Thud, thud, *n.* the dull sound of a blow or fall.
Thug, thug, *n.* an East Indian robber.
Thule, thūl, *n.* the most northerly part.
Thumbscrew, thum'skroo, *n.* an old instrument of
 Thump, thump, *v.* to strike. [punishment
Thunderbolt, thun'der-bōlt, *n.* shaft of lightning.
Thunderstruck, thun'der-struk, *adj.* suddenly amazed.
Thwack, thwak, *v.* to thump.
Thwart, thwart, *adj.* crosswise; *v.* to oppose.
Tibial, tib'i-al, *adj.* relating to the large bone of the
 Tice, tis, *v.* to entice. [leg.
Tick, tik, *v.* to click; *n.* credit; an insect; covering
Tickle, tik'l, *v.* to please; to titillate. [of bedding
Tide, tid, *n.* flow of the sea
Tide-gate, til'gāt, *n.* gate that shuts in the tide.
Tidemill, tid'mil, *n.* mill worked by tidal water.
Tidings, tid'ingz, *n.* news.
Tidy, tī'di, *adj.* neat; spruce.
Tier, tēr, *n.* a row.
Tierce, tēr, *n.* a 4-gallon cask.
Tiff, tif, *n.* a pettish quarrel.
Tiffany, tif-an-i, *n.* a kind of silk.
Tight, tif, *adj.* firm.
Tile, til, *n.* a small square of baked clay.
Tillage, til'ā, *n.* cultivation.
Tilt, tilt, *v.* to incline; *n.* a thrust; military practice.
Tilth, tilch, *n.* depth of soil; cultivated land.
Timber, tim'ber, *n.* building wood.
Timbre, tim'br, *n.* quality of tone.
Timbrel, tim'brel, *n.* a kind of tambourine.
Timely, tim'lī, *adj.* in due time; when wanted.

day; āt; ārm; ēve; ēlk; thēre; ice; pīn; machīne; bōld; pōt; stōrm; mātē; tūb; būrn.

Time-server, *tim'serv-er*, *n.* one who shapes his views to his own interests.

Timid, *tim'id*, *adj.* bashful; faint-hearted.

Timon, *ti'mon*, *n.* a helm.

Timothy, *tim'o-thi*, *n.* a kind of grass.

Tincture, *tingk'tür*, *n.* a solution.

Tinder, *tin'der*, *n.* kindling material.

Tinea, *ti'nä*, *n.* generic name of certain skin diseases.

Tinfol, *tin'fol*, *n.* thin leaves of tin.

Tinge, *tinj*, *v.* to colour.

Tingle, *ting'gl*, *v.* to impart or feel a thrilling sensation.

Tinkler, *tingl'er*, *n.* a mender of tin and metal ware.

Tinkle, *tingk'l*, *v.* to make sharp sounds.

Tinsel, *tin'sel*, *n.* gaudy dress material.

Tiny, *ti'ni*, *adj.* very small.

Tip, *tip*, *n.* gratuity; a hint; a tap; *v.* to slant.

Tippet, *tip'et*, *n.* a small mantle.

Tipstaff, *tip'staf*, *n.* a constable.

Tipsey, *tip'si*, *adj.* drunk.

Trade, *trád*, *n.* an outburst of abuse.

Tire, *tr*, *v.* to weary; to dress. [organic structure.]

Tissue, *ti'sü*, *n.* cloth of gold or silver; the body's

Tithe, *ti'th*, *n.* a tenth part; church tax.

Tickle, *ti'k'l*, *v.* to tickle.

Title, *ti'tl*, *n.* appellation of rank; right; *v.* to name.

Titter, *ti'ter*, *v.* to laugh restrainedly.

Tittle, *ti'tl*, *n.* a jot.

Tittle-tattle, *ti'tl-tl*, *n.* idle gossip.

Titular, *ti'tü-lar*, *adj.* nominal.

Toast, *töst*, *n.* bread scorched; a sentiment; *v.* to toast bread; to drink to.

Toboggan, *tö-bog'an*, *n.* a sled for sliding down snow

Tocain, *tö'kin*, *n.* an alarm-bell. [slopes.]

Tod, *tod*, *n.* 28 lb. of wool.

Toddy, *tod'di*, *n.* sweetened water and liquor.

Toga, *tö'gä*, *n.* an ancient Roman mantle.

Tollsome, *töl'sum*, *adj.* wearisome.

Tokay, *tö'kai*, *n.* an Hungarian wine.

Tolerant, *töl'er-ant*, *adj.* [passable.]

Toll, *töl*, *n.* tax for right of passage; *v.* to strike a bell.

Tomahawk, *tom'hawk*, *n.* an Indian hatchet.

Tomb, *toom*, *n.* a grave.

Tomboy, *tom'boy*, *n.* a romping girl.

Tom, *töm*, *n.* a large book.

Ton, *ton*, 2,240 lb., or 20 cwt.

Tone, *tön*, *n.* sound; quality of voice.

Tongue, *tu'ng*, *n.* a fire implement.

Tonic, *ton'ik*, *n.* a strengthening mixture.

Tool, *tool*, *n.* a workman's implement; one who is utilised by another.

Toothsome, *toot'sum*, *adj.* palatable

Topaz, *tö'paz*, *n.* a precious stone.

Toper, *tö'per*, *n.* a drunkard.

Topic, *top'ik*, *n.* a subject for converse or writing.

Topography, *top-og'raf-i*, *n.* description of places.

Topple, *top'pl*, *v.* to fall.

Torch, *torch*, *n.* a light of combustible material held

Torment, *tor'ment*, *n.* anguish. [in the hand.]

Torment, *tor'ment*, *v.* to torture; to vex.

Torpid, *tor'pid*, *adj.* sluggish; dull.

Torrent, *tor'ent*, *n.* a swift stream; a rapid outpouring.

Torrid, *tor'id*, *adj.* hot and dry.

Torsion, *tor'shun*, *n.* the act of twisting.

Torso, *tor'sö*, *n.* trunk of a statue.

Tort, *tort*, *n.* a wrong.

Tortile, *tor'til*, *adj.* twisted.

Tortuous, *tor'tü-us*, *adj.* winding; twisted.

Torture, *tor'tür*, *n.* excessive pain.

Toss, *tos*, *v.* to throw.

Total, *tö'tal*, *n.* the entire sum; *adj.* complete; full.

Tote, *töt*, *v.* to carry.

Totter, *töt'er*, *v.* to reel.

Touching, *tuch'ing*, *adj.* affecting; pathetic.

Tough, *tuf*, *adj.* tenacious; hardy.

Tourist, *toor'ist*, *n.* one who makes a tour.

Touse, *tuwz*, *v.* to pull.

Tout, *tout*, *v.* to push for custom. [a rope.]

Tow, *tö*, *n.* combed flax; *v.* to pull through water by

Toward, *tö'ard*, *adj.* prep; *prep* in the direction of

Towel, *töw'el*, *n.* a cloth for wiping the skin. [hugh.]

Tower, *töw'er*, *n.* a high building; a fortress; *v.* to rise

Trace, *träs*, *n.* a mark; a footstep; *v.* to track.

Track, *trak*, *v.* to trace; *n.* a road. [treatise.]

Tract, *trakt*, *n.* a space of territory; a small religious

Tractable, *trak'täbl*, *adj.* docile; easy to manage.

Traction, *trak'shun*, *n.* act of drawing.

Trade, *träd*, *n.* business; commerce; industry; *v.* to buy or sell. [device.]

Trade-mark, *träd'mark*, *n.* a patented distinguishing

Trade-wind, *träd'wind*, *n.* a constant sea-wind.

Tradition, *trä-dist'un*, *n.* unwritten memorials.

Traduce, *tra-düs*, *v.* to vilify.

Traffic, *trafik*, *n.* trade.

Tragedy, *traj'ed-i*, *n.* a fatal occurrence; a tragic

Trail, *träil*, *n.* a track; *v.* to track. [drama.]

Train, *träin*, *v.* to teach; *n.* a line of railway carriages

Train-oil, *träin'oil*, *n.* oil from the fat of whales.

Trait, *trä*, *n.* a characteristic; a feature.

Traitor, *trä'tör*, *n.* one who betrays.

Tram, *traun*, *n.* tram-car.

Tammel, *tram'el*, *v.* to hamper; to entangle.

Tramp, *tramp*, *v.* to go on foot; *n.* a vagrant.

Trample, *tramp'l*, *v.* to tread upon.

Trance, *trans*, *n.* a vision

Tranquil, *trang'kwil*, *adj.* calm.

Transact, *trans-akt'*, *v.* to perform.

Transcend, *trans-ä*, *v.* to surpass.

Transcribe, *trans-krip'*, *v.* to copy.

Transcript, *trans-krip't*, *n.* a copy.

Transfer, *trans-fer'*, *v.* to convey.

Transfiguration, *trans-fig-ür-ä'shun*, *n.* a change of

Transfix, *trans-fiks'*, *v.* to pierce through. [form]

Transform, *trans-form'*, *v.* to alter.

Transfuse, *trans-füz'*, *v.* to instil.

Transgressor, *trans-gres'or*, *n.* one who errs; a sinner

Transient, *trans-shent*, *adj.* fleeting; passing; [ten]

Translate, *trans-lä'*, *v.* to interpret; to transfer

Translucent, *trans-lö-üent*, *adj.* pellucid

Transmarine, *trans-mä-rin'*, *adj.* beyond the sea

Transmigration, *trans-mi-grä'*

Transmigration, *trans-mi-grä'*

Transmit, *trans-mit'*, *v.* to send.

Transmontane, *trans-mön'tän*, *adj.* across a mountain

Transmute, *trans-müt'*, *v.* to change the substance of

Transparent, *trans-pä'rent*, *adj.* clear.

Transpire, *trans-pir'*, *v.* to happen; to exhale; to emit.

Transplant, *trans-plant'*, *v.* to re-plant in another

Transport, *trans-port'*, *v.* to convey. [place]

Transport, *trans-port'*, *n.* rapture; a convict.

Transpose, *trans-pöz'*, *v.* to interchange.

Transprint, *trans-print'*, *v.* to print in wrong places.

Transude, *trans-üd'*, *v.* to pass through pores.

Transverse, *trans-vers'*, *adj.* crosswise.

Trap, *trap*, *v.* to snare; *n.* a snaring apparatus

Trapan, *trä-pan'*, *v.* to ensnare

Trap-door, *trap'dör*, *n.* a floor door.

Trash, *trash*, *n.* worthless stuff.

Travel, *trav'äl*, *v.* to labour in pain; *n.* childbirth

Travel, *trav'äl*, *n.* journeying; *v.* to walk; to journey

Trawery, *traw'äri*, *n.* burlesque; *v.* to burlesque.

Trawl, *trawl*, *v.* to fish by dragging a trawl.

Treachery, *trech'er-i*, *n.* treachery; betrayal.

Treadle, *tre'd'l*, *n.* lever moved by the foot in mechanical operations.

Treasure, *trez'hür*, *n.* accumulated wealth; valuables; *v.* to hoard. [entertainment.]

Treat, *trät*, *v.* to discourse upon; to entertain; *n.* free

Treble, *treb'l*, *adj.* threefold; *n.* highest part in music.

Trefoil, *tré'föil*, *n.* clover.

Trellis, *tré'fis*, *n.* lattice-work.

Tremble, *trem'bl*, *v.* to shake; to shiver.

Tremolo, *trem'ö-lö*, *n.* a quivering note.

Trenchant, *trench'ant*, *adj.* severe; cutting.

Trencher, *trensh'er*, *n.* wooden plate.

Trend, *trend*, *n.* tendency.

Trental, *trent'al*, *n.* service of thirty masses.

Trepan, *tré-pan'*, *v.* to ensnare; to perforate the skull; *n.* saw used in trepanning.

Trepid, *trepid*, *adj.* quaking with alarm

Trespass, *tres'pas*, *v.* to infringe; to unlawfully ob-

Tress, *trez*, *n.* a lock of hair.

day; ät; ärm; äve; älk; thäre; Ice; phn; machine; böld; pöt; störm; müte; tüb; börm.

Trestle, *tres'l*, *n.* a support.
Tret, *tres*, *n.* allowance for waste.
Triable, *tri'ə-bl*, *adj.* that can be tried.
Triad, *tri'ad*, *n.* three together. [attempt.
Trial, *tri'al*, *n.* an examination; a test; a hearing; an [attempt.
Triangle, *tri'ang-g'l*, *n.* a three-angled figure.
Tribe, *tri'b*, *n.* a race; a family.
Tribulation, *tri-bu-lá'shun*, *n.* distress; severe affliction.
Tribunal, *tri-bu'nál*, *n.* a court of justice. [tion.
Tribute, *tri'bút*, *n.* tax paid by a conquered country;
 a gift, *tri'b*, *n.* an instant. [an acknowledgment.
Trick, *tri'k*, *n.* a dodge; an artifice.
Trickle, *tri'k'l*, *v.* to drip.
Tricolour, *tri'kul-er*, *n.* a three-coloured flag; national flag of France.
Tricycle, *tri-sik'l*, *n.* a three-wheeled velocipede.
Trident, *tri'dent*, *n.* a three-pronged sceptre.
Triennial, *tri-en'nal*, *adj.* occurring every third year.
Trifle, *tri'fl*, *n.* anything of little value; *v.* to talk or act
 triflingly, *tri'fo-l'ál*, *adj.* three-leaved. [ldy.
Trifurcate, *tri-fur'kát*, *adj.* three-branched.
Trigger, *tri'g-er*, *n.* spring of a gun.
Trigonal, *tri-gon*, *n.* a three-cornered figure. [angles.
Trigonometry, *tri-gon-om'e't-ri*, *n.* science of tri-
 lateral, *tri-lat'er-al*, *adj.* having three sides.
Trilateral, *tri-lat'er-al*, *adj.* having three letters.
Trill, *tri'l*, *v.* to make a quivering tone.
Trilocular, *tri-lok'ú-lar*, *adj.* three-celled.
Trim, *tri'm*, *v.* to put in order.
Trimmer, *tri'm-er*, *n.* a time-serving politician.
Trinal, *tri'nál*, *adj.* threefold.
Trinket, *tri'ng-ét*, *n.* a small personal ornament.
Trimodal, *tri-mó'd'al*, *adj.* three-jointed.
Trinomial, *tri-nom'i-nál*, *adj.* consisting of three parts.
Trio, *tri'ó*, *n.* a musical composition for three per-
 formers.
Trip, *tri'p*, *v.* to take short quick steps; to stumble;
 to go wrong; *n.* a false step; an excursion.
Tripartite, *tri-pár'tít*, *adj.* in three parts.
Tripe, *tri'p*, *n.* the part of the entrails of ruminating
 animals used as food.
Tripedal, *tri-péd'al*, *adj.* having three feet.
Triphthong, *tri'ph-thong*, *n.* union of three vowels in
 one syllable.
Triple, *tri'pl*, *adj.* threefold.
Tripod, *tri'p-od*, *n.* a three-legged stand.
Triptych, *tri'p-tik*, *n.* a set of tablets or paintings in
 three sections.
Trisect, *tri-sekt*, *v.* to divide into three.
Trisyllable, *tri-sil'lá-bl*, *n.* word of three syllables.
Trite, *tri't*, *adj.* stale, hackneyed.
Triton, *tri'ton*, *n.* a marine demigod.
Triturate, *tri-tú-rát*, *v.* to grind to fine powder.
Triumph, *tri'umf*, *n.* victory.
Triune, *tri'ün*, *adj.* three in one.
Trivet, *tri'vet*, *n.* a thing supported on three feet.
Trivial, *tri'vial*, *adj.* trifling. [rhetoric, and logic.
Trivium, *tri'v-um*, *n.* the liberal arts—grammar,
 rhetoric, *tró-ké*, *n.* a metrical foot of an accented and
 an unaccented syllable.
Troll, *tról*, *v.* to sing.
Trolop, *tró'lop*, *n.* a clatter.
Trombone, *trón-bón*, *n.* a brass musical instrument.
Tromometer, *tró-mom'e't-er*, *n.* instrument for measur-
 ing earthquake shocks.
Troop, *tróop*, *n.* a company of soldiers.
Trophy, *tró'fi*, *n.* a memorial of victory.
Tropics, *tró'piks*, *n.* the twofold zone.
Troth, *tróth*, *n.* faith; fidelity.
Troubadour, *tróo-bá-door*, *n.* a wandering poet of the
 Trouth, *tróth*, *n.* a long hollow vessel. [Middle Ages.
Troupe, *tróop*, *n.* a company.
Trousseau, *tróo-só*, *n.* a bride's outfit.
Trove, *tró-ver*, *n.* an action to recover goods wrong-
 fully held.
Trow, *trów*, *v.* to presume; to suppose.
Trowel, *trów-el*, *n.* tool for handling mortar. [1 lb
Troy-weight, *trów-wát*, *n.* system in which 12 oz. equal
 a pound, *tróo'ant*, *n.* a strayer from duty; one who
 stays from school.
Truce, *tróos*, *n.* temporary peace.
Truck, *trúk*, *n.* a hand vehicle. *v.* to barter.

day; át; árm; éve; élk; thére; íce; pín; máchine; bóld; póé; stórn; máte; túb; bárn.

Truculent, *trúk'ú-lent*, *adj.* savage; fierce.
Trudge, *trúj*, *v.* to jog along.
Trug, *trug*, *n.* gardener's basket.
Trulam, *tróo'izán*, *n.* an axiom; a self-evident truth.
Trumpet, *trump'et*, *n.* a brass musical wind instru-
 ment; *v.* to proclaim loudly.
Truncate, *trung'kát*, *v.* to cut off.
Truncheon, *trun'shun*, *n.* a club; a bludgeon.
Trundle, *trund'l*, *v.* to roll.
Truss, *trús*, *n.* a supporting bandage for ruptures,
 a bundle of hay; *v.* to pack close.
Trust, *trúst*, *n.* credit; faith; confidence.
Truth, *trúth*, *n.* fact; reality; fidelity.
Tryst, *trist*, *n.* a meeting-place.
Tube, *túb*, *n.* a hollow pipe; a tunnel-way.
Tubular, *tú'bú-lar*, *adj.* tubiform.
Tucker, *tú-ker*, *n.* a kind of bib.
Tuft-hunter, *tuft'hunt-er*, *n.* one who eagerly courts
 tuition, *tú-ish'un*, *n.* teaching. [higher society.
Tumbler, *túmb'ler*, *n.* a drinking-glass; an acrobat.
Tumbrel, *túmb'rel*, *n.* a two-wheeled cart; a ducking-
 stool; the kind of cart used for conveying French
 Revolutionary prisoners to the guillotine.
Tumid, *tú'mid*, *adj.* swollen.
Tumult, *tú-múlt*, *n.* uproar; commotion.
Tumulus, *tú-mú-lus*, *n.* a grave mound; a barrow.
Tun, *tún*, *n.* a large cask. 252 gallons.
Tuna, *tú'na*, *n.* prickly pear.
Tune, *tún*, *n.* a musical strain.
Tunic, *tú'nik*, *n.* a loose over-garment; a membrane.
Tunnel, *tun'el*, *n.* a passage-way cut through the
 Turban, *túr-bán*, *n.* an Oriental head-dress. [earth.
Turbid, *túr-bid*, *adj.* muddy.
Turbine, *túr-bin*, *n.* a horizontal water-wheel.
Turbulent, *túr-bú-lent*, *adj.* tumultuous.
Tureen, *tú-rén*, *n.* a large dish for holding soup.
Turgid, *túr-jid*, *adj.* bloated.
Turmoil, *túr-moil*, *n.* uproar; trouble; disorder.
Turncoat, *turn'kót*, *n.* one who turns from principles
 previously held.
Turnery, *turn'eri*, *n.* the art of turning in a lathe.
Turnip, *túr-nip*, *n.* a root vegetable. [articles turned.
Turret, *túr-et*, *n.* a little tower.
Tusk, *túsk*, *n.* an elephant's protruding tooth.
Tutelage, *tú-tel-áj*, *n.* guardianship.
Tutor, *tú'tor*, *n.* an instructor.
Twaddle, *twád'l*, *n.* foolishness.
Tweed, *twéd*, *n.* a kind of cloth.
Twiddle, *twé'dl*, *v.* to handle gently; to wriggle.
Tweezers, *twé-zers*, *n.* small pincers for pulling out
 twelfth, *twé'fth*, *n.* dusk. [stairs
Twill, *twil*, *n.* ribbed fabric; *v.* to weave in diagonal
 twin, *twín*, *n.* a pair, one of two born at a birth. [rbs.
Twinge, *twíng*, *v.* to feel a darting pain.
Twinkle, *twíng'l*, *v.* to sparkle.
Twirl, *twér'l*, *v.* to whirl.
Twist, *twíst*, *v.* to wind.
Twit, *twít*, *v.* to reproach.
Twit, *twít*, *v.* to jerk. [flows
Twitter, *twít-er*, *v.* to make a tremulous noise, as swal-
 lows, *tympán*, *tymp'an*, *n.* a printer's frame on which sheets
 are laid for printing.
Tympanum, *tymp'a-num*, *n.* drum of the ear.
Type, *tip*, *n.* printing letter, an emblem, a model.
Typewriter, *tip'n-ter*, *n.* a writing machine.
Typology, *tip-ol-ó-jí*, *n.* the doctrine of Scripture
 typology, *tip-ol-ó-jí*, *n.* "spirit-typing." [types.
Tyranny, *tyr'an-í*, *n.* oppression; cruelty.
Tyre, *tír*, *n.* the outer band of a wheel.
Tyrian, *tyr'i-an*, *adj.* a deep purple colour.
Tyro, *tyró*, *n.* a beginner.
Tyrrhenian, *ty-ré'n-ian*, *adj.* Etruscan.

U

Ubiquity, *ú-bik'wít-í*, *n.* omnipresence.
Udder, *úd-er*, *n.* mammary glands.
Ugly, *úg'l*, *adj.* disagreeable to the eye; pain.
Ullander, *úw'land-er*, *n.* Outlander (Dutch).
Ullinose, *ú-ljín-ós*, *adj.* growing in swamps.

Uster, u'ster, *n.* a kind of overcoat.
 Uterior, u'te-ri-or, *adj.* farther; lying beyond.
 Ultimate, u'ti-māt, *adj.* last; farthest.
 Ultra, u'trā, *adj.* extreme.
 Ultramarine, ul-tra-mā-rin, *adj.* beyond the seas.
 Ultramontane, ul-tra-mon-tān, *adj.* beyond the moun-
 tains.
 Utrineous, ul-trō-nē-us, *adj.* spontaneous. [tans.
 Umbel, um'bel, *n.* head of a flower.
 Umber, um'ber, *adj.* a brown colour.
 Umbles, um'blz, *n.* a deer's entrails.
 Umbrage, um'brāj, *n.* resentment; leafy shade.
 Empire, um'pir, *n.* one who decides a dispute.
 Unaffected, un-af-ek'ted, *adj.* with sincerity.
 Unanimity, ū-nan-im'i-ti, *n.* accord.
 Unanswerable, un-an-ser-ā-ble, *adj.* irrefutable.
 Unaware, un-ā-wā-er, *adj.* unexpectedly.
 Unbend, un-bend, *v.* to relax. [canon.
 Uncanonical, un-kan-on'le-ā, *adj.* contrary to the
 sacremonious, un-ser-e-mō'n-i-us, *adj.* without
 formality.
 Unchurch, un-church, *v.* to deprive of church rights.
 Unclal, un-shal, *n.* the large written characters in
 ancient MSS.
 Uncle, ung'kl, *n.* a father's or mother's brother.
 Uncongenial, un-kon-je'n-i-ā, *adj.* not congenial.
 Unconscionable, un-kon-shun-ā-ble, *adj.* unjust; un-
 reasonable.
 Unconth, un-kon'th, *adj.* awkward; rude; unmanly.
 Unction, ung'k-shun, *n.* act of anointing; a fervour.
 Under, un'der, *prep.* beneath.
 Underbrush, un'der-brush, *n.* small shrubs and trees.
 Undergo, un-de-r-gō, *v.* to endure; to pass through.
 Undergraduate, un-de-r-grād'ū-āt, *n.* a student who
 has not taken his degree.
 Underhand, un-de-r-hand, *adj.* secret.
 Underling, un-de-r-ling, *n.* an under agent.
 Undermine, un-de-r-min', *v.* to dig under; to secretly
 injure. [from beneath
 Underpin, un-de-r-pin', *v.* to prop up; to support
 Undershot, un-de-r-shot', *adj.* moved by water passing
 beneath a water-wheel.
 Understand, un-de-r-stand', *v.* to comprehend.
 Understrapper, un-de-r-strap-er, *n.* one performing
 inferior duties.
 Undertaker, un-de-r-tāk'er, *n.* one who manages
 funerals.
 Underwrite, un-de-r-rit', *v.* to insure.
 Undulate, un-dū-lāt, *v.* to move in wave-like manner;
 to cause vibration.
 Unequivocal, un-e-kwiv'o-kal, *adj.* without ambiguity.
 Unquent, ung'kwent, *n.* an ointment.
 Unhallowed, un-hā'fōd, *adj.* unholy.
 Unisforous, ū-ni-fō'r-us, *adj.* one-flowered.
 Uniform, ū-ni-form, *n.* regimental dress; livery; *adj.*
 undeviating. [ment.
 Union, ū-ni-un, *n.* concord; unity; harmony; agree-
 ment.
 Uniparous, ū-nip'ar-us, *adj.* producing one at a birth.
 Unique, ū-nēk', *adj.* alone in kind; without equal.
 Unison, ū-ni-sun, *n.* concord.
 Unit, ū-nit, *n.* a single thing; the least whole number.
 Unity, ū-ni-ti, *n.* concord; agreement in a single
 thing.
 Univalent, ū-ni-valv, *n.* a shell with only a single valve.
 Universe, ū-ni-vers, *n.* the whole system of created
 things. [sounds.
 Univocal, ū-ni-vō-kal, *adj.* of one meaning; unison of
 voices.
 Unkempt, un-kemp't, *adj.* uncombed; rough; untidy.
 Unman, un-man, *v.* to dishearten; to deprive of
 manly qualities.
 Unnerve, un-nerv', *v.* to deprive of nerve; to weaken.
 Unparliamentary, un-pār-il-men'tar-i, *adj.* opposed to
 the usages of debate.
 Unprincipled, un-prin's-pld, *adj.* devoid of principle.
 Unravel, un-rav'el, *v.* to solve; to disentangle.
 Unspun, un-sūn, *adj.* pure; unspotted.
 Upea, ū-pas, *n.* a tree of poisonous sap.
 Upbraid, up-brād', *v.* to reprove; to reproach.
 Upheaval, up-hēv'al, *n.* a heaving up.
 Uphill, up'hil, *adj.* difficult; rising.
 Uphold, up-hold', *v.* to maintain; to hold up.
 Upholsterer, up-hōl-ster-er, *n.* one who supplies
 furniture.
 Upland, up-land, *n.* high ground.
 Uprightness, up-rit-ness, *n.* integrity; erectness.
 Uproar, up-rōr, *n.* disorder; clamour.

Upshot, up'shot, *n.* the end; the conclusion.
 Upstart, up'start, *n.* a parvenu.
 Uranography, ū-ran-og'ra-fi, *n.* descriptive astro-
 nomical. [omy.
 Urban, ur'ban, *adj.* relating to a city.
 Urbane, ur-bin', *adj.* polite; courteous.
 Urchin, ur'chin, *n.* a child; an elf; a hedgehog.
 Urgency, ur-jen-si, *n.* pressing necessity.
 Urine, ū-rin, *n.* fluid secreted by the kidneys.
 Urn, urn, *n.* a vase.
 Ursaform, ur'si-form, *adj.* bear-like.
 Usage, ū-sāj, *n.* custom; treatment. [to utilise.
 Use, ūs, *n.* the act of using; employment; utility; *v.*
 to use.
 Usher, ush'er, *n.* doorkeeper; under-teacher.
 Usual, ū-zhū-āl, *adj.* customary.
 Usurfruct, ū-sū-frukt, *n.* temporary use of property.
 Usury, ū-zū-ri, *v.* to seize and hold illegally.
 Usury, ū-zhū-ri, *n.* excessive interest for money lent.
 Utensil, ū-ten-sil, *n.* a vessel; an implement.
 Uterine, ū-ter-in, *adj.* born of the same mother by a
 different father; relating to the womb.
 Utility, ū-ti-lit', *n.* usefulness; profit.
 Utmost, ut'mōst, *adj.* extreme.
 Utricular, ū-trik'ū-lar, *adj.* containing little bladders or
 vesicles.
 Utter, ut'er, *v.* to speak; *adj.* extreme; farthest. [cells.
 Uveous, ū-vē-us, *adj.* grape-like. [wife.
 Uxorious, ug-zō-ris-us, *adj.* submissively devoted to a

V

Vacant, vā'kant, *adj.* empty.
 Vacillate, va-sil-lāt, *v.* to waver.
 Vacuum, vak'ū-um, *n.* an empty space.
 Vagabond, vag'ā-bond, *n.* a vagrant; an idle person.
 Vagary, va-gā-ri, *n.* a freak; a whim.
 Vagrant, va-grant, *n.* an idle wanderer.
 Vague, vāg, *adj.* indefinite.
 Vain, vān, *adj.* unreal; worthless; conceited.
 Valance, val'āns, *n.* bed drapery.
 Vale, vāl, *n.* a valley. [bidding farewell.
 Valedictory, val-ē-dikt'ō-ri, *n.* a farewell address; *adj.*
 of a farewell address.
 Valet, val'ē, *n.* personal servant to a gentleman.
 Valetudinarian, val-ē-tū-din-ā-ri-an, *n.* a person of
 feeble health.
 Valiant, val'i-ant, *adj.* brave; heroic. [firm health.
 Valid, val'id, *adj.* legal; regular; sound.
 Valise, val-ēs, *n.* travelling bag.
 Valley, val'ē, *n.* a plain lying between hills.
 Vallum, val'um, *n.* a rampart.
 Valour, val'or, *n.* courage; bravery.
 Valuable, val'ū-ā-ble, *adj.* possessing value.
 Valve, valv, *n.* cover to an aperture.
 Vamp, vamp, *v.* to mend; to improve an accompani-
 ment; *n.* upper leather of shoe. [waggon.
 Van, van, *n.* the front of an army or fleet; *n.* a covered
 wagon.
 Vandyke, van-dik', *n.* an indented border or collar;
v. to indent.
 Vane, vān, *n.* a weathercock; a flag or banner.
 Vanguard, van-gārd, *n.* the front line of an army.
 Vainly, va-in-li, *adv.* empty pride; conceit.
 Vainness, va-in-ness, *n.* to subdue.
 Vantage, van'taj, *n.* advantage; opportunity.
 Vapid, va-pid, *adj.* insipid. [cheated fluid; *v.* to boast.
 Vapour, va-por, *n.* aeriform matter arising from a
 liquid.
 Variation, va-ri-ā-shun, *n.* a varying; change; diver-
 sity.
 Varicose, va-ri-kōs, *adj.* enlarged; dilated. [sity.
 Variety, va-ri-ē-ti, *n.* difference; change; a class.
 Variorum, vā-ri-ō-rum, *n.* an edition of a work with
 notes from various previous editions.
 Varlet, vā-let, *n.* a scoundrel; a footman.
 Varnish, vā-rish, *n.* glossy resinous liquid.
 Vary, vā-ri, *v.* to alter; to diversify.
 Vascular, vas-kū-lar, *adj.* relating to vessels of animal
 or vegetable bodies.
 Vase, vāz, *n.* an ornamental vessel of earthenware or
 metal.
 Vassal, vas'al, *n.* a slave.
 Vast, vast, *adj.* stupendous; immense.
 Vat, vat, *n.* a large vessel for holding liquor.
 Vedicinate, va-tis-in-āt, *v.* to foretell.
 Vaudeville, vōd-vil, *n.* a song; an entertainment.
 Vault, vawt, *n.* a tomb; *v.* to leap.
 Vaunt, vawnt, *n.* a boast; *v.* to boast.
 Veal, vē, *n.* flesh of a calf.

day; āt; ārm; ēve; ēik; thēre; īce; pln; machine; bold; rōt; stōrm; mōte; tūb; bōrn.

- Vedette**, ve-det', *n.* a mounted sentry.
Veer, ver, *v.* to turn.
Vegetation, vej-é-tá'shun, *n.* plant life.
Vehebement, vej-he'ments, *n.* impetuosity; violence.
Vehicle, veh-ikl, *n.* a carriage; a kind of conveyance.
Veil, vil, *n.* covering for the face; anything that conceals an object; a disguise.
Vein, vān, *n.* a blood-vessel; a streak; a current.
Veldt, velt, *n.* South African grassy plain.
Vellente, vel-é-nt, *v.* to twitch.
Velocity, vel-os'i-ti, *n.* speed; swiftness.
Venal, ven'al, *adj.* mercenary; sordid.
Vend, vend, *v.* to sell.
Vendue, ven-dü', *n.* a public auction.
Veneer, ve-nēr, *n.* a thin surface of superior wood over an inferior; surface show; *v.* to overlay.
Venerable, ven'er-abl, *adj.* worthy of reverence.
Venery, ven'er-i, *n.* hunting; sexual commerce.
Vengeance, ven'jens, *n.* revenge; retribution.
Venial, ven'i-ál, *adj.* pardonable.
Venom, ven'om, *n.* poison.
Veinous, ven'us, *adj.* pertaining to veins.
Vent, vent, *n.* an air opening; escape.
Ventilation, ven-ti-lá'shun, *n.* state of being ventilated.
Ventral, ven'tral, *adj.* pertaining to the belly. [body].
Ventricle, vent'rikl, *n.* a small opening in an animal
Verbiage, ver-bi-áz, *n.* the art of uttering sounds as if they came from other places or persons.
Venture, ven'tür, *n.* an enterprise. *v.* to hazard.
Venue, ven'ü, *n.* place where an action can be brought.
Veracity, ver-as'i-ti, *n.* truth; sincerity.
Verandah, ver-an'dä, *n.* an open porch.
Verbal, ver'bal, *adj.* by word of mouth; oral.
Verbatim, ver-bá'tim, *adv.* word for word.
Verblage, ver-blá-j, *n.* profusion of words.
Vordant, ver-dant, *adj.* green; flourishing.
Verdict, ver-dikt, *n.* decision.
Verger, ver'jer, *n.* a mace-bearer; a cathedral beadle.
Verity, ver'it-i, *v.* to confirm. [truth]. probability.
Verisimilitude, ver-i-sim-i-l'i-tüd, *n.* appearance of
Verjuice, ver-ju-ós, *n.* juice of green fruit.
Vermicular, ver-mik'ü-lar, *adj.* worm-like.
Vermilion, ver-mi-l'yun, *n.* a bright red colour.
Vermis, ver'min, *n.* noxious insects and animals.
Vernacular, ver-nak'ü-lar, *adj.* native.
Vernal, ver-nal, *adj.* relating to spring.
Versant, ver-sant, *adj.* familiar.
Versatile, ver-sá'til, *adj.* turning easily; of varied
Verse, vers, *n.* poetry; a stanza. [capacity].
Version, ver'shun, *n.* translation; edition; account.
Vertebra, ver-té-brä, *n.* the joint of the backbone.
Vertex, ver'teks, *n.* the summit.
Vertical, ver'ti-k'al, *adj.* perpendicular *n.*
Vertigo, ver'ti-gö, *n.* dizziness.
Verve, verv, *n.* energy; vital power.
Vesania, ves-á-ni-ä, *n.* insanity.
Vesicle, ves'ikl, *n.* small bladder, blister, or cell.
Vesper, ves'pers, *n.* evening service.
Vessel, ves'sel, *n.* a ship; a utensil. [possession].
Vest, vest, *n.* a waistcoat; *v.* to clothe; to place in
Vestibule, ves'ti-bül, *n.* entrance hall, corridor, or
Vestige, ves'tij, *n.* a trace. [porch].
Vestry, ves'tri, *n.* a room in which church vestments are kept and church officials meet; the assembly of church officials.
Vesuvian, ves-ü-vi-an, *n.* a kind of match. [aged person].
Veteran, vet'er-an, *n.* one who has served long; an
Veterinary, vet'er-in-är-i, *adj.* pertaining to the curing of diseases of animals; *n.* a practitioner of this art.
Veto, vé'tö, *n.* prohibition; power of rejection.
Vex, veks, *v.* to harass; to annoy.
Viable, vi-á-bl, *adj.* capable of existing.
Viaduct, vi-á-duk't, *n.* a bridge-like structure crossing a valley and uniting with roads at each end.
Vial, vi'al, *n.* a small bottle.
Vianda, vi-andä, *n.* food; victuals.
Vibrate, vi-brät, *v.* to oscillate. [man].
Vicar, vik'ar, *n.* substitute; deputy; a parish clergy-
Vice, vis, *n.* wickedness; a blemish; a screw-press.
Vice-comesul, vis-kon'sul, *n.* one acting for a Consul.
Viceregent, vis-je'rent, *adj.* acting for another.
Viceroy, vi-s'roi, *n.* a king's deputy.

day; ät; ärm; äve, älk; there; ice; pln; machine; böld; pöt; störm; müte; tüb; bürn.

Voluntary, vol'un-tā-rī, *adj.* of free choice.
Volunteer, vol-un-tēr, *v.* to offer; *n.* one who serves voluntarily.
Voluptuous, vo-lup'tū-us, *adj.* sensual.
Vomit, vom'it, *v.* to throw up.
Voracity, vo-ras'i-tī, *n.* greediness.
Vortex, vor'teks, *n.* whirlpool. [service].
Votary, vō'tā-rī, *n.* one devoted to a pursuit or
Vote, vōt, *n.* the expression of choice; suffrage; *v.* to
Votive, vō'tiv, *adj.* given by vow. [select by voting].
Vouch, vouch, *v.* to attest.
Vouchsafe, vouch-sāf, *v.* to design; to grant.
Vow, vow, *n.* a sacred promise to perform a certain
 act; *v.* to make such a promise.
Vowel, vōw'el, *n.* a simple open sound; one of the
 five letters—*a, e, i, o, u*.
Voyage, vō'āj, *n.* a journey by sea.
Vulcanise, vul'kan-iz, *v.* to combine with sulphur.
Vulgar, vul'gar, *adj.* low; coarse; common.
Vulnerable, vul'ner-ābl, *adj.* capable of being injured.
Vulpine, vul'pin, *adj.* concerning the fox

W

Wadding, wod'ing, *n.* soft cotton material used for
Waddle, wod'dl, *v.* to walk like a duck. [stuffing].
Wade, wād, *v.* to wade in water.
Wafel, wā'fel, *n.* a thin cake; a little round pasty
 substance formerly used in sticking letters.
Waft, woft, *v.* to float.
Wage, wāj, *n.* pay for service; *v.* to carry on.
Wager, wā'jer, *n.* a bet.
Waggery, wag'er-ī, *n.* sportiveness.
Waggon, wag'on, *n.* a four-wheeled vehicle for con-
 veying goods. [ownerless].
Wail, wāl, *n.* a homeless wanderer; anything found
Wail, wāl, *n.* a cry of lament; *v.* to lament.
Wain, wān, *n.* a waggon.
Waincot, wān'skot, *n.* a wooden wall lining.
Waist, wāst, *n.* the part of the body immediately
Wait, wāt, *v.* to tarry. [above the hips].
Waiter, wā'ter, *n.* an attendant.
Waive, wāv, *v.* to relinquish. [waken].
Wake, wāk, *n.* a watch; track of a vessel; *v.* to
Wake, wāl, *n.* a streak caused by a stripe; a ridge in
Walk, wālk, *v.* to proceed by footsteps; *n.* gait. [cloth].
Wallet, wō'let, *n.* a small bag; a knapsack.
Wall-eye, wāl'ī, *n.* a white, or blind, eye.
Wallow, wō'lop, *v.* to flop.
Wallow, wō'lo, *v.* to roll about, as in mire; to live in
Wampum, wom'pum, *n.* Indian bead-money. [vice].
Wan, won, *adj.* pale.
Wand, wōnd, *n.* a slender stick; a rod of authority.
Wander, wōn'der, *v.* to rove.
Wane, wān, *v.* to decrease; *n.* decline.
Wanton, wōn'twn, *adj.* loose; frolicsome; licentious
Warble, wāw'bl, *v.* to sing with trills.
Ward, wā'd, *n.* a person under guardianship;
 custody; *v.* to guard. [in; apparel].
Wardrobe, wārd'rōb, *n.* a place for storing clothes
Ward-room, wārd'rōom, *n.* officer's mess-room on
Ware, wār, *n.* merchandise; goods. [a warship].
Warfare, wāw'fār, *n.* hostilities; war.
Warily, wā'rīl, *adv.* cautiously.
Warm, wārm, *adj.* moderately hot
Warn, wārn, *v.* to caution.
Warp, wāwp, *n.* the lengthwise yarn in a weaver's
 loom; *v.* to twist; to pervert. [to justify].
Warrant, wō'rānt, *n.* security; writ; *v.* to guarantee;
Warren, wō'rən, *n.* ground where rabbits burrow.
Wart, wārt, *n.* a hard excrescence on the skin.
Wary, wārī, *adj.* cautious; cunning.
Wash-board, wōsh'bōrd, *n.* board round the bottoms
 of the walls of a room; a rubbing board.
Washer, wōsh'er, *n.* a ring for lessening friction.
Wasby, wōsh'tī, *adj.* watery; feeble.
Wasplish, wōspl'ish, *adj.* peevish; snappy.
Wasps, wōs'pl, *n.* spiced liquor.
Waste, wāst, *n.* unnecessary loss; refuse. [water].
Wastegate, wāst'gāt, *n.* gate for letting out waste
Watchword, wōt'ch-wōrd, *n.* password; motto.

Water, wāw'ter, *v.* to pour water; to irrigate.
Water-brash, wāw'ter-brash, *n.* a mouth affection.
Water-cement, wāw'ter-se-ment, *n.* hydraulic cement.
Water-colour, wāw'ter-kul'ur, *n.* a diluted colour.
Waterman, wāw'ter-man, *n.* a boatman.
Water-melon, wāw'ter-mel-un, *n.* a luscious fruit.
Waterproof, wāw'ter-proof, *n.* an article rendered
 impervious to water. [gather].
Watershed, wāw'ter-shed, *n.* a district where waters
Waterspout, wāw'ter-spōwt, *n.* a whirling column of
 water spouting into the air.
Wattle, wō'tl, *n.* a twig; a hurdle.
Wave, wāv, *n.* a moving swell of water; an undula-
 tion; *v.* to make undulatory movements.
Wave-offering, wāw'ōf'er-ing, *n.* a Jewish offering
 made by waving of hands.
Waver, wā-ver, *v.* to hesitate.
Waxen, wāks'en, *adj.* wax-like.
Waybill, wā'bil, *n.* a list of passengers and goods in
 a public conveyance.
Wayfarer, wā'fār-er, *n.* a traveller.
Waylay, wā-lā, *v.* to attack from ambush.
Wayward, wā'wērd, *adj.* froward; wilful.
Weak, wēk, *adj.* feeble.
Weal, wēl, *n.* welfare.
Wealth, wel'th, *n.* riches. [child].
Wean, wēn, *v.* to alienate; to discontinue suckling a
Weapon, wēp'un, *n.* a fighting implement.
Weed, wēd, *v.* to use to have on the person, as
Weary, wē'rī, *adj.* tired. [clothes].
Weather, wē'th-er, *n.* the state of the atmosphere.
Weathercock, wē'th-er-kōk, *n.* a vane.
Weathergage, wē'th-er-gāj, *n.* the position of a ship
 to the windward of another.
Weatherglass, wē'th-er-glas, *n.* a barometer.
Weave, wēv, *v.* to interlace threads, as in a loom.
Weazen, wēz'n, *adj.* dried up; thin. [brance].
Webed, wēb'd, *adj.* having bees united by a mem-
Wedge, wēdj, *n.* a cleaving tool; a piece of wood or
 metal used for holding anything in place.
Wedlock, wēd'lōk, *n.* marriage.
Wee, wē, *n.* *adj.* very small.
Weed, wēd, *n.* a useless plant.
Weedy, wē'dī, *adj.* full of weeds.
Week, wēk, *n.* seven days.
Ween, wēn, *v.* to think; to fancy.
Weep, wēp, *v.* to shed tears.
Weft, wēft, *n.* the woof of cloth.
Weight, wēit, *n.* gravity; heaviness; importance.
Weird, wērd, *adj.* wild; eerie; unearthly.
Welcome, wel'kum, *adj.* agreeable; *n.* a warm recep-
Weld, wēld, *v.* to unite. [tion].
Welfare, wel'fār, *n.* good fortune; happiness.
Welkin, wel'kin, *n.* the sky.
Well-being, wel-bē'ing, *n.* welfare.
Well-bred, wel-brēd', *adj.* well-born; refined.
Well-spring, wel-spring, *n.* source.
Weit, wēit, *n.* edging round a shoe; *v.* to sew on a
Welter, wel'ter, *v.* to wallow. [welf].
Wench, wēnsh, *n.* a girl.
Wend, wēnd, *v.* to go; to betake.
Wet, wēt, *n.* moisture; rain; *v.* to moisten.
Wether, wē'th-er, *n.* a castrated sheep.
Whack, hwak, *v.* to strike.
Whalebone, hwāl'bōn, *n.* elastic substance obtained
 from the jaws of whales.
Wharf, hwāw'f, *n.* quay to load or unload ships upon
Wheat, hwē'ten, *adj.* made of wheat. [or from].
Wheedle, hwē'dl, *v.* to coax.
Wheel, hwēl, *n.* a circular frame turning on an axis.
Wheelbarrow, hwēl'bar-ō, *n.* a hand vehicle.
Wheelwright, hwēl'rīt, *n.* a wheel-maker.
Whereas, hwēz, *v.* to breathe heavily.
Whelm, hwelm, *v.* to overwhelm.
Whelp, hwelp, *n.* a puppy.
Whereas, hwēr-āz, *adv.* considering; when in fact.
Wherry, hwēr'tī, *n.* a shallow boat.
Whet, hwet, *v.* to sharpen.
Whether, hwē'th-er, *pron.* which of the two.
Whetstone, hwet'stōn, *n.* a sharpening tool.
Whey, hwēy, *n.* thin part of milk.
Whiff, hwīf, *n.* a puff of air or smoke.

day; ā; ārm; ēve; ēlk; thēre; ice; pīn; machine; bōld; pōt; stōrm; mīte; tūb; bōrn.

Whiffle, hwif'l, *v.* to scatter.
 Whimtree, hwif'l-tré, *n.* part of a waggon.
 Whim, hwim, *n.* a caprice; a freak.
 Whimper, hwim'per, *v.* to whine.
 Whine, hwin, *v.* to murmur.
 Whinny, hwin't, *v.* to neigh.
 Whip, hwip, *n.* a lash with a handle; *v.* to lash.
 Whir, hwer, *n.* a buzzing sound.
 Whirl, hwerl, *v.* to revolve quickly.
 Whirlwind, hwer'l-wind, *n.* a rotating wind.
 Whisk, hwisk, *n.* a kind of brush; *v.* to beat, as an egg.
 Whisper, hwisp'er, *v.* to speak low down.
 Whitewash, hwit'wosh, *v.* to coat with lime-water.
 Whither, hwith'er, *adv.* where; to what place.
 Whittle, hwit'l, *v.* to cut with a knife; *n.* a kind of [knife].
 Whiz, hwiz, *n.* a hissing sound.
 Whole, hól, *n.* total.
 Wholesale, hól'sál, *adj.* buying in large quantities to
 Wholesale, hól'sum, *adj.* good; sound. [sell again].
 Whorl, hworl, *n.* a cluster.
 Whore, hór, *n.* a strumpet.
 Wick, wik, *n.* the twisted threads or blazing part in
 the centre of lamps or candles.
 Wicked, wik'ed, *adj.* sinful.
 Wicker, wik'er, *adj.* made of twigs.
 Wicket, wik'et, *n.* a small gate.
 Widen, wid'en, *v.* to broaden.
 Widow, wid'ó, *n.* a woman whose husband is dead.
 Widower, wid'ó-er, *n.* a man whose wife is dead.
 Width, wid'k, *n.* breadth.
 Wield, wéid, *v.* to handle.
 Wig, wig, *n.* artificial hair for the head.
 Wiggle, wig'l, *v.* to squirm.
 Wight, wit, *n.* a person.
 Wigwam, wig'wam, *n.* an Indian hut.
 Wild, wild, *adj.* savage; desert; stormy.
 Wilderness, wild'nes, *n.* a desert.
 Wile, wil, *n.* a sly action.
 Wilful, wil'ful, *adj.* obstinate.
 Willingness, wil'ing-nes, *n.* readiness.
 Win, win, *v.* to gain; to allure.
 Wince, wins, *v.* to flinch.
 Winch, winsh, *n.* a crank; a hoisting apparatus.
 Wind, wind, *n.* a current of air.
 Windage, wind'á, *n.* the difference between a gun's
 diameter and that of a ball.
 Wind-bound, *adj.* detained by contrary winds.
 Windfall, wind'fawl, *n.* an unexpected boon.
 Wind-gall, wind'gawl, *n.* tumour on a horse's fetlock.
 Winding-sheet, wind'ing-she't, *v.* shroud. [ship].
 Windlass, wind'less, *n.* weight-raising machine on a
 Windrow, wind'ó, *n.* an opening for light.
 Window-sash, win'dó-sash, *n.* frame in which glass is
 Windpipe, wind'píp, *n.* the trachea [set].
 Windward, wind'wér'd, *adv.* towards the wind.
 Wine-bibber, win'bib-er, *n.* a great wine-drinker.
 Wing, wing, *n.* the limb of a bird used in flying; *v.* to
 Winning, win'ing, *adj.* attractive. [take flight].
 Winnow, win'ó, *v.* to sift.
 Wire, wir, *n.* a thread of metal.
 Wire-puller, wir'pool-er, *n.* an intriguer; one who
 Wiry, wir'l, *adj.* tough. [controls secretly].
 Wise, wis, *adj.* discreet; just.
 Wisacre, wiz'ák-er, *n.* one who assumes wisdom.
 Wish, wish, *n.* desire.
 Wisp, wisp, *n.* bundle of straw or hay.
 Wistful, wist'ful, *adj.* attentive.
 Wit, wit, *n.* ready sense.
 Witch, wich, *n.* a woman of supposed magical power.
 Witchery, wich'er-l, *n.* enchantment.
 Withdrawal, with-draw'al, *n.* a moving or taking back.
 Withe, with, *n.* a willow twig.
 Wither, with'er, *v.* to dry up.
 Withers, with'érz, *n.* the neck-joint of a horse.
 Withhold, with-hold', *v.* to hold back.
 Withstand, with-stand', *v.* to oppose.
 Witness, wit'nes, *n.* one who bears testimony.
 Wit-snapper, wit'snap-er, *n.* one who affects wit.
 Wizard, wiz'ard, *n.* a sorcerer; a conjurer.
 Woe, wó, *n.* grief; sadness.
 Womanhood, woom'an-hood, *n.* the condition of being
 Wonder, wun'dér, *n.* surprise. [a woman].

Wont, wónt, *adj.* accustomed.
 Wonted, wónt'ed, *adj.* customary.
 Woo, woo, *v.* to make love to.
 Woodcut, wood'kut, *n.* a wood engraving.
 Wooden, wood'en, *adj.* made of wood; stupid.
 Woodland, wood'land, *n.* forest land.
 Wooser, woo'er, *n.* a lover.
 Woof, woof, *n.* weft.
 Woolfall, wool'fel, *n.* skin with wool on.
 Woollen, wool'en, *adj.* made of wool.
 Wording, wór'ding, *n.* manner of expression.
 Wordy, wér'd, *adj.* verbose.
 Work, werk, *n.* labour; toil; a composition. [poor].
 Workhouse, werk'howz, *n.* house of refuge for the
 Workman, werk'man, *n.* an artisan; a labourer.
 Worldly, wérld'l, *adj.* pertaining to the world. [screw].
 Worm, werm, *n.* an earth-feeding animal; thread of a
 Worm, wér'l, *n.* trouble; vexation; *v.* to bite savagely.
 Worship, wer'ship, *n.* devotion; adoration.
 Wort, wert, *n.* a plant.
 Worst, werst, *adj.* the most wicked.
 Worsted, werst'ed, *n.* consisting of combed wool.
 Worth, werth, *n.* value; price.
 Wound, woond, *n.* an injury; *v.* to injure.
 Wraith, ráth, *n.* a ghost.
 Wrangle, rang'gl, *v.* to quarrel; to dispute.
 Wrangler, rang'gl-er, *n.* one who wrangles; one who
 achieves a first mathematical position at Cam-
 bridge University.
 Wrap, rap, *v.* to fold.
 Wrath, ráth, *n.* anger; fury.
 Wreath, réth, *n.* a garland.
 Wreck, rek, *n.* a destroyed ship; *v.* to ruin.
 Wrench, renc, *v.* to wrest.
 Wrest, rest, *v.* to force from.
 Wrestle, res'l, *v.* to contend with; to try to throw
 Wretch, rech, *n.* a miserable person. [down].
 Wrinkle, rig'l, *v.* to twist.
 Wring, ring, *v.* to twist; to strain.
 Wrinkle, ring'l, *n.* a crease.
 Wrist, rist, *n.* the joint connecting the hand with the
 arm.
 Writ, rit, *n.* a legal summons.
 Write, rit, *v.* to inscribe.
 Withe, rith, *v.* to twist; to be distorted with pain.
 Wrong, rong, *n.* injustice; injury.
 Wroth, róth, *v.* angry.
 Wry, ri, *adj.* twisted.

X

Xangti, zang'ti, *n.* the Chinese name for Supreme
 Xanthine, zan'thin, *n.* yellow dyeing matter. [Beig].
 Xanthous, zan'thus, *adj.* yellow.
 Xebec, zé'bek, *n.* a small vessel.
 Xema, zé'ma, *n.* a genus of guils.
 Xenium, zé'nium, *n.* present to a distinguished per-
 Xenodochy, zén-od'ók-ty, *n.* hospitality. [son].
 Xeraala, zér-á'la, *n.* a hair disease.
 Xerophagy, zé-róf-á-jy, *n.* habit of living on dry food.
 Xiphoid, zif-oid, *adj.* sword-fish shaped.
 Xylcarp, zif'lo-karp, *n.* a woody fruit.
 Xylography, zif-log'raf-ty, *n.* art of wood engraving.
 Xylophagous, zif-log'f-á-gus, *adj.* feeding on wood.
 Xylophone, zif-log-fón, *n.* a wooden musical instrument.
 Zist, zist, *n.* an athletic court.
 Zyst'er, zist'er, *n.* a surgical instrument for scraping

Y

Yacca, yak'a, *n.* a West Indian evergreen.
 Yacht, yot, *n.* a pleasure vessel.
 Yam, yam, *n.* a tropical root.
 Yammer, yam'er, *v.* to lament.
 Yankee, yang'ké, *n.* an American.
 Yard, yárd, *n.* a measure of 3 feet; an enclosed
 space; a ship's beam.
 Yardsick, yárd'sik, *n.* a stick 3 feet long.
 Yarn, yárn, *n.* spun wool, cotton, flax, or silk.
 Yarrow, yá'ró, *n.* an herb.
 Yawl, yawl, *n.* a ship's boat.
 Yawn, yawn, *n.* act of gaping; *v.* to gape.
 Yeau, yén, *v.* to bring forth young.

Yearling, yēr'ling, *n.* an animal a year old.
Yearn, yern, *v.* to desire eagerly.
Yolk, yolk, *n.* yolk.
Yell, yell, *v.* to utter a sharp cry.
Yellow, yel'ō, *adj.* of a bright gold colour.
Yelp, yelp, *v.* to bark shrilly.
Yoman, yō'man, *n.* a farmer; a freholder.
Yesterday, yer'ster-dā, *n.* the day last past.
Yew, yoo, *n.* an evergreen tree.
Yield, yēld, *v.* to produce.
Yolk, yolk, *n.* yellow of an egg.
Yoke, yōk, *n.* bondage.
Yoke-fellow, yōk'fel-ō, *n.* an associate.
Yokel, yō'kel, *n.* a country bumpkin.
Yonder, yon'der, *adv.* at a distance within sight.
Yore, yōr, *n.* ancient days.
Young, yung, *adj.* not long born; *n.* the offspring of.
Yule, yool, *n.* the old-time name of Christmas. [animals.]

Z

Zabra, zā'bra, *n.* a small Spanish vessel.
Zamia, zā'mf-ā, *n.* a genus of plants.
Zanella, zā-nef-ā, *n.* a twilled fabric for covering [umbrellas].
Zany, zā'nī, *n.* a buffoon.
Zax, zaks, *n.* a Slater's hammer.
Zaakēci, *n.* ardur.
Zend, zend, *n.* early Persian language. [the Parsees].
Zend-Avesta, zend-ā-vest-ā, *n.* the ancient writings of

Zenith, zen'ith, the highest point of the heavens.
Zephyr, zef'er, *n.* a gentle wind.
Zero, zē'ro, *n.* nothing; the point from which a thermometer is graduated.
Zest, zest, *n.* eagerness; relish.
Zigzag, zig'zag, *adj.* this way and that. [tery.
Zinc, zing'kōd, *n.* positive pole of a galvanic bat.
Zincography, zing'kōg'ra-fī, *n.* a process of printing from zinc plates.
Zither, zi'h'er, *n.* a flat-stringed musical instrument.
Zodiac, zō'dī-ak, *n.* imaginary inner circle in the heavens containing the twelve signs through which the sun travels.
Zole, zō'ik, *adj.* relating to animals.
Zone, zōn, *n.* a girdle; a division of the earth.
Zoography, zō'og'ra-fī, *n.* description of animals.
Zoolite, zō'ō-lit, *n.* fossil animal substance.
Zoology, zō'ō-lō-jī, *n.* the natural history of animals.
Zoophyte, zō'ō-fīt, *n.* a plant-like animal, as the sponge.
Zoospore, zō'ō-spōr, *n.* a spore capable of moving.
Zootomy, zō'ō-tō-mī, *n.* the anatomy of animals.
Zulu, zū'loo, *n.* an African Kafir race.
Zymology, zū-mō'lō-jī, *n.* science of fermentation.
Zygomate, zig-ō-mat'ik, *adj.* pertaining to the cheek.
Zygon, zi'gon, *n.* a connecting bar. [bone].
Zyme, zim, *n.* a germ supposed to cause sybotic disease; a ferment.
Zymotic, zi-mō'tik, *adj.* pertaining to fermentation.
Zythum, zi'hūm, *n.* a liquor made from wheat and malt.

THE BRITISH COINAGE.

The Standard Coinage of Great Britain consists of the following pieces, some of which are issued for special purposes (not for currency):—

Coin.	Standard Weight.
	Grams.
Gold:	
Five Pound Piece	616.73239
Two Pound Piece	246.54985
Sovereign	123.7447
Half-Sovereign	61.87235
Silver:	
Crown	436.75963
Double Florin	349.06900
Half-Crown	218.18181
Florin	174.54545
Shilling	87.27272
Sixpence	43.63636
Groat	29.09090
Three-penny Piece	21.81818
Two-penny Piece	14.54545
Penny	7.27272
Bronze:	
Penny	145.83113
Halfpenny	87.50000
Farthling	43.75000

Standard Gold Coinage in Britain consists of eleven-twelfths of fine metal and one-twelfth of alloy; fineness, 916.66. Twenty troy pounds of standard

gold are coined into 934 sovereigns and one half-sovereign. One troy ounce is, therefore, worth £17s. 10d. and one ounce of pure gold, £44s. 11d. The minimum weight at which a sovereign is allowed to remain current undischarged is 123.7447 grams; that of half-sovereign 61.87235 grams. Any person to whom it is tendered may break, cut, or deface any gold coin below the least current weight, but light gold coin which has not been illegally dealt with is received by the Bank of England on behalf of the Mint at its full face value.

Standard Silver comprises thirty-seven-fortieths of fine metal and three fortieths of alloy; fineness, 925. One troy pound of standard silver is coined into 66 shillings.

Bronze as employed in minting in the British Empire is an alloy of copper 95 parts, tin 4 parts, and zinc 1 part.

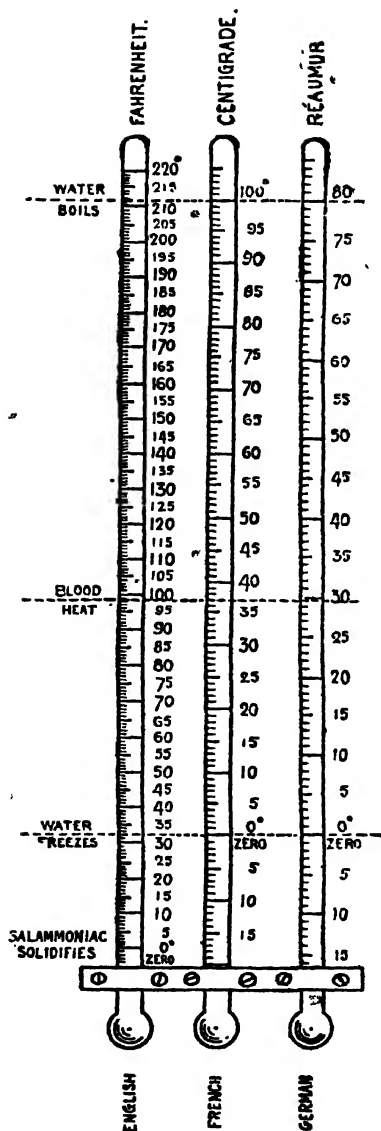
No person is permitted to coin any token to pass for, or as representing, any British piece of money under a penalty of £20.

Bank of England Notes are issued for sums of £5, £10, £20, £50, also for £100, £200, £500, and £1,000. The tender of Bank of England Notes is legal in England and Wales for every purpose; but no one can be compelled by law to give change. Gold, if above the minimum recognised current weight, is a legal tender to any amount. Silver is not a legal tender for sums over £5, nor bronze, including farthings, for beyond a shilling.

Treasury Notes of the value of £1 and 10s are now issued and are legal tender for any amount.

PEARS' DICTIONARY
of GENERAL
INFORMATION.





THERMOMETER COMPARISONS.

There are three Thermometers in common use: Fahrenheit's in English-speaking countries generally, Centigrade in Latin countries, Réaumur in Germany.

The only difference between them is that the three thermometers being placed in freezing ice and the position of the quicksilver being marked on the glass, and the same three thermometers then being put into boiling water and the height of the quicksilver marked at that point, the distance between the two points is divided into 180 parts by Fahrenheit, 100 parts in Centigrade, 80 parts by Réaumur.

Whereas in Centigrade and Réaumur freezing point is marked as "0," Fahrenheit marks his first degree at thirty-two degrees below freezing point, thus making 32° his boiling point.

The accompanying table will facilitate the conversion of one reading into another.

Readings of any one of these three scales can be converted into those of any other by the following rules:—

Réaumur to Centigrade	$\times 5 \div 4$
" to Fahrenheit	$\times 9 \div 4 + 32$
Fahrenheit to Réaumur	$- 32 \div 9 \times 4$
" to Centigrade	$- 32 \div 9 \times 5$
Centigrade to Réaumur	$\times 4 \div 5$
to Fahrenheit	$\times 9 \div 5 + 32$

Réaumur—Water solidifies	...	0°
Centigrade ..	...	0°
Fahrenheit ..	...	32°
" Sul-ammoniac	...	0°

Pears' Dictionary of General Information

TREATING UPON SOME 6000 DIFFERENT SUBJECTS
INCLUDING THE CHIEF MATTERS OF INTEREST IN

History, Science, Invention, Literature, Folk-Lore, Music,	Exploration, Ethnology, Commerce, Trade and Industry, Politics, Religion,	Education, Palaeontology, Economics, Navigation, Art,	Natural History, Geology, Architecture, Antiquities, Astronomy, &c.
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NOTE.—*Biographical subjects of all periods are dealt with in the "Dictionary of Prominent People" section; information concerning domestic birds of the home and farm will be found in "Pears' Dictionary of Poultry and Cage Birds," and "Pears' Dictionary of Domestic Pets"; the "Indoor and Outdoor Sports and Pastimes" section comprises all that need be said in a comprehensive work of this description concerning such matters; while much other "General Information" is properly classified in "Pears' Dictionary of Health," "Pears' Dictionary of Gardening," "Pears' Dictionary of Cookery," "Pears' Office Compendium," "Pears' Dictionary of Motoring," and the various other specialised sections of this Cyclopaedia.*

Abacus, the upper portion of the capital of a column; also a contrivance for adding figures.

Abaddon, the angel of the bottomless pit—Apollyon, Satan.

Abatis, a military term signifying an entrenchment of trees placed side by side with the branches outwards.

Abbeville Treaty, the surrender, in 1296, by Henry III. to Louis IX., of his claims to Anjou, Normandy, and adjacent provinces.

Abbeys—monastic or conventual establishments governed by an abbot or an abbess—were among the earliest of Christian institutions, and were adopted in Western Europe under the Benedictines in the 6th and 7th centuries, spreading to such an extent that in 1215 no fewer than fifteen thousand and seventy abbeys had been established by this order alone. At Canterbury, Westminster, York, and other places in Britain the remains of Benedictine abbeys are still to be seen. The Cistercian abbeys are of later date, and well preserved examples are to be found at Fountains, Rievaulx, Kirkstall, Tintern, etc. From the dissolution of the Monasteries by Henry VIII. monasticism practically ceased in this country, and no further abbeys were built. The ruins of religious houses in England and Scotland are among the most interesting relics of former days.

Abdication. The term refers usually to the act of a sovereign who relinquishes the supreme power in a State. There is only one instance since the Conquest of the abdication of an English monarch, that of James II., in 1688. Among Continental nations there have been many. In France we have those of Napoleon I., Charles X., and Louis Philippe. The most notable abdications of the old Roman days were those of Sulla, B.C. 79, and Diocletian in A.D. 305.

Abduction is a term indicating generally the forcible carrying off of a woman either against her own will or the rights of her legal protectors, and is an offence that is severely punished as felony, and the abduction of an unmarried girl under sixteen is punishable as a misdemeanour even when there has been no intent of detention against the will of her parents or guardians.

Abecedarians, a small sect of Anabaptists of the 16th century, who got their name from their opposition to learning, even down to the A B C.

Aberdeen University, formed in 1860—as at present constituted—by the union of two ancient colleges dating back to the 16th century. It has a library of about one hundred thousand volumes. Along with Glasgow University, it has the privilege of returning one member of Parliament. Held its quatercentenary celebration in Sept., 1906.

Abiogenesis, a term invented by Professor Huxley to indicate the origination of living by not living matter. The abiogenesis theory supports that of evolution by tracing the organic into the inorganic.

Abolition of Slavery. (See **Slavery**.)

Aborigines is a term that was first applied to an ancient Latin race, but now signifies the original inhabitants of any country. The Maories of New Zealand and the Red Indians of North America represent two prominent existent examples. As regards the older nations, aboriginal evidences are difficult to trace.

Abraham-men, a term applied to such vagrants as simulate sickness, or "sham Abraham," as the saying is, especially among sailors. The designation is said to have been originally borne by a lunatic beggar from Bethlehem Hospital in London, marked by a special badge indicative of the Abraham ward of the hospital in which he had been confined. These itinerant mendicants were notorious for having enough wit, and for cunning, deceit and predatory proclivity.

Absinthe, an aromatic spirit much consumed in France, and made from a distillation of wormwood and other roots macerated in alcohol, and manufactured chiefly in Switzerland. Absinthe drinking is a great evil, destroying the power of the brain and ultimately inducing paralysis. Its use is prohibited in the French Army and Navy. Zola's novel "L'Assommoir" was a scathing indictment of the absinthe habit.

Abolution, an ecclesiastical term denoting the liberation of a person guilty of sin from its consequences by the act or intercession of religious authority. Now confined in its strict form chiefly to the Roman Catholic and Greek Churches, although a modified form is occasionally used in certain churches of the Anglican Communion.

Academy is a Greek term, originally applied to the groves where Plato taught, but subsequently

adopted to indicate higher educational institutions or a special kind. Academies of science are numerous in all parts of the world, and in addition there are what may be called Literary Academies, of which the French Academy, established in 1635, is a notable example. There are also Academies of History, of Medicine, of Music, and of Art. The London Royal Academy of Arts was founded in 1768, Sir Joshua Reynolds being its first president. The British Academy, for the promotion of historical, philosophical, and philological studies, was founded in 1902, and is incorporated by royal charter.

Acclimatisation expresses the process by which animals or plants are gradually inured to a climate other than that of their origin. It is a subject which has been deeply studied by scientists, more especially since the general acceptance of the Darwin theory of evolution. The results achieved have been marvellous in their effects and of great utility to mankind.

Acetic Acid, an organic acid usually obtained by the oxidation of tainted wines, the distillation of wood, or from the leaves of certain plants. Used in medicine, as a condiment, as a mordant, and in the preparation of varnishes, etc.

Acetylene, a powerful illuminating gas compounded of 2 hydrogens, 2 carbons, and 2 oxygens in water, will inflame spontaneously when brought in contact with chlorine, and under modern conditions of utilisation forms a beautiful illuminant.

Acids are compound substances which combine chemically with an alkaline or base and result in a new body that has neither acid nor alkaline properties. These resultant bodies are termed salts, and as many salts can be produced as there are basic substances to be neutralised. The range of acids is very great. The chief mineral acids are sulphuric, hydrochloric, and nitric, and are available of being utilised for an immense variety of commercial purposes.

Acolyte, one who assists the priest in the Roman Catholic service by lighting the candles and performing other minor duties.

Acoustics, the science of sound, whereby the various phenomena of sound waves are investigated. The experiments of Lord Rayleigh in recent years have added considerably to our knowledge of this subject.

Acrobats were originally rope dancers, and among the ancient Greeks and Romans this kind of performance was very popular. In modern days the term has had a much extended meaning, and includes performers in a variety of feats of strength and dexterity which were not practised by the ancients; thus, in the general term acrobats are included men and women who perform on the trapeze, the horizontal bar, etc.

Aerostic, a kind of verse which has afforded amusement to ingenious triflers from very ancient times, and consists of a composition so arranged that the initial letters of the lines, read consecutively, form certain names or words.

Actinosea, a marine group of animals of the Sea-Anemone class.

Act of Settlement. (See **Settlement, Act of.**)

Act of Uniformity. (See **Uniformity Act.**)

Actor Knights. In recent times actors have received more recognition by the State than in former days, and the old stigma of vagabondism no longer applies to the stage as a profession. From the Restoration downwards prominent actors and actresses have been more or less honoured, but it is only within recent years that titles of rank have been conferred upon eminent actors in England. The late Sir Henry Irving and the living Sir Charles Wyndham, Sir Squire Bancroft, Sir John Hare, Sir H. Beerbohm Tree, Sir George Alexander, Sir A. W. Pinner, and Sir J. Forbes-Robertson are among celebrities of the British Stage who have received the accolade. Sir Augustus Harris, the Drury Lane manager of a former decade, and his knighthood to his civic services rather than to his professional prominence.

Actresses who have married men of title. One of the most notable examples was that of Miss Mellon, who early in the last century first married Countess the banker, and afterwards the Duke of St. Albans, and

bequeathed her portion of the Countess's wealth to the late Baroness Burdett-Coutts. Then there was Miss Farren, who became Countess of Derby; while in more recent days there have been the marriages of Miss Connelie Gilchrist with the Earl of Orkney, Belle Bliton with the Earl of Clancarty, and many others. It may, in connection with the word "actresses," be noted that prior to the Restoration of Charles II., female parts in plays presented on the English stage were performed usually by boys, as was the rule in Shakespeare's day.

Acts of Parliament comprise public Acts which are binding on all citizens, and private Acts which refer to particular persons or places. Although the Magna Charta may be said to have initiated the English Statute Book, it was not until the time of Edward I. that Acts of Parliament came to be in any sense general. Acts of Parliament were not printed until the reign of Richard III., and they were not printed in English until the fourth year of Henry VII. The first authorised edition of English Acts of Parliament was published between 1810 and 1824. Scotch Acts date back to 1292, and Irish Acts to 1310.

Adamites, a sect of religionists who claimed to restore Adam's original condition of innocence, and rejected marriage. The sect had its origin in North Africa in the second century, and in medieval times there were Adamites in Germany, but they were soon exterminated, many of them being sent to the stake.

Adder. (See **Viper.**)

"Added Parliament." James I.'s second Parliament, called together in 1614, and dissolved without legislating.

Adulteration is the act of mixing an inferior substance with a superior one for the sake of greater profit, a practice much resorted to in former times. During the last half century, however, many stringent laws have been passed for the prevention of adulteration of food, drink, and drugs; but, in spite of all the legislation, considerable covert sophistication of articles in public demand still prevails, some of the later discoveries of science having been utilised for assisting adulteration. The appointment of public analysts in all the leading cities and towns, with power to collect samples for analysis, has had a very salutary effect, though there still remains much to be done in this direction.

Advent, a period devoted to religious preparation for the coming celebration of the Nativity (Christmas). It comprises four Sundays, and commences on the one preceding or following St. Andrew's Day (Nov. 30), or on St. Andrew's Day itself. Advent was not observed before the fourth century.

Advertisement is a public notification appearing in the Press or in some other public form. It was not much indulged in before the 19th century, was well advanced, although the first advertisement published in England dates back to April, 1647, when the merits of a book called *The Divine Right of Church Government* were briefly set forth in a newspaper of the time. To-day, if it were not for the revenue derived from advertisements, few newspapers could exist, and certainly they could not be the important and influential organs that they are. From the *Times* downwards, they owe their success to this form of publicity. The development has been largely due to the enterprise of great advertising firms, and partly also to the universal recognition by the public of advertisements as the best guide to shopping of all kinds. Thus it has become one of the most effective business factors. In these days advertising is for the majority of businesses as necessary a department of commercial organisation as that of procuring the goods advertised. Advertising in its higher form has had a considerable educational influence upon the public, as evidence of which it is only needful to recall the many superb art productions which Messrs Pears and others have put before the public by means of advertising both in the newspapers and on the hoardings. Messrs Pears paid £2,000 for the famous "Bubbles" picture by the late Sir J. E. Millais, P.R.A., and the same

firm have similarly popularised works by Stacy Marks, R.A., and other eminent artists. One of the latest developments of Messrs. Pears was to place actual paintings of large size on the hoardings. An Act of 1906 conferred on local authorities powers of controlling hoardings used for advertising when they exceed twelve feet in height, and prohibited the display of advertisements in such places in a manner detrimental to the beauty of a landscape.

Advocatus Diaboli ("the devil's advocate"), a Roman Catholic functionary who presents opposing evidence in regard to the life of any deceased person it may be proposed to canonise.

Adwoson is the right of presentation to a vacant Church benefice, and is capable of being sold or mortgaged. By far the greater majority of advosons are in the hands of private persons; the rest are under the patronage of the bishops, deans, and chapters, universities, and the Crown.

Aelian Harp is a musical instrument now not much used, but formerly in considerable favour. It consists of catgut stretched over a wooden sound-box which, when placed so as to receive a controllable current of air, can be made to emit many pleasing harmonies.

Aerated Bread is made by special process in which carbonic acid gas is used instead of yeast. In London there are numerous restaurants promoted by the exploiters of this principle, which has achieved considerable popularity.

Aerated Waters are manifestly true in great variety. All have their origin in the introduction of carbonic acid or other gaseous ingredient into the water by pressure; and, by special subsequent treatment, assume the form in which they are sold, including lemonade, ginger beer, mineral water, soda water, seltzer, lithia, etc., the flavouring being an important element of production.

Aerial Navigation has developed at an amazing pace since the outbreak of the Great War; under the stress of practical war-service every class of aircraft has been tested, and our knowledge of the comparative utility of the various machines of the belligerent countries has been greatly extended. At the outbreak of hostilities Germany had 470 aeroplanes and 24 airships, France 500 aeroplanes and 24 airships, Russia 200 aeroplanes and 7 airships, Austria 12 aeroplanes and 4 airships, while Great Britain had only 130 aeroplanes and 5 airships. Immediately after the declaration of war there was a tremendous spending up, notably in connection with the British Army, and some of the chief successes in war aviation have been won by our airmen. The mobility of our aircraft, mostly biplanes, and the daring of the men who have handled them have been marked features of the struggle. Month by month this service has been augmented in numbers and efficiency, furnishing valuable information to our generals at critical moments, and making successful raids in many directions. Germany has not succeeded in its threats with its military aircraft. There have been Zeppelin raids upon unfortified towns and quiet country places, and also upon big cities and towns, but the total result of damage must be disappointing to the German war leaders. The French air-fleet has proved itself as generally competent for its work as it has been brilliant in its special feats. Austria's air work has not been exceptionally notable. After the great object lesson provided by the war the whole science of aviation must emerge with expanded ideas, costly mistakes must be remedied, and improved methods followed. Considering the hazard of the service, the aviation fatalities during the war have been small. Seventeen different makers of aeroplanes have delivered an average of four machines a week since the war broke out.

Aerolite, the name given to meteoric stones which sometimes fall from the sky to the earth. These substances usually contain a large proportion of iron, and many have been of great weight and dimensions. Pliny mentions one that was as large as a wagon, and there is a record of one weighing 370 lb. having fallen at Eilsheim, in Alsace. The

British Museum contains a notable collection of these "stony-stones from the sky."

Aeroplane. (See **Aerial Navigation**.)

Aesthetics concerns itself with the science of the beautiful, and is applied not only in the field of art, but in connection with metaphysics and science. From the days of ancient Greece to the present time there have been ardent followers of aesthetics, and many systems have been evolved. Among modern writers on the subject may be mentioned Ruskin and Herbert Spencer in England, the two Schlegels in Germany, and Taine in France. Mr. Spencer set up a hierarchy of æsthetic pleasures from the lowest to the highest. The theories of "the Beautiful" will always remain a fascinating study to refined minds.

Æstivation, the period of summer quiescence or sleep, corresponding to hibernation, which certain tropical animals and plants undergo during the extreme heat.

Affidavit is a written or printed statement of facts to which a deponent makes formal oath before a judicially qualified person. Most attorneys are commissioners for administering oaths.

Affirmation is a declaratory tale in lieu of an oath by persons objecting to be sworn because of religious or other scruples. Perjury applies to affirmations the same as to oaths.

Afforestation. (See **Forests**.)

Afridis, a warlike race of hill-men on the north-west frontier of India. It was against a branch of this race—the Zakkia Khel—that a successful British punitive expedition under Sir James Willcocks was despatched in February, 1908, to exact redress for a long series of looting raids.

Afrikaander, a name usually given to the South African Dutch, but rightly applied to all African-born whites.

After-damp is a mixture of carbonic acid and nitrogen that occurs in a mine after an explosion and causes suffocation to human beings. It is also called "choke-damp."

Agape, a "love-feast" held by the early Christians, in commemoration of the Lord's Supper. Commended by the Council of Carthage, 397, but revived in recent times in a modified form by Moravians and some Methodist.

Agapomone, the title given to a so-called religious society founded in 1845 by H. J. Prince, at Charrinck, near Bridgewater, which has attained some notoriety in recent years. It is a sort of "free love" commune, unattached to any recognised sect.

Agar-agar, a vegetable gum obtained from seaweeds, and largely employed in the Orient in the composition of soups and jellies.

Agate, a variegated stone composed of nearly pure silica. Germany, Brazil, and India furnish the main supplies, and Scotland has a species of agate called Scotch pebble.

Agave, the American aloë, which sometimes does not attain to flowering maturity under sixty or seventy years, and then dies.

Age is a term of wide application and has been variously used at different periods. In classical mythology five successive ages or races were defined—the *golden* or primitive, when a simple enjoyed unalloyed happiness without labour and lived on the fruits of the earth; the *silver*, when the worship of the gods was neglected; the *brass*, which was warlike and violent; the *heroic*, when the gods and semi-gods held sway; and the *iron*, representing the lowest point of human degradation. Hesiod and Ovid both retain this classification. In later times the ages group themselves round some pre-eminent, dominating personality or characteristic; thus, we have the age of Pericles, the Augustan age, the Elizabethan age, the dark ages, the middle ages, the steam age, and so forth. Then there are the geological ages—classifying the ages according to the evidences of the various strata. Archaeologists divide the pre-historic periods into the Stone, Bronze, and Iron Ages. As regards individual life, age has its four main divisions of infancy, youth, manhood, and old age; these again are often subdivided. Shakespeare

gave us his "Seven Ages"; Keats adopted the four seasons classification. According to British law, a man or woman is of age at 21.

Agonistes, an obscure sect of seventh-century ascetics who made pretence of special sanctity and suffered condemnation by the Council of Epina.

Ahania, an asteroid found by the astronomer Luther, in 1857, and so called because of its brilliancy.

Aguel, an old French gold coin, worth 12 sols 6 deniers, and first struck temp. St. Louis. The appellation was due to the figure of the *Agnus Dei* (Lamb of God) on the obverse.

Agnosticism, a term first used by Huxley in 1869 to denote the theory that beyond our personal knowledge of phenomena all is uncertainty. This was his own attitude towards spiritual things. Agnosticism neither denies nor affirms the existence of God.

Agnus Dei (Lamb of God), the name of a Roman Catholic prayer; also forms part of the Gloria in the Anglican communion service.

Agony Column, the portion of a newspaper devoted to advertisements of a secret or personal nature.

Ahriman, the Zoroastrian spirit of destruction.

Air is a mixture of gases forming the atmosphere we breathe. Its constituents are reckoned in 1000 volumes of air, 206's of oxygen, 779's nitrogen, 14 aqueous vapour, and 0 a carbonic acid gas. Beyond these are found traces of nitric acid, ammonia, and particles of solid matter. The height of the atmosphere is supposed to be about 40 miles. It is the oxygen of the air that maintains life.

Air-gun, an instrument for firing projectiles by means of compressed air, but hitherto of little practical use. In recent years the United States Navy has experimented with an air-gun of large calibre, called the "dynamite gun," but it has not yet been adopted to any particular extent.

Air-pump. This ingenious contrivance was invented in 1650, and consists of a receiver, from which the air is to be exhausted, and a pump, which is a brass cylinder with a piston in it, for drawing off the air. The air-pump has been of great utility in scientific experiments, and its governing idea is applied to the condensing steam-engine for drawing away the commingled air and aqueous vapour from the condenser and casting them off well.

Air-ship. (See *Aerial Navigation*.)

Akka, a race of pigmies inhabiting the territory between the rivers Aruimi and Nepopo, in Central Africa.

Alabama Claims were claims for compensation made by the United States against Great Britain for damage done to American shipping during the Civil War by the *Alabama* privateer, built by the Lords of Liverpool for the Confederate service, and commanded by Captain Semmes. After doing damage to American commerce the *Alabama* was finally sunk off Cherbourg by the *Kearsage*, of the U.S. Navy. The U.S. Government charged Great Britain with breach of neutrality, and made a formal claim, which was decided by arbitration at Geneva in 1872, the Court giving a verdict for the claimants (in respect of the *Alabama* and two other ships) for over £3,160,000.

Alabaster, a soft, crystalline form of sulphate of lime, or granulated gypsum, easily worked for statuary and other ornamental articles, and capable of being highly polished. Solterra, in Tuscany, yields the finest; that in highest ancient repute came from Alabastron, in Egypt, near to the modern Antioch.

Alais, Treaty of, 1601, whereby, after the taking of La Rochelle, the Huguenots submitted to Richelieu, and the long religious conflicts between the Catholics and Huguenots were for a time ended.

Al Araf, the mid-heaven of the Koran, where those whose deeds have been neither decidedly good nor very bad, spend their after-life.

Albatross, a large white ocean bird whose wings measure from ten to twelve feet when outstretched.

Albert Medal (a), a medal of the Society of Arts, given to scientific men, inventors, etc.; and (b) a medal awarded for gallant deeds in saving life on sea or land.

Albert Memorial, a large Gothic monument designed by Sir Gilbert Scott, and embellished with sculptures by eminent artists. Erected in memory of Prince Albert in Kensington Gardens at a cost of £120,000.

Albigenses, a small religious sect who in the 12th century, at Albi, in France, opposed the papal rule, but were ultimately put down by Innocent III.

Albino, a term first applied to designate certain white negroes which the Portuguese navigators met with in Africa. It is now used in regard to all persons of white skin and hair and pink eyes. Albino cannot see well in the sunlight; it is only in semi-darkness that they discern objects clearly. The albino peculiarity is also found in other living creatures besides man.

Al Borak, a winged being on which Mahomet was credited with having travelled through the heavens.

Album, a term now used for a book of photographs, autographs, or other collections, but originally applied to the tablets on which public decrees, edicts, etc., were inscribed in ancient Rome. In mediaeval times the word was used to designate lists of various kinds.

Albumen, a substance essential to the building up of the animal organism. The white of an egg shows it in its purest form. It coagulates under heat, or by the action of acid or alcohol, and is further capable of soluble or insoluble modifications. It provides an anti-toxin in corrosive sublimate poisoning.

Alcalde, a Spanish mayor, judge or magistrate, or in Portugal a justice of the peace; not to be confounded with the similar word "alcade," which signifies the keeper of a castle or prison along both shores of the Mediterranean. The latter is a military term, the former signifies always a civil functionary.

Alcazar, the famous palace at Seville, now owned by the monarchs of Spain, but in ancient days the residence of the Moorish kings.

Alchemy was from the 12th to the 17th century regarded by many philosophers and enthusiasts as a science capable of demonstration in the production of one or other of three supposed chemical combinations—the philosopher's stone, which was to transmute the baser metals into gold; the elixir of life, that was to prolong existence indefinitely; and the alkali, or universal solvent. Men of great attainments, monarchs, ecclesiastics, and all classes of people dabbled in alchemy; lives were given up entirely to it, fortunes were wasted upon it. Geber, Roger Bacon, Albertus Magnus, Paracelsus, and many other men of note were devoted alchemists. The experiments of the alchemists, however, in spite of their being directed towards an impossible end, resulted in many discoveries that were of value to the real science of chemistry.

Alco, an American dog, native of Mexico and Peru, and resembling the variety of the canine family commonly employed in Britain by shepherds. It is long furred, arched in the back, small-headed, and has a short drooping tail. The colours most prominent are yellow and white, and the animal is tractable and held in considerable esteem.

Alcohol is a chemical combination of carbon, hydrogen, and oxygen, and is produced in its pure state by the distillation of fermented liquors. It is used in the manufacture of a variety of products, such as chloroform, ether, perfumes, etc.; its most general use, however, is in imparting a stimulative action to liquors, rendering them so intoxicating effect upon consumption in sufficient quantity. When diluted with 10 per cent. of wood spirit, alcohol becomes "methylated spirit," and in that condition can be used for numerous industrial and chemical purposes, and is largely exempted from duty.

Aldebaran, a star of the first magnitude, commonly known as the Bull's Eye, being in the constellation of Taurus.

Aldehyde, a product of the oxidation of alcohol and other liquids when exposed to the air turns into vinegar. Discovered by Liebig.

Alderman, a title first instituted by the Saxons and given to governors, magistrates, etc. Afterwards

adopted to designate the higher section of a municipal corporation.

Aldine Editions are the books printed in Venice by Aldus Manutius and his family between 1490 and 1597, and are remarkable for the beauty and accuracy of their typography. Italics were first introduced in these books.

Ale. (See Beer.)

Alambique, a vessel formerly much used in distillation, but now generally superseded by retorts.

Alexandrines are stanzas, each line of which contains twelve syllables—six measures.

Alga is the name of a variety of aquatic flowerless plants of which seaweed is a leading example. They are classed in two main divisions—marine and freshwater alga.

Algalat, an antelope found in Nigeria and the Gambia country; it is of good size, with horns a yard long, annulated in the lower half.

Algebra, a branch of mathematics in which symbols are used in place of numbers. Sir Isaac Newton styled it the "universal arithmetic."

Algol, a double star of the Perseus constellation, situated in the head of Medusa.

Alhambra, the ancient palace of the Moorish kings near Granada, built in the 14th century, and remarkable for its architectural beauty.

Alina, a Latin term signifying "otherwise," and used in legal proceedings to indicate the assumption of a false name or names.

Alibi, signifying "elsewhere," is the plea of a person who desires to prove that he was at some place away from that he is charged with having been at when a particular offence was committed.

Aliens are persons of foreign birth residing in a country and unaturalised, and not entitled to the ordinary privileges of a native subject. Owing to the influx of undesirable immigrants to this country legislation of a partly prohibitive character was adopted by the Aliens Act of 1905, which refuses admission to criminals, prostitutes, and other objectionable classes. After five years' residence an alien can be naturalised in Britain. After the outbreak of the war, in 1914, when all unaturalised Germans and Austrians remaining in Great Britain became alien enemies, thousands were interned, and all were required to register and report themselves at short intervals.

Alimony, an allowance to a married woman legally separated from her husband, fixed by law, and paid by the husband.

Alizarin, the chief colouring matter of madder; heated with zinc dust, it is converted into anthracene.

Alkali, the general name given to a number of substances which are the opposite to acids in their chemical action. The term is commonly applied to soluble alkaline bodies, the principal of which are potash, soda, litmus, aqueous ammonia, lime, baryta, and strontia. The action of these bodies on animal and vegetable substances, and they are extensively used in producing various colouring matters.

Alie, the Swedish name of the little auk, or black and white diver, commonly called in North Britain the "Rottie." To our shores it is a winter visitor only.

Allegiance is the attitude and expression of loyalty of a subject to a ruler. Ordinarily, it is only implied, but in the case of those fulfilling offices or functions of State is confirmed by the Oath of Allegiance.

Allegory, a narrative or discourse couched in figurative language and intended to point a moral. A leading example is Bunyan's *Pilgrim's Progress*.

Alligator, the crocodile of America, common in the lower Mississippi and adjacent lakes and marshes, varying in length from two to twenty feet.

Alloys are combinations of inferior and superior metals. Our coinage contains alloy. In a sovereign there are twenty-two parts of gold and two of alloy; and silver coins contain about one part of alloy to eleven of silver. The alloys best known are brass, composed of copper and zinc; German silver, of copper, zinc, and nickel; pewter, of tin and lead; bell-metal, of copper and tin. When mercury forms part of an alloy, it is termed an amalgam.

All Saints' Day (Nov. 1) is common to both the

English and Roman Catholic Churches, and is in commemoration of the saints generally, or such as have no special day set apart for them. Instituted by Pope Boniface IV. early in the 7th century, this ecclesiastical festival was formerly called "All Hallows."

All Souls' Day (Nov. 2) is a festival of the Roman Church, intended for the mitigation by prayer of the sufferings of souls in purgatory. The commemoration was enjoined by Abbot Odlon of Cluny during the 11th century upon the monastic order over which he presided, and was afterwards adopted generally throughout the Roman Communion.

Allspice, a flavouring obtained from a West Indian tree of the myrtle order, *Pimenta officinalis*. The essential oil of its unripe fruit is a powerful irritant, and the bruised berries are carminative.

All the Talents Administration was so called because of its being a coalition of the best men of the two political parties, formed on the death of Pitt, in 1806, by Lord Grenville.

Alluvium, accumulations of sand, mud, gravel, etc., washed down by rivers and forming distinct deposits.

Allylene, a colourless, foul-smelling gas, obtained by the action upon bromopropene of sodium ethylate. It burns with a smoky flame, and yields a yellow flame.

Almack's, a fashionable room of assembly in St. James's, built in 1795, and for many years the scene of balls and society functions.

Almanac, a calendar of the year, with particulars of days, weeks, and months, the position of the sun and moon, tidal information, records of festivals, fairs, etc. Almanacs date from the latter part of the 15th century. The first English almanac was issued in 1493. Almanacs are of numerous special varieties. Up to 1894 they were subjected in this country to a stamp duty of 1s. 6d. per copy. "Old Moore's Almanac," a popular penny issue, with horoscopes, predictions, etc., has for a lengthy period circulated largely.

Almond, the fruit of the *Amygdalus communis*, indigenous originally to Persia, Asia Minor, and parts of North Africa. There are sweet and bitter almonds, the former being a favourite edible, the latter containing prussic acid.

Almoner was a monastic official charged with the distribution of alms. There was also the King's Almoner, and the title of Hereditary Grand Almoner still survives, though not involving any duties.

Almuce, a covering worn on former days by ecclesiastics while celebrating the Liturgy, and the originator of the "mortar-boards" still in vogue at certain schools, colleges, and cathedrals.

Aloe, a large plant of the lily-wort genus, growing naturally only in warm climates, and yielding by evaporation a purgative substance of great bitterness. In its habitat it flowers every eight years.

Alotoclas, a genus of fish of the loach family, one of the most notable varieties of which is the thresher, or fox-shark.

Alpaca, a South American ruminant whose wool is woven into a soft dress fabric known by the same name. The late Sir Titus Salt was the first manufacturer of alpaca cloth, and the industrial town of Saltaire, near Bradford, remains to evidence the success which for many years attended the enterprise. Many attempts have been made to acclimatise the alpaca goat in England, but with little success.

Alpenglow, the peculiar evening atmospheric condition observable at times in Alpine regions.

Alpha and Omega, an expression incorporating the first and last letters of the ancient Greek alphabet, and used to convey the idea of the beginning and end of anything—the whole of it.

Alphabet (so called from the first two letters of the Greek alphabet—alpha, beta) is the term applied to the collection of letters from which the words of a language are made up. The Phœnicians are credited with the first adoption of an alphabet. The Chinese have no alphabet, but signs which convey ideas. The Sanskrit alphabet comprises 40 letters.

Alpine Climbing has a perennial fascination for the adventurous of both sexes, and the "Alpine Club,"

founded in the interests of British travellers in this famous mountain region in 1858, has done much to encourage and facilitate the ascent of difficult and forbidding peaks. Mr. Edward Whymper and others reached the summit of the Matterhorn (14,625 ft.) in July, 1865; but four of the party were killed in the descent. Since then this dangerous climb has been negotiated without accident by ladies and gentlemen, both with and without guides, on numerous occasions, though against this there are several fatalities to set. Mr. H. O. Jones, lecturer at Clare College, Cambridge, and his wife were killed while climbing the Aiguille Rouge de Pentéret above the Frenay Glacier on August 15, 1912. Alpine climbing will never, however, lose its charm to certain minds. Our greatest authority on the subject is the Rev. W. A. B. Coolidge, an Anglo-American cleric who has scaled almost every point in the course of nearly a thousand separate climbs since 1870. Prof. Tyndall was a noted mountaineer.

Alcatraz, a district of Whitefrans, London, which was for a long period a recognised sanctuary for debtors and criminals, where they could not be captured. It was abolished in 1697.

Altar, originally a table or elevated place upon which sacrifices were offered, and still symbolically the place of sacrifice in Roman Catholic churches. In English churches the communion table is the altar.

Altimeter, an instrument designed for the compilation or measurement of altitudes trigonometrically.

Altitude, an astronomical term, signifying the angular elevation of a heavenly body above the horizon, true or apparent—that is, as it appears to the eye, or as the result of calculation. The observation may be made with quadrant or sextant.

Alto-Relievo, a term applied to sculptured designs which are designed in prominent relief on a flat surface, technically signifying that the projection exceeds one-half the true proportions of the objects represented. Basso-relievo is carving kept lower than one-half such proportionate projection.

Altruism, a term invented by Comte to denote devotion to the welfare of others, the opposite of Egoism.

Alum is a compound salt used in various industrial processes, especially dyeing, its constituents being sulphuric acid, alumina, an alkali, and water. The nature of the alkali introduced gives it its distinctive character, so that there are potash alum, soda alum, and ammoniac alum.

Alumina is the oxide of aluminium, and is used as a basis for fine pottery.

Aluminium is a constituent of alum and forms a white metal of a very pliant nature, admitting of its being utilised for a variety of purposes. It resists the action of the air, is impervious to nitric acid, and its conductivity is about one-third that of silver. It alloys with most metals.

Aladava, a small bird occurring in the Indian Archipelago, brightly coloured and active, kept sometimes by the Bengali baboos for fighting together.

Amalgam is the term applied to any alloy of which mercury forms a part.

Amazons, the women of an Indian tribe on the banks of the Marañon, in South America, who assisted their husbands in resisting Spanish invasion; also the female warriors of any land, such as the Amazons attached to the army of the King of Dahomey.

Amber, a brittle resinous substance of vegetable origin, obtained mostly from the Baltic coasts, and used for ornaments, pipe mouth-pieces, etc.

Amblygria is a variegated inflammable substance produced in the intestines of the cachetot or spermaceti whale, and generally found floating on the sea. Is a valuable perfumery material, and is used in the East for flavouring purposes.

Amblycephalus, a genus of homoptera including the froth-fly, which is destructive in many hop gardens in July and August, sucking the sap from the vine.

Amblyopis, a species of fish, practically sightless, and with insipid organs of hearing and feeling, that inhabit the Mammoth Cave of Kentucky. A remarkable illustration of the failure of senses not brought into use.

Ambulance, an ambulating hospital, for affording surgical aid to persons wounded in battle. The term is also applied to vehicles for conveying injured or sick persons to hospitals if populous places, a service of this kind being now provided in most cities and towns. An Ambulance Corps is part of a regular army equipment. The French were the first to adopt ambulances.

Ambuscade is a military manoeuvre by which troops are ambushed for a surprise attack upon an enemy.

Ameer, an Indian title of high nobility signifying "noble of nobles," "lord of lords." Hyderabad and other Oriental States now included in our Indian Empire had their Ameer, and the native head of Afghanistan still holds the distinction.

America Cup, a prize trophy first offered in 1851 by the Royal Yacht Squadron and open to yachts of all nations. It was won in the first year by the "America," a New York yacht, and has remained on that side of the ocean ever since, despite several attempts to recapture it by Lord Dunraven, Sir Thomas Lipton, and others. Sir Thomas was challenger for 1914, but war made the contest impossible.

Amethyst, a variety of precious stone of violet-blue or purple colour, occurring in crystals and greenstone rocks, and fairly abundant in Brazil. Some parts of Scotland yield an amethyst. Once supposed to be a charm against drunkenness.

Amianthum, a plant of the Melanth genus, called in America "Fall Poison," because of the notion that cattle feeding on its foliage in autumn would suffer ill effects.

Amice, a linen vestment worn about the neck by Roman priests under the alb when officiating at Mass; also assumed by some Anglican ritualistic clergy-men. Formerly worn on the head by priests and pilgrims.

Amiens, Treaty of, signed by England, France, Spain, and Holland in 1802, brought the War of the French Revolution to an end, and great were the rejoicings at the prospect of a long peace. Fresh cause of quarrel was soon found, however, and Napoleon resumed the warfare, which only ended with Waterloo.

Ammonite, an earthy powder, scarlet of hue, found in the mines of Chili, and considered to be an admixture of chalcant, ammonite of copper, and certain other ingredients.

Ammonia, a colourless gaseous compound comprising three atoms of hydrogen to one of nitrogen. It is obtained from various sources, but formerly was made by heating the horns and hoofs of deer, acquiring the name of spirits of hartshorn. The ammonia of commerce is now produced by coal decomposition in the course of gas making.

Ammonites, the name of extinct snail-like animals which inhabited coiled shells of beautiful design. Their fossils are found in the secondary system of rocks.

Ammonium, the basic radical of ammonium salts, a compound of hydrogen and nitrogen.

Amnesty, an act of grace by which a ruler or governing power pardons any body of political offenders. It is usually absolute, as when George II. proclaimed a general pardon to those who had been concerned in the second Jacobite rebellion; but it may be partial, as when it excepts certain specified persons from its operation, as Napoleon excepted several men from his amnesty on his return from Elba.

Amoeba, a minute form of life, gelatinous, without rudiments, of the lowest organisation, and only discernible through the microscope. Abounding in fresh and stagnant waters.

Amorphism, a term used to indicate the absence of crystalline form in any body or substance.

Ampere, the recognised unit of measures for electric currents.

Amphibia, a class of vertebrate animals possessing structural peculiarities common to both reptiles and fish, enabling them to live either in water or on land. The most familiar examples of the class are frogs, newts, and toads.

Amphitheatre, a term first used by the Romans to

denote the buildings set apart for gladiatorial and wild beast exhibitions. The Colosseum, which held nearly 50,000 persons, covered an area of about five acres. The ruins of this gigantic structure form one of the finest relics of ancient Rome. There were numerous other amphitheatres in different parts of the Roman Empire, including two or three in Britain, and the term is still frequently applied to buildings where exhibitions are given.

Amphitherium, a genus of fossil mammalia found in the lower oolite in Oxfordshire, and so called because of the difficulty it presented to scientists in attempting its classification.

Amphora was a large clay vessel used by the Romans for preserving wine, fruit, oil, etc.

Amulet, a necklace or other ornament worn as a charm against evil and much used in former times in England. Still common in the East.

Ana, a word used to describe any collection of criticisms, observations and opinions regarding a particular person. Modern examples: *the alphonse*, *Racineana*.

Anabaptists, a sect that came into prominence during the Reformation period. John of Leyden was one of their leaders, but his murder was their chief object. They committed many acts of violence under the cloak of religious zeal, but their operations were mainly confined to Germany. They are not to be identified in any form with the English Baptists.

Anabasis, Xenophon's narrative of the exploits of Cyrus the Younger against his brother Artaxerxes of Persia, 401 B.C. The title also of Arrian's history of Alexander the Great's expedition to Asia.

Anachronism, a confusion of dates and events, as when an allusion is applied to illustrate a period to which it does not properly belong. To represent persons of the 18th century riding in railway trains would be an obvious anachronism.

Anacoluthon is lack of grammatical sequence in speaking or writing.

Anaconda, a large Ceylonese snake, powerful, finely marked, and much feared by animals and the islanders of its habitat.

Anagram is a literary exercise which consists in using the letters in a given word or phrase to form a different word or phrase.

Analogy, a method of argument whereby an inference is drawn from one set of facts and applied to another to which it has some resemblance.

Analysis is the process by which a complex thing is reduced or broken up into its original elements. Qualitative analysis reveals the presence of certain substances, quantitative analysis shows those substances in their respective proportions. Analysis as applied to Grammar, Mathematics, and Logic resolves phrases, propositions, and arguments into their separate parts.

Analysts, Public, are chemists officially appointed to analyse all such food and drugs as are submitted to them by inspectors within their own area. Every town of importance has its public analyst, whose official work in protecting the body politic against adulteration and impurity is highly important.

Anarchism is a communistic propaganda, in which revolutions and violence have a prominent part. Britain has harboured many foreign anarchists from time to time, but anarchist organisations do not find much to work upon here. In Russia, Germany, Italy, and the United States there is a strong undercurrent of anarchism, as we are occasionally reminded by assassinations of prominent personages. Among the murders committed by anarchists since Alexander II. was assassinated in 1881, those of President Carnot in 1894, the Empress of Austria in 1898, King Humbert in 1900, President McKinley in 1901, the Grand Duke Sergius in 1905, and the King and Crown Prince of Portugal in 1908, are the most conspicuous. There are many anarchists, however, who do not countenance violence except in an organised revolutionary form. Her Most, Prince Kropotkin, Karl Marx, Reclus, and other propagandists differ greatly in their anarchistic theories, though all aim at the destruction of class rule and the establishment of a free society.

Anathema was the Greek term for things dedicated to the gods, and in its modern religious use indicates unserved offerings to God and sacrifice. Anathematization in the Roman Church is the extreme form of excommunication.

Anchor, an instrument used for keeping ships stationary. Great improvements have been introduced in recent years, stockless anchors being now chiefly used, consisting of a shank, a fast fluke, and a loose one. Many anchors are now made of cast steel.

Anchorite is a term applied to a religious person who retires into solitude to employ himself with holy thoughts. Among the early Christians, anchorites were numerous, but in the Western Church they have been few. Their reputation for wisdom and prescience was high, and kings and rulers in old days would visit their cells for counsel before undertaking any hazardous expedition. An anchorite or "unket" was in medieval times a source of fame and profit to the monastic house within which he was voluntarily immured.

Anchorovy, a fish of the sprat order, plentiful in the Mediterranean and along the Atlantic coast, and caught off the Devon and Cornish coasts in winter. Much esteemed when cured, but sprats are often put on the market as anchorovies.

Andrographis, a genus of plants of the *acanthus* order, yielding a bitter tonic, a good deal employed in India in dysentery treatment.

Anemometer, a wind-measuring instrument, now in general use at all meteorological stations, and in its more recent developments by Mr. Beckley, of the New Observatory, and others, is capable of recording the force and variations of the wind with accuracy.

Anemoid is the name given to the modern barometer, which is on a different principle from the mercurial barometer, and consists of a metallic box, exhausted of air, having a fluted lid on which the atmosphere presses, acting upon levers which indicate on a dial every atmospheric movement.

Angel, a gold coin, formerly current first in France and then in England, of value variant from 6s. 8d. to 20s. The coin bore a representation of the Archangel Michael in conflict with a dragon. The last English noble was coined in the reign of Charles I.

Angelica, an aromatic plant of the umbellifera order, valuable as a flavouring and possessing medicinal properties. In olden times supposed to be a specific against evil fortune.

Angels, divine messengers or agents communicating with or guarding human beings, a conception which is included in the Christian and other doctrines; and in former times, particularly in the Roman Church, special functions were accorded to certain angels and archangels, and their intercession was constantly appealed to.

Angelus, a church bell rung in Roman Catholic countries at noon, noon, and sunset, to remind the faithful to say their Angelic Salutation.

Angevin Dynasty includes the Plantagenet kings from Henry II. to Richard II. The name was derived from Henry II.'s father, Geoffrey, Count of Anjou.

Angiosperms are plants whose seeds are contained in capsules, as distinct from *Gymnosperms*, or naked seeds. The angiosperm provides the necessary mechanism for conveying water from the roots to the growing points.

Angiotomy, a surgical term signifying the cutting open of an artery, a vein, or some other vessel.

Angle, a term used to denote the inclination to each other of two straight or curvilinear lines. Angles are measured by the degrees of the circumference of a circle, which is divided into 360 equal parts, the angles formed by the lines radiating from the centre being proportional to the arcs of the circumference which the lines intercept. A right angle is one of 90°.

Angles, a northern tribe originally settled in Schleswig, who joined the Saxons in invading Britain and formed the Kingdom of Anglo-Saxons.

Anglican Communion comprises all the churches affiliated to the English Episcopal Church, including

also the Protestant Episcopal Church of the United States. British Colonial Churches are now, reed from State control, except that the appointment of Colonial bishops still remains with the heads of the Mother Church. The Anglican Communion comprises the Church of England, the Church of Ireland, the Scottish Episcopal Church, the Protestant Episcopal Church of the United States, the Canadian Church, the Church in India and Ceylon, the Church in the West Indies, the Australian Church, the Church of New Zealand, the South African Church, and some of Missionary Dioceses. The whole Anglican community comprises upwards of 50,000,000 adherents.

Angling is not the simple sport it was in the days of Izaak Walton, when the capture of fish with a hook was a fairly complete description of the sport. Now rod, line, and hook come into play in a variety of ways, and scientific methods are adopted which while making angling easier, perhaps detract from its picturesqueness. Salmon-fishing is the angling pastime of the rich, and English and Scottish waters afford plenty of good sport of this kind. Salmon are usually caught with the fly, but many artificial lures are also adopted. Trout are angled for much in the same way. Pike, grayling, chub, roach, perch, and other fresh-water denizens also provide good sport for gentle and simple in the right haunts, and Waltonians are to-day more numerous than ever. Some of the best known books on angling are Walton's *Complete Angler*, Francis's *Book on Angling*, Foster's *The Scientific Angler*, by W. E. Hodgson, *Trout Fishing and Salmon Fishing*, by the same author, *The Game Fishes of the World*, by Dr. Francis C. Holder, and, for the antiquarian, the *Book of St. Albans*, published by Wynkyn de Worde in the 15th century. See also *Pears' Dictionary of Sports and Pastimes*, pp. 857-882.

Anglo-Japanese Treaty, signed in 1902, and renewed in 1905 and 1911, aims at maintaining the rights of the possessions of the two countries in Asia, the integrity of India, and equal trading rights with China and Korea, each country undertaking to assist the other in case of its rights being attacked.

Angora goats are famous for their fine, long silky hair, from which mohair fabrics are manufactured.

Anguis, a genus of limbless lizards of the Scincidae family, including the slow worm.

Aniline, a well-known product obtained from coal tar. In some of its reagents it yields brilliant colours. In 1858 Sir W. H. Perkin succeeded in producing from aniline a dye-stuff to which the name of mauve was given. From that time aniline dyes came into wide adoption, and at the present time aniline can be utilised for every shade of colour desired. For the dyeing of fabrics, aniline colours are universally employed, also for coloured inks, tinting pulps, coloured soaps, cosmetics, and a host of other industrial purposes. Most aniline products were obtained from Germany before the war, and afterwards became so difficult to obtain from other sources that the Government took the matter up and to a large extent guaranteed a new company that was formed for dealing with the difficulty.

Animalcule is a term used to designate the myriads of minute animal creatures which are too small to be seen except by the aid of the microscope. These organisms exist in such vast multitudes that a single drop of water will reveal enormous numbers.

Animal Heat arises from the oxidation, within the physical tissues, of food consumed. It has been estimated that an adult man produces in twenty-four hours enough heat to boil five or six pints of water. The temperature of the blood is much affected by motion as well as food. Mental work reduces the heat slightly. The temperature of the atmosphere has little appreciable effect upon the body's heat when the condition is healthy. It is possible to keep life together when the internal heat falls so low as 75° F., and even to be saved from death with the temperature at 72° F. Cold-blooded animals—reptiles, fishes, amphibians, and invertebrate creatures—have the temperature of their surroundings, and may be frozen and still live if thawed.

Animal Kingdom, comprises all living beings, but in some of the lowest organisms it is difficult to discriminate between what is vegetable and what is animal. The two main divisions of the animal world are the *Vertebrates*, those possessing a backbone, and the *Invertebrates*, which are without. There are five classes of Vertebrates—*Mammalia*, such as suckle their young; *Aves*, birds; *Reptilia*, reptiles; *Amphibia*, animals living on land or water at will; and *Pisces*, fishes. The Invertebrates include; *Protozoa*, the lowest forms of animal life; *Ctenophora*, of which the hydra and the sea-anemone are examples; *Annulidia*, star-fishes, etc.; *Arachnida*, comprising insects, the lobster, spider, etc.; and the *Mollusca*, including snails, the oyster, the mussel, etc.

Animal Magnetism. (See *Hypnotism*.)

Animals at Sea. Most animals are difficult to deal with at sea, and give violent vent to their feelings until sea-sickness brings silence. The tiger suffers most of all. Elephants do not like the sea, but are amenable to treatment, a bucketful of hot water containing three or four drops of whiskey and seven ounces of quinine being occasionally administered. Oxen are heroic in their attempts to overcome sickness. Horses often perish on a sea voyage. The only animal that seems to be comfortable at sea is the polar bear. Of course, domesticated animals, such as dogs, cats, etc., make good enough sailors when once they have overcome their first sickness.

Animal is a transparent resinous substance exuded from the courtain tree, and receives its name because of its being alive with insects in its natural state. Used in perfumery and varnish making. It has also medicinal properties.

Animism, as defined by biologists, is "the general doctrine of souls and other spiritual beings."

Anise, an umbelliferous plant growing mostly in warm climates, and valued for its fruit, aniseed, possessing certain medicinal properties and yielding a volatile oil. Highly aromatic and used as a condiment for pickles and soups.

Anna, an Indian coin, one-sixteenth of a rupee in value.

Annals, or historical records, were kept by the Romans from an early period. In modern times the term is used to designate any general record of events arranged according to years.

Annates were acknowledgments formerly paid by way of fee or tax in respect of ecclesiastical preferment, and consisted usually of a proportion of the income (first-fruits) of the office.

Annealing is the process of slow cooling of glass and metal substances by which their brittleness is removed, and they become capable of resisting breakage. Some large castings are gradually cooled over a period of two or three months.

Annual Register, a yearly record of events, started by Doddsley in 1759, and for a time compiled by Edmund Burke.

Annunciation, Feast of the (March 25), is a church festival commemorating the message of the incarnation of Christ brought by the angel Gabriel to the Virgin Mary, hence the title Lady Day.

Anodyne is a term covering any application for the relief of pain, and includes the various opiates, quinine, salicylate of soda, and such familiar applications as poultices, fomentations, besides counter irritants like mustard plasters, aconite, chloroform, etc.

Anointing is the pouring of consecrated oil upon the body as a mark of supreme honour. In England it is a ceremony restricted chiefly to the ceremony of the monarch's coronation, and the spoon with which the oil is applied forms part of the English regalia. In the Roman Catholic Church anointing represents the sacrament of extreme unction.

Anomaly is a term used in Astronomy, for the angle measured at the sun between a planet in any point of its orbit and the last perihelion.

Anonymous, without name, indicates that a book or article is published without the author's name being directed.

Anas, a genus of swimming birds, the most familiar example of which is the goose.

Ant, an insect of the same order as bees and wasps (*Hymenoptera*). Ants live in communities under a well-defined system, and comprise males, females, and neuters. When the male and female, which are winged, leave their nest and pair, the male dies and the female sheds her wings and is made queen of a new community. The neuters comprise a working and a defending body, as well as a band of slave ants, captured from another species. As in the case of the bees, the work of the ants consists in the storing up of provision for the future, and their anthills contain a regular series of passages and storehouses. They feed on both animal and vegetable matter, and upon a kind of milk exuded by plant-lice.

Antacids, agents designed in medicine to diminish acidity in the system by increasing its alkalinity.

Antarctic Zone, comprises the Antarctic Circle, parallel to the Equator, about 23½ from the South Pole. Captain Scott, whose return from his *Discovery* voyage in 1904, penetrated 900 miles further than any previous explorer. Shackleton, in his *Nimrod* expedition in 1909, reached a point only 97 geographical and 11 statute miles from the South Pole. The Pole was first actually reached on December 14th, 1911, by Captain Amundsen, the Norwegian explorer. Captain Scott and his party arriving there on January 18th, 1912, and dying from exposure on the return journey. (See *Scott*, *Shackleton*, *Amundsen*, *Byrd*, *and* *Mawson*, *Douglas*, *Prosser*, *and* *others*.)

Anteater, a mammal found in South America and South Africa. It possesses a long, cylindrical tongue, coated with a viscid secretion. This tongue it thrusts into anthills and draws it forth covered with ants, which it devours. The American species is toothless; the African has molar teeth.

Antediluvian, applies to fossil evidences belonging to a period prior to human record, and is commonly regarded as indicating a time prior to the Deluge.

Antelope, a large zoological genus of mammals, mainly desert and elevated animals, with lustrous eyes; fleet of foot, and widely distributed.

Antenna, feelers of insects and crustaceans, usually two in number, though in the case of certain wingless insects, four or six. Their precise functions are unknown, but it is probable they serve some purpose additional to that of tactility.

Anthem, a choral composition, with or without accompaniment, usually sung after the third collect in the Church of England service. The words are from the Scriptures, and the composition may be either for solo voices only, full choir, or both. Among the chief English composers of anthems are Tallis, Purcell, Croft, Boyce, Goss, and Stainer.

Anthology is the figurative term used to describe a selection or collection of literary compositions, usually poems or hymns. The first Greek Anthology, comprising the choicest pieces by Greek classical poets, was compiled by Meleager, about 90 B.C. The Latin Anthology was made by Bannan about 1600 A.D.

Anthracite is a hard kind of coal which burns without flame, and contains upwards of 90 per cent. of carbon. Pennsylvania is the largest known anthracite coal region. The next largest field is in South Wales.

Anthropoid, meaning "resembling man," is the term employed to designate the order of apes whose structure has similarity to that of man. The gorilla, orang-outang, and chimpanzee are of this order, and, in number and general form of limbs, and physical organism generally, bear a nearer resemblance to human beings than any other creatures. On this fact much of the Darwinian theory has been built.

Anthropology is the science which reveals man's place in nature, and describes the mental and physical peculiarities of mankind—a science which owes much to the researches and expositions of Darwin, Wallace, Spencer, Huxley, Lyall, and Haeckel in modern times. It is a branch of study that assumes greater importance every year, and at the annual meeting of the Anthropological Section of the British Association the most eminent scientists of the day set forth their views. There is also an Anthropological Institute in London.

Anthropometry is the system of human measurement invented by M. Bertillon, of the French Criminal Department, for purposes of establishing identity. In this connection the evidence of finger prints has been applied in numerous recent criminal cases with complete success.

Anthropomorphism is the application to the Deity of the attributes of man, a form of belief which belongs more or less to all religions, for the reason that man is incapable of imagining beings of a higher form than his own.

Antiburghers, a Scottish sect which arose in 1749, many members of the Associate Synod declining to take the oath exacted as a criterion of burghership in Edinburgh, Glasgow, and Perth. Mainly now merged in the United Presbyterian Church.

Antichlor is a substance used in paper-making to free the pulp from the luridous after-effects of chlorine.

Antichrist, the name given to the enemy of Christ, as mentioned by St. John, and long anticipated by the early Christians.

Anticlimax is the reverse of climax, introducing the strong point of a story or argument before the close instead of reserving it for the end.

Antilegomena, the books of the New Testament which were not accepted as canonical by the early Christian churches, though afterwards admitted to equal authority with the rest. These were the Epistle to the Hebrews, the Epistle of St. James, the Second Epistle of St. Peter, the Second and Third Epistles of St. John, the Epistle of St. Jude, and the Apocalypse or Revelation of St. John.

Antimony, a crystalline metal of great brittleness. On being burned, it gives off dense fumes of oxide of antimony. By itself it is not of special utility; but as an alloy for hardening other metals, it is much used.

As an alloy with lead for type-metal, and with tin and copper or zinc for Britannia-metal, it is of great value. All antimonial compounds are poisonous.

Antinephritic, a medicine comulative of kidney diseases.

Antinomians were members of the early Christian communities who claimed immunity from obedience to the "law," on the pretext that faith alone was sufficient to secure salvation. Luther used the term to describe certain religiousists of his own day who favoured the same views.

Antipathy, when it arises in connection with things that do not commonly excite unfavourable feelings, is often caused by shock or fright, and may be either in regard to things seen, heard, or smelt.

Antiphony occurs in connection with psalmody, and consists in the alternation of parts by two different sets of voices of a choir or congregation.

Antipodes, the parts of the earth exactly opposite to our feet, having seasons, etc., at exactly opposite times to ours. Thus the North Pole is the antipodes of the South, and New Zealand the antipodes of England.

Anti-Semitism, a modern revival of the old-time hatred of the Jewish race, confined mostly to Germany, Austria, and Russia, and sometimes marked by violent and unjustifiable outbreaks. In Russia especially the Anti-Semitic feeling has been attended by great cruelty, and thousands of Jews have been driven to take refuge in foreign countries, many of the poorer class of Jews coming to Britain. Beginning as a political movement intended to keep the rich Jews from obtaining ascendancy, it has spread far beyond political boundaries. For the protection of persecuted Jews the late Baron Hirsch started a scheme for transferring large numbers to new countries and endowed it with a sum of £9,000,000. See *Zionism*.

Antiseptics, the term applied to substances which destroy or weaken microbes, bacteria, or germs, and often arrest the spread of diseases caused by these minute putrefying agents. Among the chief antiseptic substances are carbolic acid, corrosive sublimate, or perchloride of mercury. In the case of water, milk, or other liquids, boiling is the simplest antiseptic.

Antithesis is a form of expression which deals in opposites—as contrasting the light with the dark,

good with evil, and so on—and is often resorted to by eminent writers with effect.

Antisemitism indicates one who denies the Trinity.

Antitype, that which agrees with or fulfils the type: as Christ was the realisation of the Paschal lamb.

Antlers are the horns of deer, and, except in reindeer, are restricted to the males.

Aorta, the main trunk of the arterial system, in direct communication with the heart, and from which all the other arteries spring.

Apaches, a tribe of Red Indians, formerly ferocious, and spread over the Mid-West of America. A name also given to a set of lawless and violent people in Paris.

Apatite, a widely distributed mineral, consisting mainly of phosphate of lime, and useful in promoting vegetation.

Ape, a term applied to monkeys generally, and covering the whole group of primates between man and the lemurs.

Apellion, the point in the orbit of a planet farthest from the sun, where the motion is slowest.

Aphengescope, a modified magic-lantern for the exhibition of optical objects.

Aphides, plant lice, a numerous species of destructive parasites living on roots, leaves, and plants.

Apis, the sacred bull worshipped by the ancient Egyptians; also the scientific name for the bee.

Apjohnite, a mineral containing much sulphuric acid, occurring in white asbestiform or fibrous masses at Lagoa Bay, in South Africa.

Aplysia, a genus of molluscs, with an oblong translucent and flexible shell, popularly called sea-hares, and inhabiting the humarian zone. They have four tentacles and discharge a violet fluid on molestation. Some species are found in British waters.

Apocalyptic Number, the mystical number 666, mentioned in the Apocalypse.

Apocalyptic writings are those which deal with revelation and prophecy, more especially the Revelation of St. John.

Apochromatic object glasses are prepared so as to destroy the second residuary spectrum.

Apocrypha, the title given to the Hebrew writings, not regarded as canonical by the Jews, but received by the Roman Catholic Church. Regarded as only historical records by the Protestant Churches. The term applies mainly to the additional Old Testament books, but there are also some Christian writings of the same character. The Apocryphal books include 1 and 2 Esdras, Tobit, Judith, Esther x.-xvi., Wisdom, Ecclesiastical, Baruch, Song of the Holy Children, Bel and the Dragon, the Prayer of Manasses, and 1 and 2 Maccabees.

Apogee, the point in the moon's orbit at the greatest distance from the earth.

Apollinarians, followers of Apollinarius, Bishop of Laodicea, who lived in the 4th century, and denied the humanity of Christ. Condemned as heretics.

Apologetics is the branch of Theology that defends Christianity from external attacks, Natural Theology and Revealed Theology.

Apostasy is a revolt, by an individual or party, from one form of opinions or doctrine to another.

Apostolic Council, held at Jerusalem, A.D. 52, presided over by James, to decide what the obligations of Christians were to the Mosaic law.

Apostolic Fathers were the immediate disciples or followers of the apostles, especially such as have left writings behind them, including Barnabas, Clement, Hermas, Ignatius, Polycarp, etc.

Apostolic Succession is the derivation of holy orders by an unbroken chain from the Apostles, and the succession of the ministry to the powers and privileges of the Apostles.

Apothecary, one who prepares and distributes drugs. In 1805 the Apothecaries' Company of the City of London obtained the privilege of examining and licensing all the apothecaries and sellers of drugs throughout England and Wales.

Apoteosis was the Greek term for the inclusion of a mortal among the Gods. Divine honours were accorded to Julius Caesar and Augustus.

Apparitions indicate supposed supernatural ap-

pearances, and were much believed in by the primitive races. Even now there are many who have faith in spiritual manifestations, but science regards them as but creations of a disordered brain.

Appian Way, the oldest of the Roman Roads, originally laid by Appius Claudius from Rome to Capua, and afterwards extended to Brundisium.

Apse is a semicircular recess situate at the east end of the choir or chancel of early churches, and vaulted over.

Attery, a large wingless New Zealand bird of the ostrich order, valued for its skin.

Aquarium, a vessel, or building, devoted to the collection of marine or fresh water animals. Some quarter of a century back large buildings were erected at Brighton, Scarborough, and many other seaside resorts, as well as in London and numerous inland towns, to which the title of Aquarium was given; but in recent years these buildings have for the most part been turned into mere pleasure resorts, the proper aquarium element being neglected. The Brighton Aquarium, however, still maintains to a great extent its original character. The Westminster Aquarium was purchased by the Wesleys, and the site is now set apart by that body as a great metropolitan church centre.

Aquatint is a method of etching on copper, by which limitations of drawings in water-colours, Indian ink, bistre, and sepia are produced.

Aqueducts were known to the Greeks, but were perfected by the Romans. There still exist several Roman aqueducts, including the Aqua Julia, constructed under Vespasian Agrippa, and the Aqua Felice, restored by Pope Sixtus V. Among modern aqueducts may be mentioned that of Glasgow, which brings water to that city from Loch Katrine; that of Manchester, which taps Thirlmere; and that of Liverpool, with Lake Vrinny in North Wales, as its source.

Arabesque, the term applied to the elaborate decorations introduced into Europe by the Spanish Moors. The Arabesques of the Vatican galleries, by Raphael, form a splendid example.

Arabian Nights, a collection of fascinating tales of the Orient, of mixed Indian, Persian, Arabic, and Egyptian origin, and first made known in Europe by Antoine Galland, a French Oriental scholar whose original translation was called *The Thousand and One Nights*.

Arabic Numerals were introduced into Europe by the Arabs in the 8th century. They consist of the characters, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and after the introduction of printing came into general use, being much simpler than the Roman numerals.

Arachnida, small articulate animals, including spiders, scorpions, etc., without antennæ or wings, and placed between crustacea and insects.

Aramaic, the language of the Arameans or Syrians, the common dialect of those trading people in the 1st century A.D.

Araucaria, a kind of cone-bearing tree of the pine family, distributed over various parts of the Southern hemisphere.

Arbalest, a steel crossbow set in a shaft of wood and worked with a trigger, introduced by the Normans.

Arbitration, General. (See *Arbitration in Dictionary of Business Section*.)

Arbitration, International. In recent times many attempts have been made to decide international disputes by this means—sometimes with success. The Palace of Peace at the Hague (the gift of Mr. Andrew Carnegie) inaugurated in 1913, is specially dedicated to the cause of peace and international arbitration. One of the most prominent of international arbitrations was that in 1872 between Great Britain and America concerning the "Alabama" claims. Numerous general arbitration treaties have been entered into between other countries; and England and France, and England and America, have in recent times arranged long outstanding frontier and other disagreements in this way. At the famous Conference at the Hague in 1899, suggested by Russia, an international arbitration scheme of

extensive powers was approved, and may ultimately lead to something more humane than the arbitrament of war, though it was not considered sufficient to deal with the disputes which brought on the war between Russia and Japan in 1904. As an incident of this conflict, however, there is the arbitration on the Dogger Bank outrage to refer to, which settled a difference that might otherwise have led to war between England and Russia.

Arbor Day, a day devoted to promoting the growth of trees. First adopted in Nebraska, but now the movement has spread to all parts of the American Continent, and to South Australia. In some parts of England also the idea finds favour.

Arbor Vita is the name given to the tree-like appearance of the cerebellum when it is cut through, due to the arrangement of the white and grey nerve matter. Also the name of a cone-bearing plant of the cypress order, possessing medicinal virtues.

Aradia, a district of Peloponnesus (Morea) whose inhabitants in the days of the Pelasgi were of extreme simplicity, and the term has ever since been used to denote an idealised country of primitive things.

Arch was introduced into architecture by the Romans, and was thereafter widely adopted in relief to the straight-line method.

Archæology deals with the relics of ancient times, constructing historical deductions, and ascertaining the manners and customs of past periods, then from.

Archopteryx, a bird which is supposed to show the connecting link between reptiles and birds, its fossilised remains revealing some of the characteristics of both orders.

Archaism is a rhetorical term, denoting a style of composition or discourse of an obsolete or antiquated kind, admirable in poems and other writings of a highly idealised or allegorical form, but otherwise out of place.

Archbishop, the title of the two highest dignitaries of the English Church: the Archbishop of Canterbury, called the Primate of all England, and the Archbishop of York, styled the Primate of England.

Archil, a purple pigment, obtained from a species of lichen, and changing to red by application of acid.

Architecture, or the art of building, is of three main classes—military, naval, and civil—the general application of the term being to the last named.

The five leading orders of architecture are the *Doric*, the oldest, of which the best examples were shown in the Greek temples; the *Ionic*, another Greek variety, lighter and more decorative, as shown in the Erechtheum at Athens; the *Corinthian*, introduced in the time of Alexander the Great, well known by its graceful columns and enrichments; the *Tuscan*, which the Romans invented—a solidified Doric; and the *Composite*, which combined the leading features of the *Doric* and *Corinthian*. As exemplified in modern times, more especially in England, architecture is exceedingly varied in form, but between the 6th and 17th centuries we get at least six distinctive styles. First, the Saxon and Norman; next the Semi-Norman; then the Early English or Gothic (of which Westminster Abbey and York Minster furnish prominent examples); the Decorated English; the Perpendicular English (15th century), and the Delvated English (1509 to 1601). During the early Stuart period there was the Renaissance style which obtained a strong footing. Then we come to the Queen Anne style, which is of a more domestic order; and in later times there has been a revival of nearly all styles, sometimes in their pure form, but more often presenting an adaptation or combination of styles. Away from these well-known styles, we have more primitive examples in the architecture of the earlier nations—Egyptian, Assyrian, Etruscan, Persian, Chinese, and Jewish—all possessing more or less individuality of feature, the result partly of local, climatic and other requirements, and also of some special artistic evolution.

Arctic Exploration dates from a very remote period, King Alfred relating stories of early Polar expeditions, but it was not until the 16th century that men began to make serious attempts to discover either a North-west or North-east passage. Sir Hugh

Willoughby, Davis, Chancellor, Baffin, Frobisher, and Henry Hudson were the most famous early explorers. The Company of Merchant Adventurers and the Hudson Bay Company were promoters of such schemes, and all through the 17th century attempts were being made to penetrate the Polar regions. In 1818 George III. offered a reward of £20,000 to any one who should make the North-west passage, and Scoresby, Ross, Parry, and Franklin all became associated with Arctic expeditions. Ross and Parry went out in 1818, and then came Sir John Franklin's ill-fated expedition in 1845. When Franklin failed to return and no news could be obtained concerning him, a number of search expeditions from Great Britain and America were undertaken. Kennedy, McClure, Rae,

Belcher and McClintock in turn succeeded in making important discoveries, and evidence was found of the perishing of Franklin and his crews. Lieutenant Greely made an important expedition in 1881–1884, and those of Nares and Markham added to our knowledge. Dr. Nansen's crossing of Greenland in 1888, and his subsequent journey with the *Fram* in 1893–1896, were memorable events. Nansen and Lieutenant Johansen, with two kayaks and a number of dogs, travelled 87° 14' N., 300 miles nearer to the Pole than had been reached before. The expedition verified the theory that there was a current flowing across the Polar region from the New Siberia Islands. Mr. Jackson discovered a large open sea, and Lieutenant Peary in 1902 found it covered with ice. The latter rounded the north part of Greenland in 1900. H. R. H. the Duke of the Abruzzi's expedition, under Captain Cagni, in 1899 reached 86° 33', 22 miles farther north than Nansen. In 1906 Commander Peary got within 201 miles of the Pole, the American thus approaching nearer by 35 miles to the objective than the lower of Nansen's north record. In September, 1909, however, the world was startled by the news that Dr. Cook, an American explorer, had actually reached the Pole, but later evidence does not substantiate this. This was followed closely by the announcement that Peary had also planted the Stars and Stripes at the Pole, and the Commander has since published a full description of his discovery. The first International Congress for the study of the Polar Regions was held at Brussels in September, 1909, and steps were taken for the constitution of a permanent universal association for the purpose of concerted organisation of further explorations in the Arctic. (See **Antarctic Zone**.)

Argali, a kind of wild sheep found in Siberia and the Steppes of Northern Asia generally, by some considered to be identical with the diction of the *Fematauch*.

Argillaceous Rocks are a sedimentary group, including the shales and clays, into the composition of which aluminum largely enters.

Argon, a chemical element discovered by Lord Rayleigh in 1894 in the nitrogen of the air.

Argonaut (Piper Nautilus), an aquatic animal of the cuttle-fish order. The females have a fine shell.

Arianism, so called after Arius of Alexandria, who denied Christ's divinity and caused the Emperor Constantine to summon the Council of Nice, 325 A.D. **Aristolene**, an alkaloid contained in the bark of *arica*, and also in *Cinchona acida*.

Aries, the Ram, the first of the signs of the Zodiac.

Arion, the horse of Adrastus in Greek mythology, which was said to have the gift of utterance and of prophecy, and figured in the Theban war.

Arithmetic did not flourish to any great extent until the adoption of the Arabic numerals. It is supposed to have originated as a science in India. The system of the Greeks and Romans was complicated, and it was not until the 16th century that the science reached any great development.

Ark of the Covenant was the sacred chest, overlaid with gold, which occupied the inner sanctuary of the Temple, and symbolised God's covenant with his people.

Armada, Spanish, has reference, in this country,

specially to the naval expedition fitted out by Philip II. of Spain in 1588 against England, commanded by the Duke of Medina Sidonia. It comprised 129 ships, of which 65 were each of more than 700 tons; it was manned by 8,000 sailors and carried 19,000 soldiers, and more than 2,000 cannon, with food for 40,000 men for six months. Against this formidable force Elizabeth had only 50 ships, manned by 2,000 sailors, under Lord Howard of Effingham, under whom served Drake, Hawkins, and Frolicher. The British Fleet awaited the Armada off Plymouth, and at Tilbury was a considerable defensive land force under the command of the Earl of Leicester. On July 19, the ships of the Armada were sighted off the Lizard, disposed in a crescent seven miles long from horn to horn. The excellent manœuvring of the English, their fire-ships, and a gale from the N.W. combined so effectively to cripple the Spanish ships that at length the Armada was scattered in helpless confusion, but a very small remnant contrived to reach home. Elizabeth had a medal struck, bearing in Latin the inscription "God blew, and they were scattered."

Armadillo, a genus of animals belonging to South America, and carrying a hard bony covering over the back, under which the animal can completely conceal itself when attacked, rolling itself up like a hedgehog.

Armageddon, according to the Revelation of St. John, the great battle in which the last conflict between good and evil is to be fought.

Armature, the portion of an electrical dynamo consisting of wire coils, so arranged as to give when rotated an increased flow of electrical energy.

Armet, a helmet of metal worn in war by the French, in the 13th and two succeeding centuries.

Armillary Sphere, an astronomical apparatus with circles representing the equator, ecliptic, etc., arranged round a globe, in their relative positions.

Arminianism, the doctrine of Jacob Harmensen, who was born in Holland in 1600, especially directed against Predestination, but less austere logical than the dogma of the early Reformers.

Armless and Legless M.P. The late Mr. Arthur MacMurrough Kavanagh, who in the eighties of last century was an active legislator in the House of Commons, was born without arms or legs, and is remembered for more than his very able championship of the cause of the Irish landlords. He was famed as a yachtsman and horseman, and travelled on horseback across Russia and Persia to the Persian Gulf. His riding with the Carlow Hounds is still remembered with wonder amongst the country-folk, and with the pen held between his teeth he wrote a good "hand."

Armlet, a bracelet worn on the upper arm in the East as part of the insignia of royal rank and power.

Armour, protective covering worn by those engaged in military pursuits, and consisting of a great variety of pieces and materials from hauberts of mail to a complete panoply of plate.

Army.—An organised equipment of land forces for carrying on the work of war. Egypt had such an organisation under Sesostius, 1600 B.C. The Persians later on were similarly equipped, but it was left for the Romans to bring into operation an immense regular army in which every citizen between 17 and 45 was compelled to serve. The Turks were the first among modern European nations to create a standing army in the 14th century; and Charles VII. of France had a force of 25,000 trained soldiers. There was no proper standing army in England until the reign of William III. In 1691 an Act was passed authorising a force of 65,000 men, and although this number was afterwards greatly reduced, whenever war broke out the regiments were added to, and England had 200,000 men in the field during the War of the Spanish Succession. There was no regular barrack-accommodation in England before 1792. For the Peninsular War, Great Britain got together an army of 240,000. Then, after Waterloo, came the long peace when army matters were neglected. With the Crimean War there was a terrible awakening,

however; and Parliament began to devise improved army schemes. A Volunteer and a Militia auxiliary force had been organised, and in 1891 Lord Cardwell effected a revolutionary change with his system of localisation, linked battalions, short service, and the abolition of purchase. Further improvements were introduced later; but in the Boer War of 1899-1902 we were once more unprepared, and had to pay the penalty in frequent loss, humiliation, and defeat. Then was Mr. Brodrick's Army Corps scheme devised, but it did not work out well; and still another plan of army reorganisation was evolved in 1904 by Mr. Arnold Forster, which provided for a total "paper" strength of 227,684 men. A new Army Order was issued on January 1, 1907, by Mr. (now Lord) Haldane, then War Secretary, providing for the allocation of all regular troops to a particular command, and giving the station of every unit in the British Army. The organisation for war of the field army for service abroad is one cavalry division (of four brigades); six divisions; Army troops; troops for a line of communication. The Haldane reform provided for eight areas of command, each containing on the peace footing its complete proportional quota of the forces. Before the war (1914) the British Army had a strength of 717,575 effectives, but by April, 1915, we had about 750,000 men at the front, while the casualties of 135,000 up to April 11, 1915, had been made good. So from month to month the augmenting of the army has continued, and at the present time (May, 1915) the British Army has on active service and in training over 2,000,000 men. All the overseas dominions (including India and South Africa) have helped nobly to swell the number. To-day we possess the largest voluntary army ever got together, but the cry on all sides is still for more men and more munitions, and our whole national resources are being drawn upon for the task. The German army with which the Kaiser ruthlessly broke the peace of Europe, regardless of the sanctity of treaties and the rights of neutral nations, was the greatest fighting machine the world has ever seen, the outcome of a steady preparation of over forty years, for winning the domination of land and sea, and of a determination to thrust Britain out of its place among the nations. In addition to its equipment, however, it has resorted to the utmost lawlessness, barbarity, and cruelty in its operations, destroying neutral ships and civilian peace-keepers, with a recklessness that sets all law and humanity at defiance. In this it has stained its record for all time to come, and set an example that, if followed, would bring about universal war. That the armies of the Allies have been able to cope successfully with this force and savagery is splendid testimony to the patriotic spirit which has animated the Allied Armies. France, Germany, Austria-Hungary, and Russia practically require every able-bodied man to be subject to service. The standing army of the United States is fixed at a maximum of 100,000 enlisted men and a minimum of 60,000, with voluntary enlistment and a five years' service. But, of course, any of these nations can, on an emergency, call up an army of efficient far in excess of its peace strength.

Arnica, the name of a genus of plants of which the dandelion is a leading example.

Arnotta, a reddish-yellow dye obtained from the seeds of the *Fixa orellana*, a South American plant. It is employed for colouring cheese and butter, also in chocolates and soups; and a preparation of the pigments imparts an orange tint to certain wines.

Arpeggio, in music, indicates the striking of a chord or notes in rapid succession, instead of simultaneously.

Arguebus, one of the earliest forms of firearms. The piece was discharged by a match applied manually to the touch-hole, and later with a trigger.

Arrack is the East Indian name for distilled spirit generally, but especially for that made from the fermented juice of the cocoa-nut or from rice.

Armagobite, a mineral consisting of carbonate of lime in a crystalline form, sometimes found pure, and sometimes mixed with other metals in minute

quantities. Crumbles to powder under heat. First discovered in Arragon.

Arrowroot, obtained from the rhizomes of the tropical *Maranta*, also from the potato and the arum. It provides a pure starch food, suitable for invalids.

Arsenals are repositories for storing, or workshops for making, arms, guns, accoutrements, stores, etc. The chief English arsenals are at Woolwich, Deptford, Chatham, Pembroke, Sheerness, Portsmouth, and Plymouth: the chief arsenals of France are at Cherbourg, Brest, Toulon, L'Orient; of Russia at Kronstadt and Sevastopol; of Germany at Danzig and Wilhelmshaven; of Italy at Spezia.

Arsenic, a chemical element, by some regarded as a metal, of a crystalline and brittle nature, usually met with as a constituent of other minerals, but sometimes by itself. One of the most virulent of our poisons.

Artesian Wells—so called because of their first being discovered at Artois—are borings made through strata which water cannot permeate to others of a porous kind which are full of water. The fountains in Trafalgar Square are fed by artesian wells sunk through the London clay into the chalk about 400 ft. At Passy, near Paris, there is an artesian well 1,400 ft. deep, and at Grenelle one about 1,800 ft. They are very valuable in countries where agriculture depends on irrigation. At St. Louis, Missouri, there is one 3,847 ft. deep; and one in Western Queensland reaches the depth of 4,000 ft.

Articles. This term is variously applied. The Six Articles are those contained in an Act of Henry VIII., upholding Transubstantiation, Clerical Celibacy, Auricular Confession, and other doctrines which the Reformation put in their proper place. The *Thirty-Nine Articles* comprise the doctrine of the Anglican Established Church, and must be subscribed to by all taking holy orders therein.

Artificial Sunshine. A scientific station or botanical laboratory has been established at Wisley, near Weybridge, devoted to the growth of plants by electric light as a substitute for sunshine. The fact that artificial light enables plants to grow and fruits to ripen has long been known to men of science. In 1879 and 1880 the late Sir William Siemens made some successful experiments in this direction at Tunbridge Wells. More than 40 years ago M. Hervé Mangon discovered that flowers turned towards the electric lamp just as they turn towards the sun. Many experiments have been made in France, America, Russia, and elsewhere, and beyond doubt simulated sunshine can be used with good effect.

Artillery, the science and art of gunnery; the implements of war employed therein; and the men constituting the military corps in charge of the cannon of an army and trained to their use. In the British Army the artillery force is divided into the three sections of Horse, Field, and Garrison Artillery. The headquarters of all are at Woolwich, as is also the Royal Military Academy, through which pass the cadets who later become artillery officers.

Arum, a genus of plants of the Araceæ order, of which there is but one British species, the wake-robin or cuckoo-pint, sometimes also styled "Lord and Ladies." Its pointed leaves and spikes of scarlet berries are familiar hedge-side objects. The latter are poisonous. In Switzerland the rhizomes are employed by the peasantry as substitutes for soap; and with the pronouncedly acrid fluidity expressed, are capable of conversion into a flour that may be utilised in lieu of or for admixture with corn meal. This resembles arrowroot.

Arundel Marbles, a collection of ancient sculpture formed by Thomas Howard, Earl of Arundel, in the 17th century and presented to Oxford University by his grandson, Henry Howard, who became Duke of Norfolk. The most renowned feature of the collection is the "Parian Chronicle," a fragment of an inscription containing some important dates in Greek history between 550 and 480 B.C.

Aryan is a term used to denote the lingual and ethnological groups otherwise known as Indo-European or Indo-Germanic. Comprises two branches, Western or European, and Eastern or Armenian. The Aryan

languages show common origin by their vocabulary, syntax, and inflexions. The word *Aryan*, derived from the Sanskrit, means an "honourable lord of the soil"; the nearest to the parent tongue is Sanskrit, and the chief divisions in Europe are the Teutonic, Romance, Slav, and Celtic. The Turks, Magyars, Basques, and Finns are non-Aryan. The common ancestors of the Aryan groups dwelt among the Pamirs at a period of remote antiquity.

Asafetida, a well-known drug made from the juice of plants of the Umbelliferae order, including celery, parsnip, etc. Has a very offensive odour.

Asbestos designates a peculiar form of mineral, occurring in crystals in pyroxene, and, massed together, is fire-proof. Found in Cornwall and some parts of Scotland, but the finest comes from Sava, and it is also abundant in Canada and Tasmania.

Ascension Day, or Holy Thursday, is the 40th day after Easter.

Asceticism was originally the term applied to the training by Greek athletes. Afterwards the Stoics, and others used it to express the mastering of the passions. Later the idea passed into Christianity, and from celibacy and abstinence was carried to terrible lengths in the way of self-mutilation, torture, and human sacrifice, enthusiasts vying with each other in self-mortification. The chief manifestations of Asceticism in modern times have been Moricism and the various forms of personal humiliation, fasting, penance, pilgrimage, etc., but the principle survives nowadays only in a very mild form.

Ascidium, the typical genus of the truncated mollusca. The sea-squirt is a familiar example. The Darwinian development theory traced the ascent of man from this low animal condition.

Ascot Races are an annual fashionable function dating from 1771 and taking place on Ascot Heath, only six miles from Windsor, in June. Have always had royal patronage. The course is nearly two miles long.

Asgard, the Heaven of the Scandinavian mythology. **Ash**, a familiar tree of the olive family, remarkable for its thick foliage and height of growth, often attaining from 100 to 150 feet. Is a valuable timber tree, tough and elastic, and largely used for wheels. In Scandinavian mythology the first man and woman were the ash and the elm, and the court of the gods was held under an ash. In the Highlands of Scotland it used to be thought lucky to give infants ash-sap as their first food.

Ashburton Treaty, so called after Lord Ashburton, the ambassador who carried it through, was signed between Great Britain and the United States in 1842 and settled some boundary differences between Canada and the State of Maine, and also dealt with the African Slave Trade.

Ashlar, a term designating the flat dressed stone as prepared for building use.

Ash Wednesday, first day of Lent, on which ashes were sprinkled on the head as sign of penitence under an injunction of Pope Gregory the Great in the 6th century.

Asmodeus, a demon whose story appears in the apocryphal book of Tobit, and figures frequently in Jewish traditions. Asmodeus is the supernatural figure in L. E. Sage's *Le Diable Boiteux*.

Asp, a small poisonous snake, often mentioned in ancient literature and traditionally supposed to have been used by Cleopatra in killing herself, though some modern naturalists scout the idea. It belongs to the cobra da capello genus.

Asparagus was a favourite vegetable with the ancient Romans, and is much prized to-day. Possesses a perennial root and yields the edible stalks every spring.

Asphalt, or mineral pitch, is a bituminous substance, the result of decayed vegetable matter, containing 80 per cent. of carbon, with hydrogen, nitrogen, and oxygen. Is largely used, mixed with sand, chalk, etc. for making road surfaces in dry climates, such as France, Italy, Germany and America, and to a considerable extent also in this country, though the English climate is too humid for its general adoption, it becoming slippery with moisture. The ancient

Egyptians used it for embalming, and the Babylonians made wells of it. Trinidad, the Rhone Valley, the Dead Sea, and many other places yield asphalt. An artificial asphalt largely composed of coal tar is used as asphalt in England, though in big cities are numerous examples of Italian material.

Assassins were first heard of in Persia about 1090. They were a secret religious sect, at the bidding of whose chief they murdered persons as an act of duty. Similar bodies were formed in various connections in later times, but the term assassination is now only used to specify the slaying of some public personage, and does not necessarily imply plot or collusion, although the majority of assassinations in recent times have been connected with political or anarchist movements. Among the most notorious instances of assassination may be mentioned the following:—Julius Cæsar, 44 B.C.; James I. of Scotland, 1437; Rizzio, 1566; Cromwell, 1659; Henry IV. of France, 1622; Duke of Buckingham, 1628; Marat, 1793; Lincoln, 1865; Garfield, 1881; Lord Frederick Cavendish and Mr. Burke, 1882; Alexander II. of Russia, 1881; President Carnot, 1894; the Empress of Austria, 1898; King Humbert, 1900; President McKinley, 1901; M. de Pelvée, 1904; the Grand Duke Sergius of Russia, 1905; Carlos I., King of Portugal, and the Crown Prince, Luiz, 1908; Archduke Francis Ferdinand of Austria and his wife, June 28th, 1914.

Asatara, a bivalve mollusc, of which there are many widely distributed fossil species, but only some twenty living species inhabiting the Arctic and North Atlantic oceans.

Asteroids were unknown until the discovery of Ceres by Piazzi in 1801; at present over 500 are catalogued, the application of photography being responsible for the great majority. Most of the minor planets are mere celestial footballs, some having a diameter of only five miles. Their orbits lie between those of Mars and Jupiter. Whether these bodies are the fragments of large planet is a question that is not yet determined.

Astrakhan, the curled wool of a species of black sheep native to the Russian province of Astrakhan.

Astrology, the so-called science of the stars, has few serious believers in these days, and yet there are "planet-rulers" and "professors" who still find people credulous enough to put faith in their astral readings. Certain almanacs continue to appear year after year, whose chief claim to support is based on astrological pretensions and predictions. Astrology, however, was a serious study at one time, and monarchs and other illustrious personages were frequent consulters of the astrologists. The Chaldeans are supposed to have invented astrology, which is an abstruse and involved systematisation, well calculated to impress the superstitious and ignorant. Astrologers divide the heavens into twelve equal parts, called *houses*, and endow the planets with certain influences and found their predictions on the positions occupied by the heavenly bodies at a person's birth or at any critical period.

Astronomy, the oldest and one of the most fascinating of sciences, was in early times associated with astrology, but by a long series of observations and mathematical calculations a gradual knowledge of the movements of the heavenly bodies grew up, and it now ranks as one of the positive sciences. Pythagoras (500 B.C.) understood the revolution of the earth upon its axis, but it was not until a thousand years later that this theory gained general acceptance, when the keen and spacious minds, first of Copernicus, and then of Tycho Brahe and Galileo, demonstrated the truth of the Pythagorean theory. With the setting forth of the Copernican system, astronomy was placed on a sure foundation, and the movements of the planets began to be more clearly comprehended. Naturally there was much that was crude and imperfectly defined in the system of Copernicus, but it was a working basis, and the studies of Kepler and Galileo, making their observations with the telescope, resulted in an im-

mense increase of astronomical knowledge. Newton to whom we owe the discovery of the law of gravitation, the improvement of the telescope, and many other discoveries, placed physical astronomy on well-defined lines. Halley, Laplace, Herschel, and other eminent astronomers also added to the further comprehension of the science, and in our own day a vast accumulation of knowledge on this interesting subject has resulted from the improved scientific apparatus and equipment now available.

Ataghan, a long curved dagger, worn by Turks and neighbouring peoples in the belt. The scabbard was often of silver-gilt and sometimes of gold.

Atavism, the "breeding back" to remote ancestral characteristics, observed in all forms of animal life.

Athanasian Creed is named after St. Athanasius, who flourished in the 4th century, and is an exposition of his doctrine of the Trinity and the Incarnation, but is supposed to have been written by Hilary, Bishop of Arles, in the 5th century.

Atheism is the denial of the divine, and it assumes three forms—denial of the existence of God, denial that God has been proved to exist, and denial of the possibility of knowing of divine existence.

Atherine, a pretty little fish found in the Mediterranean and along the south coast of Britain. The latter variety is familiarly styled the sand-smolt.

Athletics of all kinds are more generally indulged in to-day than at any former period. In the ancient Greek and Roman times wrestling and running were regular sports, chiefly contested by trained professional men, and great honour was paid to the winners. Euthymus, Milo, and Hippodamus were among the more celebrated "classical" athletes, while Plato, Pythagoras, and Cleanthes were ardent contestants of no mean renown. The Isthmian Games at Corinth and the Olympic Games on the banks of the Alpheus in the Peloponnese, were immensely popular; whilst the same kind of games continued to be practised more or less in all countries, from century to century, though perhaps with the keenest zest in England. Here, in mediæval times, in addition to wrestling and running, archery, quarterst, jumping, and other athletic games were much in vogue. The developments in athletics during the 19th century were surprising. At the Universities and the public schools, and in connection with military regiments, industrial establishments, and all kinds of institutions, athletic clubs were formed, while every town, village and hamlet had its athletic club in sufficiently large numbers to afford youths and young men everywhere the opportunity of becoming members. The whole country became interested in athletic sports, and cricket in the summer and football in the winter have their adherents in every nook and corner of the kingdom. France and Germany have also in recent years taken to athletic sports, and in the United States all the English games are played, with the addition of baseball, which is the American national game, as Lacrosse is the national game of Canada. The defeat of our English polo and lawn tennis champions in the United States were among the events of 1913. In view of the Olympic games of 1916 at Berlin, a movement was set on foot for raising £100,000 in aid of British athletics, but not proceeded with. Women are now largely given to athletic exercises of the milder form. See *Sports and Pastimes* Section of "Pears' Cyclopaedia."

Atlantic Cable Telegraph. Telegraphs were talked of for some years before an attempt was made to accomplish the feat of laying one. Professor Morse in America suggested the idea as early as 1845, but it was not until 1858 that it assumed a practical shape. Sir Charles Bright succeeding in that year in laying the first cable between Valentia, in Ireland, and Newfoundland. It was 2,500 miles long. From a variety of causes, however, this first cable was not worked with success. A second cable was laid in 1865, the famous *Great Eastern* steamship being utilised on the occasion, but the cable broke amid-ocean, and for the second time failure had to be written in respect to the scheme for connecting England and

America by telegraph. The following year, however, a further attempt was made with complete success, for not only was a new cable laid, but the one of the previous year was picked up and spliced into two Atlantic cables, were finished at the same time. There are now 26 cables across the North Atlantic, mostly controlled by the Commercial, Anglo-American, and Western Union companies. Two of the 26 cables are French and two German. A general system of half rates for deferred telegrams is in operation between British Dominions and the United States.

Atom is the unit of matter, the smallest indivisible particle. The atom of hydrogen gas is the lightest of all atoms, and constitutes the unit of comparison.

Atomic Theory was first formulated by John Dalton at the beginning of the 19th century. Later experiments have shown that atoms consist of "specks" so extraordinarily minute as to be truly countless. An atom of radium contains 700 "electrons," an atom of radium 150,000.

Atrium was a square covered central court of a Roman house, with double rows of columns round it, and in the middle of the court was a cistern, while the walls and floors were usually of marble.

Atropa, a genus of plants possessing poisonous properties, the best known variety of which is the "deadly nightshade" of Britain.

Attainder is a term for the taint that attaches to a person or to his estate after he has been convicted of treason or felony and sentenced to death. Up to 1843 it involved the forfeiture of lands.

Attar (or Otto) of Roses is an essential oil of roses prepared in the East, and costly. It takes 200 lbs. of roses to produce 1 oz. of attar.

Attorney, one who acts for another in legal matters, a term generally used to designate a lawyer or solicitor as distinct from a barrister. Attorneys cannot appear for clients in a superior court.

Augsburg Confession, the chief standard of faith in the Lutheran Church was drawn up by Luther and other Wittenberg Protestant theologians to present to the Emperor Charles V. in 1530, in the cathedral at Augsburg.

August, named after the Emperor Augustus, because it was his "lucky" month.

Auk is the name given to a genus of swimming birds, now extinct. It lived in the temperate region of the North Atlantic, and bred largely on St. Kilda. The female only laid one egg a year. The eggs, of which some 66 or 67 are known to exist, realise very large prices when offered for sale.

Aulic Council, the personal council of the old German Emperors, superseded by the Confederation of the Rhine in 1806.

Auricular Confession is the personal declaration of "mortal" sins to a priest in order to obtain absolution.

Aurora Borealis, or Northern Lights, are seen both in the Northern and Southern Polar regions. The centre of the meteoric arch corresponds probably with the magnetic north, and the phenomenon is generally seen two or three hours after sunset. It is constantly moving, but may remain visible for several hours. When the rays are very bright, they are of varied colours—green, rose, violet, etc.

Austerlitz, Battle of, was fought near Brunn, in Moravia, on December 2, 1805, when Napoleon, with 70,000 men, defeated the forces of Russia and Austria, numbering 95,000.

Auto-da-Fé, or Act of Faith, was the ceremony connected with the execution of heretics under the Inquisition of Spain and Portugal, the persons condemned being burned alive. The king and court generally attended in state.

Autograph Collections are very numerous in these days, the rage for putting together the actual writings of distinguished people having led to a regular traffic in such things in recent years. Large sums are paid for scarce autographs of eminent people. An autograph of Shakespeare was bought by the British Museum in 1859 for £375.

Automata are self-moving machines worked by invisible mechanism, and have existed since 400 B.C.,

when Archytas of Tarentum invented an automatic pigion. The most perfect constructor of modern automata was Vaucanson, who, about 1740, invented a flute-player and a duck that could eat, drink, and quack. Kumpeler's chess-player was a celebrated automaton that attracted much attention in the early part of the 19th century. In toyland, automatic contrivances of a very ingenious kind are common. In recent times Mr. Mackelvie has made and exhibited in London automata of wonderful ingenuity.

Autonomy denotes the right of self-government, and was first used in reference to the municipalities of ancient Greece, where the right of separate government was allowed.

Autumn, the third season of the year, begins with the autumnal equinox about September 22, and ends on December 21, but the term is generally understood as covering the period between the middle of August and the middle of November.

Avalanches are of four kinds. (1) Powdery avalanches, consisting of snow which has become loose and dry from long frost. (2) Creeping avalanches, which are loosened by Spring, but, being on a gentle slope, creep down slowly by the force of their own weight. (3) Glacier avalanches, masses of ice which split off in summer with a great noise, and go tearing down a precipice to be smashed to pieces at the bottom. (4) The real avalanches of huge accumulations of snow, which are hurled over almost perpendicular walls of rock into the valleys beneath.

Avalon is the earthly paradise of Celtic mythology. **Avebury Temple**, a famous Druidical ruin—probably of the late Stone Age—near Marlborough, in Wiltshire.

Aventina, one of the seven hills of Rome.

Avernus, a lake in Italy whose vapours were supposed to be fatal to birds, and whose sides were so steep that it was deemed the entrance to Hades.

Avesta, the title of the sacred books of the Parsees.

Avoirdupois (avoir de pois, "goods of weight") is used in the United Kingdom for everything except metals, precious stones, and drugs.

Axe, one of the first tools devised by primitive man in all parts of the world. Axes of stone, bronze, and rough iron have been found in the geological strata.

Axiom, a statement of general truth which admits of no dispute.

Azrael, the angel of death of the Turks and Arabs.

Aztecs, the name of a native and powerful race found in Mexico when the Spaniards first discovered that country and with difficulty subdued.

Azymite, an ecclesiastical term denoting such as insist on the use of unleavened bread in the administration of the Sacrament of the Lord's Supper.

B

Baal, the god of the sun, and meaning lord, or master, was worshipped by the ancient Chaldeans, Phoenicians, and Assyrians.

Babel Tower, described in Gen. xi. 9, the erection of which led to the confusion of tongues. A version of the story exists among the cuneiform tablets in the British Museum.

Babiroussa, a ferocious wild pig, native of the Celebes, sometimes called the horned-hog, from the fact that the long upper tusks, growing upwards, pierce the upper lip and curve backwards like the horns of some of the ruminants. It is longer-legged than ordinary swine.

Baboo, a term signifying "Mr" or "Sir" among Bengali Indians, and often used to indicate a native who tries ineffectively to write English, hence the expression Baboo-English.

Baboon, a species of monkey, ranking next to the apes, with short tails and large heads. The common baboon is a native of Guinea.

Babel Tree, an Indian tree of the acacia order, yielding an extremely hard wood largely used for railway sleepers, and also producing an edible and medicinal gum.

Babylonian Captivity of the Jews captured by Nebuchadnezzar at the taking of Jerusalem in 586 B.C.

lasted upwards of 50 years, until Babyf'n was in turn taken by Cyrus.

Baccarat, a French card game played by 4, any number of betters and a banker.

Baccharis, an oil-yielding plant, of many species, distributed over the Western Hemisphere widely. Plowman's spikenard is perhaps the best known variety in this large genus, and the resinous product of local species is used medicinally in Brazil for febrile and rheumatic disorders.

Bachelor, an ancient word of obscure origin and varied meaning. Was early in use in connection with University degrees. Pope Gregory IX. introduced the term to denote the passing of the first grade in the academic course in the University of Paris in the 13th century. Later it was applied to single men generally, and in some countries taxes have been imposed on men who remained bachelors.

Bacillus, the leading division of the group of minute plants named bacteria, and including the *tubercle bacillus*, the cause of consumption. Other bacilli are the *bacillus diphtheria*, causing diphtheria; *bacillus pestis*, causing the plague; and others, including leprosy, glanders, etc. (See **Bacteriology**.)

Baconian Philosophy, the inductive philosophy of which many maintain that Lord Bacon was the founder; more widely "Baconian" means anything pertaining to Francis Bacon, Lord Verulam (1561-1626). (See the *Biographical Section* of "Pears' Cyclopaedia.")

Bacteriology is the science of Bacteria, founded by Pasteur, and comprising what is called the "germ theory" of disease. Dr. Koch has been another eminent worker in the same field, and the discoveries resulting from scientific effort in this direction are of the utmost importance. Bacteria are the causes of fermentation and putrefaction, and in time, as far as disease is concerned, may be exterminated. To experiments in the science of bacteriology we owe our fuller knowledge of sanitary principles and of preventive hygienic measures, as well as of the active principles of agriculture, brewing, etc.

Bactris, a genus of palms common in the marshy places of the tropics and certain parts of America. The long slender stems are largely converted into walking-sticks, and the Tobagocane is a *bactris* exported in considerable quantity from Jamaica for this purpose.

Badger, a carnivorous animal of the Otter family, but very easily tamed. Of nocturnal and burrowing habit. Badger-hunting is an exciting sport.

Badges are a part of heraldry, and in early times usually bore some allusion to the wearer's name or office, or some incident in his career, and were worn by retainers as a kind of livery.

Bagavels, a right of levying duty on all goods entering Eborac for sale, granted by Edward I., the proceeds to be devoted to public purposes.

Baggala, a two-masted boat of about 200 tons burden, used in the Arabian seas for commerce and formerly for piracy; "dhow" was an alternative name given to these fleet vessels.

Bagiments Roll was that by which the Scottish clergy were taxed prior to the Reformation.

Bagous, a genus of marsh beetles, of the weevil family; there are several British species.

Bagpipes, a musical wind instrument, chiefly played in Scotland and Ireland, and comprising bellows and pipes. In Assyria, India, and China, a form of bagpipes was in use in ancient times, and in Italy they are common at the present day. All the Highland Regiments have their bands of pipers.

Balkalite, a dingy green mineral, found near the great lake in Asiatic Russia from which it takes its name; it is a variety of pyroxene, allied to salinite.

Balloy comprised all the space within the outer walls of a castle except the keep.

Bailie is a Scottish term for the magistrate of a municipal corporation or royal burgh.

Bailiwick, an ancient legal term denoting the limits of a bailiff's jurisdiction.

Bairam, a great festival of Mohammedan countries

in a sense analogous to the Christian Easter, and following upon the four weeks' fast of the Ramadan.

Bakshiah, the Eastern term for "a present" or gratuity; its bestowal is very often cunningly contrived by servants or officials.

Bala, Bala, the Silurian group of rocks near Bala, N. Wales, composed chiefly of sandstones and shales and rich in limestone fossils.

Balance, a form of lever supported in the centre, and having scales at each end for ascertaining the weight of a substance or goods. Stability and sensibility are the two chief requisites of a true balance; the first characteristic returning the balance to its original position after a weighing has occurred, the second showing a response to the slightest action.

Balcony, a projecting portion of a house, of stone, wood, or iron. Known to the Greeks and Romans, and now general in Italy. Introduced into England in the 15th century.

Baldachin, the silken canopy used in Roman Catholic processions and carried over the Host. Some are of great size, and stationary, that in St. Peter's at Rome being over 200 feet high.

Baldric, an ornamental belt worn across the shoulder or round the waist, in feudal times denoting the rank of the wearer.

Bale, Council of, lasted from 1431 to 1443, and held several meetings of Roman Church dignitaries, the object being the healing of the Hussites. It led to further ruptures, however, causing the deposition of Pope Eugenius IV. in favour of Felix V.; but on the death of the former, Felix resigned and Nicholas V. became Pope.

Baleatic Crane, the crowned crane of the Baleatic Islands in the Mediterranean and the North African mainland, distinguished by its yellowish, black-tipped occipital tuft and by its trumpet note.

Balsen, the name given to a series of horny plates growing and hanging from the palate into the mouth of certain species of whales.

Balista, a large military engine, of crude contrivance but considerable effectuality, anciently used for hurling missiles in war by the Romans and others.

Ballad, a term used originally in regard to popular songs of war or romance, and only properly applied to simple compositions in narrative form such as those included in Bishop Percy's famous *Reliques of Ancient English Poetry*. Scott, Lewis, Coleridge, Keats, and in later times Tennyson and Swinburne, have all produced effective pieces of the old ballad form. The term ballad is given to songs in general so long as they are simple in theme and construction.

Ballast is weighty matter placed in the bottom of a ship for balancing purposes, and varies in amount with the build, the size, and the cargo of a vessel. Water is now in general use for ballast.

Ballet was admitted into the old Greek religious exercises, and also formed part of the Roman pantomime, when a story was represented by ballet action. France adopted the ballet in the 16th century, and it was greatly patronised by Henry IV. and Louis XIV. Ballets were highly popular in the early part of the 19th century in connection with operas, and many dancers of note took part in them—Taglioni, Fanny Essler, and others. An active revival of the ballet has taken place in Europe and America in recent years, consequent mainly upon the passionate and intense style of dancing practised with so much acceptance by members of the Russian ballets, Anna Pavlova and Tamara Karsavina being among the chief exponents of this style of dancing, while Maud Allan, the American *danceuse*, has won much fame for impersonation dancing. Elaborate spectacular ballets form a mighty attraction at the Empire, the Palace, the Alhambra, etc., in London.

Ballistic Curve, the actual course taken by any projectile upon discharge.

Balistraria, a cruciform aperture in the walls of a fortress, through which the archers fired arrows.

Bellum, originally the outer bulwark of a strong-hold; subsequently the courtyard comprised within such outer bulwark, including sometimes the quarters of the garrison, the church, and other building.

Balloon. (See **Aerial Navigation**.)

Ballot, or secret-voting, was in use to an extent under the Greeks and Romans, and was advocated in England in the 17th century. It was not until the 18th century, however, that the idea came to be adopted as part of a political programme. Test ballots were taken at Manchester in 1869, and the first London School Board was elected by ballot in 1870. Then followed Mr. W. E. Forster's Ballot Act of 1872, since which date all Parliamentary and municipal elections have been by ballot. Previous to this the ballot system had worked with advantage in Australia, France, and other countries, and in England it makes distinctly for purity of election.

Balsa, a fishing raft or boat, used chiefly along the Pacific coast of South America.

Balsam, the name of a wide genus of plants bearing handsome flowers. A term given also to certain liquids and substances used as ointments or unguents and mostly obtained from trees. Thus, the old Balm of Gilead was from the bark of certain shrubs growing in Egypt and Arabia Felix.

Baltimore Bird, a lively black and orange plumaged starling of the oriole sub-family extending from Brazil to Canada; builds a well-constructed hanging-nest.

Balusters are small pillars, short distances apart, made of metal, stone, or wood, used as supports for cornices, etc., or for enclosing stairs. A range of balusters and that which they support are called a balustrade.

Balsamine, a light dress material, of mixed cotton and worsted manufacture.

Bambino, the name given to an image of the Infant Christ in the church of the Ara Coeli at Rome, and supposed to possess miraculous powers.

Bamboos, a genus of strong grasses, growing from 50 to 60 feet high, and much used by the Chinese for all kinds of purposes. The shoots of some species are tender and esculent; the short canes are used as walking sticks.

Bampton Lectures were instituted by the Rev. John Bampton, who left £120 a year (since considerably increased) for an annual course of divinity lectures to be delivered at Oxford in St. Mary's Church, and to be published within two months of their utterance. Only Oxford and Cambridge M.A.'s are eligible. Heber (1815), Whately (1822), Milman (1827), Hampden (1832), Mansell (1858), Liddon (1866), and Canon Gore (1871) are among the eminent divines who have filled the position of Bampton Lecturer.

Ban, though otherwise used in ancient times, is now a term applied to a proclamation of outlawry, and in some senses is equivalent to a curse.

Banana (*Musa sapientum*), a large herbaceous plant cultivated in tropical and semi-tropical regions in great abundance, and one of the most productive plants known. The fruit of the banana is the staple food of the natives in many of the Pacific Islands, and of late years has been largely imported into England, great quantities now coming from Jamaica and other West Indian islands. Compared with wheat, the productiveness of the banana is as 133 to 1, and as against potatoes 44 to 1. Fresh bananas to a value approaching two millions sterling are now imported into this country.

Banco, sittings in, those of a Superior Court of Common Law in full session, distinguished from the proceedings of the judges at *Nisi Prius*, or on circuit.

Band of Hope, an organisation possessing over 30,000 branches, founded in 1855 for promoting temperance principles among children.

Bandana, the name given to a red spotted handkerchief usually made of cotton, but formerly only applied to silk handkerchiefs of that colour and design.

Bandicoot, an Australian burrowing animal, of rat-like appearance, which carries its young in a pouch. The Indian *Mus pringiatus*, as large as a rabbit, is also called a bandicoot. The oriental animal is a grain feeder, and the name signifies really "pig-rat."

Banner, a flag indicating rank, office, or command, including the standard or national banner, regimental colours, a ship's flag, pendant, ensign, etc.

Banneret, a grade of knighthood conferred by the sovereign for some heroic act on the field of battle, and so called from the fact that the knight was given a banner in exchange for his pennon.

Bannock is cake made of barley meal, much favoured in Scotland, and distinct from the cake of oatmeal.

Banns of Marriage are public proclamations of intention of marriage, and must be announced in Church on three successive Sundays; then, if no just cause or impediment be advanced against the union proposed, it can take place at any time within three months.

Banabee is a figure in Irish superstitions, supposed to give warning of death.

Bantu is the name of a group of African languages spoken by Zulus, Kafirs, and others.

Banyan is the name of a curious tree of India and Ceylon. Its peculiarity is that it throws off shoots from its main branches that grow down and take root in the ground as separate stems.

Baobab, or Monkey-bread tree, is found in West Africa. Its trunk sometimes attains a girth of 70 feet, and there are specimens supposed to be thousands of years old. Yields a pulpy fruit from which a drink is made, and the dried leaves are eaten.

Baptism is a rite practised, either with infants or adults, by almost all Christian sects except Quakers. In the Church of England the baptism of infants is regarded as the act by which they are admitted "unto the visible Church of Christ." The Baptists perform the rite only with adults and by the immersion of the entire body.

Baptistery, a building or portion of building devoted to the rite of baptism. The most famous baptisteries are those of Florence and Pisa, erected in the Middle Ages, which are detached from their mother churches.

Baptists came into notice at the Reformation. For a time they suffered much persecution, but gradually made headway by their zeal and sincerity. To-day this sect is spread over all parts of the Protestant world, though not always in large communities. They are strong in the United States. Throughout the world the Baptists have over 6,000,000 communicants, over 400,000 being in England and Wales.

Barbarian in the times of ancient Greece meant anyone who could not speak Greek. Now the term is applied to savage or uncivilised people generally.

Barbary Ape is a small species found on the rock of Gibraltar, its ancestors having probably been brought from Barbary. It is the only kind of monkey existing in Europe.

Barbel, a well-known European river fish, deriving its name from a sort of beard hanging from its jaws.

Barberry, a berry-producing shrub, typical of the genus *Berberidaceae*. Grows in a large compact bush, and bears bright red berries growing in clusters.

Barbers are an ancient and honoured fraternity. There was a Guild of Barbers long before 1301, when we get the record of Richard le Barbour being appointed Master, to have "supervision over the trade." In the time of Edward IV. they were the only persons who practised surgery; hence the old title barber-surgeons. The London Barbers were incorporated in 1462, and a rival Company of Surgeons of London was afterwards set up. In time the latter only were permitted to act as surgeons, although even then the barbers might follow "blood-letting and drawing teeth." The barber's pole is a relic of the barber-surgeons' days, the fillet representing bandaging.

Barbette, an elevated platform in fortresses or on war-vessels from which heavy guns are fired.

Barbican, a fortified entrance to a castle or city, with projecting towers. In the London street called Barbican there was formerly a barbican in front of the city gates.

Barcarolle, a Venetian gondolier's song with an easy swaying movement, and applied to instrumental as well as vocal compositions of the same character.

Bard was the name used among the ancient Celts to denote a poet or minstrel, and their mission was to sing of heroic deeds. They were supposed to have

the gift of prophecy, and were exempt from taxes and military service.

Bardesey Island, off North Wales, is the remote home of a singularly isolated community. Bardesey is roughly two miles in length by one in width. The inhabitants, who occupy some dozen well-built and comfortable farmhouses, divide the calling of farmers and fishermen. Bardesey is the property of Lord Newborough and was a favourite resort of his grandfather, who was buried on the island in 1888.

Barbones' Parliament, so called from the nickname of one of its members, "Praise-God Barbones." It was specially selected by Cromwell, and sat from July 4th to December 13th, 1653.

Barges are generally flat-bottomed boats, but the term is applied to most slow-moving river boats, from royal state barges to house-boats, and sometimes to "lighters" and "keels" employed in canal and other waterway goods traffic.

Barilla, a soda carbonate obtained from the burning of plants in salt marsh lands, once in great demand but now little used, having been superseded by a carbonate produced from common salt.

Barium, a metal usually occurring as sulphate of barium and carbonate of barium, but recently obtained by powerful action. Sir Humphry Davy having passed a strong electric current through chloride of barium to obtain it. It is white, lustrous, and heavy.

Bark, the external covering of trees, comprises the cuticle or *epidermis*, the outer bark or *cortex*, and the inner bark or *liber*. It is applied to many uses, and numerous kinds, rich in tannin, are utilised for tanning purposes. Various species of oak bark are most used in Europe; in North America, the hemlock spruce; and it is the presence of pasture and hemlock spruce forests round Quebec that has caused large leather trade. Many barks are used as medicines.

Barley, a cereal plant whose grain is chiefly used for malting purposes. There are several species, but in the United Kingdom the spring barley, the long-eared, and the winter kinds are mostly cultivated.

Barlow Lens, a modification of the object-glass of the telescope, increasing its magnifying power without the loss of light which would ensue from the use of an eyepiece of shorter focus. Named after Mr. Peter Barlow, Professor of Mathematics at Woolwich, 1806-1847.

Barnacle is a kind of crustacean, often found in large numbers attached to the bottoms of ships, rocks, or timbers, under water. There is also a species of goose called the barnacle.

Barometer, an instrument for measuring the weight or pressure of the atmosphere, and was invented at Florence by Torricelli, pupil of Galileo, in 1644. Ordinarily, it is a glass tube 3 ft. long, filled with mercury, and inverted into a vessel also containing mercury, this causing the liquid in the tube to descend a few inches, leaving a vacuum at the top. The pressure at all points in the same horizontal plane of a liquid being equal, the surface of the mercury, after the inversion of the tube, cannot remain in one plane as when the atmosphere is pressing equally, but must rise when the air gets heavier and fall when the air gets lighter. Gay-Lussac's barometer is siphon-shaped, with two scales graduating in opposite directions to a zero point: Bunters's is a slight improvement on this. (See also *Aneroid*.)

Baronet is a title instituted by James I. The first baronet was Sir Nicholas Bacon, but numerous others were made about the same time, the fee charged for the honour in each case being £5,000. It is the lowest of hereditary titles, and is pretty freely dispersed among those who distinguish themselves in trade, industry, politics, or special civic service. James I. placed the limit of number of baronets at 200. To-day there are in Great Britain over 1,200.

Baron of Beef is a double sirloin, not often seen in these days, but common in olden times at court and civic feasts.

Barons. The first baron created by letters patent in this country was John Beauchamp de Holt, Baron of Kidderminster, on Oct. 10th, 1387. Of course there

were barons long before that; but the origin of the rank is more or less lost in antiquity, along with that of the name. It has been derived from the Latin "baro," signifying "a simple or foolish man, a block-head." The old German "bar," meaning "man," is considered more probably the origin. Sicut connects it with the verb "to bear," suggesting that the first meaning was "bearer," "porter." In old legal diction, "baron et feme" merely meant "man and wife."

Barque, a three-masted vessel without a mizen top-sail. The term, however, is often applied to almost any small ship.

Barracks are buildings for the lodging and accommodation of soldiers, officers and men, and exist in all towns where bodies of troops are stationed. It was not until towards the end of the 18th century that barracks began to be erected, and even down to the close of the French War in 1815 the provision in this direction was very defective. After the Crimean War the barrack system was thoroughly re-organised, and in London, at Aldershot, and in the garrison towns many fine and extensive barracks have been put up in recent years.

Barrel Organ, a musical instrument in which the music is made by a barrel or cylinder, set with pins and staples, which rotate so as to open the valves for admitting the wind to the pipes. Though common at one time, they are now largely superseded by piano organs.

Barriolades are temporary street fortifications usually erected by insurgents at times of revolution, and the most notable have been those of Paris. In 1830, 1848, and during the Commune disturbances of 1871 they were much resorted to, and were the scenes of many sanguinary conflicts.

Barrister is a person qualified to practise at the English or Irish Bar. A barrister in practice in England must be a member of one of the four Inns of Court—Lincoln's Inn, the Inner Temple, the Middle Temple, or Gray's Inn. Admission is obtained by passing certain examinations, keeping twelve terms (extending over 3 years), and paying certain fees. The ranks and degrees of barristers are 1. Barristers ordinary, who wear stuff gowns; 2. King's Counsel, who wear silk gowns, and are admitted within the Bar; and 3. Serjeants-at-law, an order now practically extinct, no fresh appointments having been made in recent years.

Barrow is an ancient artificial earth-mound supposed to be a burial-place, and found in many parts of Europe. There is one at Silbury Hill, near Marlborough, which covers over 5 acres, and rises to a height of 120 ft. Sometimes they are formed of stones, and receive the name of cairns. The Roman tumulus was of a similar description.

Bar sinister, a term often improperly used to describe the two diagonal lines drawn from left to right, from the sinister chief to the dexter base of an heraldic shield, and supposed to be a mark of illegitimacy. The right term is "bend sinister," and it is not absolutely certain that the illegitimacy interpretation is the correct one.

Bartizan is a small battlemented turret at the top of a tower.

Basalt Rocks are dark coloured, and of igneous origin, and occur either in lava currents, as at Mull and Staffa, or as intrusive sheets, like the Edinburgh Castle Rock and Salisbury Craig. One of the most noted examples of basaltic columns is that of the Giant's Causeway in Ireland.

Basanite, a smooth black siliceous mineral, or flinty jasper; a crypto-crystalline quartz, sometimes styled the Lydian Stone. An alloyed metal being rubbed across basanite, the mark of colour left will indicate the nature and depth of the alloy, hence it obtains its name, which signifies, in Greek, "a touchstone."

Base, a chemical term denoting that which combines with an acid to form a salt. It is always a compound body, and the oxide of either a metal or of an elementary group possessing the power of a metal.

Basili Council of, was the last of the three great Reformation Councils held in 1431-1443.

Bashi-Bazouks, irregular Turkish troops, consisting of a rough but brave class of men from the Asiatic provinces.

Basilisk is a kind of lizard of aquatic habits, possessing an elevated crest (which it can erect or depress at will) running down the centre of its back.

Basques are an old race living in the Pyrenees, with a language of their own, different from all other languages, and enjoying ancient privileges of a curious kind.

Bas-Relief ("low relief"), a term used in sculpture to denote a class of sculptures, the figures of which are only slightly raised from the surface of the stone or clay upon which the design is wrought.

Bass, a genus of fish with spiny fins, of the Perch family, found in the sea only in Europe, but inhabiting fresh waters in America.

Bassoon, a musical wind instrument of three octaves, the bass of the reed band. Invented by an Italian canon in 1539.

Bastille, a term originally used to denote any old French castle, but gaining its chief significance by being the name of the former State prison of Paris, destroyed by the mob on the outbreak of the French Revolution in 1789.

Bastinado, a beating, administered on the soles of the feet, formerly used with great frequency in China, Turkey, and elsewhere in the Orient.

Bastion, an earthwork standing out from a rampart, of which it forms a principal part. Usually five-sided, the fifth side opening into the interior of the fortification. The front face of an ancient Roman bastion was generally convex and semicircular.

Bat, an order of mammals, with fore-limbs held together by a membrane that serves the purpose of a wing. It has small eyes and large ears, and is of nocturnal habits, only emerging from its concealment at the approach of darkness. Bats are mostly insectivorous. The Vampire-bat, which sucks the blood of sleeping animals, occurs only in South America.

Bath Brick is made exclusively at Bridgwater, Somersetshire, and there only because the river Parrett deposits, for a distance of a few hundred yards, the peculiar compound of sand and slime of which its familiar blocks are composed. Farther up the stream the silt contains too much mud; lower down the proportion of sand is too great. Every ebb, therefore, the workmen remove the soil from this favoured spot which Dame Nature has placed there with the previous tide.

Bath, Order of, was established by Henry IV. in 1599, and is the second in rank of English knightly orders, the Garter coming first. At first it was a military order only, but since 1847 has had a civil division also. In the Order are three classes: G.C.B., or Knight Grand Cross of the Bath; K.C.B., or Knight Commander of the Bath; C.B., or Companion of the Bath. Companionship of the Bath does not carry knighthood or entitle to the prefix "Sir." The King is the head of the Order. The badge is a crimson ribbon and star, with the motto "Tria juncta in uno."

Bathos is an unconscious lapse from the sublime to the trivial, and is often the result of over-eagerness to be impressive.

Bath-stone is a kind of limestone found in quarries near Bath, and of the oolite formation. It is soft and easily worked when "green" from the quarry, and becomes hard with exposure in suitable places.

Batrachia, an order of amphibians, of which frogs and toads are typical representatives. The young of these animals are tadpoles, and grow from eggs or spawn, at first living entirely in the water. The subsequent developments, including the substitution of lungs for gills, are rapid and interesting.

Battalion, a body of infantry, 1,066 strong on a war footing, and organised in eight companies, and commanded by a lieutenant-colonel, assisted by two majors, an adjutant, eight captains, and sixteen lieutenants. Two or three battalions may be combined to form a brigade.

Battering Ram, a military apparatus mounted on wheels, and composed of a heavy, iron-bound beam,

which was impelled with great force upon the walls of a beleagued place.

Battery, a number of cannon with their equipment of men and horses. A field or horse-battery usually comprises six guns, a mountain-battery four 7-pounder guns, a siege-battery four heavy guns. The equipment in men and animals varies, however, according to circumstances.

Battle-axe was the great weapon of defence in early times, but it gave way to the arrow and spear.

Battlement, a raised wall running along the top of a building, with embrasures through which an enemy could be fired upon. At first solely military, later it was frequently used as an architectural ornamentation.

Battles involving immense slaughter have been fought in recent wars, but past records reveal even more serious carnage. In the wars of the French Revolution and those of Napoleon, which surged backward and forward over Europe from 1793 to 1815, it is estimated that the French lost two millions in killed alone. In nine of the battles in which Napoleon himself took part, the losses were as follows:—

Battle.	Men engaged.	Killed and wounded.
Austerlitz . . . 1805	148,000	25,000
Jena . . . 1806	98,000	17,000
Eylau . . . 1807	133,000	42,000
Friedland . . . 1807	142,000	34,000
Eckmühl . . . 1809	145,000	15,000
Wagram . . . 1809	370,000	44,000
Borodino . . . 1812	263,000	75,000
Leipzig . . . 1813	440,000	92,000
Waterloo . . . 1815	170,000	42,000

In the Peninsular War, England left fifty thousand dead and the French a quarter of a million behind them in Spain. At Salamanca we lost 15 per cent. of our troops, and at Albuera 65 per cent. In the Crimea the total losses of Russia and the Allies were put at 480,000, and Britain lost 22 per cent. of her men; but there were no great decisive battles with enormous slaughter. The American Civil War, which lasted from 1861 to 1865, involved a loss of six hundred thousand men. In a frontal attack by General Grant at Coldharbour, in 1864, ten thousand men fell in less than ten minutes. The following were the losses in the chief battles:—

Battle.	Men engaged.	Killed and wounded.
Sharpsburg . . . 1862	128,000	21,910
Fredericksburg . . . 1862	190,000	26,971
Chickamauga . . . 1863	128,000	35,100
Gettysburg . . . 1863	162,000	37,000
Wilderness . . . 1864	170,000	20,000

In the campaign of Sadowna, which lasted only seven weeks, the casualties numbered 57,000, or over 8,000 a week. The chief battle was that of Königgratz, where the forces engaged were 417,000, and the killed and wounded 26,000. In the seven months of the Franco-German War, 1870-71, the killed and disabled numbered 371,751. A million Germans and 710,000 Frenchmen took the field, and the following were the casualties:—

	French.	Germans.	Total.
Killed	41,000	19,782	60,782
Died of wounds . . .	36,000	20,710	56,710
Died of sickness . . .	45,000	24,239	69,239
Disabled	116,000	89,000	205,000

Totals . . . 238,000 233,751 371,751

In four of the principal battles the following were the results in killed and wounded:—

	French.	Germans.	Total.
Woerth	32,000	11,000	43,000
Mars-la-Tour . . .	26,000	16,900	42,900
Gravelotte	28,500	20,200	48,600
Franz	30,000	13,300	43,300

In the Russo-Turkish War of 1877-78, with a total loss of nearly 200,000, the only notable battle was before Plevna, when in the course of a protracted siege there fell in a single day 28,000 out of 80,000 Russians engaged. In the more recent Russo-Japanese War many of the battles were of the

most deadly character. At the battle of Liau-yang the Russian losses in killed were nearly 20,000, and the Japanese losses about 18,000. At Sha-Ho, the Russian casualties were estimated at 60,000, the Japanese at 10,000; and the battle of Mukden, in which nearly a million soldiers were engaged, was even more sanguinary. It is too soon to give accurate figures in regard to the battles of the present war (1914-15), but the engagements have been enormously more fatal than those of any previous war recorded in history. In less than twelve months more soldiers have been killed than in all the Napoleonic battles put together, and one single battle is responsible for the loss of more lives than were sacrificed in the entire Boer War, the numbers engaged and the terribly destructive character of the guns, shells, bombs, and other instruments of death being of a scale and of a power never before brought into play.

Battle is the term applied to the modern practice of employing beaters to force game to a certain point where sportsmen are in waiting with guns to shoot it.

Bauble, a short stick or wand, surmounted by a representation of a human head, ass-eared, carried by the fools and jesters of olden days.

Bauxite, a mineral, mainly consisting of the oxides of iron and aluminium.

Bawbee, an old Scotch copper coin, equivalent to one halfpenny of to-day.

Bayeux Tapestry is believed to have been wrought by William the Conqueror's Queen, Matilda, and represents 72 scenes relating to the Norman Conquest. It is 230 feet long by 20 inches wide, and was executed for Bayeux Cathedral.

Bayonet, a weapon taking its name from Bayonne, where it was first made about 1660. It was originally fitted into the gun-barrel, but General Makay, in 1680, introduced the socket-bayonet, which allows the gun to be fired with the bayonet fixed.

Bay-salt, a coarse kind of salt obtained from the salt marshes of certain parts of the English and other coasts, and drawn from sea-water allowed to settle in saltens or salt ponds.

Bay-window projects and is usually semi-octagonal or semi-hexagonal in plan; the bow-window forms the segment of a circle.

Bedellium, a kind of gum-resin formerly used in medicine. It is of bitter taste and strong odour.

Bedelometer, a cupping-glass, fitted with a siphon and exhausting syringe; substituted in surgery for the employment of the living leech, and preserving for examination the blood drawn.

Beacon, a fire-signal, given from the top of hills, was much in use in early times. According to the *Iliad*, Agamemnon thus signalled the fall of Troy to Mycenae; and the English signalled the approach of the Spanish Armada. On many prominent parts of our coast, and on inland heights, beacon-pans were erected when a French invasion was feared.

Beads have been used as personal ornaments from the earliest times, valuable specimens having been found in the tombs of the ancient Egyptians. They are made of various materials, from precious stones to glass. In the latter form they have been and are much used as objects of barter in dealing with uncivilised races.

Beagle, a small hound that tracks by scent, and formerly used for hare hunting.

Beans are the seeds of certain foot-plants of many varieties, and include the common bean, the French bean, the kidney bean, or haricot. India and South America yield special species. All beans possess a high proportion of nutritive qualities, the common bean excelling wheat in that respect. The Greeks and Romans used white and black beans in balloting for magistrates, the black meaning an adverse vote.

Bear, a genus of mammals of the *Plantigrade* section of carnivora, using the entire sole of the foot in walking. Found in most parts of the globe except Australia. The common brown bear was once spread over the whole of Europe, including England, but now is confined to the northern forests of Europe and Asia. The black bear of America

is nearly allied to the brown species. America has also a larger kind, the grizzly. In the Arctic regions the polar bear forms a distinctive species, and differs from the rest in being exclusively carnivorous. The other bears feed mostly on roots, fruit, honey, etc. Bear-baiting was one of our "Old English sports," but was made illegal in 1835.

Bear-blind, the English name for *Calyptrogon*, a genus of convolvulus, called also "hooded blind-weed."

Beard is one of the distinctive signs of manhood, and was regarded as a sacred possession by ancient races. The Jews were proud of their beards and wore them through the days of their Egyptian bondage, though the Egyptians shaved. The Greeks and Romans of the ancient days mostly shaved, and the term barbarous (beard-wearing) was applied for a long period to people who were considered out of the pale of polite society. Still, beards were largely worn even then, and came to be associated with wisdom. Alexander the Great prohibited beards among the soldiery, and soldiers in all countries have since been generally headless. Beards have been taxed occasionally, as in Russia by Peter the Great, and at an earlier date in England. In modern times beards have been worn or unworn as a mark of male leader has, for no particular reason, so the example of shaving of the beard continues to be largely practised in all ranks of life in this country, though the moustache, once despised by the English, has now been in vogue for many years. Bearded women occur occasionally, and have sometimes been exhibited.

Beau-ideal is a conception of the mind, of some perfect object free from all shortcomings.

Beauxite. (See *Bauxite*.)

Beaver, a genus of mammals of the *Rodentia* order, with short, scaly ears, and webbed hind feet. It attains a length of from 24 to 4 feet, and lives in communities where possible, as in North America, constructing dams and habitations. Beavers are found in Russia and Poland. Beaver skins are of considerable commercial value, but are not imported as largely as formerly, other skins besides that of the beaver being now used for hat making.

Bed of Justice, the seat occupied by French kings in their House of Parliament, but not used later than 1787, by Louis XVI. at Versailles.

Bedchamber, *Lord's of the*, are twelve members of the royal household, who wait in turn upon the Sovereign on State occasions. They are controlled by the Groom of the Stole. Each lord receives £1,000 a year, and the Groom of the Stole £2,000.

Bedford Level comprises parts of Norfolk, Suffolk, Huntingdon, Northampton, Lincoln, and Cambridge, generally called the Fens, 70 miles long and 20 to 40 miles broad. It was waste until reclaimed and drained by two Dukes of Bedford in the 17th century, but now is for the most part fertile agricultural land.

Bedlam (a corruption of Bethlehem) was a priory in Bishopsgate, afterwards converted into a hospital for lunatics. The asylum was transferred to St. George's Fields, Lambeth, in 1815. The term "bedlamite" came to be applied to any person behaving like a madman. (See *Abraham-men*.)

Bed-mouldings, the mouldings of a cornice in Roman and Grecian architecture occurring immediately beneath the corona.

Bedouins are Arabs who live in tents and are spread over the whole of Northern Africa and Western Asia. They are divided into independent tribes, each governed by its own sheikh. They live on their flocks and herds, rice, etc., and are prone to robbery. Supposed to be the descendants of Ishmael.

Bedrope, an ancient term signifying the day's work in harvest-time exacted from tenants by their overlord in the feudal period.

Beds are of ancient origin, and came in with civilisation. In ancient Egypt, Greece, and Rome they were used, and the form has remained much the same in all ages. The Anglo-Saxons had wooden beds in recesses, the bedding being of straw. The "four-poster," which remained the model for many centuries, was introduced in the 16th century, and many

handsome specimens of carved and heavily draped beds of this kind, on which kings and queens have slept, are still preserved. At the Kye House they show the Great Bed of Ware, capable of accommodating a dozen people, and said to have belonged to Warwick, "the King-maker." It is of oak and bears the date of 1499. Within the last half-century, metal has come into general use for bedsteads—iron, brass, and steel being used. The advantages they possess are many. In the matter of bed equipment—bedding, mattresses, etc.—the improvement has been marked in recent years. The old-time feather-bed still remains for those who appreciate the luxury, but health is best promoted by harder substances.

Bee, a familiar family of insects of the *Hymenoptera* order, mentioned in the Bible and by many writers of antiquity, and a most interesting object of study. Aristotle and Virgil in ancient times, and Lord Avebury and Maeterlinck in recent times, have described their industrial queendoms and forms of government. The hives are tenanted by the queen bee; working bees, or neuters, being imperfectly developed females; and drones, males. The workers do all the honey gathering and storing, and the constructing of the cells, which are divided into store cells and egg cells, the queen—and there is but one queen to a hive—only lays eggs and governs, obtaining complete obedience from the workers. The drones form less than one-tenth of the population of the hive, and their lives are over in about three months. At the proper time, and then only, the queen quits the hive for her "nuptial flight," followed by the drones, which gather round her in the air. After impregnation she returns to the hive, and begins to fulfil her mission of egg-laying, depositing egg after egg at the rate of some 200 a day in the cells prepared for them. The eggs which produce the workers are first laid, then those of the males, and finally those of the females. The process of hatching the perfect insect takes about 21 days. When the new queens arise among the newcomers, the old queen tries to destroy her rivals; and where there are more than one young queen, the same enmity exists between them, and in apiculture they have to be separately guarded and liberated singly at wide intervals. Each queen attracts to herself a swarm of her own, and in this way other bee colonies get formed in fresh hives.

Beech. The common beech is one of the finest of our trees, with massive trunk and smooth, shiny bark. Its horizontal branches, covered with close foliage, make a deep shade. Its wood is rather brittle, but capable of being utilised in the manufacture of many industrial articles.

Bee-eater, a pretty bird of the genus *Merops*, frequent in North Africa, and an occasional British visitor. It has a black-bordered yellow patch on the throat; but is mainly brownish red, with blue markings on the head, and has long tail-feathers of a greenish hue.

Beef-eater is the name given to the Yeomen of the Guard. They originally formed part of the guard of Henry VII. The word is a corruption of *buff-eater*, one who attends the buffet. Their dress dates from Henry VIII., who, some have said, made them dress in thick costumes so that they might look as fat as himself.

Beef Eust Tree, a shrub of the oleander genus, common in the United States (*Shepherdia argentea*), called sometimes also the Buffalo-berry.

Beak, a tool of the pick order, specially designed for the use of miners.

Bealzebub, corruption of Baal or Bel, whom the Philistines worshipped at Ekron.

Beer, a liquor made by fermentation from malted barley and hops. A similar drink was known in Egypt long before the Christian era, and was probably introduced into Great Britain by the Romans. Beer contains from a 10 to 5 per cent. of alcohol. Ale, small beer, and bitter beer are varieties depending on strength and proportion of hops. Porter and stout are prepared like beer, but owe their peculiar flavour to the use of a proportion of malt heated so as to convert part of the sugar to caramel.

Beer-money was payment to non-commissioned officers and soldiers in the English army in lieu of beer or spirits, but abolished in 1873 and pay substituted.

Beesha, a genus of bamboo indigenous to the Malay Archipelago and Chittagong, having the seeds enclosed in a fleshy pericarp.

Beeswax, the secretion of the bee, used for the formation of the cells or honeycomb of the hive; when melted it is what is commercially known as yellow wax, white wax being made by bleaching. Being impervious to water, it acts as a good resistant and is an article of much utility.

Beeswing is a fine filmy tartar formed by age in port and other wines, so called from the fanciful resemblance of the deposit to a bee's wing.

Beet, a genus of plants of the Chenopodiaceae order, and a native of the shores of the Mediterranean, but now cultivated as a food, pickle, and vegetable. The leaves of the white beet are used like spinach. The red variety has a thick root, and it is estimated that 12 per cent. of its whole weight is sugar, hence the rise and growth of beet sugar.

Beetle, an order of coleopterous (or six-legged-winged) insects, comprising over 300,000 different species. They possess two pairs of wings, the hinder ones being, but rarely used for flight. They mainly remain concealed during day-time, and are found on land, in water, on plants, among stones, in the ground, and in wood. They feed on animal and vegetable matter, and have a value in destroying noxious insects and putrefying substances.

Beig or Bey is a Tartar and Turkish title (equivalent to prince, or chief) given to superior military officers and distinguished foreigners. The latter form of the word, bearing an analogous meaning, is commonly met with in Tunis and Northern Africa generally.

Beigum, a Turkish lady of princely rank, or a female relative of a native Indian ruler.

Bahemoth is the name of a large four-footed beast referred to in the Book of Job; probably the hippopotamus, but by some considered to be the elephant, and by others the rhinoceros.

Bahring Sea Arbitration, between Great Britain and the United States, in regard to the seal fisheries, took place in 1893 in Paris, resulting in the sea being declared open beyond the territorial limits, according to the British contention, and in certain restrictions for the preservation of the seals.

Bel and the Dragon is the title of one of the apocryphal books of the Old Testament; or, more precisely speaking, certain supplementary chapters to the "Book of Daniel" of an apocryphal character. First appeared in the Septuagint, but the Jewish Church did not accept it as inspired. In 1546 the Council of Trent declared it to be canonical.

Belfry was in early times a kind of movable tower used in sieges for defence. Gradually the term was applied to any watch-tower or alarm-bell tower, and finally to any tower where a bell was hung.

Belgae, the name given to the Teutonic and Celtic tribes inhabiting certain parts of Gaul and Britain in and before the time of Julius Caesar.

Bell is, literally, "a hollow body of metal used for making sounds." Bells are usually made from bell-metal, an alloy of copper and tin. Small bells used for interior functions are often made of silver, gold, or brass. Ordinary hand-bells are of brass. From the 7th century large bells have been used in England in cathedrals, churches and monasteries. The largest bell in the world is the Great Bell of Moscow, which weighs 198 tons, is 19 feet high and 60 feet round the rim. It was cast in 1653, but fell down in a fire and remained sunk in the earth until 1877, when the Emperor Nicholas caused it to be placed on a platform, and the interior of it is now used as a chapel. The largest bell in use is another in Moscow which weighs 128 tons. The Great Bell at St. Paul's, cast in 1680, weighs 27½ tons, and is the largest in the United Kingdom. Other gigantic bells are the Great Bell at Peking (52 tons); Nanking (22 tons); Cologne Cathedral (25 tons); Big Ben, Westminster (13 tons); Great Peter, York Minster (to tons). The Curfew bell is rung in some parts of

England to this day, notably at Ripon. The number of changes that can be rung on a peal of bells is the factorial of the number of bells. Thus four bells allow 24 and eight bells 40,320. For private houses of any pretensions, hotels, etc., electric bells are now generally in use, the old wire pull-bell being largely superseded.

Belladonna (*Deadly Nightshade*), a well-known poisonous wild plant found in Southern Europe and Western Asia. The alkaloid atropine it contains is valuable in medicine, although a large dose is poisonous.

Bell, Book, and Candle. To curse by "bell, book and candle" was a form of excommunication in the Romish Church ending with the words—"Do to the book, quench the candle, ring the bell."

Belles-Lettres, a term that embraces all descriptions of elegant literature—rhetoric, poetry, history, criticism, philology, etc.

Ben, or Benn, a Gaelic word signifying mountain or "mountain head." It occurs in many places in the British Isles, as Ben Nevis, Ben Lomond. Takes the form of Pen in Wales and Cornwall.

Benedictine, the hymn of the three children in the fiery furnace, used in the morning service of the Church of England when the *Te Deum* is omitted.

Benedictines are followers of St. Benedict, and have at different times consisted of various religious orders, such as the Cistercians, those of Canadotti and Vallambrosa, the Silvestrines and the Celestines, also the Præmonstratensians and the Grandmontensians. They were introduced into England at the beginning of the 7th century, and were called the Black Monks (not to be confounded with the Black Friars, who belonged to the Dominican order) because of the colour of their dress. Several Benedictine monasteries and convents still exist in the kingdom. There were also Benedictine nuns.

Benedictus, a canticle used in the morning service of the English Church, and deriving its name from the first word of the Latin version, *Benedictus*, blessed.

Benefit of Clergy, a privilege allowed in ancient times to clergymen offenders, exempting them from punishment by the ordinary courts and leaving the bishop's court to deal with them. The privilege was extended in Tudor times to all who could prove their ability to read, and Ben Jonson was among those who took advantage of this easy ordeal, after he had killed a man in a duel. Elizabeth withdrew most of the old privilege, however, and in 1827 the system was entirely abolished.

Benefit Societies (see *Friendly Societies*).

Benovolence, a name given to demands made by certain English kings for loans from subjects or corporations. Abolished in 1688.

Benevolence Tree, the old name of the honeysuckle on both sides of the Scottish Border.

Bengal Light is a blue signal-light, used at sea in time of shipwreck, is of nitre, sulphur, and the black sulphide of antimony, in proportions of 6, 2, and 1 respectively.

Bennet Bishop (the 12th January) is the anniversary of the English St. Benedict, usually called Bennet Bishop. He first introduced Gregorian music, glass-making, mullioned windows, and painting, and was foster-father and tutor of the Venerable Bede.

Benthamism, the philosophy of Jeremy Bentham, the essential principles of which were that the end and aim of human life is happiness, as exemplified in the presence of enjoyment and the absence of pain. Communities and individuals, it taught, should strive after the greatest happiness of the greatest number, the effort to achieve the greatest good of all being accounted in itself the highest morality.

Benzene, a compound of carbon and hydrogen, discovered by Faraday, and the starting-point in the production of aniline dyes.

Benzole Acid is produced by heating gum-benzoin and condensing the vapour, and by other means. Of use in bladder diseases.

Benzoin, a gum-resin used in perfume making, and obtained from an East Indian tree (*Styrax benzoin*).

Has numerous commercial uses, and is employed medicinally in chronic lung complaints.

Barberine, a basic substance, extracted from the bark of the greenheart tree of Guiana, valuable medicinally as a febrifuge and tonic in substitution for quinine.

Barbary is the name given to the inhabitants of the mountainous parts of Barbary and the northern portion of the Sahara, who are supposed to be the descendants of the aborigines of North Africa. They live mostly in the fastnesses of the Atlas Mountains, and number about 4,000,000.

Bergamot, an essential oil obtained from the rind of a species of citrus grown in Calabria, and largely used in perfumery.

Berlin Congress, held at the conclusion of the Russo-Turkish War of 1878. All the European Powers were represented, and the Treaty of Berlin was the result.

Berlin Decrees, issued by Napoleon I. in 1806, with the avowed object of destroying the commerce of Great Britain, by setting up a state of blockade against this country.

Beryl, a mineral, of which the emerald is a variety. Is yellowish, greenish-yellow, or blue, and is found in veins which traverse granite or gneiss, or embedded in granite, and sometimes in alluvial soil formed from granite. Translucent specimens of this lapidary's gem are found in Brazil, of the best aquamarine description. The beryl of Scripture was probably the chrysolite or topaz.

Berzelium, a recently discovered chemical element resulting from thorium dioxide, and possessing immense illuminating power. Dr. C. Baskerville, of North Carolina, was its discoverer, and gave it its name in honour of Berzelius, the Swedish chemist who discovered thorium.

Bessemer Process, a metallurgical process superseding puddling with certain descriptions of cast-iron, and for the manufacture of steely iron for many purposes. First disclosed before the British Association in 1856; the process consists in the forcing of atmospheric air into molten cast-iron.

Betel, the leaf of an Indian climbing plant, of pungent, narcotic properties; much used by the natives of India, who chew it. It is destructive to the teeth, and reddens the gums and lips.

Bethlehem, the birthplace of Jesus and of King David, is now an inland village of white stone houses, about six miles south of Jerusalem. Famous for its Church of the Nativity, built like a cross, and below which is a crypt where the Saviour is said to have been born.

Betting—despite State and organised general effort—is more largely indulged in to-day than at any previous period, and exists among all nations. Numerous prohibitive laws have been passed in England with a view of minimising the evils of the practice; but so long as horse-racing remains a national pastime, betting is not likely to decline, it being in connection with racing events that betting is chiefly carried on. Professionalism, as evidenced in the operations of bookmakers and tipsters, is an element of harm, but such people have no legal status. Betting houses have not had legal existence in England since 1852, and since 1874 advertisements of such houses, whether in or out of the Kingdom, have been illegal. No restrictions are placed, however, on betting on racescourses and at private clubs, so that one way and another betting continues among all classes, and instances are not few of "book-makers"—operating on some sort of system that precludes the possibility of serious loss—having made large fortunes. The first to adopt any special method in betting was William Ogden, in 1793. In France, in order to discourage bookmaking, a mechanical system called the *Parl-Mutuel* is sanctioned, which practically constitutes a lottery. Very large sums are frequently staked in England on the racing of horses, and many "plunging" young noblemen and others have been ruined by the craze. Apart from racing, many odd bets are recorded. A man named Corbet, in the knee-breeches days, laid and won his bet that his leg was the handsomest

in the Kingdom. In George II.'s reign a bet was made that the slums of London could produce an uglier man than Heidegger, the King's Master of the Revels, and an old hag of St. Giles was produced who at first seemed to outdo the German in hideousness of visage, but on a woman's bonnet being placed on Heidegger's head the palm of ugliness was at once awarded to him. Sir Mark Sykes, a Yorkshire baronet, was giving a dinner party at his house in 1809, and, the conversation having turned upon Napoleon and the risks of assassination he ran, Sir Mark offered to pay any one, who would then and there give him 100 guineas, a guinea a day as long as Napoleon lived. A clergyman, named Gilbert, took the bet, paid the money down, and for three years afterwards continued to receive his guinea a day; then the squire repudiated the transaction, and there was a law-suit, the baronet winning on the ground that the bet was illegal. Where the betting propensity exists there is no event too trifling or too ludicrous to form the subject of a wager. A Bill for the Suppression of Betting in Streets and Public Places passed through Committee in the House of Commons in 1906, under which an offender may be arrested without warrant.

Bhang, a hemp plant containing highly narcotic and intoxicating properties. The natives of India chew its leaves and seeds, and the drug called *bhang* is prepared by the natives.

Bible—The Old Testament and the New Testament. The Old Testament—the prehistoric portion—consists of 39 books, and is divided into three parts: (1) the Law, (2) the Prophets, (3) Miscellaneous Writings. The Hebrew text as now printed is called the Massoretic. The apocryphal books, excluded from the Bible used by the Protestants, are accepted by the Roman Catholics. (See *Apocrypha*.) What is called the King's Bible, on which the Coronation oath is taken, excludes the Apocrypha. The books of the New Testament were written in Greek, and are believed to be the work of the Apostles, or contemporaries, but there is no definite knowledge on the subject. The whole of the Bible was translated into Latin (*Vulgate* version) in the 2nd century. Portions were translated into the Anglo-Saxon in the 8th century, and the Venerable Bede put the greater part of St. John's gospel into English, but it was not until 1536 that a complete English version appeared—the Coverdale Translation. The Authorised Version dates from the reign of James I. A Revised Version belongs to recent days (New Testament, 1881; Old Testament, 1885), but it has not entirely displaced the Authorised Version.

Bible Christians, a sect founded in Cornwall in 1815 by Mr. W. O. Bryan, who had been a local preacher in the Wesleyan body. It obtained a large following, chiefly in the south-west counties of England, and was credited in 1851 with 484 places of worship, with a congregational aggregate of 34,612 at evening service. During the 1840s and 1850s the return of Bible Christian communicants placed the total in Great Britain at 35,508. This particular Free Church has now closed its separate existence by amalgamating under one governing body—the United Methodist Church—from the end of 1907 forward with the Methodist New Connection and the United Methodist Free Church.

Bible Society is an association for spreading a knowledge of the Scriptures. The first is believed to have been founded in New England in 1649 and re-incorporated in 1661; whilst in Great Britain the Society for the Propagation of the Gospel dates from 1701, and the Society for the Promotion of Christian Knowledge from three years earlier. A Bible Society was established in 1712 by Baron Hildebrand von Causten, at Halle. Our British and Foreign Bible Society was founded in 1804. The Religious Tract Society has also had a long and useful career; and in 1801 the National Bible Society of Scotland was formed, though it should be said that the Society in England for Promoting Christian Knowledge had been incorporated as far back as 1709. The British and Foreign Bible Society devotes more than one-half of its expenditure to diffusing the

authorised English version of the Bible. It has issued some 300,000,000 copies of the Holy Scriptures (complete and in portions) printed in nearly 400 different languages and dialects.

Bibles with Nicknames. Among the earlier versions of the Bible were many instances of curious nicknames, and for the more scarce of these Bibles, nicknames from their early large price is realised whenever one is offered for sale. The Vinegar Bible in the late Duke of Cambridge's sale derived its appellation from the misprinting of the word "vinegar" for "vineyard." The Breches Bible, also known as the Geneva, was issued in 1560 with a preface by Calvin, it owed its name to the mention of a garment not usually associated, out of Scotland, with women—a garment now known as "aprons," Genesis iii. 7. Mr. Gladstone had a copy of the Bishops' or Treacle Bible in his library at Hawarden. It was printed by Richard Jugge in 1572, and Jeremiah vii. 28, in it runs, "Is there not treacle at Gilead; is there no phusion there?" And this volume has the variorum rendering, Judges ix. 53, of "All to break his head" as "All to break his brayne panne." In another edition the rendering is, "But a certain woman cast a piece of millstone upon Abimelech's head and brake his brayne pan." Lord Haddington has a copy of the "Treacle Bible" in his pew in Tynemouth Church, Newcastle. The Breches Bibles and a copy was sold at Lord Ashburnham's sale, June, 1807. An early issue of the Bug Bible in 1555 gives Psalm xci. 5, as "need to be affracted for any bugges by night," but the issue of 1560 has "afraid" for "affracted." The modern word "terror" was not the first substituted, "fear" appearing in the issue of 1608. In one Bible the word "rosine" was used where "balm" now occurs, with a note "For at Gilead did grow most sovereign balm for wounds." Of Bibles which are rare, that of 1551 is sometimes said to be the scarcest. In 1661, what has been styled the "Wicked Bible" was published, receiving the name from its having the word "not" omitted from the Seventh Commandment. A similar error occurs in a small pearl Bible of 1653, in which St. Paul is represented as asking "Know ye not that the unrighteous shall inherit the Kingdom of God."

Bibliomania, divination by certain references at hazard to pages, lines, or verses of the Bible, and frequently resorted to in olden times.

Bicycle, a two-wheeled machine (successor to the velocipede of three wheels) which about 1880 came into vogue. It then consisted of one high wheel, driven by pedals, and a small connecting wheel behind. In its present form, with two wheels of even circumference, pneumatic tyres, and effective gearing, it is a much more manageable affair, and has obtained a very wide adoption by all classes, young and old, male and female. The motor-bicycle, the latest form of this two-wheeled road machine.

Bilboes, a word derived from Bilbao, in Spain, are long bars of iron, secured by a lock, and used for imprisoning offending sailors on board ship. The bars clasp the feet. The punishment is styled "putting in irons."

Bill, in Natural History, is the horny, lipless, and toothless jaw of a bird, the upper and lower portions being generally equal, except in birds of prey, when the upper is longer. The bill is used for seizing and dividing food, for fighting, nest-building, etc.

Bill of Rights, or Declaration of Rights, was the document setting forth the conditions upon which the British throne was offered to William and Mary in 1688. This was accepted and ultimately became an Act of Parliament.

Billeting is a system of feeding and lodging soldiers and their horses by quartering them on the inhabitants of a town. It is a privilege that can be compelled to be granted.

Bilboes, a game played on a rectangular table with cues and balls. Louis XIV. made it fashionable. The earliest English description of it is in Cotton's "Complex Gamester" (1694). Among the most

famous scorers are Roberts, Bennett, Peall, Taylor, Dawson and Stevenson. (See Pears' "Dictionary of Sports and Pastimes.")

Binnacle, a table or box on which the compass of a ship is placed, and stands in front of the steering apparatus and steersman.

Biograph. (See *Kinematograph*.)

Biology deals with the phenomena of living matter, describing its properties, growth, changes and conditions. Starting with the protoplasm, it traces the operations of life through the various classifications, the metamorphoses undergone in plant and animal life, and their development, distribution, organism, and functions. The study of biology has in recent times been advanced in all directions—by naturalists, zoologists, botanists, physiologists, chemists, and others—and, studied as a whole by Darwin, Huxley, Tyndall, Wallace, and other brilliant scientists, now fills a large space in the scientific work of the time. Darwin's *Origin of Species*, formulating the theory of evolution in plants and animals, greatly broadened the scope of biological inquiry, and led to a better comprehension of the causes of variation. In the same connection, the discoveries of Pasteur and Lister are to be noted, as whatever adds to our understanding of the laws of life is an extension of the science of biology. The investigation of such phenomena as sleeping sickness, under the auspices of a British Government Commission, and the subjection of micro-organisms to the influence of the emanations of radium, in various Continental and American laboratories as well as those of our own country, belong also to the recent activities of biological science.

Birch, a genus of forest trees of the alder order, and only found in northern regions. In Britain the birch grows to goodly proportions, and forms one of the most graceful of our trees, with its drooping branches and egg-shaped leaves. It has a white bark, which is used for tanning, steeping nets, sails, etc. The Red Indians make canoes of it.

Birdlime is an adhesive substance placed on twigs of trees, walls, wire netting, or elsewhere, to trap birds, and is prepared from the middle bark of the holly, mistletoe, or distaff thistle. It is also made from flour admixed with other adhesives.

Bird of Paradise, a bird allied to the crows, found almost exclusively in New Guinea, the males having the most beautiful plumage of long branching feathers.

Birds, or *Aves*, are next to mammals, the highest order of animal life. They are vertebrate, warm-blooded, oviparous, are covered with feathers, and possess wings. In construction they vary greatly, according to their classification and their conditions of life. Birds are of three distinct classifications—*Carinate*, possessing keeled breast-bones and having power of flight; *Alti*, having, rail-like breast-bones, and incapacity of flight; and *Sessure*, a lizard-tailed genus, of which only one species has been known—the extinct *Archæopteryx*.

Biretta, a four-cornered head-covering worn by ecclesiastics of the Roman and English Churches, and varying in colour according to the rank of the wearer. A cardinal's biretta is red, a bishop's purple, a priest's black.

Biscayan Forge, a furnace (sometimes called a Catalan furnace), in which iron is obtained, directly from the ore, in a malleable condition.

Bishop is a Christian ecclesiastic or officer exercising supreme spiritual authority in the diocese or province to which he is appointed. In the Church of England there are at present 37 bishops, all nominated by the Crown. Two of these are archbishops—Canterbury and York. The bishops are as follows:—Archbishop of Canterbury, salary £15,000; Archbishop of York, £10,000; Bishop of London, £10,000; Durham, £7,000; Winchester, £6,500; Ely, £5,500; Bath and Wells, Oxford, and Salisbury, each £5,000; Carlisle, Lincoln, Norwich, Peterborough, and St. David's, £4,500 each; Gloucester, £4,500; Bangor, Chester, Winchester, Exeter, Hereford, Lichfield, Liverpool, Llandaff, Manchester, Ripon, St. Asaph, and Worcester, £4,200 each; Rochester, £4,000; Dur-

mingham, Newcastle, and Southwell, £3,500 each; St. Alban's, £3,200; Bristol, Southwark, Truro, and Wakefield, £3,000 each; and Sodor and Man, £1,500. In 1911 three new bishoprics were established, Sheffield, Chelmsford, and St. Edmundsbury and Ipswich. The salaries of English bishops amounts to over £186,000. The Archbishops of Canterbury and York, and 24 bishops, in order of seniority, sit in the House of Lords. The (Disestablished) Church of Ireland has 2 archbishops, each receiving £2,500, and 11 bishops, and the Episcopal Church in Scotland 7 bishops. There are 90 Colonial bishops.

Bismuth, a brittle, reddish-white metal found in various rocks, and readily fusible. Melts at a temperature of about 560° C. Chloride of bismuth and nitrate of bismuth are its chief compounds.

Bison, a ruminant animal, comprising the European and the American bison. The former is found in Lithuania and the Ural and Caucasus Mts. The American bison is practically extinct in its wild state.

Bittern, a bird of the heron genus, with long, loose plumage on the front and sides of the neck. It is a solitary bird inhabiting marshes, but rare in Britain.

Bitumen, a combustible mineral substance, the term embracing various minerals (so-called) oils and resins, such as naphthalene, petroleum, mineral pitch, asphalt, mineral caoutchouc, etc. Of the bitumen-impregnated resins, the most economically important—*Elaeuterite*—is only found in three places—the Odun lead mines, in Derbyshire; a coal mine at Montrelais, near Angers, in France; and a coal mine near South Bury, in Massachusetts.

Bivalves, a term applied to shell-fish whose shell consists of two valves, lying one on each side of the body, such as mussels, oysters, and cockles.

Blackbird, or *Merle*, a familiar song bird in Britain, Europe generally, and parts of Northern Africa.

Blackcock, the male of a variety of black-feathered grouse, abundant in Britain and Scotland, almost as large as an average domestic fowl. It has touches of white on wing coverts and under the tail.

Black Death, a fierce epidemic or plague, which carried off thousands all over Europe in the 14th century, one-third of the population of England dying from it. This terrible disease has disappeared, happily, as mysteriously as it made its appearance. Its appalling violence may have been in a measure attributable to unsanitary conditions.

Black Hole of Calcutta was the place where a number of English were confined in 1756 by order of Suraj-ul-Dowlah. Into a noisome space, 20 ft. square, 146 persons were driven, and only 23 were found alive the next morning.

Blacking, a composition of powdered boneblack, oil, raw sugar, or molasses, vinegar, and sulphuric acid, greatly refined and improved in recent years, and used as a boot and leather polish.

Black-lead, graphite or plumbago, a mineral found in Norway, Austria, Spain, Canada, the United States, Ceylon, etc.

Black-letter, the Old English or Gothic type first used in printing books.

Blankets of the best and thickest kind are composed wholly of wool, but what are known as "Union" blankets are of cotton warp and wool weft, the cotton being hidden by the process of "teazing" which brings the woollen pile to the surface.

Blast-furnaces were invented by Darby early in the 18th century, and had the effect of bringing coal into general use as a furnace fuel. Wood had been previously used. The hot-blast introduced by Neilson in 1828 was a still further improvement, the temperature of the air being raised to from 600° to 1,100° by passing through heated pipes.

Blasting, a method of loosening or breaking masses of solid matter, accomplished by means of explosives.

Bleaching, the art of whitening textiles. The old method—still continued by some manufacturers—was to bleach by exposure to the sun; but chemical bleaching is now general, a matter of time being utilized for the purpose. Sun-bleached linen has advantages in durability that are not possessed by chemically bleached fabrics.

Blonde (commonly called Black Jack) is a principal

ore of zinc, and is widely distributed. It is a sulphide of zinc.

Blenny, a group of marine fishes with spiny rays. part of the fin running along the back. Several species are found around the British coast.

Blight, a noxious influence exerted upon vegetation by miasma or atmospheric conditions, or by the attacks of parasitic fungi, or injurious insect life.

Blind People. There are about 1,200,000 blind people in the world, the most serious sufferers from this affliction being the natives of our Indian Empire, whose blind number 443,653; Russia in Europe comes next with 247,000; then Egypt with 148,280. In the United Kingdom there are about 35,000 blind persons, over 25,000 of whom belong to England. The proportion of blind people to each million inhabitants is highest in Egypt, 13,132; in Russia it is 1,492; in India 1,408; Bulgaria 1,320; Spain 1,275; the United Kingdom 780. Belgium is lowest with 429 per million. Many organisations exist for the benefit of the blind.

Blind-worm, or Slow-worm, a reptile of the lizard order. Found in most parts of Europe; non-venomous. Its principal food is the slug.

Blockade, an operation for capturing a town or fortress, preventing the besieged from receiving supplies. A naval blockade renders the entrance or egress of the enemy's ships from a port.

Blockhouses form an important feature of guerilla warfare. The houses are of logs or corrugated iron, and covered in with earth to render them fire and bomb proof, and loopholes are made for firing through. Arranged in lines, and surrounded by barbed wire fencing, with a line of troops aiming at trapping the enemy, effective captures are often made.

Block-system, on railways, establishes a method of signalling whereby the distance between two signal boxes can never be occupied on the same line of rails by more than one train at a time.

Blood, the life-giving and sustaining circulating fluid of animals. In animals having a backbone it is red; in the lower animals it is colourless. Blood is either arterial or venous; that is, either contained in the arteries which carry the fluid from the heart to the tissues, or in the veins through which it is returned to the heart to be re-purified. Under the microscope, blood reveals a composition of nearly colourless liquid, and a large number of corpuscles, some red, some white. The red corpuscles distribute the oxygen from the lungs, the purpose of the white corpuscles remains something of a mystery.

Bloodhound, a dog celebrated for its keen scent, and deriving its name from its power of following a trail of blood. Bloodhounds are sometimes used for hunting, and for tracking fugitive criminals.

Bloodstone, a green variety of quartz, spotted with jasper, like blood-drops. A kind of hematite iron-ore used for burnishing is also called bloodstone.

Bloody Assize, the special series of trials presided over by Judge Jeffreys, when over 300 prisoners who had been concerned in the Monmouth Rebellion were sentenced to death under circumstances of atrocious cruelty, and nearly 1,000 others were condemned to be sold as slaves.

Blowpipe, an instrument used for driving a blast of air or gas into a flame to increase its temperature. Used in soldering metals, and in analytical chemistry and mineralogy for ascertaining the nature of a substance under great heat.

Blue-bird, a habitant of North America, deriving its name from its deep blue plumage. It is one of the few song birds of America, and is a familiar object of the woods from the early spring to November.

Blue-books are Acts of Parliament, reports, or papers issued by order of Parliament, and receive the name from their usually being enclosed in blue covers. Blue-books have been issued since 1682.

Blue-breast, a name sometimes given to the blue-throated warbler (*Phylloscopus sibilatrix*), a pretty little native British bird.

Blue-coat School. (See *Christ's Hospital*.)

Blue-gum, a species of Australian tree, yielding eucalyptus oil, an antiseptic medicament of great use in bronchial affections.

Blue Monday, the Monday immediately preceding

Lent. When in the 16th century, many churches were bedecked internally with hangings of blue.

Blue-peter, a flag of blue, with a white square in the centre, used by British seamen as a signal for sailing for recalling boats, etc.

Blue Ribbon, a term in general use to express the highest prize in any form of competition, the Derby being the "blue ribbon" of horse-racing, and so on. The expression is derived from the highest order of English knighthood—the Garter—which has for the chief part of its insignia a garter of blue velvet.

Blue-stocking, a name given to women of literary pretensions. The term was first applied to the members of a London literary club formed in 1750. There was a Bas-bleu Club in Paris.

Blue Vitriol, sulphate of copper, used for dyeing purposes, principally for after-treating certain dyed colours to render them fast.

Blunderbuss, a short, bell-mouthed musket with wide bore, capable of firing many balls at once, and much used in the 17th century.

Boa, a term applied to a family of snakes of large size, some attaining a length of 30 ft. They are not poisonous, but kill their prey by crushing—constriction—hence the name "boa constrictor." They occur both in the Old World and the New.

Boar, or Wild Hog, an animal largely distributed over the forest regions of Europe, Asia, Africa, and South America. It has a longer snout and shorter ears than its descendant the domestic hog, and is provided with tusks. Having to forage for itself, it is a more active and intelligent animal than the pig of the sty, and offers good sport to the hunter.

Board of Trade, a department of the British Government forming a permanent Committee of the Privy Council and presided over by a member of the Cabinet. Its constitution dates from 1786, but the business of the office is wholly controlled by the President. A Committee appointed in 1904 to inquire into the position and duties of the Board of Trade recommended that the President should be on the same footing as a Secretary of State, with the title of Minister of Commerce and a salary of £5,000.

Boat, an open vessel, propelled by oars or sails, or both. The boats of a ship of war are the launch, barge, pinnace, yawl, cutters, jolly boat and pig; of a merchant vessel, the launch, skiff, jolly boat or yawl, stern-boat, quarter-boat, and captain's gig. Every British passenger ship is compelled to carry a launch and proper equipment of life-boats.

Boat-bill, a genus of birds inhabiting the humid parts of South America, and belonging to the sub-family of the True Herons, technically called *Scoropæ*. The popular name comes from the peculiar conformation of the broad bill of the bird, somewhat resembling in shape two pointed spoons brought together, in repose, on their concave sides.

Bobbin, a spool to hold yarn, silk, or thread for spinning or sewing.

Bobberite, a colourless mineral, found in Peruvian guano in the form of six-sided prisms; a tribasic phosphate of magnesia, it is named after Bobierre, who first described it in 1868.

Bode's Law, an astronomical law discovered or confirmed by Bode in 1778, which indicates the relative distances of the planets from the sun. Thus, we write the numbers:—0, 3, 6, 12, 24, 48, 96; each, after the first, doubling the one preceding it. If 4 be added to each of these numbers, they give the numbers 4, 7, 10, 16, 28, 52, 100; these totals being, approximately, the distances at which the principal planets are apart from the sun, the real distances being:

Mercury. Venus. Earth. Mars. Jupiter. Saturn.
3.9 7.2 10 15.2 52.9 95.4

There is only a failure in the 28.

Bodleian Library, connected with the Oxford University, and named after Sir Thomas Bodley, who in 1564 restored and added greatly to its treasures. A copy of every book published in the United Kingdom has, under the Copyright Act, to be sent free to this library.

Boer War lasted from the 11th October, 1899, when the Boers invaded Natal, to the 31st May, 1902, when

the Peace Treaty was signed at Pretoria. At first the operations of the British troops, under General Buller in Natal and Lord Methuen in Cape Colony, were unsuccessful, and disastrous reverses were sustained at Magersfontein, Stormberg, and Colenso. Lord Roberts was then sent out as Commander-in-Chief, with Lord Kitchener as Chief-of-Staff, and from February, 1900, when Kimberley was relieved, the campaign was steadily pursued on victorious lines. Cronjé surrendered a few days later, Ladysmith and Mafeking were relieved, and after that the struggle was mainly of the guerilla order.

Bog, a piece of marshy ground, upon which it is difficult to base a firm foundation. There are many in Ireland, but few remain in England, by reason of the effective drainage systems that now exist.

Bog iron-ore is a kind of brown hematite found largely in the peat bogs of Ireland.

Bog-oak, a kind of oak that is found buried in peat bogs, and is of a deep black colour throughout.

Bohemian Brethren, a religious society of the 15th century (Hussites), who were persecuted and compelled to worship in secret. Prague was their headquarters. The Moravians sprang from them.

Boiler, a vessel of wrought iron or steel in which steam is generated. Generally the cylindrical shape has been adopted; the marine boilers are cheese-shaped, and the locomotive boiler is constructed with the tubular flue, the fire-box being placed at one end.

Boiling-point is the temperature at which the pressure of the vapour is equal to the pressure of the atmosphere. Under increased pressure the b.p. rises and under lesser pressure, as on the top of a mountain, it is lower. As represented on the Centigrade scale, the b.p. of water is 100°; alcohol, 78°; and ether, 35°. On the Fahrenheit scale, the b.p. of distilled water is 212°.

Bola, a red clay containing oxide of iron, much used in adulterating articles of food that are naturally red. There are several varieties: Armenian, Blois, Bohemian, and French, differing in their shades.

Bombs are hollow iron (or other metal) balls, charged with explosive material and fired by clockwork or other mechanism, or alternately by a time fuse.

Bonol, an antiseptic oil combining disinfectant and healing properties.

Books were originally formed, it is supposed, from heath-bark. At first, collected writings were produced in the form of rolls; then in volumes; and, when the art of printing spread, they began to be issued in bindings upon the principle still in vogue. The earlier books were massively bound, with metal clasps and bands, and samples centuries old survive to show the durability of their workmanship. Books are technically described, according to their sizes, as 4to, 8vo, (quarto, octavo), and so on, the names indicating the number of folds in a sheet. Thus, when a book is printed on a sheet folded in half, it is known as *folio* and consists of 4 pages; if doubled up again, it gives a *quarto*; and if *quarto* size is doubled once more it is a *sextio* and consists of 16 pages; and by a further doubling we get *octavo*; while other methods of folding give *duodecimo*, *18mo*, *24mo*, *32mo*, etc.

Book of Common Prayer contains the services of the Church of England, and is in the main the same as that of Edward VI., with modifications introduced at later dates.

Book of the Dead, a book of ancient Egyptian prayers, copies of which have been found in mummy cases.

Boomerang, a weapon used by the Australian aborigines, made of wood, in the form of a parabola, one side flat, the other round. When thrown forward into the air, it whirls round and rebounds behind the point from which it was projected. Used both as a missile of war and for killing game.

Borax, the borate of sodium, found in Peru, California, Tibet, and elsewhere; it acts as a mild alkali upon the alimentary canal, and makes a useful gargle in inflammation of the throat and mouth membranes, and is also a valuable preservative of food.

Bororo, a race of men of an average height of 6 ft. 4 in., inhabiting a region in the south-west of Brazil.

Borough English, an English custom still obtain-

ing in a few ancient places, whereby, in default of a testamentary disposition to the contrary, landed property descends to the youngest son in exclusion of elder brothers.

Botany is the science of the vegetable kingdom, and its broad classifications comprise Structural Botany, Physiological Botany, Systematic Botany and Economic Botany, terms which explain themselves. Plants comprise an axis or main shaft, which bears the branches, leaves, and flowers; the root, which is usually in the ground, is the medium by which the nourishing substance necessary to the plant's life is obtained from the earth. The stem is the leaf-bearing part of the plant; when hard, it is called woody, when soft, herbaceous. Branches are shoots from the stem, and of the same structure; leaves grow from the branches, and are of various forms. A leaf comprises two parts, the stalk and the blade. The flower is a clusterous modification of leaves which becomes the medium of the plant's reproduction. Plants are flowering or non-flowering.

Boulevard, in its original significance, meant the rampart of a fortified city; it is now given to any important thoroughfare planted with trees, especially in Paris.

Bounds Beating, an old custom still occasionally indulged in, and taken part in by the parish clergyman and officials, who on Ascension Day make the round of the parish boundaries with long sticks of willow, with which they beat the ground at the more important boundary points.

Bounty is an extra recompense given as an inducement to the performance of any special service or work, and in particular to soldiers and sailors.

Bow, an instrument for propelling arrows, and in the days when it was a weapon of war, was usually made of yew or ash, and was about 6 feet long with an arrow 3 feet. It was the weapon with which Crecy, Poitiers, and Agincourt were won. The crossbow was Italian and was adopted in France, but did not become popular in Britain. For its use in archery as a diversion, see Pears' "Dictionary of Sports and Pastimes."

Bow Bells is the peal of the London church of St. Mary-le-Bow, Cheapside, within sound of which one must be born to be entitled to be called a "cockney."

Bower-bird an Australian bird which constructs among the branches of trees a bower-like shelter to which it resorts more especially during the breeding season, though not laying its eggs there.

Bowie-knife is a long one-edged knife of great strength, invented by Col. Bowie, and much used in America at one time.

Box, a well-known plant bearing a very hard and fine wood, and common to both Europe and Asia. It is of two varieties—a shrub that grows 8 or 10 feet high, and a dwarf variety used for garden edging that only grows to a height of a few inches. Box is the best medium for wood engraving, and in the North of England is used for knurr (wooden balls) for the game of "knurr and spell."

Boxers, a section of Chinese who in 1866 rose against foreigners and were guilty of many massacres and atrocities, the movement being especially directed against missionaries. A combined European force was sent out against the Boxers in 1900, and not only was the rising suppressed, but large indemnities were demanded and conceded.

Boxing Day is the day succeeding Christmas Day, and gets its name from its custom of giving Christians boxes on that day. It is a Bank Holiday in England.

Boycott, a term used in connection with a person that the general body of people, or a party or society, refuse to have dealings with. Originally used when Captain Boycott was declared apart from recognition by the Irish Land League.

Boy Scouts. (See *Scouts*.)

Boys' Brigade, a movement connected with churches, missions, and Sunday schools for giving military training to boys from 12 to 18. There is a membership of from 50,000 to 60,000 in the United Kingdom, and the total strength throughout the world amounts to nearly 200,000.

Bracelets have been in use as personal ornaments

from the most remote times. They are frequently referred to in the Bible, and were worn by men as well as women in ancient Egypt. In modern times they have attained great beauty and variety of form and setting, and, decked with gems, constitute a rich adornment to a well-shaped wrist.

Brahminism, the chief religion of the Hindus, is an adaptation rather than an adoption of the doctrine set down in the sacred books of *Vedas*, and was built up on the system of caste. In Brahminism there is a supreme God, with a Divine Triad consisting of Brahma, Vishnu, and Siva. There are four castes: the Brahmins, or priests; the Kshatriyas, kings and soldiers; the Vaisyas, who are traders; and the Sudras, or slaves. Many other divisions and subdivisions of caste have been developed from these four, and the preservation of caste is regarded as a Hindu's foremost duty.

Brake, the common English name of a fern of the Fern genus of Polypodiaceæ, of abundant and vigorous annual growth.

Bramble is another name for the blackberry bush, of which there are over 30 species in Britain, and numberless varieties.

Branding for crimes is still common in some countries, and was not entirely abolished in England until 1822.

Brandy, obtained by distilling, is chiefly prepared in France, the Cognac variety being the best.

Brandywine Battle of, fought between the British and the Americans in 1777 resulting in victory for the former.

Brank, a sort of bridle, with gag, which in olden times used to be fastened to the head and mouth of scolds as a punishment, the offender being compelled to parade the streets and stand at the market cross.

Brass is a compound metal containing two-thirds of copper to one-third of zinc, and, while being harder than copper, is more easily worked.

Brass, *Monumental*, an engraved plate of brass let into or affixed to the grave-slabs of more or less important persons, in many ancient churches, and bearing representations of their effigies, armorial coats, etc.

Brazil Nut, the seed of a large myrtle common in Brazil, and grown in clusters of from fifteen to fifty nuts, enclosed in huge woody coverings.

Bread-fruit Tree is a native of the South Sea Islands, and supplies the natives with a wholesome food. The fruit is the size of a melon and contains a white pulpy substance, which is roasted before being eaten. The plant has been successfully acclimatised in the West Indies.

Breakwaters are artificial structures of stone or concrete built across the entrances to harbours to stay the force of the sea and leave the inner portion calm and safe for ships. There are fine breakwaters at Plymouth, Dover, Aberdeen, and other places.

Breeding, in one of its senses, implies the art of improving animals by selection or treatment intended to produce certain special qualities of their progeny. It is an art that has of late years been practised with highly successful results, in the breeding of horses, sheep, cattle, fowls, cage-birds, fish, economic "insects," etc., some of the results reached being very remarkable, almost amounting to the production of new species.

Brevet is a special commission entitling an officer to a rank in the army higher than that which he really holds in his own regiment, without increase of pay.

Breviary (meaning abridgement) is the short service book of the Roman Catholic Church, and in its present form was fixed by Pope Pius V. in 1568.

Brewing is the art of preparing a fermented beverage, chiefly beer and ale, from an infusion of grain. Intoxicating drinks have been brewed in all ages and countries from the most remote times. In Britain, brewers have been among the richest of our citizens, and several prominent members of the body have been ennobled. There are in the United Kingdom nearly 5,000 breweries, over 3,000 of which do not produce 1,000 barrels each a year; while one firm brews over 2,000,000 barrels, and another firm 1,000,000 to 1,500,000 barrels. The

tendency is for amalgamation of the industry into huge joint-stock concerns to the gradual extinction of the small individual brewer. The number of brewers decreased by nearly one-half from 1804-5 to 1867-8. (See *Beer*.)

Bricks are uniformly shaped and sized portions of baked clay used for building. All the ancient nations made bricks, at first only baking them in the sun, and afterwards by means of fire. The Israelites were employed in brick-making during their captivity in Egypt. The Romans used bricks for all ordinary building purposes, and introduced them into England. In these days brick-making is mainly done by machinery, by methods which greatly increase the power of production as well as improve the quality of the bricks. Tiles are also made by machinery.

Bridal, a nuptial feast, properly "bride ale," "ale" being formerly the term indicating a festival of any kind in this country.

Bridewell, a house of correction formed out of the old palace of St. Bride, Blackfriars, by Edward VI. Demolished in 1864. The name is still frequently applied to buildings used for a similar purpose.

Bridge originated in Russia, and derives its name from the Russian "biritch." Lord Brougham is said to have introduced the game into England from France. See Pears' Dictionary of Sports and Pastimes.

Bridges are structures for continuing roads across streams, rivers, ravines, or roads at a lower level, and, until the adoption of the arch by the Romans, were of rude construction. Indeed, until the 18th century the art of bridge-building was but in its infancy; it has only been since road traffic assumed large proportions, by the development of industries and increase of population, that the art has come to be practised on a great scale on scientific lines.

Wood was the first material used for bridge ways; then came stone; while towards the end of the 18th century iron was brought into use; and now steel has largely superseded iron. Among the most famous of ancient bridges is that of St. Angelo at Rome, built by Hadrian, 13 A.D. The first stone bridge across the Thames was completed in 1509, and upon it were a number of timber houses. This Old London Bridge, as it was called, stood until the 18th century. The Bridge of the Malto at Venice dates from 1388. Old Westminster Bridge and old Blackfriars Bridge were built about the middle of the 18th century. Waterloo Bridge was opened in 1815. Suspension Bridges of the modern type were introduced about 1820. Telford's Menai Suspension Bridge, begun in 1819, had a catenary span of 570 feet. The first tubular form of bridge was the Britannia, across the Menai Straits, designed by Robert Stephenson and built by Sir William Fairbairn. The Victoria Bridge across the St. Lawrence, at Montreal, is a tubular structure 700 feet long. Other famous bridges are the Niagara (suspension); the Forth Bridge (cantilever), with two central spans of 1,770 feet and two anchor spans of 680 feet long, including approaches; the London Tower Bridge (suspension), 900 feet from bank to bank, and approaches 1,260 feet on the north and 780 feet on the south sides. The greatest bridge in the world is that which was opened on the 2nd April, 1905, and crosses the Zambezi, being the most important link in the Cape to Cairo railway.

Bridge-water Treatises, a series of eight theological treatises written by eminent divines in accordance with a bequest of the Earl of Bridge-water, who left a sum of £8,000 for this purpose at his death in 1800.

Bridge-water Trust. This famous Trust was formed by the third and last Duke of Bridge-water, famous as being the founder of inland navigation, who amassed part of his great wealth by speculation in the canal which bears his name. He died unmarried in 1803, and bequeathed his property, with a priceless collection of pictures, to his nephew, George Granville, Marquis of Stafford (first Duke of Sutherland), with reversion to his second son, then aged three years. The latter, in 1833, assumed the

arms and name of Egerton, was raised to the peerage as Earl of Ellesmere, and is the grandfather of the present holder of the title. The first came to an end in 1904, an event that was celebrated by Lord Ellesmere with great festivities, at which 600 tenant farmers and heads of departments were entertained at Worsley Hall, near Manchester, the earl's country seat.

Britannia Metal, a silvery-white alloy composed of tin, copper, zinc, antimony and bismuth, and occasionally lead, capable of a high polish, and used for various kinds of metal wares.

British Association for the Advancement of Science, The, was founded in 1831, to stimulate scientific inquiry and promote intercourse between men of science, and holds an annual session of a week's duration, in some provincial town. In 1884 met in Montreal, in 1887 in Toronto, and in 1909 at Winnipeg. It is divided into twelve sections—mathematics and physics, chemistry, geology, zoology, geography, economics and statistics, mechanics, anthropology, physiology, botany, education and agriculture. The President each year is one of the most eminent scientists or public men of the time.

British Museum, opened in London at Montagu House in 1759, was founded by Sir Hans Sloane's collection, which the British Government acquired for £50,000, though worth four times as much. In 1823, the present building in Great Russell Street was started, and completed in 1847, from designs by Sir R. Smirke. The library building was opened in 1857, and its large circular reading room, 140 feet in diameter and 100 feet high, is probably the finest in the world. The library, to which copies of all books published in Great Britain have to be sent free, is a great treasure-house of books, ancient and modern. George III.'s library of 70,000 volumes, valued at £300,000, was added to it by a gift of that monarch's successor in 1823, and many other valuable private collections have been derived in a similar way. The museum portion contains a series of invaluable collections of sculptures, antiquities, bronzes, jewels, geological specimens, rare manuscripts, and books. The Natural History Department is now separately housed at South Kensington. The British Museum is supported by Parliamentary grants, varied in amount, according to the annual requirement. A large new wing, including marble exhibition room, students' print room, and print exhibition room, was opened in May, 1914.

Broadade, a special kind of cloth in which the design or pattern is woven in relief on the surface of the material, and in great vogue in former days, wrought in gold and silver threads.

Brönze is an alloy of copper and tin, sometimes with zinc, iron, or lead added.

Brownies, according to old country superstition, were household fairies who in the night-time performed various domestic duties for the good people who had won their favour.

Buccanniers were pirates and something more. They formed organised fleets in the 17th century and as their depredations were chiefly directed against Spanish shipping, the British Government did not specially interfere with their operations. One commander of buccanniers, Henry Morgan, was knighted, and made Governor of Jamaica. They ceased to be of much effect after England and Spain made peace.

Bucephalus, Alexander the Great's celebrated war-horse, whose memory his owner perpetuated in building a town bearing the animal's name.

Buckingham Palace, erected for George IV. in 1825, was also the London residence of Queen Victoria, and of Edward VII., the latter improving it considerably. The present king, however, has made great extensions to the royal home, which thus becomes for the first time of real palatial importance.

Buddhism is supposed to have originated in India about the 6th century B.C., the founder being a native prince named Siddhartha Gautama. Around this personality many strange and mystic myths gathered, Buddha representing the highest mystic

state of human existence, the supreme of being, beyond which is no recognition of a God. In Buddhism, *Nirvana* is the perfecting of knowledge and the completest attainment, and involves the realisation of developing conditions tending to the highest blessing. There is no caste in Buddhism. Researches of recent years have brought to light much that had been obscure in this doctrine, and in its more modern phases Buddhism has been freed of much of its superstitions, its idolatrous practices, and its Vedic gods, and remains in its purity a philosophical system in which self-conquest and universal charity are leading elements. Buddhism, driven out of India by the Brahmans, is now the religion of the people of China, Japan, Ceylon, Siam, Burma, and Nepal—some 450,000,000 in all.

Buffalo, a species of wild ox, of stronger build than the domestic variety, and still existing in large numbers in the wilds of Africa, but nearly extinct in Western America.

Building Societies, or clubs, have existed in England since the beginning of the 19th century, but it was not until 1834, when the Friendly Societies Act was passed, that building societies began to spread. In 1836 a short Act gave additional privileges. The early building societies were of the terminable order—that is, they were limited to a specified number of members, and ceased to exist when all the members had received the value of their shares. "Permanent" building societies began to take shape about 1840, the members consisting of two classes—investors, and those who obtain advances upon mortgage. This system worked so satisfactorily that new building societies sprang up in all parts of the kingdom, and at the present time there are over 1,700 such societies in the United Kingdom, with the total funds of nearly eighty millions sterling. The failure of the "Liberator" Society in 1895, through gross mismanagement and fraud, shook public confidence in building societies somewhat, but the passing of a stringent Act making it compulsory on all societies to file regular returns of the property held by them proved of good service.

Bullets and Billots. During the Franco-Prussian War, no fewer than 127,000 projectiles were thrown into Mezières for a loss of 400 lives. At Sedan, however, firing was more deadly, for 9,000 combatants perished from the 240,000 projectiles fired. This was a far heavier mortality than that which attended the defending Spaniards at the landing of the American marines at Santiago. There, from a fusillade from machine-guns and rifles alone of 25,000 rounds, only sixty-eight casualties resulted. The workmanship of the Japanese in their war with China was by no means good, but in 1904 against the Russians they showed far deadlier effectuality. British firing in the last Boer War was better than in former wars, but hardly a subject for boasting; but in the great war (1914-15) it has reached a high standard of efficiency, in spite of a terrible wastage of projectiles.

Bundestag, the German Federal Council, consists of fifty-eight members, elected by the different States. Its function is to confirm, amend, or reject the Bills passed by the Reichstag.

Eye Plot, of 1603, sought to force an extension of toleration to Roman Catholics and Puritans from James I., by capturing and detaining His Majesty until he assented, but it failed.

G

Caaba, (see Kaaba).

Cab, the name given to a one-horse four- or two-wheeled public vehicle, came into vogue in the early part of the 19th century. Eight four-wheeled cabs (or cabriolets, as they were called) were licensed in 1833, and as they were run at much lower rates than the hackney-coaches they were destined to supersede, they soon became popular. The hansom cab, the invention of Mr. Joseph A. Hansom, came a few years later. There are to-day

over 16,000 cabs in London alone, despite the increasing competition of motor and other buses, and the large development of electrified trams and underground railway traffic. The recent introduction of the motor-cab, fitted with taximeter, has been a great success, and has led to the adoption of the taximeter system on a large number of ordinary cabs, with minimum 6d. fares.

Cabal, a term derived from the French word *cabale*, is used to designate any small faction of political or private intriguers, and gained prominence and special significance when applied to the unpopular Ministry of Charles II.'s time, whose initials—Clifford, Ashley, Buckingham, Arlington, and Lauderdale—composed the word.

Cabala, a mysterious Hebrew theosophy, which had its rise in the 10th century, and was announced as a special revelation, enabling the Rabbins to explain the hidden meanings of the sacred writings. This was carried to excess, later cabalists pretending to read signs and evidences in letters, forms, and numbers contained in the Scripture.

Cabinet, in England, is the governing political executive body of the State, comprising the chief officers of the executive, with the First Lord of the Treasury (usually the Prime Minister) at its head. The ministers generally recognised as having the prescriptive right to Cabinet rank are, in addition to the Premier, the Lord Chancellor, the Lord President of the Council, the Lord Privy Seal, the Chancellor of the Exchequer, the five Secretaries of State, for the Home, Foreign, Colonial, War, and Indian Departments respectively, and the First Lord of the Admiralty. To these, more—usually comprehending nowadays the Presidents of the leading Committees of the Council, *i.e.*, the Board of Trade, the Local Government Board, the Board of Agriculture and Fisheries, and the Board of Education, as also the Secretary for Scotland, the Chief Secretary for Ireland, the Postmaster General, and the Chancellor of the Duchy of Lancaster—are added at the discretion of the Prime Minister. The Cabinet, as representing one party, dates from William III. The Ministry includes all the members of Government who are also Privy Counsellors.

Cable is the rope or chain that is attached to a ship's anchor. Chain cables are now in general use except for very deep waters. A cable's length is 200 fathoms, 300 yards. Submarine telegraph cables are composed of copper wires.

Cacao is an evergreen tree, from 16 to 40 feet high, growing abundantly in tropical America, the West Indies, Ceylon, etc., yielding a nutritive fruit, from which cocoa and chocolate are manufactured.

Cachalot, a cetacean chiefly inhabiting the Northern seas, called also the sperm whale. The Mexican and South Sea sperm-whales, allied species, are found in warmer waters; all swim in schools.

Cacoe, a hole in the ground where food or travel impediments are stored, a term and practice introduced into America by French emigrants.

Cachet, *Lettre de*, was a private letter of State, signed by the King, much in use in France up to the time of the Revolution, for consigning obnoxious or troublesome people to prison without trial.

Cactus, a prickly plant, as the name implies, of exogenous nature and varied form and size, fleshy and succulent, and often leafless and of very abnormal shape. The "Indian fig" class have sessile flowers, which bloom at night and quickly die.

Cadets, a name given to a younger son of a noble family, and also applied to young men in training for officerships in the army or navy.

Caduceus, the name of the wand of authority borne by Hermes, or Mercury, being a plain rod, the fillets of which are in the form of snakes, surmounted by a couple of wings. A herald's staff of office is sometimes styled a caduceus also.

Caffeine, an alkaloid found in coffee and tea, possesses a bitter flavour, and is highly stimulative.

Calamagrostis, a botanical term used to indicate all the straws which lie above the chalk—that is, the "most recent" strata. Tertiary is an alternative and equivalent term.

Calque, a long narrow boat peculiar to the Bosphorus, and usually propelled by oars (from two to sixteen in number), and sometimes with sail.

Calringform, an hexagonal crystal of yellow-brown hue found on the Calringform peak in Scotland, and much used in jewellery ornamentation. The same kind of crystal exists in Brazil, India, and Cornwall.

Calorium, a widely diffused metal of light yellow colour, burning vividly at red heat. It is not found in a free state, but occurs in combination with most of the native silicates. Calcite, limestone, marble, and chalk are calcium carbonates.

Calo-spar (calcite) is one of the commonest minerals, and occurs in a wide variety of crystalline forms of the hexagonal system. It possesses the property of perfect cleavage, and easily splits up into rhombs.

Calculating Machines of many kinds have been from time to time devised. They are mostly multiplying or dividing machines. The first to attract special notice was that of Babbage, which was intended to calculate even algebraical problems, but it was never completed. Tide-predicting machines, machines for integrating differential equations, machines for adding, logical machines, calculating scales, etc., are all of the same class, but as it is impossible to endow a machine with brains, the services of these apparatus do not carry us very far.

Calendar, a collection of tables showing the days and months of the year, its astronomical recurrence, chronological references, etc. The Julian Calendar, introduced by Julius Caesar, fixed the average length of the year at 365 days. On this arrangement of the year, there was a loss of 11 minutes and 10 seconds per annum. The shortcoming was rectified by the Gregorian Calendar, introduced in Italy in 1582, but not adopted in England before 1752, when 11 days were dropped out of the calendar. The Gregorian year is 365 days, 5 hours, 49 minutes, and 46 seconds.

Calendering, a mechanical process by which textile fabrics are rolled and pressed to a smooth and even surface.

Calends, the first day of the month in the Roman calendar, when interest fell due, and proclamations as to the order of days were made.

Calico is white, unprinted cotton cloth, and received its name from Calicut in India, whence it was originally imported.

Caliph, the name given to the heads of the Moslem faith, and means successor—that is, successor to Mahomet. At first, the title could only be borne by direct descendants of the Prophet, but only four so-called "perfect" caliphs reigned after Mahomet at Medina. Then others of the Prophet's tribe succeeded. There were 13 caliphs at Damascus between 661 and 750, and 37 at Bagdad between that date and 1258, when the Turks overthrew the old dynasty and finally swallowed up the caliphate. The Sultan is now chief caliph.

Callisthenes, the art of exercising the muscles and limbs in order to increase their strength and improve the grace of form and movement.

Calmuks, a fierce, nomadic race inhabiting the wilder parts of Western and Central Asia, and of the Buddhist faith.

Calotype, the name of a class of pictures produced by a process invented by H. Fox Talbot about 1810, and something akin to the daguerrotype, introduced about the same time. Later photographic developments, however, superseded both.

Calumet, a sacred decorated pipe tobacco pipe used as a symbol of peace or war by the Indians of North America, the bowl being composed of soap stone, and the tube, which is long, being decked with feathers. To accept the calumet when offered is to be friendly, to reject it is to proclaim enmity. There is also a distinctive calumet of war used only on a declaration of war between tribes.

Camareilla, a term originally applied to a coteries of Court favourites, who, by their influence, practically directed the policy of Ferdinand of Spain in the second decade of the 16th century. The name has since come into use to denote any similar clique.

Cambrian Group of strata belongs to the Silurian series, and was so named by Professor Sedgwick because of its abundant development in Wales. It is the lowest and oldest strata containing fossil remains, which include zoophytes, molluscs, crinoids, worms, and crustacea.

Camel, a large ruminant quadruped, inhabiting Asia and Africa, where it is largely used as a beast of burden. There are two species—the Arabian camel or dromedary, with only one hump; and the Bactrian, or double-humped camel. They are of great commercial importance, and by their special structure, which admits of their holding reserves of sustenance and water that will last for a considerable period, are admirably adapted for the passage of the barren deserts. A camel carries a burden of 800 or 1,000 pounds without difficulty, and its cost of keep is small.

Cameo, the name given to a precious stone upon which some design has been carved in relief. Cameo cutting is an ancient art, examples in different coloured layers existing which date from 150 years before the Christian era. There is an agate cameo at the Sainte Chapelle, Paris, which measures 13 inches by 11, and depicts the apotheosis of Augustus. Shell cameos are now common. We have also cameo-pottery, of which Wedgwood-ware is an example.

Cameras are instruments by which a convex lens is made to reflect and depict the image of an external object upon a screen. It is constructed in the form of a box, in two compartments, and is, in fact, like the human eye, a camera obscura. Photographic cameras are made in many shapes and sizes, and specialised as landscape cameras, copying cameras, portrait cameras, snapshot cameras, Kodaks, and so forth. (See **Photography**.)

Camisards, a French Protestant party of the early part of the 18th century, originating in the Cevennes, and resorting to arms in support of their faith.

Camlet was the name of a very fine dress fabric, made from silk and camel's hair. In modern days there are many cheaper kinds of camlets, in the construction of which wool and goats' hair play an important part.

Camomile, a low, close, creeping, composite perennial plant, cultivated for its flowers, which are white with a yellow centre. Camomile flowers are of an exceedingly bitter taste, but an infusion of them is valued as a remedy for biliousness, and as a tonic.

Camorra, an Italian secret party largely composed of criminals, and at one time influencing politics considerably by their terrorising action. Naples was the birthplace of the movement, and, although many attempts have been made to suppress the Camorra, they still give trouble from time to time.

Camp, a place where soldiers are or have been encamped. Roman camps were entrenched and rectangular, with fosse and vallum. There were four gates, and the enclosure was laid out in streets, the broadest being 100 feet wide, the others 50 feet wide. Camps are much more elaborate under the modern military system. Among the permanent camps of instruction, those of Aldershot in England and Chalons-sur-Marne in France are best known.

Campaniles, or bell-towers, are usually detached from their parent church, but not always. The most famous are in Italy, and are lofty and elaborate structures. That of Giotto at Florence, in connection with the cathedral of Santa Maria del Fiore, is architecturally the finest in the world. Other famous campaniles of Italy are those of Cambrano (395 feet high) and Pisa (the Leaning Tower). The pointed campanile of St. Mark's, Venice, which fell a few years ago and has been rebuilt, is a much admired example. Campaniles as separate structures are seldom found in Great Britain; the finest is that of the Westminster Roman Catholic Cathedral. The bell-turrets of St. Paul's in London and St. Peter's at Rome are only a form of campanile.

Campus Martius was a large plain used by the ancient Romans as a military camping ground. It was situated between the Quirinal and Capitoline hills, and is to-day entirely built over and forms the heart of modern Rome.

Canary, a wine that from Tudor times to Georgian days was much consumed in this country, and is frequently alluded to in our older literature. It is a product of the Canary Islands, hence its name.

Candle-fish, so called from the fact that the Indians of North America utilise its dried oily body as a candle. It is a small fish abounding on the Pacific Coast.

Candlemas, an English and Roman Church festival in celebration of the Purification of the Virgin and the Presentation of Christ in the Temple, and deriving its name from the great show of candles made on the day (and February) in the Roman celebrations.

Canoe, a kind of light boat employed by many peoples in primitive times, made originally of a hollowed tree trunk, or of bark or skins attached together over a rude framework, and generally propelled by paddles. Large canoes were used by the islanders of the South Seas and elsewhere for war purposes. Canoes of to-day, employed in civilised lands for pleasure purposes, are very light boats, narrow in the beam, and are constructed from strong thin wood, galvanised iron, steel, water-proofed canvas, or other suitable material. Mr McGregor travelled thousands of miles in Eastern waters in his famous canoe, the "Rob Roy."

Canon, a term applied to signify a recognised rule for the guide of conduct in matters legal, ecclesiastical, and artistic, or an authoritative ordinance; thus we have Canonical Scriptures, Canon Law, etc. A Canon is also a dignitary of the Church, usually a member of a cathedral chapter in the Anglican communion, or in the Roman Church a member of an order standing between the regular monks and the secular clergy.

Canonical Hours were seven in number in the Western Church: Nocturns, or Matins and Lauds, before dawn; Prime, dawn morning service; Tierce, 9 a.m.; Sext, noon; Nones, 3 p.m.; Vespers, 4 p.m.; Compline, bed-time.

Canonisation, the entering of a person who has been dead over fifty years on the list of saints of the Roman Catholic Church, after proof of purity and distinction of life has been accepted. This having been done, a day is named for the future keeping of the anniversary of the saint's death, and thenceforward appears in the Church Calendar.

Canoeahou, an elastic, gummy substance extracted from various tropical trees.

Cap, literally any head-covering article of dress. The "Cap of Maintenance" is carried before the Sovereign at the Coronation, and is used symbolically in heraldry.

Capercaillie, a northern moor-bird, inhabiting Scotland and Sweden, and living on fir-shoots.

Capet, the family name of a race of French kings, founded by Hugh Capet in 987. The houses of Valois (1328) and Bourbon (1569) were of the same blood, and Louis XVI. was tried and sentenced under the name of Louis Capet.

Capital Punishment is the carrying out of the sentence of death. In Blackstone's time there were 26 offences punishable with death in England, but to-day murder is practically the only crime that constitutes a capital offence in this country. Capital, in this sense, literally means "affecting the head"—that is, life—of a person, and refers to the now obsolete punishment of decapitation.

Capitol, a term that was first applied to the Temple of Jupiter on the Capitoline Hill, Rome, completed in 507 B.C. It was several times destroyed by fire and rebuilt. The existing Capitol, a large portion of which serves the purpose of a museum, was erected from designs by Michael Angelo. In all the chief cities of the ancient Roman Empire there was a capitol or town-hall. In the United States the building occupied by Congress at Washington bears the name of the Capitol, and the halls of the legislative assemblies of the different States are named.

Capitoline, a zodiacal constellation between Sagittarius and Aquarius, figured out in ancient times as having the head of the goat and the hind part shaped like a fish.

Capstan, an apparatus on ships for raising anchors or other heavy work. It is of upright form and made of wood or iron, and turns on a vertical axis, moved by poles fitted into sockets in the upper part. On steamers the capstan is worked by steam.

Capuchins are members of a mendicant order of Franciscans, founded in the 15th century, and named from the capuch or cowl worn by them. They are still a numerous order, though freed from many restrictions applied to them in earlier times.

Caravan, a band of travellers or traders journeying together for safety across the Eastern deserts. These caravans sometimes form a very numerous party.

Carbohydrates, the name of a group of organic bodies containing carbon atoms allied with hydrogen and oxygen in the proportion in which they form water. Starch, sugar, glucose, cellulose, and gum are of this group.

Carbolic Acid results from the distillation of coal-tar, and is composed of carbon, hydrogen, and oxygen. In its pure state it crystallises and is almost colourless. In odour it resembles creosote. It is a valuable antiseptic, and is poisonous in large doses. Treated with certain acids and alkalis, it is used for various dyes.

Carbon, a chemical non-metallic element found in the diamond, graphite, and in the amorphous form of charcoal, coke, lampblack, soot, etc. Its distribution as an element extends through the whole of the animal and vegetable kingdom, and the number of its components are beyond enumeration.

Carbonari, members of a secret political society originated in Naples during the reign of Murat, and at one time very numerous. Their chief aim was to free Italy from foreign rule, and they exerted considerable influence in the various revolutionary movements in the first half of the 19th century. Their name was adopted from the charcoal burners (*carbonari*), and their passwords, signs, etc., were all in the phraseology of the fraternity.

Carbonic Acid, a gaseous compound consisting of 1 part of carbon and 32 of oxygen, colourless and odourless, and resulting when a substance containing carbon is burnt with a free current of air. Used as the effervescing element in aerated beverages, champagnes, bottled beer, etc. It is largely evolved from fissures in the earth, and is a constituent of the after-damp that so often causes explosions in mines, though not itself inflammable. It is absorbed by and given forth from plants, and also formed and given out during the respiration of animals.

Carbonic Oxide, a colourless inodorous substance formed of 12 parts of carbon and 16 parts of oxygen, and very poisonous. It is produced when any substance largely composed of carbon is consumed with only a small supply of air. No commercial value attaches to it.

Carboniferous System, in geology, is the term used to designate the strata from which coal is obtained. It is in three groups: the coal-measures, the millstone-grit, and the mountain-limestone.

Carbuncle, the name of a deep-red stone of the garnet order, found in the East Indies.

Cardamom, the seeds of various zingiberaceous plants, mainly indigenous to Malabar, aromatic and tonic, and useful medicinally in purgative compounds and carminatives.

Cardinal, a Roman Catholic ecclesiastical dignitary of the highest rank. Cardinals are divided into three classes: cardinal bishops, of which there are only six; cardinal priests, numbering 50; and cardinal deacons, 21-20 in all. They are appointed by the Pope, and associated with him in the government of the church. The dress of a cardinal consists of red cassock, a rochet, a short purple mantle, and a low-crowned red hat decorated with cords and tassels.

Cardinal sins, according to medieval classification, were seven in number: pride, vanity, indolence, avarice, gluttony, envy and anger.

Cardis, as a game dates back to a very early period, and became known in Europe in the 14th century.

A great variety of card-games, including whist, baccarat, nap, euchre, poker, bridge, etc., is played, and wherever gambling has been indulged in on a large scale cards have been the most usual instrument. A duty of 3d. per pack on English playing-cards is imposed, and a maker of such cards has an annual licence of 20s. to pay. See *Pears' Dictionary of Sports and Pastimes*.

Caribes, a tribe of American Indians, now mainly confined to South America and Dominica, but originally from the Caribbean Isles.

Caricature has for its object the exaggeration of the defects or peculiarities of persons or things so as to render them ridiculous. It is an art that was practised by the ancients, but did not attain real power and force until after the invention of printing.

England has from the 18th century forward produced many eminent artists in this line, from Hogarth, Rowlandson, and Gilray in Georgian days, to Sir John Tenniel, Sir F. Carruthers Gould, Max Beerbohm and the cartoonists of *Vanity Fair* of our own time. Among the caricaturists of social things the leading names of modern times in England are those of Cruikshank, Hablot K. Browne, Leech, Richard Doyle, Charles Keene, du Maurier, Phil May, Tom Browne and Raven Hill. *Punch* has been the chief medium of English political and social caricatures since 1841; and Sir F. Carruthers Gould's political caricatures in the *Westminster Gazette*, all from the Liberal point of view, are among the most humorous things of their kind.

Carlists, a Spanish political party espousing the claim of the descendants of Don Carlos, brother of Ferdinand VII., to the throne of Spain. On the death of the latter in 1833, Isabella, his three-year old daughter, was proclaimed Queen, leading to a civil war that was maintained with varying success until finally crushed in 1876.

Carolingians, the second dynasty of the French kings established 752, included the Merovingian rulers, among them Charles Martel and Charlemagne. The latter was also Emperor of the West. Afterwards there were dissensions and divisions, and in 987 the Capet dynasty succeeded.

Carmelites, a body of mendicant friars taking their name from Mount Carmel, where the order was first established in 1196. The Saracens persecuted them, and they made their way to Europe, founding monasteries and convents in various countries, many such institutions still existing, while there are several Carmelite convents in the United States.

Carnival, the great festival which takes place in Roman Catholic countries on the last three days before Lent, when people of all classes give themselves up to the wildest revelry, buffoonery, and masquerading. It is only in the chief cities of Italy, however, that the custom is kept up with anything of the old spirit. At Nice a modernised form of it is given, of which the "battelle flower" is a feature. **Cereals**, a wild plant growing abundantly in the Mediterranean coast and yielding a bean or pod that forms nutritious food for cattle and horses.

Carolinium, a recently discovered chemical element developed from thorium dioxide, and having a high power of luminosity. Discovered by Dr. C. Barkerville, of North Carolina, and named after that State. Sheds an illumination through tubes of copper, brass, iron and glass.

Caroline, an English gold coin of the Stuart period, at first of the value of twenty shillings, and subsequently worth 23 shillings.

Carpi, a well-known fresh-water fish, found in plenty in most European and Asiatic salt waters and sometimes reaching a length of 4 feet. The gold-fish common to our ornamental waters and aquariums are of this family.

Carpets are thick fabrics used for covering floors, and were first made in Eastern countries—Egypt, Persia, India, etc.—finding their way to Europe in the Middle Ages. A carpet factory was established in France in the time of Henry IV., and one was set up at Mortlake, in England, in the reign of James I. It was the custom in early times to use

single carpets for covering beds, couches, tables, etc. The best-known classes of carpets are the Axminster, Kidderminster, Wilton, Venetian, and Turkish. In modern times the production of carpets has been greatly improved and extended by the aid of steam-power and ingenious machinery.

Carronade, a short piece of ordnance of large calibre, with a powder-chamber similar to that of a mortar. It was first made at the Carron Ironworks, Scotland, hence its name. Although now superseded by improved guns, it did excellent service in the Navy from 1779 down to the end of the wars with France.

Carthusians, an order of monks founded in 1086 by St. Bruno at the Grande Chartreuse, near Grenoble, and introduced into England about a century later. They built the Charterhouse (corruption of Chartreuse) in London in 1371. Their habit includes a hair-cloth shirt and cowl. The liqueur *Chartreuse* was invented by the order in their mountain retreat and is still their secret. For many years they have derived large revenues from the sale of the cordial.

Cartoons are properly designs of the actual size of an art work as it is intended to be completed, and made for frescoes, tapestries, or mosaics. The most celebrated cartoons are the seven painted by Raphael, now at the South Kensington Museum. The artist executed 25 in all, but only these seven, which Rubens obtained for Charles I., remain. A political pictorial caricature or symbolic design is also styled a "cartoon" nowadays.

Cartridge, a case of metal paper, or pasteboard, containing the exact charge of gunpowder or other explosive required for a rifle or gun.

Casein, the leading nitrogenous element of milk, which coagulates by the action of rennet, or acids, when it takes the form of curd.

Cashmere, a soft silky fabric, made from the hair of the Cashmere goat, and the object of a considerable industry in India, cashmere shawls being often of great value. There is also a kind of Cashmere largely manufactured in this country from Asiatic wools and cotton.

Cassowary, a large bird of the ostrich family, inhabiting the Molucca Islands, New Guinea, and North Australia. It is of black plumage, with three toes, and has a horny crest upon its head. In fleetness it can outstrip the horse.

Castanets, spoon-shaped shells of hard wood or ivory, attached by cord to the thumb, and stuck together by the middle finger, making a crisp sound. Castanets are of Moorish origin, and used by dancers as time-beating accompaniments.

Caste, a term used to specify the different social classes into which the laws of Brahminism divided the Hindus. The four leading castes are: (1) the Brahmans or priests (of the military caste); (2) the Veisyas or traders; (3) the Sudras or labourers. There are many subdivisions also, the Sudras alone having 36. The Pariahs are considered beneath all classification of caste. Caste is a term adopted in other countries also in regard to class distinction. "The caste of Vere de Vere," sings Tennyson.

Castor-oil Plant is a native of India, but now widely distributed in all hot regions. It grows to a considerable height, has broad palmate leaves, and bears a spiny fruit containing seeds which when bruised yield the well-known oil. The first yield of the oil is obtained by simple pressure. This is castor-oil in its "cold drawn" and purest form. A more copious quantity results from heating, but not so good.

Casultery, in ethics, is a subtle process of reasoning by which nice points of conduct and conscience are settled.

Cat, the general name for all quadrupeds of the *Digitigrade* section of the carnivorous order, from the lion down to the domestic cat. The latter is supposed to be descended from the Wild Cat once so common in Britain and other parts of Europe. Egypt is credited with having been the first country in which the cat was domesticated. The finest varieties are the Angora (or Persian), the Maltese, and the Manx.

Catacombs are subterranean or built-up places of interment. The most famous are those of Rome, constructed by the early Christians, where in times of persecution they concealed themselves. They are of great extent, consisting of a labyrinth of vaulted galleries, 4 to 5 feet wide, at different levels. These Roman catacombs are said to have contained over 6,000,000 bodies and to have extended scores of miles in length, though not more than about six miles are now accessible. Catacombs have also been discovered in Naples, Cairo, Paris, etc. Attached to some modern cemeteries are catacombs of the built-up order, formed of chambers of stone or brick in the walls of churches or mausoleums.

Cakamaram, a float or raft of three or more pieces of wood lashed together. Used mostly on the Coromandel coast.

Catapult, a military engine used in ancient times for throwing missiles of stones, spears, and arrows. They were constructed of wood, and by means of a freed spring ejected the massed missiles with great force into the ranks of an enemy. The ballista (*q.v.*) of the Middle Ages was an adaptation of this.

Catacombs are gigantic waterfalls. The most famous are those of Niagara in North America, the Orinoco in South America, the Victoria Falls on the Zambesi in Africa, the Falls of the Rhine at Schaffhausen, and the Cascade of Gavarni in the Pyrenees. Catacombs, surgically, signifies an affection of the sight.

Catechism, an elementary book of principles in any science or art, but more particularly in religion, in the form of questions and answers. There are a great variety of these, including the Lutheran, prepared by Luther in 1529, Calvin's Geneva (in 1536), and the Anglican, in the Book of Common Prayer.

Catechumen, a term applied in the primitive church to children of Christian parents, who were admitted as neophytes, and occupied a place apart in the church.

Caterpillar, the larva of a lepidopterous insect, worm-like in its segmented body, usually furnished with feet, often curiously marked and coloured, and frequently more or less hairy.

Cathedral, the chief church of a diocese, so-called from its containing a Bishop's seat, or episcopal chair. The finest cathedral in the world is that of St. Peter's at Rome, founded in 150. Other celebrated cathedrals are Notre Dame of Paris, the cathedrals of Cologne and Milan, St. Paul's in London, Canterbury Cathedral, York Minster, and the cathedrals of Durham, Bristol, Gloucester, Peterborough, and Exeter.

Cat's-eye, a kind of quartz, much valued as a gem, opalescent, and of various shades.

Caucus, an American term designating a private authoritative body of politicians whose duty it is to select candidates for office and deal generally with party business. It was first used in this country at Birmingham in connection with what was called the "Liberal Six Hundred." Lord Beaconsfield employed the term satirically. The word has since come into common use, though generally in an uncomplimentary way.

Cavalier, a name adopted during the troubles of the Civil War to designate the Royalist party; it is also used generally in reference to a knightly, gallant, or imperious personage.

Cavalry is the part of an army consisting of troops that serve on horseback, and now much less used than in former times. The cavalry of the Greeks and Romans were generally members of noble families, and down to the Middle Ages something of this distinction was continued. After the invention of gunpowder, this branch of the military service underwent great changes; and in more recent times, with the development of heavy artillery, cavalry has been less prominent than before. Cavalry to-day is divided into two main classes, heavy and light. The British Army has 31 regiments of cavalry, 3 of Household Cavalry, 2 Dragoon Guards, 3 Dragoons, 6 Lancers, and 1 Hussar. The Transvaal War of 1899-1900 showed the special value of mounted infantry, and this line of cavalry service is being developed.

Caves are natural hollow places in the earth, largely

met with in limestone or volcanic rocks. Fingal's Cave in Staffa is noted for its splendid range of basalt columns, and at Malham and Kirkdale in Yorkshire, and Kent's Hole near Torquay, are far-extending caves. The mammoth cave of Kentucky extends through many miles of labyrinthine windings.

Cave-men. From the fossil evidences found in various geological strata of the pre-historic period we find that a race of people existed who were ignorant of metals, pottery, and agriculture, and knew nothing of domestic animals. It is also clear that they lived in caves which served them as refuges against predaceous beasts.

Caviare is a Russian preparation made from the salted roe of certain fish, such as sturgeon, sturlet, and sarragen, and much appreciated by epicures.

Cayenne Pepper is made from the dried and baked pods of various kinds of tropical capicum.

Cedar, a dark-leaved, cone-bearing, horizontal-branched evergreen tree that grows to a considerable height and girth, the best known species in this country being the Lebanon Cedar, which was introduced into England in the 17th century, and is now of frequent occurrence here. Its native regions are the mountains of Western Asia and the West Indies.

Cell Theory, a doctrine that all animal and vegetable tissues consist of cells or of their products.

Celluloid, a compound of gun-cotton, camphor, and other ingredients, producing a substance that closely imitates ivory, or, when coloured, numerous decorative objects, such as coral, amber, tortoiseshell, etc.

Cellulose, a carbo-hydrate, and a constituent of nearly all plants and vegetable structures. By being treated with strong acids and boiled with water, glucose is obtained. Cellulose occurs in an almost pure state in the fibres of linen and cotton.

Celts, an ancient race of Western Europe, originally settled in Gallia, and afterwards spread over other parts of Europe, including Britain. The two chief divisions of Celtic Britons were the Gaels of Ireland and the North of Scotland, and the Cymri of Wales. The descendants of these races still retain many of their ancient characteristics, and considerable interest is manifested in their language and literature.

Cement assumes various forms, glue, sealing-wax, paste, putty, and other adhesives constituting one class, but the main class consists of substances for binding together brick or stone, and comprises mortar, Portland cement, Roman cement, and plaster of Paris, each possessing qualities rendering it specially adaptable to certain purposes.

Censors were Roman magistrates vested with the power of keeping a record of all citizens, and of controlling the manners, morals and duties of the peoples. In more recent times in England censors have been appointed by the Government in connection with publications of the Press or for the stage. Under Charles II. there was a licensor of the Press. The only special censor in England is the Examiner of Plays. By a new regulation issued in January, 1912, the Lord Chamberlain will grant licenses for the performance of stage plays to managers of music-halls within his jurisdiction to such as apply for them, under certain restrictions. In 1913 a censor of cinematograph films was established. In war time a special censor is appointed to check the reports intended for newspapers. In the great war (1914-18) an official censorship of a far-reaching and very strict kind was organised, and gave rise to much resentment because of its frequent block upon the dissemination of news.

Census was the title given in ancient Rome to a register of citizens, with full particulars as to their family, children, slaves, and so forth. The term is now used in regard to the general enumeration of population which takes place in Great Britain and Ireland and the British Colonies every seven years. The first official census in this country was that of 1801. In France and Germany a census is taken every five years.

Centre of Gravity is the point through which the entire weight of a body seems to act by the force of gravity. This centre may be found either by experiment, such as suspending the body to a string, when the true vertical position will be marked, or by the rules of geometry. The centre of gravity of a straight bar is at the middle point, and of a circle it is the geometrical centre.

Ceorl, the name given to an Anglo-Saxon freeman, who was usually in bond-service to a landed proprietor, but could become a "thegn" if he became possessed of 600 acres of land, with a church and a house upon it, but three generations had to elapse before any descendant of his could be ennobled.

Cerium, a scarce metallic element discovered in 1803. It is capable of precipitation to powder, and only exists in combination in the minerals, cerite, allanite, and a few others. Sulfate of cerium, mixed with salts of thorium, are used in the manufacture of gas mantles.

Cestus, the name given to a girdle worn by Greek and Roman women around their waists, and generally decorated. It was also the name of the loaded gauntlet worn by boxers in the Roman arena.

Cetacea, the order of mammals comprising the whale, dolphin, and porpoise, which, though strictly aquatic, breathe air, suckle their young, and are warm-blooded.

Chain Armour was composed of links of hammered iron, and worn over garments by soldiers in the 12th and 13th centuries. These garments were called coats of mail, and were superseded by armour made of metal plates.

Chalcedony, a fine quartz occurring chiefly in Chalcedon, and much used by jewellers for necklaces, bracelets, etc. It is found in various colours, in some of which it takes distinctive names, as onyx, carnelian, agate, and sard.

Chalk, a white soft mineral consisting of carbonate of lime only slightly consolidated. It is made into lime by burning, and becomes whiting when purified. Chalk forms the cretaceous system, and is abundant in the South of England, where it reaches a thickness occasionally of a thousand feet. Chalk fossils reveal mollusca, sponges, and sea urchins. Of the many chalk preparations, black chalk, Spanish white, red chalk, and French chalk may be mentioned, though none of these are pure chalk.

Chalybeate Waters are waters impregnated with iron, or containing iron in solution. Chalybeate springs are numerous in England and other parts of the world, and are valuable in restoring strength after illness and improving the blood.

Chama, a genus of large bivalves of the mollusc family, found in tropic waters, especially amongst coral reefs. *Chama gigas* weighs sometimes as much as 350 lb., and one valve has been employed as the basin of baptismal fonts in various churches.

Chamberlain, an official having the direction of the private apartments of a monarch or nobleman. The Lord Great Chamberlain of England is an hereditary official, and his chief duties are to attend the Sovereign at his coronation, take charge of the ancient palace of Westminster, and see to the furnishing of the Houses of Parliament and Westminster Hall on State occasions. This office is held jointly by the families of Cholmondeley and Willoughby d'Ereshy in alternation. The Lord Chamberlain of the Household is the acting superintendent of the Royal Household, and receives his appointment from the Ministry of the day, and is a member of the Privy Council. Chamberlains are also attached to various city and other corporations.

Chamberlain, a well-known brand of red Burgundy, the product of the vineyards of the Côte d'Or, France. **Chameleons,** a family of lizards of which there are numerous species. The common chameleon is a native of Africa, and is about 12 inches long, including tail. It is remarkable for its power of changing colour to resemble its surroundings when surprised, a power that is due to the presence of pigment-bearing cells beneath the skin. It is slow in movement, and insectivorous.

Chameis, a species of antelope, and a native of

Western Europe and Asia. It is not much larger than a goat, lives in mountainous regions, and possesses wonderful leaping power, so that it is very difficult to capture. Its flesh is much esteemed, and from its skin the beautiful chamois leather is made.

Champagne, the celebrated sparkling wine made from the grapes of the vineyards of the district of France, of which Rheims is the headquarters.

Chancellor was the title of a chief officer of the Roman Empire, but at the present day is used to designate in England the lending dignitary of the law and Parliament, and in Germany the highest officer of the State. In former times the Chancellor of England was the King's most trusted adviser, and exerted immense influence. Before the Reformation he was generally an ecclesiastic. The Lord Chancellor is the Keeper of the Great Seal, a Privy Councillor, and Speaker of the House of Lords. His salary is £10,000 a year, and he receives a pension of half that sum. There is a separate Lord Chancellor for Ireland, but this is a judicial office, with a salary of £8,000 a year. There are various minor chancelleries in connection with the Government, and the universities have their chancellors.

Chantry, a private church or chapel established and endowed for the maintenance of priests to perform daily mass for the souls of certain specified persons. Chantries were numerous in England up to the Reformation, and some few still remain.

Chapel Royal, the church dedicated to the use of the Sovereign and Court, and at present situated in St. James's Palace.

Chapel of Ease, a place of worship for parishioners living at a distance from the parish church.

Charcoal, a term applied to wood that has been subjected to a process of slow smothered combustion, and generally refers to the carbonaceous remains of vegetable, animal, or combustible mineral substances submitted to a similar process. Charcoal has many uses, being employed as fuel for gunpowder making, as a disinfectant, and as a filter. It is practically insoluble except when reduced to a fine powder.

Charity Commissioners, an important body appointed by the Charitable Trusts Act of 1853 for inquiring into, and the management of, charities in general and endowed schools. By the Education Act of 1859, however, the powers of the commissioners have, to a considerable extent, been transferred to the Board of Education.

Charterhouse, a famous school that until a few years ago was in Aldersgate Street, London, but is now removed to Godalming. In connection with the school is an almshouse on the old London site endowed by Thomas Sutton in 1611. Thackeray's Colonel Newcome was an inmate, and Thackeray himself, as well as Addison, Grotius, and other eminent men, were Charterhouse scholars.

Chartism, the political principles of a body of advanced reformers who appeared in England about 1838, and agitated for "six points" of popular reform, viz., manhood suffrage, annual parliaments, vote by ballot, abolition of the property qualification, payment of members, and equal electoral districts. The movement spread through all parts of the country, and assumed revolutionary proportions in 1848, when meetings of a violent character, attended by vast multitudes, were held, and it was deemed necessary to take strong measures of protection in regard to public men and public buildings. The Chartists threatened to resort to "physical force," and large bodies were put under a sort of military drill by night in secret places, and for a brief period the attitude of the Chartists was extremely threatening. Numerous disturbances took place, and many arrests were made, some Chartists being sentenced to death for high treason, but subsequently reprieved and sent into transportation. An Irish barrister, Feargus O'Connor, assumed the leadership of the movement, but committed so many absurdities that he brought undeserved ridicule upon what was in the main a legitimate movement. It attained its height during a period of intense distress amongst

the working classes, and with the improvement of trade and the relief of taxation, it gradually died down, but the main principles for which it contended have since received practical acceptance.

Chasuble, a sleeveless vestment worn by ecclesiastics over the alb during the sacrament of the mass. It is supposed to symbolise the seamless coat of Christ. Its use in English churches was prohibited in 1552, but again permitted after 1559. It gradually fell into disrepute, however, but some fifty years ago was resumed in the High Church services.

Chauvinism is a term applied to any exaggerated devotion to a cause, more particularly to excess of public or military enthusiasm. The word springs from Nicholas Chauvin, whose extravagant devotion to Napoleon I. made him a laughing-stock.

Cheese, an article of food made from the curd of milk, which is separated from the whey and pressed in moulds and gradually dried. There are many varieties of cheese, according to the method of preparation, or the quality of the milk. The finest cheeses are those in which cream is added to the curd. Among the best-known of British cheeses are the Stilton, Cheddar, Cheshire, Gloucester, and Wensleydale; while of foreign cheeses we have Farnese, Dutch, Gorgonzola, Roquefort, and Gruyere. The soft cheeses, such as Camembert, Brie, and cream, only keep for a short time.

Cheetah, the large spotted cat of Africa and Southern Asia, often called the "hunting leopard" because of its employment in the chase. It is long-legged with non-retractile claws, and not unlike some fleet running dogs in general appearance, but its facial prement and voice betray the feline.

Chemistry is the science which analyses and describes the properties and composition of various material substances. It had its rise in alchemy and has gradually developed into a science of vast magnitude and importance, engaging the study of the most eminent scientific minds. According to chemical principles all substances are composed of indivisible atoms. It demonstrates that an elementary substance is made up of groups of allied atoms, while a compound substance consists of atoms of different kinds, chemically united. Most substances belong to definite groups, of atoms called molecules, each molecule being the smallest proportion into which the substance can be divided. Chemistry concerns itself with defining, and explaining the law, causes, and effects of molecular changes.

Chenille, a soft cord material of silk or worsted used in embroidery, lace-making, and sometimes for carpets and wall hangings or curtains.

Cheque, an order on a bank for the payment of money on presentation to the person named in the document, or to the bearer. It does not require endorsement when made out to bearer, but must be endorsed when payable to order. Each cheque requires a penny stamp in this country. A cheque that is crossed (by having the words "& Co." written transversely between parallel lines) can only be paid through a bank. A banker is liable for loss on a forged cheque unless he can prove carelessness on the part of the drawer.

Cherokees, a North American tribe of Indians, once a powerful and warlike nation occupying a large portion of the Allegheny range, but now residing within the Indian Territory under civilised rule of law and very prosperous.

Chess, an ancient game of Eastern origin. See Pears' Dictionary of Sports and Pastimes.

Chestnut, the fruit of the chestnut tree; those of the Spanish Chestnut, *Castanea vesca*, furnish a favourite esculent. The wood of this tree is used in places in carpentry; while the horse-chestnut (*Asclepias hippocastanum*) is employed extensively in brush-mounting, and in cabinet work.

Chiaroscuro, a term used in painting to denote the arrangement of light and shade in a picture. On the proper handling of chiaroscuro depends the fidelity of depiction of objects and distances.

Chicory, a plant largely used for mixing with coffee and not regarded altogether as an adulterant, being credited with certain dietic virtues. In England,

however, where chicory is added, the fact must be stated on the package sold to the public. The dried roots of the plant only are used, being ground into powder before mixing.

Chiltern Hundreds, the name of a district of the Chiltern Hills where offenders used to hide to escape capture. This gave rise to the appointment of a crown official who was called the steward of the Chiltern Hundreds. The duties of this office long since ceased to be of meaning, and, by a pleasant fiction, when a member of the House of Commons cannot resign his seat without disqualification by accepting a place of profit under the Crown, he accepts the stewardship of the Chiltern Hundreds, which is commonly held to constitute such a place, and this is tantamount to resignation.

Chimpanzee, a large anthropoid ape, a native of tropical West Africa, of a dark brown colour, with arms reaching to the knee, large ears, and a general organisation resembling that of man. It possesses considerable intelligence, can walk erect with ease, and when full grown is about four feet high.

Chinchilla, a South American rodent. Grey in colour, and white underneath. It is greatly esteemed for its beautiful fur.

Chinks, a cotton cloth, generally glazed and covered with floral or other designs. It is largely used for furniture coverings.

Chipmunk, a squirrel-like animal of the *Tamias* genus, common in the United States.

Chippendale Furniture was introduced in the reign of George I. by a cabinet-maker named Thomas Chippendale, who migrated to London from Worcestershire, and set up for himself in a small way in St. Martin's Lane, Charming Cross. He was, however, founder of inventing designs for furniture than of actually making it, and in 1752 published a book of patterns, which seems to have been welcomed by the London furniture-makers of the day, for they soon began to model a good deal of their work upon it. Of course, only a small portion of the so-called "genuine old Chippendale" in existence can have come from the shop in St. Martin's Lane.

Chirograph, an indenture drawn in evidence of title to property, landed or otherwise, and prepared (usually on parchment) in a special manner of engraving.

Chiromancy is the old name for palmistry or divination by the hand. It was greatly practised in olden times, and has had a considerable revival in recent years. The evil grew to such a degree a few years ago that several prosecutions were instituted by the police with a view to its suppression.

Chiropody, the treatment of the hands and feet for the cure or prevention of disease, especially applied to the removal of corns, warts, etc.

Chlamys, a loose military cloak or mantle, worn formerly chiefly by horsemen, and permitting the free use of the arms.

Chloral, a colourless mobile compound discovered by Liebig, and obtained from chlorine and alcohol, or chlorine and starch.

Chlorine, a gaseous substance contained in common salt, and obtained by the action of manganese dioxide and hydrochloric acid. It unites easily with many other elements, the compounds resulting being termed chlorides. It is of great importance in bleaching, and is a valuable disinfectant.

Chlorite, a grass-green or darker green group of minerals of micaceous structure, found in the tin-mines of Cornwall.

Chlorodyne, an anodyne remedy containing morphine, chloroform, prussic acid, and extract of Indian hemp, flavoured with sugar and peppermint. It is often administered to children to induce sleep, and, when unskilfully given, sometimes leads to unfortunate results.

Chloroform, a volatile colourless liquid, is prepared for commercial purposes by distilling a mixture of chloride of lime, alcohol and water; but for medical use it is made from chloral, which yields a pure distillation. When the odour is inhaled it produces unconsciousness and insensibility to pain. It owes its discovery to Liebig, and its first application for medical purposes to Sir James Young Simpson.

Chocolate, a paste made from the kernels of the cocoa tree and flavoured with sugar, vanilla or other substance. Chocolate beverage is made by dissolving chocolate in boiling water or milk. It was thus used by the Mexicans, largely, as far back as the time of Montezuma.

Chouans, the name given to a party of Breton Royalists who were bitter opponents of the Republic, and defended their cause bravely, until La Roche put them down in 1796. There were later risings, but Napoleon, by ordering the execution of their leader, Cadoudal, in 1804, crushed the movement.

Chough, a well-known bird of the crow family, with fine black plumage tinged with blue and purple. It is mainly met with in Cornwall and the West of England, the mountains of Wales, and in the Hebrides.

Chrism, the sacred ointment consecrated by a Bishop, and used in the rites of baptism, confirmation, ordination, etc. It is now only employed sacerdotally in Roman Catholic and Greek churches.

Christadelphians, members of a religious sect which holds that immortality can be obtained by believers only. They have peculiar views of the Trinity; reject infant baptism, and have strange theories about the Millennium.

Christianity, the religion proclaimed by Jesus Christ. Its principles are set forth in the New Testament, and its churches abound in all civilised countries. About one-fourth of the inhabitants of the globe acknowledge the Christian faith today.

Christian Science represents the belief that disease, sin and death can be defeated by faith.

Christmas Cards are a modern institution. The first genuine Christmas card was sent in 1844, and it is believed the sender was W. E. Dobson, R.A. He had a friend from whom he received certain courtesies of which he desired to show some special appreciation. The time was Christmas. So, after some thought, he made a sketch symbolising the spirit of the festive season and posted it to his friend. The sketch was done on a piece of Bristol-board about twice the size of the modern letter-card. It depicted a family group toasting absent friends among appropriate surroundings. And from this small beginning the idea, now so largely utilised, and constituting such a vast industry, was developed.

Christmas Rose, a plant of the Ranunculaceae order (*Helleborus niger*), so called from its flowering, under normal conditions, about the close of the year.

Christolyte, a sect of sixth-century Christians, who believed that upon the descent of Jesus into Hades he left there both His human body and soul, and rose again with His Divine nature alone.

Christ's Hospital, or "Blue Coat School," was founded by Edward VI. on the site of an old Greyfriars monastery, and down to a few years ago was one of London's best known scholastic institutions. It was pulled down, however, to make room for extensions of St. Bartholomew's Hospital, and the school is now carried on at Horsham, Emden, Strlingfleet, Coleridge, and Charter Lamb were the last boys.

Chromascope, an instrument demonstrating the three optical effects of colours; viz., the reflection of speculums, the transmission of light through transparency, and the refraction of lenses and prisms.

Chromatics, the science which investigates and explains the properties of the colours of light, and of natural bodies, forming a chief branch of optics.

Chromium, a metal obtained from chrome iron-ore, a mineral compound of chromic, ferric, and ferrous oxides.

Chronea, a wingless dipterous insect found amongst snow and ice in Sweden in winter-time, brownish yellow on the head, and long-legged.

Chronology, the science of computing periods of time by orderly division, and of assigning to events their proper relative dates.

Chrysoteryl, a mineral found in rolled pebbles in Brazil and Ceylon, in fine crystals in the Ural, and in granite in the United States. It is of a yellowish green colour, and when opalescent makes an attractive gem.

Chrysocolla, a silicate of copper, apparently produced by decomposition of copper ore. It is of a blue-green colour, and derives its name from its slight resinous lustre and transparency.

Chuchuses, a race of Chinese brigands ranging through Manchuria and Mongolia, and accused of serious robberies during the Russo-Japanese war.

Church Army, a Church of England Mission, somewhat on the lines of the Salvation Army, founded in 1882 by the Rev. W. Carlile, and doing great good among the submerged masses.

Church of England was organised in 673 by Archbishop Theodore, who settled the number and boundaries of its dioceses, and divided each diocese into parishes. The conversion of England to Christianity was mainly the achievement of St. Augustine, who in 597 founded the see of Canterbury. The church was in communion with Rome from the first, but was not brought strictly within Papal jurisdiction until after the Norman Conquest, although at no time was the domination of Rome complete over the English Church; so that when the Reformation took effect in the 16th century it was not so much the displacing of an old church and its supplanting by a new one which took place as a strengthening of an anti-papal action which had long been existing.

Cid, a famous Spanish hero of the 11th century; Don Rodrigo Diaz, who, before he was twenty, led a Spanish force against the Moors, and drove them out of Spain. He is celebrated in poem, play and romance.

Cider, a fermented liquor made from the juice of apples by crushing the fruit to pulp when ripe. The cider of Devonshire, Somersetshire, Worcestershire, and Herefordshire is the best.

Cinchona, an evergreen tree common in the warmer portions of the American continent, growing at a high altitude, and famous for its bark, which gives us the valuable drug, quinine. It was introduced into India in 1860, and its product occupies an important position in pharmacy.

Cinematograph. (See **Kinematograph**).

Cinnabar, an ore which yields mercury by heating.

Cinnamon, the dried bark of a tree common in the East Indies, and forms a valuable spice.

Cinque Ports were originally important sea-ports on the Southern coast of England, including Hastings, Romney, Hythe, Dover and Sandwich, which were the five original Cinque Ports. Winchester and Rye were added later. These ports were required to furnish a certain number of ships, ready for service, and in return they were granted many privileges. The Lord Warden of the Cinque Ports draws a salary of £3,000 a year. Earl Beauchamp has been Warden since November, 1913.

Cirrus Cloud, a form of cloud of feathery or streak-like semblance, high in the firmament.

Cisterciens, an order of monks, and nuns taking their names from Cîteaux, near Dijon, where their first convent was established in 1082. The monks wear white cassocks, the nuns, white dresses.

Citric Acid is contained in limes and lemons mostly. It is of value in medicine and in the preparation of effervescent beverages.

Citron, the fruit of a tree of the lemon order, with thick rind, much used for candied peel.

Civet, a carnivorous quadruped from which civet perfume is obtained. In Abyssinia the animal is kept in confinement for the sake of this secretion.

Civil List is the record of expenditure in connection with the maintenance of the royal household and the dignity of the Crown. It is fixed in the first session of Parliament after each monarch's accession. The amount fixed on the accession of Queen Victoria was £206,000 a year; for Edward VII. it was raised to £270,000; and further augmented for George V.

Clairvoyance, the alleged power of mental vision, said to enable its possessors while in mesmeric trance to see persons and happenings at a distance.

Clay, a term used to designate certain plastic, earthy compounds composed of hydrated silicates of alumina. China clay, from which porcelain is made, is the purest clay, and is obtained by the natural crumbling of felspar, which is found only in Cornwall in this country, but is well distributed in China,

Japan, and the United States. Other varieties are pipe-clay, fire-clay, potters' clay and brick clay.

Cleopatra's Needle on the Thames Embankment is an Egyptian obelisk of the time of Thmes III., presented to the British Government by Mehmet Ali in 1869, but not brought to this country until 1878. Its weight is 180 tons.

Cliff-Dwellers were aboriginal tribes who in far-back times had their homes in recesses of the rocky cliffs of New Mexico and elsewhere in the South-western regions of what is now the United States.

Climate and Old Age. Statistics show that a greater number of people live to be centenarians in warm climates than in the higher latitudes. The German Empire, with 55,000,000 inhabitants, has (according to the latest attainable statistics, which must be regarded as approximate and as far as possible relative only) 778 centenarians; France, with 40,000,000, has 823; England has only 146, Scotland 46, Sweden 20, Norway 23, Belgium 5, Denmark 2, Spain 40, and Switzerland none. Serbia, with a population of 2,250,000, has 576 people over 200 years old.

Cloaca Maxima, the name of the great underground sewer of Rome, constructed in the reign of Tarquinius Priscus (circa 588 B.C.) and still extant in its chief structural features.

Clock, a horological contrivance differing from a watch in not being adaptable to transit, save in a minor and unimportant way, and usually having a motive spring or weight, and geared train, with a pulsative device to govern the rate at which the mechanism shall move; also commonly having a figured dial and index hands. One of the earliest inventions for time-keeping was the dial, upon which the clepsydra followed. Archimedes knew how to set wheels going by springs and weights, but who first regulated their speed and applied their controlled motion to a pointer traversing a dial has not been ascertained. But about A.D. 1000 a student at Cordova University added the escapement to a pendulum clock in that seat of learning. In 1228, a clock was, it is recorded, placed in the Palace Yard in London, after which date clocks became general.

Clocks of the Crown. The different Royal Palaces contain a number of Crown clocks. A careful inventory is kept of those at Windsor in the Lord Chamberlain's Department. This inventory contains entries of 230 clocks which fill two large volumes. Many of them are works of art of the highest order, and one in particular possesses an interest of quite a romantic historical character. This is the clock that Henry VIII. gave as a present to Anne Boleyn on her wedding day. It rests on a modern gilt bracket in the Chapel retiring room, and is only four inches deep and ten inches high. Formerly it belonged to Horace Walpole, and when his effects were sold at Strawberry Hill, Queen Victoria bought it for £120 5s. The weights are encased in copper gilt and beautifully engraved, "H.A." and true-lovers' knots on one, and "H.A." alone on the other. In the footmen's room at Windsor there is a specimen of an "Act of Parliament Clock"—a kind of clock that grew out of a Tax imposed on watches by Pitt. This tax caused watches to be much less worn, and tavern-keepers adopted a bold mural timepiece for the benefit of their customers. These timepieces were called "Act of Parliament clocks." The horological curiosity at Buckingham Palace is the Negress Head Clock—a French spring-balance production by Lepine, whom Voltaire engaged to establish a watch manufactory near Geneva. In this clock the hour numerals are shown in one of the negress's twinkling eyes and the minutes in the other. It stands two feet five and a half inches high, the head and bust of the negress being in ornate and enriched with magnificent decorative features. Of another clock in Buckingham Palace, made by Alexander Cumming, an Edinburgh man, for George III., it is said that Cumming received £2,000 for it and £300 a year for looking after it.

Clog, a wooden shoe, often strengthened with iron attachment, worn by factory and other workers in

many industrial districts in our own country, and by the peasantry of numerous Continental nations. Clog-dancing is a performance in which the dancer wears wooden footwear to provide a loud accompaniment, and the exercise is one which admits of the attainment of considerable skill.

Cloisonné, a kind of fine pottery with enamelled surface, decorated with elaborate designs, the outlines of which are formed by small bands or fillets of metal. The Byzantines excelled in this class of work, but at the present day Japan and China lead in Cloisonné-ware.

Cloisters are arched covered walks attached to monastic and ecclesiastical buildings, and usually consist of a series of vaulted arcades surrounding a quadrangle. They were mainly intended as places of exercise and relaxation for the monks.

Closure, a device by which debate is cut short in the House of Commons. By a rule of 1887, any member, with the consent of the Speaker, or Chairman, can move that "the question be now put," and if the motion be carried by a specified majority the discussion ceases and the question is voted upon. A similar rule obtains in both the French and American legislative assemblies.

Clouds are collections of visible vapour suspended in the upper atmosphere at a considerable height—two to three miles on an average. When similar vapours gather close to the earth they form what we call *fog*. Clouds are the result of a process of evaporation that is continuous over sea and land. They are usually classed as follows: the *cirrus*, feathery or resembling locks of hair; the *cumulus*, dense, hill-like masses, called summer clouds; the *stratus* or night cloud, which forms in level streaky sheets; the *cirro-stratus*, a collection of small round dappled clouds, usual in hot weather; the *cirro-stratus*; the *cumulo-stratus*; and the *nimbus*, or rain-cloud.

Clover, various plants of the *Trifolium* genus, of which there are about 300 species. The best known kinds are *White Clover*, a common pasture product in nearly all parts of the world; and *Red Clover*, the most widely cultivated of all, much esteemed as fodder for cattle.

Cloves are the dried flower buds of a species of myrtle, grown principally in the East Indies.

Coal is a carbonaceous mineral substance, commonly black and easily breakable, and may be either dull or shiny. It is very inflammable, and has formed for a long period the most important substance for fuel in employment in most civilised lands. It is composed of chemically altered vegetable matter, chiefly the timber of long-extinct lycopodiaceous trees, and is found as a sort of stratified rock in the coal-measures. The best coal for fuel purposes is that belonging to the Carboniferous series of the Palaeozoic system. Anthracite coal has lost nearly all its hydrogenous and volatile matter by pressure, and this and the more highly bituminous coals are greatly employed in manufacturing industries the world over, while those less so are used for household purposes. A ton of best quality (bituminous) coal will yield 10,000 cubic feet of gas and 10 gallons or so of tar, leaving behind a chaldron of coke and 20 gallons of ammoniacal liquor. The total annual coal production of the world now exceeds 1,180,000,000 tons, valued at over £40,000,000, the United States yielding more than Great Britain, and the two great English-speaking nations between them producing two-thirds of the universal coal output. It is calculated that there remain something like 138,000,000,000 tons of coal available in Great Britain and Ireland alone within a depth of 4,000 feet; but this estimate takes no account of the possible discovery of new coalfields. There are about 3,200 coal mines in the United Kingdom, employing over 1,000,000 persons.

Coal Mining by Machinery has been somewhat slow in being adopted in this country. For some years it has been in use in America and on the Continent. Now, however, electric power is being rapidly introduced, and in many collieries performs the work of pumping, hauling, coal-cutting, winding and

lighting. The electric coal-cutter represents one of the greatest of these improvements. Under the old system the undercutting of the seam so that it could be blown down was the hardest and most disagreeable work which the miner had to do. He had to lie on his side to use his pick, and continually inhale coal dust. Besides the work being hard, the system was not economical, as the miner wasted a great deal of coal. The machine-cutter, which is necessarily of powerful construction, is placed at one end of the coal seam. As soon as the current is turned on, the cutter arm—a revolving chain 6 feet long—swings round and cuts its way into the seam, requiring no bed, but travelling along on its own "shoes," forming its bed as it moves, hugging always closely to the seam, going up and down inclines, and steadily moving forward towards the fixed prop, to which is attached a steel rope. The machine is a steel box, weighing 2,400 lb. It is 8 feet long, 38 inches wide and 16 inches high. It is always partly embedded in the coal by its own weight. It requires very little attention. One man, a miner of a mechanical turn, has to look after the electric apparatus; another stands guard with a pick over the revolving chain, shovelling away coal which may fall and tend to clog the wheel. The next operation after the coal is undercut is for holes to be drilled in the face of the seam by electric drills, which are kept down ready for the miner to pick into smaller lumps and fill into trucks.

Coaling Stations are of the utmost importance to maritime nations as points of equipment, repair and refuge. Britain's principal coaling stations include Aden, Hong Kong, Singapore, Sierra Leone, St. Helena, Simonstown (South Africa), Jamaica and Mauritius. Her far-reaching Colonial possessions give to Great Britain a vast advantage over other Powers in this respect.

Coal Tar. (See "Antiline.")

Coast Action, the influence of the sea on the coasts. The erosion of the shores of Britain having occasioned justifiable apprehension, the matter was referred to a Royal Commission in 1906.

Coastguard Service, an organisation formed in smuggling times for the prevention of contraband operations, but now a branch of the naval service and used for purposes of coast defence. There are 4,300 men employed in this service, at an annual cost (including ships) of nearly half a million.

Coat of Arms, in heraldry, is a device containing a family's armorial bearings. In medieval times it was an actual coat upon which such device was embroidered, and knights wore it over their armour.

Cobalt, a steel-grey metal, malleable, and resembling nickel, found in combination with arsenic and sulphur. It is of great value in the arts as a colouring medium, its protoxide yielding a brilliant blue, largely utilised for colouring glass and porcelain, as well as for painting pigments.

Cobra, the hooded snake of India, Ceylon, and Africa, and one of the most venomous of the vipers. It grows to a length of 4 or 5 feet and possesses the power of dilating its neck and head to a hood-like shape when disturbed, and has a bright mark on its neck which gleams like a pair of spectacles.

Coca, a South American shrub, which yields three crops a year of leaves and flowers. The leaves are chewed by the natives and act as a strong stimulant, enabling them to withstand hunger and fatigue to an astonishing degree. It is used in medicine as a tonic, and yields the alkaloid cocaine. Over 50,000,000 pounds of coca leaves are gathered yearly, and the bulk of this yield is consumed in South America.

Cochineal, a dye-stuff consisting of the dried bodies of the females of a remarkable class of insects of the *Coccus* genus. These insects, which exist in countless myriads in tropical America, Java, etc., feed on a special cacti which is cultivated for them, and are gathered twice a year. The colouring principle contained in the insects is carminic acid, and is a brilliant crimson. It takes 70,000 insects to make a pound of the dye-stuff.

Cochliodus, a fossil genus of fish of the shark order, found in the Carboniferous Limestone of Bristol and

elsewhere. They possessed lateral teeth, marked with sub-spiral ridges and grooved after the manner of the shell of a univalve.

Coclain, a chemical term signifying an admixture of glycerides of myristic and lauric acids.

Cock-a-Bandy, a contrivance for twisting ropes, consisting of a hollow piece of wood through which a pin runs. By reason of the rotation of this pin when the cock-a-bandy is held in the hand, twist is imparted to the rope.

Cockades came into general use when the House of Hanover succeeded to the British throne. It was said that the black cockade and the Hanoverian rat arrived in England about the same time and under similar circumstances. Both were followers of King George I., and both became thoroughly unpopular. The Jacobites disliked the colour of the Hanoverian cockade, the white being the badge of Prince Charlie and his father. In later times the cockade has become a badge of servitude. At one time it was only allowed to be worn by soldiers, but nowadays every British subject has cockade rights if he cares to exercise them. Its use is now mainly confined to the servants of the wealthy.

Cockatoo, a common name for the small cockatoos of the Calopsitta genus.

Cockatoo, a white-plumaged bird of the parrot family with a movable crest, usually of some shade of yellow. Cockatoos are inhabitants chiefly of Australia and the Malay Archipelago, and much in favour as pets.

Cockatrice, a basilisk or fabulous serpent supposed by an exploded tradition to have been hatched from a supposititious egg of a cockatrice by a serpent. Its glance or breath was, according to legend, fatal.

Cockle, the popular name of the shell-fish of the genus *Cardium*, found plentifully in sandy bays near low-water line; there are numerous British species.

Cockroach, commonly called the black-beetle, is a genus of insects that is distributed over many countries, though a native of Asia. It is of nocturnal habits, infests kitchens, pantries, etc., and is often difficult to get rid of.

Cocoa. (See **Cacao**.)

Cocoa-nut Palms are tropical trees which grow to the height of from 50 to 100 feet, and have their tops surmounted by feather-like curving leaves. The fruit of this tree is the ordinary cocoa-nut, and grows in bunches of from 12 to 20. The fibre of the husk is used for a variety of purposes, such as making drinking cups, spoons, brushes, matting and cordage. The trunk of the tree is utilised in the manufacture of various fancy articles.

Cod are well-known food-fish, found in abundance upon the British coasts and upon the banks lying off Newfoundland, their capture and preparation for market, and the extraction of the oil they yield, forming important industries.

Codes, a term used to designate a system of laws properly classified. Some of the codes are of very ancient date. Codes were made by the Gothic tribes as well as by the Romans, who formulated several codes of historic importance, including the Theodosian code, summarising the Roman laws from the time of Constantine to 438; the Papian code, devised for the Roman subjects of the Burgundians, 527-533; the Justinian code, 527-565 (the most important of the Roman codes), and the Gregorian code, another collection of Roman laws. The most important of modern codes is the Code Napoleon, compiled between 1804 and 1810, which still is in force. Frederick the Great made a code of laws for Prussia in 1751.

Codex, a name referring to the manuscripts of scripture, and comprising the Sinitic codex of the 4th century, the Vatican codex of the same period, the Alexandrian codex of the 5th century, and others.

Coffee, a shrub found originally in Arabia and Abyssinia, but now extensively grown in Ceylon, the West Indies, Brazil and Central America. It yields a seed or berry which, after undergoing the necessary preparation, is ground and largely used in most countries as a popular breakfast beverage. The best coffee is the Mocha, an Arabian variety.

Coffee is a stimulant of great value, but its consumption in this country has considerably fallen off of late years. The beverage was first introduced into Europe in the 16th century, and the first London coffee shop was opened in 1632.

Cognac. (See **Brandy**.)

Coherion is the state of cohering or uniting the particles of a homogeneous body. Its power is determined by the force required to separate its parts. This power is strongest in solid bodies, and weakest in elastic fluids, such as air and gases.

Coal is a substance formed from coal by heating it without access of air, and comprises about 90 per cent. of carbon. Its value is that it burns without emitting smoke or flame, thus it is largely used for smelting and heating purposes where the presence of smoke would be objectionable or injurious.

Cola-nut, the name of a seed obtained from the cola tree of tropical Africa, Brazil, and the West Indies. It has strong stimulative qualities, and contains two or three times as much caffeine as coffee.

Colonel, the title of a military officer, and ranking next above a lieutenant-colonel.

Colony is a settlement of people who have migrated from their native land to some possession of the mother country. The Phenicians were the first colonists we read of, and established themselves in various parts of the countries bordering on the Mediterranean. The Greeks were also considerable colonists, and later the Romans. Britain being at one time a colony of the Roman Empire. Colonisation, in its more modern significance, was the result of important geographical discoveries made in the Western world in the 14th century and later by the Spaniards, Portuguese, Dutch and French. From about the beginning of the 17th century England developed a colonising spirit which soon extended the boundaries of the Empire. Newfoundland, Virginia, India, the West Indies were gradually brought under British subjection, and large bodies of English pioneers and settlers proceeded to, and opened up, these various countries to cultivation and commerce. Australia, New Zealand, and South Africa were added to our colonial possessions, and even when the 13 colonies of America were lost to England, her possessions remained and continue to this day of immensely greater extent than the colonial possessions of any other country. The latest colonies to be incorporated with the Empire were those of the Transvaal and Orange Rivers. It is estimated that one-sixth of the land of the globe is comprised within the British Empire.

Colosseum, the name of the Flavian amphitheatre at Rome, begun by Vespasian and finished by Titus A.D. 80. In general outline it still remains one of the most magnificent ruins in the world. It is 607 feet long, 512 feet broad, and 150 feet high. On the ground storey there are 80 vaulted openings. In the arena of this great building the famous gladiatorial displays and mimic naval battles used to be given, and 50,000 spectators could be accommodated.

Colossus is the name which the ancients gave to any statue of gigantic size. The Colossus at Rhodes, which was a bronze statue of Apollo, was the most famous, and reckoned among the seven wonders of the world. It was 70 cubits high, and stood astride of the mouth of the harbour, so that ships could sail between its legs. It was destroyed by an earthquake in 224 B.C.

Colour-Blindness is a defect of vision inducing blindness to certain shades of colour. It is stated that this defect shows itself in from two to six per cent. of males, while under one per cent. of women suffer from it. This colour-blindness is sometimes total, but in the majority of cases only partial.

Column, in architecture, is an upright solid body serving as a support or decoration to a building. Columns consist of a pedestal, a shaft, and a capital, over which the supported entablature rises. They are named according to the styles of architecture of which they form part, being Doric, Tuscan, Ionic, Corinthian, or Composite as the case may be.

Colza Oil is obtained from crushed rape-seed, and is valuable both as a lubricant and an illuminant.

Combustion, the process of burning, arises from the rapid oxidation resulting from the combination of oxygen with any inflammable material.

Comets are celestial bodies which move about the solar system in elliptical parabolic orbits. Usually these star-like bodies are accompanied by a long stream or tail of light. The parabolic comets are seen once only, and do not reappear; the elliptical comets are periodic, and their recurrence can be calculated with accuracy. Comets are of enormous magnitude, sometimes covering millions of leagues, but their light is feeble in comparison with that of a star. The great comet years, so far as recorded, have been 1456, 1680, 1811, 1843, 1858 (Donati's), 1861, 1874 and 1881.

Comitia were gatherings of the Roman people for the purpose of voting on public affairs. The *comitia curiata* was composed of representatives of the patrician families and dealt with State affairs, religion, etc.; the *comitia centuriata* consisted of five classes, and voted on laws, capital crimes, and imperial affairs; and the *comitia tributa*, which was a plebeian assembly, concerned with local matters, magisterial appointments, etc.

Comitium, the place of assembly of the Roman citizens; it stood adjacent to the Forum, of which it was sometimes reckoned a part.

Commander, a naval officer next in rank below a captain. His title is that of sole commander of a vessel of the third or fourth class, or of second in command of a first- or second-class ship.

Commander-in-Chief was the title of the highest officer in the British Army until 1924, when in its place the office of Inspector-General of the Forces was created, to which position the Duke of Connaught was appointed, being succeeded in 1907 by Gen. Sir J. D. F. French, who resigned in 1914, and was followed by Gen. Sir C. W. H. Douglas.

Commodore, a naval officer next below a rear-admiral and next above a captain. It is a title usually conferred upon a captain appointed to a particular service, and is only temporary.

Common Law, in England, is the unwritten law established by custom, usage and precedent, and not by statute. Both statute law and equity over-rule common law when courts are called upon to decide between them.

Common Prayer, Book of. (See Book of Common Prayer.)

Commons are unenclosed tracts of land dedicated to the use in common of all the inhabitants of the district or township in which they lie. In old times almost every parish had its commons, but under the altered conditions of modern existence, commons became less and less of a necessity, and many have been enclosed and built upon, the rights of the commoners being compensated under provisions laid down by Act of Parliament. A Commons and Footpath Preservation Society was formed in 1865.

Commonwealth, the theory that every communal district should have an autonomous government.

Commune is a municipal administration division in France, Italy or Belgium, generally presided over by a mayor and municipal council.

Commune of Paris was originally the Paris Revolutionary Committee, established in 1793, but superseded by the Convention of 1794. The second Paris Commune was that of 1871, which took possession of Paris after the withdrawal of the German soldiers, and destroyed the Tuilleries, the Vendôme Column, the Hôtel de Ville and other public buildings, but was ultimately suppressed by the National troops.

Communism, the system which claims to put an end to private ownership and establish the absorption of all proprietary rights by the State for the common good. It also claims the right of the State to control production, distribution, and consumption, and an equitable division of labour.

Compass (or Mariner's Compass) is an instrument by which the magnetic meridian is indicated, and comprises a horizontal bowl containing alcohol and water, a card upon which the 32 points of the compass are marked, and the steel needle which

always points to the meridian. The origin of the Mariner's Compass is unknown, but it is supposed to have come from China.

Compurgation was a system of trial which prevailed up to the reign of Elizabeth, whereby an accused person could claim the right to summon twelve personal friends to testify their belief in his innocence. From this system grew trial by jury.

Conchology, the science of shells, which was usually divided into three classes—univalves, bivalves, and multivalves.

Conclave, an assembly of Roman Catholic Cardinals met together to elect a Pope.

Concomitance, a doctrine teaching that Christ's body exists entire under each eucharistic element.

Concordance, a supplement of references, notes, and explanations added to any important work such as the Bible, Shakespeare's plays, etc.

Concordat, an agreement or convention between the Pope and a secular government regarding ecclesiastical matters. The Concordat of Worms in 1122 between Calixtus II. and the Emperor Henry V. was famous as deciding a long struggle in regard to investiture. In 1801, Napoleon concluded a concordat with Pius VII., defining the restored relations between the head of the Church and the French Roman Catholics.

Concrete is a substance formed by uniting in coagulated masses various hard materials such as stone chippings and particles, sand, gravel and lime. It is much used for floors, foundations, sea-walls, etc. In recent years reinforced concrete—i.e., concrete combined with steel—has come greatly into use, and performs a powerful part in large constructional work.

Condor, a large vulture of brilliant black plumage, and having a circle of white feathers round its neck. It is a native of the Andes.

Condottieri were mercenary soldiers engaged in the wars of the Italian States in the Middle Ages.

Confer-Bel, a marine eel sometimes found on the length of 10 feet and weighing 100 lbs. It is common round the British coast.

Congregationalists, or Independents, are the oldest sect of Nonconformists and hold that each church should be independent of external ecclesiastical authority. They sprang from the Brownists, who arose in Elizabeth's days, but were compelled to take refuge in Holland. Under Cromwell they were able to extend their ministrations and became a powerful body. Charles II.'s Act of Uniformity drove them forth again, but they regained full liberty of worship under William III. In the British Isles there are over 3,000 Congregationalist ministers, over 5,000 churches, and nearly half a million communicants, while the number of communicants throughout the world is over 1,250,000.

Congress, the legislative assembly of the United States, which first met on March 4, 1793. It consists of a Senate and a House of Representatives.

Conic Sections form an interesting division of the science of geometry, and have to do with such curved lines as can be produced by the intersections of a plane with a right circular cone. Five different sections can be found; the triangle, the parabola, the hyperbola, the circle, and the ellipse.

Conifers are cone-bearing trees, including fir, pine, cedars, cypresses, junipers, yews, etc., and are widely distributed. They are important timber trees, and many of them yield resins and juices of considerable commercial value.

Conjunction, in astronomy, means the meeting of two or more heavenly bodies in the same longitude.

Conscience Money is money paid to the revenue by persons who have previously omitted payment.

Conscription, a system of compulsory military service by lot or enrolment, introduced in France in 1798, but now generally superseded. France, Germany, Austria, Russia, and some other countries have adopted a general compulsory service, rendering all able-bodied males liable to a term of soldiering. A National Service movement for a modified form of conscription for this country has been much discussed of late, and has for its leader the veteran war-captain Lord Roberts.

Conservative is the political Party name adopted by the Tories about the time of the passing of the first Reform Bill (1832).

Consistory, a term applied to the private Council of state under the Roman Empire, but in later times used to designate the higher ecclesiastical courts and senates of the Anglican and Roman churches.

Constable, an officer of high rank in mediæval times, and still, in some few offices, such as the Lord High Constables of England and Scotland, representing considerable dignity. Before the introduction of the police system in England every hundred and parish had its constables upon whom devolved the duty of keeping the peace. The official designation of a policeman is police constable.

Constellation is the term applied to a group of fixed stars. According to Ptolemy, there were 48 constellations. Others were discovered and added from time to time, and now there are 85 constellations, which have been chiefly named from the classical mythology.

Constitution implies the organisation of the great body politic of the nation with regard to legislative, judicial, and executive authority and power. The legislative power is vested in the King, the Lords spiritual and temporal, and the House of Commons. The judicial authority rests with the judges and magistrates, not removable after appointment except for very serious fault; the jury system, which is a very important part of the British constitution, affording a guarantee that no accused person can be dealt with as guilty until twelve of his peers have convicted him. The executive power is nominally in the hands of the Sovereign, but is really exercised by the responsible ministers, who owe their positions mainly to the popular preference, in this country.

Consubstantiation is the belief that the body and blood of Christ become part of the bread and wine partaken of at Holy Communion.

Consul, the title borne by the two chief magistrates of the Roman Republic. Three consuls were appointed for France after the dissolution of the Directory in 1799, Napoleon becoming First Consul and holding the office until 1804, when he was made Emperor. At the present day diplomatic and commercial representatives abroad of the British, American, and other governments are styled consuls.

Contraband Goods are such as are prohibited to be imported or exported, especially such as are not allowed to be sold to belligerents in time of war.

Convention is an assembly of representative persons delegated to decide important questions.

Convocation is an assembly of ecclesiastics for dealing with church affairs. There are only two in England, those of Canterbury and York under the headship of their respective archbishops.

Cobblers are Asiatic labourers employed in large numbers in tropical climates for the tropical lands for plantation and menial work of all kinds.

Copper, one of the most familiar of metals, used in ancient times as an alloy with tin in producing bronze, and preceding iron as an industrial material. Copper ores are most abundant in North America. Spain, Chili, Australia, and Prussia, also yield large quantities. The chief copper-mining region of England is Cornwall, and Swansea has attained great celebrity as a copper-smelting district. All copper compounds are poisonous. Copper sulphate is largely used in calico-printing and in the production of blue and green pigments. The yearly quantity of copper raised throughout the world is some 700,000 metric tons, over 78,000 tons being from the British Empire, mainly Australia and Canada. The consumption of copper for ammunition purposes in the great war (1914-15) was so vast as to deplete all the usual sources of production, and led to much contraband traffic between neutral and belligerent countries, the extra supply from America being very large.

Coppos, sulphate of iron, or green vitriol, employed in the production of sulphuric acid and in the manufacture of ink and black dyes.

Copts, descendants of the ancient Egyptians, professing a modified Christianity, the head of their

system being a Patriarch. They do not marry out of their own race.

Corall, a hard calcareous substance secreted by certain zoophytes for their habitation and support, varying in colour and texture, some being red or pink and some white, some compact and smooth, and some rough and porous. The structure of the coral secretions assumes a variety of forms, fan-like, tree-like, in mushroom shape, and so forth. Red coral is mainly obtained from the Mediterranean. The coral reefs of the Pacific and Indian Oceans and the Red Sea are often many miles in extent.

Cordite, a smokeless powder adopted for small arms and heavy artillery by the British Government in the naval and military services in 1889, and composed of 58 parts of nitro-glycerine, 37 of gun-cotton, and 5 of vasoline. Superseded by an improved explosive in 1902.

Corduroy, a strong cotton fustian, ribbed and made with a pile, so cut as to leave a surface ridged in the direction of the warp.

Cork, the bark of a species of oak grown largely in the South of Europe and North Africa. The cork tree is said to yield bark every six to ten years for 350 years, and grows to a height of from 30 to 40 feet. Its lightness and elasticity enable it to be used for a variety of commercial purposes, especially for stoppers of bottles.

Cormorant, a large swimming and diving bird, of which there are over 20 species. It lives mostly on fish and is famed for its voracity. It is found in Europe, Asia, and America.

Corn, a term used to designate such cereal products as are used as food, but more especially applied to wheat in this country, to oats in Scotland, and to maize in America.

Cornell University, at Ithaca, New York State, was founded by Ezra Cornell, and affords education to 3,000 male and female students.

Corn Laws were statutes intended for the benefit of British Agriculture, and were for the most part prohibitive of exportation and imposed a duty on imported corn. From 1436 to towards the middle of the 19th century such laws were in force, and were often of a very stringent nature. These laws became so oppressive and caused corn to reach so high a price that the poorer classes were plunged into distress. A powerful anti-corn law agitation was organised, of which Cobden, Bright, and Villiers were the leaders, and Sir Robert Peel, in 1846, passed an Act lowering the corn duty to 1s. per quarter. This gave quick relief, turned England into a Free Trade country, and led to a period of prosperity which has in the main been continued ever since. The corn duty was ultimately abolished entirely.

Coronation Expenditure. King Edward VII.'s coronation established a record for modern times, costing the sum of £339,000. The coronation of George IV. cost £238,231, and that of William IV. only £20,000, it being announced that "it was the hope of the King and the Ministers to prevent a heavy burden from falling on the people." In connection with George IV.'s crowning an elaborate record was intended to be published, but it proved too expensive an undertaking to complete. The part which did appear contained seventy-three coloured drawings, "finished like enamels, on velvet and white satin," each portrait costing 50 guineas.

Coroner, an officer whose duty it is to hold inquests on the bodies of people who are suspected of having died from other than natural causes. He is usually either a lawyer or a doctor; an inquest takes the form of a legal inquiry, a court being constituted, with a jury, the coroner being the presiding officer. There are in some places fire-inquests also.

Corporation, a body of persons, authorised by law or Crown grant, to carry out certain specific duties, and to hold property or accept responsibilities as if but one person. Corporations, which have been known from very early times, are either sole or aggregate; that is, consist of only one person, or two or more persons. A bishop and his successors may form a sole corporation, a mayor

and aldermen an aggregate corporation. Every city and town of importance in England is governed by a municipal corporation, consisting of a mayor, aldermen and councillors. A mayor is elected for one year, an alderman usually for six years, and a councillor for three.

Corpus Christi Festival is one of the great celebrations of the Roman Catholic Church, and takes place on the Thursday after Trinity. It was instituted by Pope Urban IV. in 1264.

Cortes, the name of the Parliamentary assemblies of Spain and Portugal.

Costly Treasures. Mr. Pierpont Morgan was the possessor of some of the costliest things in the world. He bought the late Lord Anglessey's rock-crystal ewer which fetched 4,000 guineas at auction in London. Among Mr. Morgan's other treasures were the Raphael Madonna of St. Anthony of Padua, for which he paid £100,000; four tapestries after Boucher, which cost him two million francs; ten decorative panels painted by Fragonard for Madame Dubarry, valued at over £100,000; and Gauborough's Stolen Duchess, for which he gave £30,000. He bought the Pfungst collection of antique bronzes for £15,000; and the great collection of Rembrandt etchings for a similar sum; he owned the famous old silver gathered together by Herr Gutmann; and paid something like £50,000 for the Mannheim collection. His library included such rare treasures as the "Evangelia Quatuor," bought for £10,000; a 5,000 guinea copy of the "Palaeorum Codex," the manuscript of Book I. of "Paradise Lost," the reserve price of which was £5,000; and a large number of Caxtons, four of which are valued at £5,000. (See *Morgan, Pierpont*, in *Prominent People Series*.)

Cotton, the name of a plant of several species, bearing large yellow flowers with purple centres. These centres expand into pods, which at maturity burst and yield the white fibrous substance known as cotton. Cotton grows most abundantly in the United States, but is also cultivated with success in the West Indies, India, Brazil, and the Levant.

Cotton Industry of Great Britain maintains at least three millions of people. The capital invested in it is not less than £400,000,000, and it pays every year something like 40,000,000 for the raw material, by far the greater part of which comes from foreign countries. That raw cotton is manufactured into yarn and fabrics valued roundly at £100,000,000, and little more than a fifth of the product is consumed in the home market. Eighty per cent. of the total production of the Lancashire spindles and looms goes to foreign countries in spite of tariff walls, into neutral markets, and into our own possessions. It is estimated that there are about 140,000,000 spindles for the spinning of the world's cotton; and of these this country has over 55,000,000.

Cotton Seed Oil is an oil extracted from the seed of the cotton plant, and is of considerable commercial value, being often used as a substitute for olive oil.

Count, a foreign title of nobility corresponding in a sense to that of an English earl, but of much inferior status socially in reality. The wife of an English earl is called countess.

County, signified originally the territory of a count or earl; now it comprises a shire or one of the administrative areas into which the kingdom is divided. England and Wales have 32 counties, Scotland 33, and Ireland 32. Some cities and towns are also counties in themselves, so constituted by charter.

County Councils were established by the Local Government Act, 1888. They are popularly elected bodies, invested with administrative powers of great scope, including the making and keeping in repair of roads and bridges, considerable educational authority, the control of reformatory and industrial schools and lunatic asylums, the appointment of coroners, the licensing of music halls, and many other duties. County Councillors are elected for three years, and county Aldermen for six. A chairman is elected by the whole body, and may be chosen from the outside if deemed expedient.

County Courts were established in England in 1825, the jurisdiction being then limited to actions up to £10. Numerous extending acts have since been passed, and up to December 31, 1904, actions to the £50 limit, or by agreement up to £100, could be brought therein. The act which came into operation January 1, 1905, however, raised the limit of the ordinary jurisdiction to £100. There are now 54 county court circuits, and about 500 courts. Annually over a million and a quarter actions are instituted in our county courts, and of nearly four millions sterling claimed therein in the aggregate every year over one-half is recovered. Of the total number of bankruptcy petitions something like 75 per cent. are filed in the county court.

Coup d'Etat, a sudden act of State of a revolutionising character and carried out by force. The best known example of modern times was the overturning of the French National Assembly by Louis Napoleon in 1852, whereby he became Emperor.

Courier, a servant or factotum accompanying a person or party on a journey, to make and superintend the arrangements as to conveyance and accommodation; formerly the term implied a messenger despatched on any mission of importance necessitating speed and circumspection.

Court Leet, a court of record held annually before the steward of any particular manor or lordship; anciently the term meant a local criminal court for dealing with petty offences.

Covenanters were a body of Scottish Presbyterians who in the cause of religious liberty, in 1638, and again in 1643, pledged themselves to uphold the Presbyterian faith, as against both prelacy and popery.

Covent Garden, in London, now a great flower and fruit market, was once a convent garden owned by the abbot and monks of Westminster.

Crabs are familiar crustaceans, carrying a shell, breathing through gills, and being provided with ten external limbs or claws, the side and smaller limbs being used for walking, and the two front claws serving as fingers for grasping purposes. There are many varieties, including land crabs, spider crabs, red crabs, etc. Soft shell crabs are the ordinary edible crabs at the moulting period.

Crape, a light, crimped fabric made from silk, the natural gum being utilised for the production of the crisp, wavy character of the material. A coarser kind of crape is made from cotton.

Creed, a brief enumeration of a particular belief or religion. The Apostles' Creed is adapted from 1. Corinthians, xv. 3-8. The Nicene Creed, which proclaims the Godhead of Christ, was promulgated at Nicæa in 325. The Athanasian Creed, which expounds the doctrine of the Trinity, dates from the 5th century.

Cremation, the ancient custom, to some extent revived in modern times, of burning the dead. Many scientific men commend the practice on hygienic grounds, and numerous eminent people have in recent years been cremated in accordance with instructions given by will. The principal crematoria in England are at Woking and Golders Green. There are other crematoria at Manchester and Glasgow.

Creole, a West Indian and Spanish American term applied to a person born in the country but of a foreign race. It is also loosely used to indicate a negro born in the country, not brought from Africa.

Creosote, a substance obtained from coal tar by fractional distillation from crude pyrolytic acid. It is a valuable antiseptic, prevents decay in wood, and is used to give a peaty flavour to whisky.

Creasy (or Cr  cy), the French village, near Abbeville, where Edward III. gained his great victory over the French in 1346.

Crataecous System is the term given to the uppermost strata of rocks of the Mesozoic period. It has the following sub-divisions: Maestricht beds, chert with flints, chert bed of flints, chalk marl, upper greensand, and gault.

Cricketer, an old English outdoor game, played as

far back as the 13th century, and now the national summer game. (See Pears' "Dictionary of Sports and Pastimes.")

Crickets, a genus of insects of the grasshopper order, which move by leaps. The male produces a chirping noise by the action of its wings.

Crimoean War was begun in the Spring of 1854, and lasted until March, 1856. Great Britain, France, Sardinia and Turkey were engaged as allies on the one side, and Russia alone on the other.

Crimp, a person whose nefarious occupation was to decoy men into naval or military service for a consideration or, alternatively (sometimes also incidentally), one who kept a house of accommodation to which sailors were allured and plundered. The payment of "crimpees" by ship-captains or owners is now illegal, and "jack ashore" is protected as much as possible from land-sharks of the crimp genus.

Crinoline was the name given to a stiff material, originally of horse hair, worn by ladies as a skirt-expander from about 1855 to 1860. It was a modern adaptation of the farthingales and hoop skirts worn in earlier times.

Crocodile, the name of the largest existing reptile, and classed with the alligator and the gharial. The crocodile inhabits the Nile region, the alligator the lower Mississippi, and the gharial is found in the waters of the Ganges.

Crofters are farmers of the western coast-islands of Scotland, who occupy very small holdings and eke out a living by fishing and other occupations.

Cromlech, the name given to an ancient monumental erection consisting of a large rough stone placed on three or more upright stones and found in various parts of Great Britain and the Continent.

Crookesite, a brittle mineral of leaden-grey hue and metallic lustre, found in Norway, and named after Sir William Crookes, the discoverer of thallium.

Crore, a Hindoo word meaning ten millions, and used commercially to signify that number of rupees.

Crozier, the staff, or crook, of a bishop carried before that dignitary on special episcopal occasions. It is generally richly decorated in gilt at the top.

Crow, a genus of well-known birds, including the common crow, the rook, the raven, and the jackdaw. It is a gross feeder, living on flesh, garbage, insects, etc., is of black plumage, and builds in trees.

Crusades were military expeditions undertaken by some of the Christian nations of Europe with the object of wresting Jerusalem from the Mahomedans. Peter the Hermit started the agitation in 1095, and from that date to 1271 various crusades were undertaken. There were eight crusades in all: 1st, 1096-9, under Godfrey of Bouillon, which succeeded in capturing Jerusalem; 2nd, 1147-9, led by Louis VII., and unsuccessful; 3rd, 1189-92, in which Richard I. took part, against Saladin, also unsuccessful; 4th, 1202-4, led by Count Baldwin of Flanders, and resulting in the founding of a Latin empire in Constantinople; 5th, 1217, led by John Bussane; 6th, 1228-9, under the Emperor Frederick II.; 7th, 1248-50, led by St. Louis (Louis IX. of France); and 8th, and last, 1270-71, under the same leadership, but resulting in failure. Millions of lives and an enormous amount of treasure were sacrificed in these enterprises, and when all was done Jerusalem remained in the possession of the "infidels."

Cryolite, a mineral found in extensive beds in Greenland, and one of the main sources of aluminium. It is also used for making a creamy white glass in conjunction with silica and oxide of zinc.

Crypt, a vaulted subterranean portion of an abbey, cathedral, or church, now generally used for burials or monumental purposes.

Cryptogamia, the twenty-fourth and final order in the botanical system of Linnaeus, including the Fungi, Algae, Filices, and Musci.

Crystal Palace, a gigantic glass and iron building standing at Sydenham, erected in 1854, mainly from the materials of the Hyde Park Great Exhibition building of 1851. It covers over 200 acres, with the grounds. Financial difficulties made an application to the Court of Chancery necessary in 1911, and a sale of the estate was ordered. Attempts were

made to save the property for the nation, and the Court fixed £220,000 as the sale price. The Earl of Plymouth thereupon paid a deposit of £20,000, and the public was appealed to for subscriptions for the balance. On June 30, 1913, a sum of £50,000 was still wanting, although meanwhile Lord Plymouth had advanced the money for the legal completion of the purchase. Within twelve days from June 30, however, in response to an appeal through the *Times* the £50,000 was raised, and the Crystal Palace now belongs to the people.

Gubism. (See Post Impressionism.)

Guckoo, a well-known migratory bird which is found in Great Britain from April to July, and has a very characteristic note, uttered during the mating season only by the male. It lays its eggs in the nests of other birds, but only one egg in each nest.

Gudeese, the name of a Scottish monastic fraternity, not attached to any of the recognised orders, and existing from the 9th to the 14th century.

Gulaiform, the term applied to the arrow-headed characters found in Assyria, Persia, and Mesopotamia. Good examples may be seen in the British Museum, some of them several thousand years old.

Gupola, the inner portion of a dome. Famous cupolas are those in the Roman Pantheon, the Mosque of St. Sophia at Constantinople, St. Peter's at Rome, and St. Paul's in London.

Gurfew, the bell which William the Conqueror ordered to be rung at eight o'clock each night in the towns and villages of Britain, as a signal to the inhabitants to extinguish lights and go to bed. It was abolished in 1700, but at Ripon, Sandbach, and Wokingham, the curfew is still rung as a matter of custom.

Gurlew, a wading bird of which there are several species. It frequents marshy places, feeds on worms and insects, and possesses a very long-curved bill.

Cyanogen, a compound of nitrogen and carbon, obtained from heated dry mercury cyanide, and highly poisonous. It combines to form numerous cyanides, and is of great use in producing, in combination with iron, various deep blue pigments, including Prussian blue, Chinese blue, etc.

Cycling, a recreation largely indulged in by all classes. Cycles have undergone great improvements in recent years, the machines now in universal use, of the "safety" order, being easy to ride, light of weight, and capable of being ridden at a good speed. They can now be bought from £5 to £25.

Cyclone, a circular, whirling wind of great power and intensity, occurring in warm climates.

Cymri, or Kymri, a branch of the Celtic race which settled in Wales and Cornwall.

Cynics were a set of Greek philosophers, founded by Antisthenes, the pupil of Socrates. They held that virtue was the only good, and condemned arts, sciences, pleasures, and riches. Diogenes was the most famous of the cynics.

Cynocephalus, a genus of monkeys of the Old World with dog-like heads, and belonging to the baboon branch of the Simiadae.

Czar is the title of the Emperor of Russia, and is derived from Caesar. The first Czar was Ivan IV., crowned in 1547. The Czar's wife is styled Czarina, and his eldest son Czarowitch.

Czechs are a Slavic branch, and include the Bohemians, the Moravians, and the Slovaks; they inhabit Bohemia, Moravia, and North Hungary, and number some 7,000,000.

D

Dab, a species of flat fish, common round the British coast, and a better table fish than the flounder.

Dabber, a mass of cotton-wool or similar soft material fastened in a circular form, and used by etchers and engravers for "dabbing" their plates.

Daboys, an Indian viperine serpent, venomous, and of nocturnal habits, of the genus *Daboia*.

Dace, a small fresh-water fish of the carp family, of elegant shape and silvery appearance.

Dacelo, a quaint-looking bird of the kingfisher order, common to Australia, one variety of which is known as the "laughing-jackass."

Beeshound, a German badger-hound, remarkable for its short legs and long body.

Besite consists of plagioclase and quartz, together with minerals of the hornblende and pyroxene families. Occurs mostly in Transylvania and the Cordilleran districts of America.

Besouts, Indian brigands, or professional robbers, who were formerly very numerous and terrorised the districts they infested, especially Lower Bengal. Of late years they have been in great part dispersed, but bands of them still give trouble in the more remote places.

Besydium, a genus of plants of the yew family, native of New Zealand and the East Indies, the young branches of which are used in the making of a beverage not unlike spiced beer.

Besyl, a measure in versification, consisting of a foot of three syllables, the first long, and the second and third short, as *lovely, verily*.

Besylomanoy, the art of divination by means of finger rings, now less resorted to by professors of the occult than formerly.

Besylomya, a South American rodent of the size of a rat, possessing a long scaly tail.

Besylotus, a fish of the eel family, with wing-like pectoral fins; sometimes known as the flying fish, though that appellation is more generally given to *Exocoetis* species.

Besol, a term denoting the portion of a pedestal between the base and the cornice; also applied to the lower part of the walls of a room when decorated differently from the upper part.

Besol, a kind of fresh-water duck, with long supple tail, found in Europe, Asia, and America. The pintail duck belongs to this genus.

Besol, a sharp-pointed instrument for stabbing, in frequent use in mediæval times as a private weapon, and still occasionally carried on the person in Italy and Spain.

Besol-ale, a kind of liquor often referred to in 16th century English literature, and sold at the sign of the Dagger in Holborn, a London house much frequented by the gallants of the time.

Besol, an edifice dedicated to the custody of relics of Buddha, and numerous in the temples of Ceylon and other Buddhist countries.

Besol, the feast of the Plutistines in honour of Dagon, their god, which was depicted with the head of a man and the lower part of the body like a fish.

Besol, a photographic process invented in Paris by M. Daguerre during the years 1824-30, resulting in the employment of the camera for the exposure of a silver plate, sensitised by iodine fumes in a dark chamber.

Besol, a kind of boat much used on the Nile, broad at the stern and tapering off gracefully at the prow. It carries one or two mats and sixteen sails.

"Daily Chronicle," a London morning Liberal paper, founded by Mr Edward Lloyd in 1866, and incorporating the *Clarendon News*. Its price was a penny until 1904, when it was reduced to a halfpenny.

"Daily Graphic," an illustrated penny daily morning paper, started in 1890 as an adjunct to the weekly *Graphic*.

"Daily Mail," an Imperial-Unionist halfpenny morning paper commenced in 1896 by the Harmsworths.

"Daily Mirror," founded in 1904 by the Harmsworths as a penny morning illustrated paper for women, but, being unsuccessful on those lines, was turned into a general halfpenny illustrated, and became popular.

"Daily News and Leader," a London Liberal morning paper, started as the *Daily News* in 1840, whose first editor was Charles Dickens. Among its later editors have been Sir H. W. L. W. W. W. T. Cook, and Mr A. G. Gardiner. Its price was reduced to a halfpenny in 1904.

"Daily Telegraph," a penny Imperial-Unionist morning newspaper, started in 1855, and having a very large circulation. Lord Burnham is chief proprietor. Sir Edwin Arnold was its editor for many years.

Daimio, a feudal lord of Japan, forming a class who, from independent princes, have declined to governors of their particular districts under the rule of the Mikado.

Dairies are properly places where milk is stored and converted into butter and cheese, but in large cities the term is applied to shops where milk is sold only. Great improvements have been made in recent years in the construction and management of dairies, and hand processes in the making of butter and cheese have been largely superseded by mechanical power.

Dais, an elevated part of a floor, or a platform, in a large room or hall. It usually has a seat or seats upon it, and is covered with a canopy. It is the place of honour occupied by the most distinguished personage or personages, as the King, the Lord Mayor, a bishop, etc.

Dak, the name given to the native post service in India, maintained by relays of runners.

Dalmatian Dog, the old-fashioned coach dog, white, spotted with black. Often called the "plum-pudding dog."

Dalmatic, a wide-sleeved ecclesiastical vestment, reaching below the knee. Worn by bishops and deacons over the alb or stole.

Dana, the scientific name of the fallow deer, which is fawn coloured or brown, dotted with white spots.

Damaak, a textile fig red fabric, made in various forms, with silk threads of many colours, as originally woven in the city of Damascus; in a combination of silk and wool or cotton; in linen only for table cloths, etc.; or in cotton.

Damaskeening, the art of inlaying one metal upon another, largely practised in the East in mediæval times, especially in the decoration of sword blades. In its modern form it has been greatly developed.

Damp, humidity, moisture, assumes numerous forms. Fire-damp, however, has nothing to do with humidity or moisture (the term damp in this case being derived from the German, *dampf*, vapour), but consists of a poisonous vapour met with in mines and often the cause of explosions; choke-damp is mainly composed of carbonic acid gas, and causes suffocation.

Dan, a mining term applied to a vessel in which water is conveyed to the surface.

Danahite, a transatlantic mineral occurring in various parts of the United States of America.

Danburite, a substance found in crystals in various regions of America, and in Switzerland, and of a yellowish-white colour. A borosilicate of calcium.

Dancette is an architectural term, applied to a form of zigzag moulding often found in ancient buildings of the Romanesque or Norman order.

Dancing, a form of exercise, generally performed to a musical accompaniment and comprising many different styles. It was originally adopted as a religious observance, was gradually developed with the advance of music, and in modern times has been highly cultivated professionally. On the stage it is one of the greatest attractions in the form of ballet, and in private life is much indulged in, balls and dances forming a leading society diversion. Among the different styles of dances, step dances performed by one person—such as the jig, hornpipe, etc., are among the oldest, while dances executed in pairs, including the waltz, polka, schottische, etc., are more modern. Of what are called square dances, the country dance takes precedence in point of time; they also comprise the quadrille, the reel, mazurka, etc. Minuet, gavotte, waltz, etc., belong to the strictly period of the 17th and 18th centuries. Certain foreign dances of questionable taste, such as the tango, have had a temporary vogue in recent years. For references to the chief dances see *Sports and Pastimes* section. Also see *Ballet* in this section.

Dandie Dinmont, species of Scotch terrier named after the well-known character in *Uncle Ransome*.

Dandies, the name given to a class of exquisite prominent in early Victorian days, and attracted attention by excessive regard for dress.

Danegeld, a tax imposed in England in Anglo-Saxon times to raise funds for resisting the Danes. Edward the Confessor abolished the tax, but it was

revived by the Conqueror and subsequently retained, under another name, long after all danger from the Danes was past.

Danelaw was the law enforced by the Danes in the fifteen English counties occupied by them in the 9th century, and extending from the Thames to the Tees northward, and from Watling Street to the German Ocean eastwards. The country occupied was also called the Danelaw or Danehagh.

Danes' Blood, a common plant of the elder family, deriving its name from the tradition that it originally grew from the blood of Danes killed in battle.

Danites, the title by which a secret order of Mormons was known, and to whom many serious crimes were attributed.

Darien Project was a scheme entered upon at the close of the 17th century by Paterson, the Scotch financier, for colonising the Isthmus of Panama and thereby diverting trade in the direction of Scotland. A large number of Scotch people went out, and much money was sunk in the enterprise, but owing to the deadliness of the climate and other causes the scheme failed utterly.

Darter, a genus of birds of the pelican family, with pointed bill and long serpent-like neck. Two species only are known: one belonging to Africa, the other to America.

Dastanake, the name of a serpentine lizard of the Aconitas family, noted for the darting manner in which it attacks its prey.

Dasyurus, the name of a carnivorous quadruped, hairy tailed, and of the opossum family, with white spots; confined to Australia and Tasmania.

Datary, a Roman ecclesiastical functionary, who acted for the Pope in all matters relating to the issuing of grants and dispensations; the datary or dispatcher of the Papal bulls.

Data Palm, a native of Northern Africa, where it is grown in great profusion. It is also known in Southern Europe and Western Asia to some small extent. It grows from 60 to 80 ft. high, and its fruit is of great value as a food. From the leaves the Africans make roofs for their huts; ropes are made from the fibrous parts of the stalks; and the sap furnishes a stimulating beverage.

Daubreite, a substance of a yellow colour found in earthy masses in Chili, and a bismuth oxychloride. Named after Daubry, the French mineralogist.

Dauphin, the title borne by eldest sons of the Kings of France from 1349 to the Revolution of 1830.

Deauw, an animal of the zebra order, with black and white stripings. A native of Africa and usually known as Burchell's zebra.

Deavenport, the name given to a small ornamental writing desk much in vogue about the middle of the 18th century.

"**Davy Jones**," a nautical term of a humorous turn supposed to apply to the spirit of the sea; thus, it is a common saying among sailors, when a person dies at sea, that he is committed to "Davy Jones's locker."

Day, a period of 24 hours; or the period of the sun's position above the horizon each day. The exact measure of time covered by a day is 23 hours, 56 minutes and 5 seconds. The Babylonians counted their day from sunrise to sunrise, the Hebrews and Athenians from sunset to sunset, and the Romans from midnight to midnight.

Day Nurseries are modern institutions, the result of a movement for the protection of the young children of working people, and consist of ~~2~~ ³ ~~3~~ ⁴ ~~4~~ ⁵ ~~5~~ ⁶ ~~6~~ ⁷ ~~7~~ ⁸ ~~8~~ ⁹ ~~9~~ ¹⁰ ~~10~~ ¹¹ ~~11~~ ¹² ~~12~~ ¹³ ~~13~~ ¹⁴ ~~14~~ ¹⁵ ~~15~~ ¹⁶ ~~16~~ ¹⁷ ~~17~~ ¹⁸ ~~18~~ ¹⁹ ~~19~~ ²⁰ ~~20~~ ²¹ ~~21~~ ²² ~~22~~ ²³ ~~23~~ ²⁴ ~~24~~ ²⁵ ~~25~~ ²⁶ ~~26~~ ²⁷ ~~27~~ ²⁸ ~~28~~ ²⁹ ~~29~~ ³⁰ ~~30~~ ³¹ ~~31~~ ³² ~~32~~ ³³ ~~33~~ ³⁴ ~~34~~ ³⁵ ~~35~~ ³⁶ ~~36~~ ³⁷ ~~37~~ ³⁸ ~~38~~ ³⁹ ~~39~~ ⁴⁰ ~~40~~ ⁴¹ ~~41~~ ⁴² ~~42~~ ⁴³ ~~43~~ ⁴⁴ ~~44~~ ⁴⁵ ~~45~~ ⁴⁶ ~~46~~ ⁴⁷ ~~47~~ ⁴⁸ ~~48~~ ⁴⁹ ~~49~~ ⁵⁰ ~~50~~ ⁵¹ ~~51~~ ⁵² ~~52~~ ⁵³ ~~53~~ ⁵⁴ ~~54~~ ⁵⁵ ~~55~~ ⁵⁶ ~~56~~ ⁵⁷ ~~57~~ ⁵⁸ ~~58~~ ⁵⁹ ~~59~~ ⁶⁰ ~~60~~ ⁶¹ ~~61~~ ⁶² ~~62~~ ⁶³ ~~63~~ ⁶⁴ ~~64~~ ⁶⁵ ~~65~~ ⁶⁶ ~~66~~ ⁶⁷ ~~67~~ ⁶⁸ ~~68~~ ⁶⁹ ~~69~~ ⁷⁰ ~~70~~ ⁷¹ ~~71~~ ⁷² ~~72~~ ⁷³ ~~73~~ ⁷⁴ ~~74~~ ⁷⁵ ~~75~~ ⁷⁶ ~~76~~ ⁷⁷ ~~77~~ ⁷⁸ ~~78~~ ⁷⁹ ~~79~~ ⁸⁰ ~~80~~ ⁸¹ ~~81~~ ⁸² ~~82~~ ⁸³ ~~83~~ ⁸⁴ ~~84~~ ⁸⁵ ~~85~~ ⁸⁶ ~~86~~ ⁸⁷ ~~87~~ ⁸⁸ ~~88~~ ⁸⁹ ~~89~~ 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power. The first decemvirs were elected in 451 B.C.

Deciduous Trees are such as shed their leaves, or "fall" at maturity, or at certain seasons, as distinguished from evergreens or permanent foliaged trees or shrubs.

Decimal System is based on a unit of 10, and for purposes of calculation is much simpler than the English system. It is in operation in France and other European countries, also in the United States of America.

Decimation was a term originally applied to the punishment of putting to death of every tenth person, but in modern times is used in its broader significance to indicate any form of wholesale slaughter.

Deck, the floor of a ship, and in large vessels comprehending the first or lower deck, middle deck, and main deck, which is the uppermost, except the reserved elevated part known as the quarter-deck.

Declaration of Independence was an Act by which the first American Congress, on July 4th, 1776, declared the American colonies to be independent of Great Britain.

Declaration of Rights. (See *Bill of Rights*.)

Decollation is the act of beheading or decapitation, as a form of punishment. Decollation was very generally resorted to in mediæval times, but it is confined mainly to France at the present day, the guillotine being the beheading instrument.

Decomposition is the act of disintegrating the elements of any compound substance. Oxygen and hydrogen are obtained by the decomposition of water, but these substances themselves cannot be decomposed.

Decree is a special edict or regulation issued by a supreme or governing power. The judgment of a superior court is also called a decree.

Decree Nisi, a law term used in regard to a Divorce Court decree which annuls a marriage, if at the end of six months nothing arises to interfere with the decision, whereupon it is made absolute, and the parties are free.

Dedication implies the consecration to sacred purposes of any building or ground, and has also a more general application to the setting apart of any building, institution, or enterprise to a special use. The term also attaches to the inscription by an author of any book or work to a patron or friend as a mark of esteem.

Deemster, a chief judge of the Isle of Man.

Deer are hoofed, horned, or antlered ruminants very widely distributed, and including many species. No true deer are found in South Africa or Australia.

Defender of the Faith, a title given to all English monarchs from the time of, and beginning with, Henry VIII. Originally conferred by Pope Leo X, then withdrawn, and afterwards re-conferred by Parliament.

Delism upholds the theory that there is a personal God, but rejects revelation and the doctrines of the Christian religion.

Delawareans, a tribe of Red Indians once very numerous in Philadelphia, on the banks of the river from which they take their name, but now settled for the most part in Arkansas.

Delft ware, a kind of enamelled pottery first made at Delft in Holland in the 14th century.

Deliquescence, the process of liquefaction or dissolving by the absorption of moisture from the atmosphere. For instance, chronic acid crystals on exposure to the air quickly deliquesce.

Delphinus, the scientific name for the dolphin family, and consisting of numerous species. Each jaw contains from 30 to 50 small pointed teeth.

Delta, a triangular tract of land between diverging branches of a river at its mouth, and so called from its general resemblance to the Greek letter Δ delta. The best known examples are the deltas of the Nile, the Ganges, the Niger, and the Mississippi.

Delta metal, a copper and zinc alloy, with a small portion of iron added, possessing almost the strength of iron and non-rustible. Has been widely adopted for industrial purposes.

Deluge, the overwhelming of a country by water, a

term commonly applied to the story of the world-wide deluge contained in the Bible, in which Noah and the Ark figure. A similar tradition lingers in the mythologies of all the ancient nations.

De Lunatico Inquirendo, the name for a writ sanctioning an inquiry into the condition of mind of a supposed insane person, with power to secure a due administration of his affairs if shown to be insane.

Democracy is the condition of direct popular government—"by the people for the people." The executive powers being vested in representatives elected by the people. A republic is in theory the most perfect form of democracy, as in the United States, France, Switzerland, Argentina, Brazil, Mexico, and other States, though in practical working the democratic idea is to some extent lost sight of in some of these, and something akin to dictatorship prevails. In Great Britain the Government is a democracy in so far as the House of Commons is concerned, and aristocratic domination is supposed to be held in check by the power of popular representation.

Demoiselle, the popular name of the Numidian crane, one of the largest of wading birds.

Denarius, a silver coin of ancient Rome, worth about 7d. English, first coined 265 B.C.

Denticulæ, a member of the moulding ornamentation of Ionic and also Corinthian entablatures, over the frieze and under the corona, but properly speaking, because of its projection, part of the latter. It consists of a row of relieved rectangular blocks at regular intervals, resembling teeth, hence the name.

Dendrite, any stone or mineral on which appears natural tracery resembling trees, leaves, or flowers, the result of the action of the hydrous oxide of manganese.

Denier, an old French coin, and the chief silver coin of Europe during the mediæval period.

Density, a term by which we assess the quantity of matter in any given bulk. As Clerk Maxwell puts it, "the quantity of matter per unit of space is defined as the density of the mass filling that space." The density of gold is 19.3, silver 10.5, copper 8.9, earth 5.6, diamond 3.5, air 0.0013.

Dental, pertaining to the teeth; as dental forceps, dental cavity, dental pulp, etc.

Dentex, a kind of fish common in the Mediterranean, possessing conic teeth and scaly cheeks.

Deodand, the name given in old English law to a personal chattel which had been the cause of an individual's death. This chattel—it might be a cart that had run over and killed a man—was declared a deodand and forfeited to the king to be applied to religious uses. Deodands were abolished in 1846.

Deodar, a coniferous tree of the cedar order, largely grown in India.

Department, a division of a country or province, applied in France to the chief administrative territories, which again are subdivided into arrondissements. In the work of British government, each separate division is named a Department. Thus we have the Home Department, the War Department, the Colonial, Indian and other Departments.

Depas, a double-handled drinking-cup used in ancient Greece, and referred to by Homer.

De Profundis (out of the depths), the first two words of the Latin version of the 137th Psalm, and commonly used to designate this psalm.

Derby, the leading English horse race, run on the 1.15.00 course on the last Wednesday in May or the first Wednesday in June. Originated in 1780 by the twelfth Earl of Derby, carried with it a stake of about £6,000, and is competed for by the best three-year-olds of the time. Among recent owners of Derby winners may be mentioned the King, Lord Rosebery, Sir J. Miller, Mr. Lionel de Rothschild, and Mr. Richard Croker, the former "Tammany" chief of New York.

Derham, an ancient Arabian silver coin, still current in Eastern countries, worth about 3d. English.

Derrick, the name of a special jib crane, for lifting and moving heavy weights. It was originally applied to a kind of gallows built by a Tyburn hangman called Derrick in the 17th century.

Dervish, a Mahomedan mendicant monk, of which there are many varieties, including howling and whirling dervishes. There are over 30 orders of dervishes in all.

Descloisite, a scarce mineral substance, scientifically described as a vanadate of lead and zinc, found in Argentina and other parts of the American continent, named after Des Cloizeaux, a French mineralogist. It is olive-green in colour.

Deserts consist of large barren, uninhabited tracts of country, and occur chiefly in hot climates. The most famous are those of Sahara, Arabia, and Central Asia (the Steppes). At one time a large uninhabited region beyond the Mississippi was called the Great American Desert, but it is desert no longer, having cities and prosperous farms built upon it.

Desman, a species of musk rat inhabiting the regions of the Volga and the Don in Russia. It is an expert swimmer and diver, and burrows on the river banks.

Desmidsiaceae, a kind of microscopic fresh-water algae, unicellular, and often assuming beautiful chain-like forms.

Destiny, a supposed foreordained end, an overmastering force that impels the current of events, to a final climax. In ancient times, fate, or destiny, was a common belief, and regarded as "unshunnable, unloose, unchangeable," as Shakespeare has it.

Detectives are secret police employed in collecting evidence or effecting the capture of offenders in cases of more than ordinary difficulty. In addition to the official class of detectives, there are numerous detective agencies in the chief cities of the world, and in 1904 some rather startling disclosures were made in the London courts regarding the methods of some of these agencies.

Determinism, the theory that man's actions are "uniformly determined by motives acting upon his character." The term was first used by Sir William Hamilton, and does not support fatalism.

Detonating Powders are chemical compositions which explode when heated or suddenly struck. There are many of these compounds. Ammonia with silver or gold, the chloride and iodide of nitrogen, and the fulminates of silver and mercury are among the best known detonating compounds.

Deuteronomy, the fifth book of the Pentateuch, purported to have been written by Moses, and containing the statement of the law, but regarded by many modern critics as of a much later period.

Deutzia, a genus of East Indian deciduous flowering shrubs, of the Syringa order. The inner bark of the stems is used in Japan for poultices, and the leaves for polishing purposes.

Deviation of the Compass, caused by the counter-attraction of the iron of a ship, is generally corrected by putting magnets near the compass, and by careful watching and calculation.

Devil, the spirit of evil, Satan, Beelzebub, "the tempter," the enemy of God and of good, to whom a varied personality has been given by different religious systems. In different ages, Milton has realised the higher spiritual conception of the tempter, Goethe the lower human idea.

Devil-fish, a strange marine animal of large size and of several species. As it is met with in European waters it is called the fishing frog, and the chief American species is the giant ray.

Devil-worship consists in a belief in, and of incantations to propitiate, evil spirits. This kind of worship is confined to certain primitive races of Asia and Africa, and a few Red Indians of North America.

Devise, an apparatus by which the relation between "the angular velocity of the earth and that of a horizon around the vertical of any place whatever" can be ascertained.

Devitrification, the process of rendering glass soft and pliable, incidentally depriving it of transparency.

Devolution, a term applied to a political propaganda advanced by the Irish Reform Association, of which Lord Dunsany is president, for bringing about an understanding between the professional, commercial, and landowning classes of Ireland, and organising a movement for the decentralisation of

Irish financial administration, and the adoption of a larger measure of self-government. The discussion of this movement with the Dublin Castle officials in 1905 led to complications resulting in the resignation of Mr. Wynneham, the Chief Secretary, and his condemnation of Devolution as more objectionable than Home Rule.

Devonian System in geology refers to the strata between the Silurian and the Carboniferous formations, and is also termed the Old Red Sandstone formation.

Dew is the vapour which collects in small drops on the surfaces of substances by atmospheric condensation, chiefly in the night time. It is most abundant in hot climates and gathers freely on bodies that are not good conductors of heat, such as grasses, etc.

Dextrin, a white, odourless, viscid substance of the same composition as starch, from which it is obtained. It is used as gum, being the material put on the backs of postage stamps and other articles which are required to be made adhesive. It is also utilised in calico printing.

Dhole, the wild dog of the Deccan, of a bright bay colour, and living on game, which it hunts in packs.

Dhow, a one-masted trading vessel, much in evidence on the east coast of Africa and the Red Sea, and formerly employed in the transportation of slaves.

Diacope, a species of fishes of the perch family, possessing a notched operculum and suberculate; inhabitants of the Indian seas, and often reaching a length of three feet.

Diaadem was originally a head ornament or fillet worn only by royal personages, and from being of plain white material came to be of rich gold embroidery, and set with precious stones. Now the term is applied to a crown or other head-bud worn by royalty, or the head ornament of a peeress, which, however, is more frequently styled a tiara.

Diæresis, the sign () placed over the second of two vowels coming together, and indicating that each is to be pronounced distinct from the other, as *aerated*; also employed to indicate that a vowel, ordinarily silent, must in this case receive pronunciation, as "Oh, cursed spite"; "My beloved," etc.

Diagrometer, a form of electroscope for measuring the conducting power of different bodies, having a magnetised needle for an indicator, invented by Koussean.

Dial, or **Sun Dial**, an instrument for telling the time of day by a shadow thrown on a marked surface. This was the first form of outdoor clock, and was introduced into Europe from the East. It is made in various forms—horizontal, upright, or inclined.

Dialect is a form of speech special to a locality or district, and differing from the general literary language of the country. In England these dialects are numerous, but in all of them some survivals from what was once good old English speech are to be found. From the works of Chaucer, Spenser, Shakespeare, and from even later writers, many words are to be read that are obsolete as regards modern literary expression, but are still familiar in dialect idioms. The dialect that has forced itself most into modern literature is the Scotch, a fact largely due to the compositions in dialect of Burns and other Scottish poets. For the full understanding of the force and meaning of English dialects, Professor Wright's monumental *Dictionary of Dialects* is to be commended.

Diallage, a kind of pyroxene, green in colour, and of foliated structure: common in serpentine rocks.

Diamagnetism, the phenomena revealed by certain substances which, under magnetic influence and suspended, assume a position showing the longer axis at right angles to the magnetic lines of force.

Diamantine, ultimately hard, adamantum.

Diameter, a straight line passing through the centre of a circle or other figure, terminated at both ends by the circumference. In architecture, the diameter of the lower bed of a column, divided into 60 parts, constitutes the scale whereby all the parts of a classical order are measured.

Diamond (a corruption of *adamanant*) is pure carbon, and the most valued of precious stones, though

before the art of cutting was perfected, diamonds were considered inferior to emeralds and rubies. India was in former times the chief diamond country. At the present day, South Africa yields the largest quantities, and in Brazil and Australia there are many rich diamond mines. Diamonds mostly occur in alluvial deposits. They form the hardest known substance and have a high refractive power. The largest diamond ever found is the Cullinan Diamond, which was discovered in the Premier diamond mine, near Pretoria, in South Africa, in January, 1905, and in 1907 was presented to the King in commemoration of the granting of self-government to the Transvaal; it weighs 3,030 carats, and is valued at fifteen million sterling. It is three times as large as the largest of the other big diamonds of history. The largest diamonds found previously were:—

	Place of discovery.	Weight in carats.
"Excelsior"	South Africa	971 (uncut)
"Great Mogul"	India	280 (cut)
"Regent"	India	410 (uncut)
"Orloff"	India	136 (cut)
"Koh-i-noor"	India	202 (uncut)
		103 (cut)

"Excelsior" was found by Captain Ed. Jorgansen. In its natural state it was valued at £1,000,000, but purchasers of such gems are not plentiful, so in 1904 it was cut into nine smaller gems. The "Great Mogul" is another famous diamond which has vanished. It weighed 280 carats after being cut, and in size and shape resembled half an ordinary chicken's egg. Its history is romantic. It was seen at the Court of Aurangzebe in 1665 by a French jeweller, stolen at the sacking of Delhi in 1739, and brought up to the King of France. The "Orloff" which adorns the Czar's sceptre. It was stolen from an Indian idiot's eye, and sold to Catherine of Russia. It now weighs just on 200 carats. The famous "Koh-i-noor" is an Indian stone, and is now the property of Queen Alexandra, to whom it was bequeathed by Queen Victoria. It weighed nearly 500 carats uncut, but by bad cutting was brought down in weight to 100 carats. Other famous diamonds are the "Pitt" (136 carats), the "Florentine" (133 carats), and the "Star of the South" (124 carats).

Diamond-beetle, a South American beetle of very brilliant, luminous, spotted markings.

Diana Monkey, a large African monkey that derives its name from the supposed resemblance of its white frill to the crescent bow of the goddess Diana. The Palatine monkey of Pennant, *Cercopithecus Diana*.

Diana's Temple at Ephesus. The temple of Ephesus was built after the model of Karnak, and was looked upon as the greatest of the "Seven wonders of the world." Its interior length was 425 feet, its breadth 290 feet; its roof was supported by 127 richly sculptured pillars, each the life-work of a king. Originally erected by Croesus, it was enlarged and enriched by every succeeding prince. On the day that Alexander the Great was born, Erostratus tried to destroy it by fire, and he partly succeeded; but the Ephesians rebuilt it, and the world at large contributed to its restoration. Some years later Alexander the Great commanded his engineers to improve and beautify it. At the entrance to this famous temple was placed the "Altar of Sacrifice." In the Atrium was a second altar, the "Altar of Sweet herbs." At the entrance to the Penultima was a third altar, the "Altar of sweet incense," on which nothing was placed but the richest and most costly perfumes. Through the opening in the purple curtains glimpses might be obtained of the statue of the mighty goddess.

Diapason, the concord of the first and last tones of an octave, and the fixed rule by which organ pipes and other instruments are adjusted to proper pitch.

Diaper, a figured textile fabric, the pattern of which is small and is shown in the material, without resorting to colour or difference of fibre. Many kinds of

decorative products, treated in the same style, are termed diaper work.

Diaporesis are medicines used to induce perspiration, and thereby increase the action of the digestive organs.

Diaspore, an infusible hydrate of aluminium, almost colourless, and occurring in crystals and foliated masses. A small portion placed in a flame instantly disperses.

Diatite, a hard cement compounded of shellac and silica.

Diatomic Acid, an organic acid derived from diatomic alcohol.

Diatonic Scale represents the use of musical tones, intervals, and harmonies without chromatic variation.

Diæum, the name of a group of small sun-birds, with red plumage and short, slender bills, inhabiting the East Indies.

Dice, an ancient game played with small ivory cubes, each face of which is spotted with black marks like domino pieces, and is thrown from the box held in the hand, the one who throws the highest number of spots being the winner. The Lydians played dice.

Dictator, the title given by the ancient Romans to their supreme magistrates under the republic, in times of great emergency. The term was limited to six months, but while it lasted the Dictator's rule was absolute. Another class of dictator was the Greek Tyrant, and many despotic rulers of more recent times have in effect, if not in name, been dictators. In Paraguay and other South American countries the title of Dictator has been borne by numerous rulers.

Dictionary, an alphabetical list of words, giving their meanings, and in many cases their pronunciation, and etymological significance. The earliest English dictionaries of any pretensions to accuracy and completeness were those of Bullokar (1616) and Cockeran (1623). Dr. Johnson's famous dictionary was published about the middle of the 18th century. Of the 19th and 20th century dictionaries, there are the Standard, the Century, Webster's, Ogilvie's, Chambers's, Nuttall's, Skeratt's, and numerous others, and from the 50,000 words of Johnson's day we now have Dictionaries of from 400,000 to 500,000 words. The most elaborate of English dictionaries, however, is the *New English Dictionary*, edited by Sir James A. H. Murray, LL.D., and Mr. Henry Bradley, now in course of publication. In addition to word dictionaries, there are dictionaries of many other kinds—of medicines, music, biography, technical subjects, &c.

Didymium, a supposed element discovered by Mosander, but pronounced by more recent investigators to be a compound of two elementary substances. It is a yellow-tinged white metal. The term didymium is also applied in botany to a genus of minute fungi, with double peridium, growing on rotten wood, bark, &c.

Dies Ira (the Day of Wrath), a famous 13th century Latin hymn, sung at burial services, and taking its place in translated form in the English hymnology.

Diet, an assembly of dignitaries, or delegates called together to debate upon and decide important political or ecclesiastical questions. The most famous Diets in history were those of Worms in 1495 and 1527, and the Diet of Augsburg of 1530, all of which dealt with matters of religious controversy awakened by the Reformation movement.

Diffusion is the process of mixing two fluids or gases by contact, and takes place by mutual attraction. It is most rapid between gases. Liquids diffuse much slower than gases and as it is laid down by what is called Graham's law—"the rates of diffusion of different gases are in the inverse proportion to the square root of their relative densities."

Digit, a finger or toe. In arithmetic any number of one figure is a digit, the nine Arabic numerals being indicated by the fingers in counting on them, as one, two, three, four, five, six, seven, eight, nine.

Dika Bread, a West African vegetable substance, prepared from the fruit kernel of the *Magnifera Gabonensis*, and somewhat resembling cocoa. It furnishes a nutritive food to the natives.

Dilemma, in logic is an argument which resolves itself into two alternative conclusions, each of which amounts to a denial of the proposition maintained. Hence the term the "horns of the dilemma." The often quoted example of a dilemma from Aulus Gellius may be repeated—"Every woman is fair or ugly; it is not good to marry a fair wife, because she will flit; it is not good to marry an ugly wife, because she will not be attractive; therefore, it is not good to marry at all."

Dilettante, a term applied to amateurs in any of the arts or sciences.

Dimensions are measured magnitudes and involve the qualities of length, breadth, and thickness. A line has only one dimension, length; a plane surface two, length and breadth; and a solid three, length, breadth, and thickness.

Diminutives are grammatical expressions denoting smallness or littleness, as illustrated in the suffixes, "kin," "ler," "ling."

Dimorphism, the quality of assuming two distinct forms not derivable from each other. For instance, carbon, which is graphite in one form, is the diamond in another. Pasteur demonstrated that dimorphism most commonly occurs when the two forms are close to the limit of their respective systems.

Dinar, a gold coin of the ancient Arab dynasties, usually of the weight of 65 grains troy. In the British Museum there is an example of a dinar struck in the time of Haroun-al-Raschid.

Dingo, the wild dog of Australia, which partakes largely of the character and aspect of the wolf. It is of a reddish colour with a bushy tail and is very destructive to sheep.

Dinner, the chief meal of the day. Was in olden times partaken of about midday, but the fashionable hour for dinner has undergone much change since then, eight o'clock being now the formal dinner hour in court circles. In the time of George II. it was four o'clock; under George IV. it was six o'clock; then it came to be seven; but Queen Victoria set the example of eight o'clock dinners.

Dinornis, an extinct bird of the ostrich order, some of which, judging from the fossil remains which have been unearthed, in New Zealand, must have stood about 14 feet high.

Dinosauria, the name of a group of extinct reptiles of the Mesozoic period, some of which were of immense size—much larger than crocodiles.

Dinoherium, a kind of extinct quadruped of enormous size, the fossil remains of which have been discovered in the Tertiary strata along the Rhine and elsewhere. It had a trunk like the elephant, and tusks, and is supposed to have been about 18 feet long.

Dioecese, a territory under the pastoral authority of a bishop. The term originated in the time of the Roman Empire, and represented then rather an administrative territory than an ecclesiastical one.

Dioptase, a variety of pyroxene occurring in prismatic crystals, and having for its bases, calcium and magnesium, with some slight addition of iron. It is found in Piedmont.

Diopside, a genus of insects of the fly family, peculiar for the enormous projection of the sides of the head. They are natives of the tropics of the Old World.

Diopside, a scarce copper ore occurring in prismatic emerald green crystals, and composed of silicate of copper; found in Tartary and Nassau, and sometimes styled emerald-malachite.

Diopside system, a method of illuminating light-houses by a central lamp which transmits light through a series of refracting lenses.

Diorama, a series of spectacular paintings exhibited in a darkened room with the light thrown on to the pictures in such a manner as to produce optical effects that give the appearance of reality. These effects can be varied so as to represent night or day scenes, or scenes of cloud or sunshine, as may be desired. The diorama was the invention of Daguerre and Bouton in 1822, and was first shown in London in 1823.

Diorite, a rock of crystalline structure composed of feldspar and hornblende, and occurring in associa-

tion with magnetite and apatite. It used to be classed as greenstone.

Diplodocus, a class of extinct mammoth reptiles belonging to Mesozoic times. Fossil remains of this reptile have been discovered in Colorado and Wyoming, and in 1895 a cast of one of these huge monsters, taken from the original in the Pittsburg Museum, was presented to the British Museum by Mr. Andrew Carnegie and is now to be seen at the Natural History Museum, South Kensington. It has been named the *Diplodocus Carnegiei*, and is 84 feet in length, having been reconstructed out of four defective skeletons all found in Wyoming. The height to the top of the spines of the dorsal vertebrae is nearly 14 feet. Four thousand centuries are supposed to have elapsed since it lived.

Diploma, a certificate of authority signed by the heads of universities, colleges, or other learned bodies, conferring upon the recipient some honour, degree or privilege, and usually affording evidence of the passing of a properly qualifying examination.

Diplomacy, the practice of official intercourse between nations, as carried on by ambassadors and other agents of states and governments.

Diplomatics, the science of diplomas, or ancient writings, and the deciphering of them. It is also, and now more commonly, called palaeography.

Diptera, an order of insects, the name of which was supplied by Aristotle. Their most characteristic is that they are two-winged, and the common house fly is the best known example. There are said to be 9,000 varieties of these insects in Europe alone, including gnats, blow-flies, no quots, scats, etc.

Diphthong, the conjunction of two vowels pronounced in one syllable. What is called a proper diphthong combines the sound of both vowels, as in "boy," "noise," "out," etc., while the improper diphthong only represents the sound of one of the vowels, as in "pail," "breach," "juice," etc. Belonging to the latter class are the diphthongs "ae" and "ce," but these are confined to words from the Latin or Greek.

Diptych was a folding two-leaved tablet of wood, ivory or metal, with polished inner surfaces, utilised for writing with the style by the ancient Greeks and Romans. The same term was applied to the tablets on which the names of persons to be commemorated were inscribed in the early church. In art any pair of pictures hinged together is styled a diptych.

Directory, a term applied to the executive of the later French Revolution period, and existing from October, 1795, to November 10th, 1799, when Napoleon succeeded in overthrowing it and establishing the Consulate. The term, as in general use, signifies a book in which names of "residents," traders, and others in any particular locality or sphere are recorded, such as the London Post Office Directory, the Directory of Directors, &c.

Dirge, a hymn or song of mourning and lamentation, which may be music only, or a song only, but is usually a combination of music and words.

Dirk, an ancient Scottish stabbing weapon, dagger-shaped but much longer and heavier. It was usually worn in a scabbard.

Discipline, a specific training in accordance with strict regulations, and applying to religious, military and civil guidance.

Discus, a circular piece of metal or stone about 12 inches in diameter, used in athletic contests by the ancient Greeks and Romans. Throwing the discus was a very favourite game, which was deemed worthy of celebration in the famous statue of a Discobolus of the 5th century, B.C., now preserved amongst the Townley marbles in the British Museum.

Disestablishment is the withdrawing of State support from Church organisation. The agitation for the disestablishment of the Church of England was somewhat active about a quarter of a century or more ago, and was the subject of an annual motion in Parliament, but for some years past the movement has slumbered. The Irish Protestant Church was disestablished in 1869. An agitation

for the disestablishment of the Church in Wales carried on for many years led to the passing of a Bill for this purpose by the House of Commons in 1913-14.

Diak, an astronomical term denoting the seemingly flat surface of celestial bodies as seen by the eye.

Dispensing Power was a right claimed by English kings of releasing any of their subjects from oaths and vows on payment of certain indulgence fees, but the Bill of Rights of 1689 abolished this privilege, and since then the Pope has been the only authority claiming to exercise such rights. It was the gross abuse of the dispensing power that led to the Reformation.

Dissenters are those who decline to conform to the uses of the Established Church. All Nonconformist bodies, whether Protestant or Papist, are included in the term Dissenters.

Distaff, the staff of a spinning wheel, being a cleft stick on which wool, cotton or flax was wound for spinning on the spindle. It was held between the left arm and the side. In olden times there was a "Distaff Day," which fell on the day after "Twelfth Day," so named because women were supposed to resume their distaffs on that day.

Distal, applied to the end of a limb or bone in anatomy, or to an organ in botany, furthest removed from the point of attachment.

Distance is the space between two objects, or between two points of time, and is calculated by various methods. What is called an accessible distance can be measured by an ordinary linear measure; inaccessible distances are not amenable to this measurement, but are calculated by triangulation. The line of distance is a straight line between the eye and the chief point of the plane; and the mean distance of a point from the sun is an arithmetical mean between its greatest and least distances.

Distemper, a pigment prepared for a special method of painting, and consisting of colours mixed with a binding medium soluble in water.

Distich, a term used in poetry to indicate a couple of lines, or verse, of a couplet idea, and, according to modern usage, rhyming.

Distillation is the process by which the spirit of a substance is obtained by evaporation and condensation. The process is effected by heating the substance in a still, whereby the liquid becomes volatilised, the volatile substance passing through a condenser and emerging in a liquid form. The volatile liquids are thus separated from those that are insoluble and non-volatile solid matters. Distillation is used in the production of spirituous liquors and various essences.

Distinguished Service Order was instituted by Queen Victoria in 1886 for rewarding exceptional service in the Army and Navy. Its badge is a gold cross, with a crown suspended on one side and the royal cypher on the other, each enclosed in a laurel wreath.

Uthyrambus, a Greek lyric composition originally written in honour of Bacchus, but afterwards developed in celebration of other gods and heroes, and characterised by excessive strains of laudation.

Diuretics are drugs or agents for aiding the secretion of urine.

Divertissement, a short musical entertainment which is usually accompanied by dancing.

Diving Bells are well-known mechanical contrivances filled with air in which a diver can sit and be lowered into any body of water, fresh air being supplied as the air in the apparatus becomes exhausted by means of a communicating flexible pipe. The diving apparatus now mostly used, however, is called the "diving helmet," an apparatus which fits over the head, and renders the diver free to move about at the bottom of the water in comparative safety.

Divorce is a legal dissolution of the marriage tie, and in England may be either complete, or limited—in the old legal term—a *mensa et thoro* (from board and bed). In the latter category may be included what is termed judicial separation, which does not allow of the separated persons remarrying. A wife can obtain divorce on proof that her husband has

been guilty of marital misconduct combined with desertion or gross cruelty, while a husband is allowed a divorce on the evidence of his wife's infidelity only. In England over a thousand suits for divorce are instituted each year, but not much more than half of them are successful. In the Courts of Summary Jurisdiction, however, the decrees of judicial separation amount to many thousands.

Dobra, a Portuguese gold coin, common in the 18th century, and of the value of about £3 11s. 9d.

Docket, a summary copy of any decree; a brief list, or label; derived from dock, to curtail.

Dockers' Strike, in connection with the London docks, occurred in 1889, and lasted for five weeks, over 16,000 men being directly concerned. Another strike of dockers took place in 1912.

Docks are enclosed water spaces wherein ships rest while being loaded or unloaded, or waiting for cargo. They are of several kinds. The wet dock is simply for loading and unloading; the dry dock, or graving dock, is for overhauling and repairing vessels, and is so constructed that, after a ship has been docked, the water can be drawn off; and the floating dock, a rectangular structure which is sunk beneath a ship and raises it. The largest series of docks in the world are those on the Thames, extending many miles. Those of Liverpool are the next largest. The launching of big vessels of the *Lusitania* and *Mauretania* type renders a large increase of dock accommodation necessary.

Doctor, a term of wide application, applying not only to such as practise medicine, but to doctors in all the learned professions, thus, there are doctors in Divinity, doctors of Laws, doctors of Philosophy, doctors of Music, doctors of Science, etc.

Dodo, an extinct bird of Mauritius which is known to have existed towards the end of the 17th century. It was a clumsy, short-legged bird, unable to fly, and gradually died out because of its inability to stand against the animals imported into the island by settlers. Some paintings of the Dodo, made by Dutch artists who actually saw it, give us a very fair idea of this curious bird.

Dog-days date from July 3rd to August 13th, covering a period of 40 days, when Sirius, or the dog-star, rises and sets with the sun. The ancient superstition was that this star exercised direct influence over the canine race.

Doge, the chief magistrate of the Venetian Republic, an office which existed from the 8th century down to 1797. The Doge was elected for life up to the 16th century, when the term of office was curtailed to two years.

Dogfish, a well-known genus of fishes of the shark family, but considerably smaller than that marine terror, seldom being more than 3 feet in length. They are numerous on the British coast, and are the great enemies of the fisheries.

Dog Idleness are necessary for all dogs over six months old, and the cost per dog is 7s. 6d., the licence dating from January 1st in each year. Dogs for tending sheep or cattle, or for leading blind persons, are exempt.

Dogmatics, the science which seeks to describe the various Christian doctrines. The term is also applied to the medical theories propounded by Hippocrates.

Dogs belong to the genus *Canis*, and descend probably from one or more wild species, such as the wolf, fox, jackal, etc. The domestic dog is usually grouped in six classifications: wolf-dogs—including the Borzoi, Eskimo, Newfoundland, St. Bernard, sheep-dog, etc.; cattle and watch-dogs—including the German pointer, the deerhound, the Danish dog, etc.; the greyhounds; the hounds—such as the staghound, bloodhound, foxhound, pointer, etc.; the curs—terriers, etc.; and the mastiff breeds—including the various mastiffs, the bull-dog, pug, etc. The sub-divisions of these classifications—which are by no means arbitrary—are numerous and fanciful, especially when what are called "toy-dogs" come under consideration. The dog does not reach full growth until two years old. It does not perspire, but cools heat through the tongue, which it hangs

out when hot. A litter of puppies is usually from six to eight, and the period of gestation is 63 days.

Dolly, a small napkin or table mat, used to place glasses or earthenware on; also the name of a species of woolen fabric.

Dolt, an old Dutch copper coin worth about a farthing; also the name of an old Scotch coin once current, worth from one-eighth to one-twelfth of a penny.

Dolce, a musical term indicating that the music has to be rendered softly and sweetly.

Doldrums, a nautical term applied to the portion of the ocean lying near the equator, where variations of weather from calm to squall are so frequent as to render navigation difficult.

Dole, an apportionment of money, food, or other charitable gifts, distributed according to the terms of the charity. In olden times doles were often associated with monasteries and churches, and some still survive. There was dole-bread and dole-beer.

Dolerite, a basaltic rock of coarse grain in which the components can be differentiated by the eye. Of the greenstone order.

Dollar, the unit of the monetary system of the United States and Canada, and coined in gold and silver. Dollars are in use in many other countries, especially in the Republics of South America, and the word is doubtless derived originally from the German thaler. The United States dollar of 100 cents is worth about 4s. 6d. in English money.

Dolls are puppets, mostly representing babies, but occasionally puppets of men and women, soldiers, sailors, etc. An immense trade is done in dolls. Dickens has a blind doll-maker (Caleb Plummer) in his *Cricket on the Hearth*, and he has also the "dolls' dressmaker" in *Our Mutual Friend*.

Dolomite, the name given to a limestone rock containing a large percentage of carbonite of magnesia in crystallised form.

Dolorese, a musical term denoting a sorrowful or plaintive style of playing.

Dolphin, an ocean mammal of the whale family, possessing a long and sharp snout, and of an extremely active disposition. Dolphins abound in most temperate seas, are from 6 to 8 feet long, and swim in shoals.

Dome, a large cupola, hemispherical in form, rising over the main building of a cathedral or other prominent structure. The finest existing dome, that of the Pantheon at Rome, is also the oldest, dating from the time of the Emperor Augustus. It is 143 feet high, and 142½ feet wide. The dome of St. Peter's, in the same city, stands 330 feet high, but its diameter is 3½ feet less than that of the Pantheon. The dome of the cathedral at Florence is 139 feet in diameter and 370 feet high; and the dimensions of St. Paul's, London, are 112 feet diameter and 215 feet high.

Dome Cover, the copper or brass covering to the dome of a locomotive engine, serving to prevent heat radiation.

Domesday Book is the famous register of the lands of England framed by order of William the Conqueror. According to Stowe, the name was derived from *Dominus dei*, the name of the place where the book was deposited in Winchester Cathedral; though by others it is connected with doom in the sense of judgment. Its compilation was determined upon in 1084, in order that William might compute what he considered to be due to him in the way of tax from his subjects. William sent into each county commissioners to make survey. They were to inquire the name of each place, the possessor, how many hides of land were in the manor, how many ploughs were in demesne, how many homagers, how many villeins, how many cottars, how many serving men, how many free tenants, how many tenants in socage; how much wood, meadow, and pasture; the number of mills and fish ponds; what had been added to or taken away from the place; what was the gross value at the time of Edward the Confessor. So minute was the survey that the Saxon chronicler of the time reports "there was not a single hide, nor one vintage of land, nor even, it is shame to tell, though it seemed no shame

to do, an ox, nor a cow, nor a swine was left that was not set down." The record, which did not take in Northumberland, Cumberland, Durham, and parts of Lancashire and Westmorland, was completed on November 15, 1086, and was comprised in two volumes—one a large folio, the other a quarto. The first is written on 384 double pages of vellum in one and the same hand, and in a small, but plain, character, each page having a double column. The quarto is written on 450 pages of vellum, but in a single column, and in a large, fair character. The original is preserved in the Public Record Office.

Dominant, in music, the fifth tone of the modern scale, and the receding tone in Gregorian scales.

Dominicans were the mendicant friars of the Middle Ages, the order being established in 1216 in Languedoc by Dominic de Guzman. They formed a powerful body, being next to the Franciscans, the most noted. The Jesuits overshadowed them, however, from the 16th century, though they are still to be found in many countries.

Don, originally a Spanish title of nobility, but now accorded to persons of the higher classes as a courtesy title. At the English universities the term is applied to college Fellows or authorities.

Donatists, an early Christian sect formed in Africa in the 4th century as a protest against the election of Cæcilius as Bishop of Carthage. They were headed by Donatus, and held that they only represented the true Church. Subjected to many persecutions and repressive acts, they continued to exist up to the 7th century, though the conciliatory measures of St. Augustine in 411 won many Donatists back to the orthodox fold.

Donative, a term in ecclesiastical law signifying a benefice given to a person without formal induction.

Donjon, the keep, or inner tower of a castle, and the strongest and most secure portion of the structure. This was the last refuge of the garrison, and there was usually a prison on the lower floor, hence the name *dungeon*.

Don Juan, one of the favourite libertine adventurers of literature, the drama, and opera. Byron took his "old friend Don Juan" for the hero of his longest poem, which remains a fragment in spite of its length. Mozart composed his great opera "Don Giovanni" around the subject.

Donkey, (See *Ass*.)

Don Quixote, the knight of the woeful countenance, the hero and title of Cervantes' classic story.

Donskoi, a coarse kind of Russian wool employed in the manufacture of certain kinds of worsted fabrics; first introduced into the Bradford trade about 1830.

Doonga, a rough kind of East Indian canoe, constructed from a single piece of wood, and carrying a square sail. Used chiefly in salt-collecting around the shallow waters of the Ganjies.

Dorado, a small southern constellation named by Bayer, appearing to the north of the Magellanic cloud.

Dorians, the name given to an early Greek race who traced their origin to Dorus, father of Eleus. They were at one time very powerful, and held the southern and western parts of Peloponnesus.

Dormer, the name of a special kind of window projecting from a sloping roof, and of vertical form. Such windows were common to the architecture of the Netherlands, northern France, and Belgium from the 14th century, and form picturesque features of general architecture.

Dormouse, a small, squirrel-like rodent widely distributed throughout Europe, Asia, and living mainly on fruit and nuts. It is of nocturnal habits, and sleeps through the winter.

Dort, *Synod of*, was convened in 1618-19, and resulted in the adoption of Calvinism as the Reformed religion, and the condemnation of the teachings of Arminius.

Dory, *John*, a species of mackerel abounding in European seas, and a good table fish. The name comes from the French *Jaune Dore*, yellow and gold.

Dote, a French term indicating the property which a wife brings to her husband on marriage, and is usually settled on the woman, being her separate

property, though the income from it may go towards the general household expenses.

Dottarel, a bird of the plover family, appearing in the spring and autumn in large numbers in the higher latitudes of Europe, and common in the mountain regions of Scotland.

Double-entendre, a corruption of the French phrase "double-entente," and used in English to indicate a word or sentence of indelicate double meaning.

Doublet, a body garment worn by men from the 15th to the 17th century; at some periods with skirts and belt, at others padded at the hips and in the sleeves. In their later form, under the Stuarts, doublets were made without sleeves and formed a sort of vest.

Dower, Treaty of, the secret compact entered into between Charles II. and Louis XIV., whereby Charles practically made himself the tool of France for an annual allowance of £200,000.

Dower, the share allowed by law to a widow out of the real estate of her deceased husband, if he dies without having made other disposition in her favour. There are many ways of barring dower, and though at common law the widow's dower amounts to one-third of the husband's real property, it is seldom that it is left open for such a claim to be substantiated in its entirety.

Drachm (or Drachma), the name of the chief silver coin used by the ancient Greeks and worth about 10d. of English money. It is also—in the first form—a term used in English apothecaries' weight, representing the eighth part of an ounce, and in avoirdupois weight equaling the sixteenth part of an ounce.

Draco, the name of one of the northern constellations, the Dragon, but difficult to observe because of its containing no star of the first magnitude.

Dragoman, an oriental term used to designate a guide or interpreter. In some regions it is not considered safe to travel without an attendant of this kind. They often assume larger responsibilities, however, and contract for the organisation of caravans, and the carrying out of tours.

Dragon, a fabulous monster common to mythologies and fairy lore in all countries, and generally represented as a sort of winged reptile, with fiery eyes and breath of flame. A dragon guarded the garden of the Hesperides; in the New Testament there is mention of the "dragon, that old serpent, which is the devil"; St. George, England's patron saint, is supposed to have overcome the dragon; and mediæval legend abounds in dragons. In heraldry it has also a conspicuous place; and in China is the imperial emblem.

Dragonade, the term given to the series of persecutions of Huguenots in France in the reign of Louis XIV., dragons being chiefly employed in the work. Since then the term has been used in reference to any onslaught on the people by soldiers.

Dragonet, the name of a genus of fishes of the *Lefistius* family, beautifully coloured, and about a foot in length. They are common on the British coast and in the Mediterranean.

Dragon Fly, the common name of a well-known class of insects having two pairs of membranous wings, and often of very brilliant colours. They are swift of flight and may be seen hovering over sheets of water in the sunshine all through the summer.

Dragon's Blood, a dark red resinous substance obtained from the fruit of a Malay palm, and possessing medicinal virtues which are highly valued for dental and other purposes. It is also employed as a colouring material.

Dragoons, a mounted military force dating from the 17th century, and at first serving alternately as infantry and cavalry as needed. They are now classed as heavy or light dragoons, and are among our regular cavalry troops.

Drama, a composition in verse, or prose, or both, with characters and a succession of scenes, representing some story of human or supernatural action. The plot and its characters give us the first definite form of the drama; then we have the virile developments shown in the Greek drama, with its two distinctive branches, Tragedy and Comedy. After

the classic days of Greece and Rome, the drama lost much of its power, and in the miracle plays and "moralities" of the Middle Ages we find little of real dramatic force. In England there was the splendid dramatic revival which gave us Shakespeare, Marlowe, and the other famous Elizabethans. The subsequent distinct English dramatic periods are those of the Restoration noted for its licentiousness, and the Georgian, in which Goldsmith, Colman, Sheridan, and other dramatists took part. In more recent times the drama has undergone notable developments, passing from the poetic drama to opera bouffe, from opera bouffe to Gilbert-Sullivan opera and musical comedy, and so on through many ramifications, with a later tendency to problem and sexual subjects which it is difficult to characterise.

Drammatic Unities, as prescribed in ancient times, comprise Time, Place, and Action.

Draughts, a game played with dark and light pieces on a chequered board. See *Fearr's Dictionary of Sports and Pastimes*.

Drawbridge, a bridge that can be lifted up so that no passage can be made across it. It was a usual feature of a fortified castle in the Middle Ages, and was raised or lowered by chains and levers. It spanned the fosse, and on the approach of an attacking party was raised and formed a special barricade to the gate. Modern drawbridges are such as are raised at the gallow of the passage of boats up and down a river or estuary.

Dreams are ideas and images that pass through the mind during sleep. They are sometimes the outcome of waking thought and action, but appear in such a distorted and fantastic form as to have little semblance to what is real. Still, no matter how strange the figures and incidents of a dream may be, one is never surprised thereat. Many superstitions have gathered round dreams, especially in older times, when they were submitted to professors of the occult for interpretation. Dream books are published even to-day, professing to show what dreaming of certain things portends. There is the old proverb that "dreams go by contraries," which is sufficient for many people. "Nightmare" is a kind of dream usually traceable to indigestion, and often assumes frightful forms.

Dredging machine, an apparatus employed in collecting mud and silt from the bottoms of harbours, rivers, canals, etc. They are usually flat-bottomed, carrying a crane, and an endless chain of buckets, which descend into the water, collect the mud, etc., bring it up, and discharge it into the flat alongside the machine. Steam dredges, of which there are many forms, are now generally in use.

Dress came, we are told, into vogue in the Garden of Eden, though it must be admitted that it did not make much of a show at that early period. Its first object was utility. Gradually a desire to make it decorative sprang up, and fashions began to be set. From that time dress has risen in its course through the ages, with many variations and eccentricities, according to climate, whim, and need, and at the present time is more diversified and more generally costly than ever.

Dripstone, a projecting stone or moulding over a doorway, for carrying off dripping rainwater.

Drohaky, a light, four-wheeled, topless vehicle, much used in Russia.

Dross, the name generally applied to the refuse of molten metal, composed chiefly of slag, scales, and cinders.

Drought, a period of dry weather, is a normal and recurring condition in many warm climates, and is frequently provided against by irrigation. In Great Britain droughts do not often occur. Even in a dry summer a drought of a month would be deemed unusual. In 1822, there was a drought in England of 40 days, the longest on record.

Druggat, a cheap kind of carpeting made of mixed materials, but usually containing a fair proportion of woolen fibre. It has often a printed design on the upper surface, but is made also sometimes of one colour. The term is likewise applied to a protective covering used for carpets, etc.

Druggist, a dealer in drugs; the business is usually nowadays combined with that of an apothecary, who compounds and prepares the drugs he sells.

Druids were priests of the old Celtic races of Gaul, Britain, and Ireland. Their religion was made up of nature worship, symbolism, and a belief in special deities. The Druids were greatly venerated by the people, and, in addition to matters of religion, they were entrusted with the administration of justice. They regarded the oak as the symbol of the Supreme Being, and their rites were usually performed in oak groves, and the mistletoe that grew on the oak was held to represent man's dependence upon God. Human sacrifices were part of their religion, and the serpent was one of their objects of worship. At Stonehenge in Wiltshire, Avebury, Chipping Norton, Keswick, and other places, the circles of huge stones which have been preserved from primitive times are regarded as Druidical remains, but this rests upon tradition rather than proof.

Drum, a percussive musical instrument, consisting of a hollow circular body of wood or metal, the ends of which are closed in with tightly-stretched pieces of membrane, which emit more or less vibrant sounds when struck with sticks. Drums are usually of three kinds—the *bass drum*, held horizontally and beaten at both ends; the *side drum*, slung to the side, and played on the uppermost end with a pair of wooden drum-sticks; and the *kettle-drum*, the shell of which is of copper or brass, and the head formed of parchment. Kettle-drums are mainly used in cavalry bands in pairs.

Drupa is the general scientific term for stone fruit. The stone forms the inner part of the fruit, and encloses a seed or kernel, the latter being liberated after setting in the ground by the decomposition of the shell.

Drury Lane Theatre is the oldest London play-house. There was a theatre of the name during the whole of the Stuart period. This was the house that was destroyed by fire in 1697. The next theatre on the site was built by Wren. This was also burned down in 1809. The present house dates from 1812. Sherridan was its manager for a long time.

Druses, a half-Christianised, Syrian religious sect living among the mountains of Lebanon, fierce and warlike in nature. A great massacre of Druses by Maronites and Mahomedans occurred in 1860.

Dryocopus, a large blackbird of the woodpecker family, having a scarlet crest, and inhabiting Northern Europe.

Dry-rot is caused in timber by a fungoid growth, and occurs chiefly in damp situations. The most effective treatment is saturation with creosote. Dry wood always escapes dry-rot.

Dualism is a term used both in religion and in philosophy. In religion it involves the doctrine of two distinct principles, one good, the other evil, as the controlling influences; in philosophy it opposes materialism and idealism, and insists that spirit and matter are separate substances.

Dublin University was founded by Queen Elizabeth in 1592, as the College of the Holy and Undivided Trinity. There are over 800 undergraduates, and about 200 graduates in the professional schools.

Ducat, a coin formerly widely current on the Continent, first coined in Apulia in the 12th century. A gold ducat was worth about 9s. of our money, and a silver ducat half that sum.

Ducatoon, a large silver coin once current in the republic of Venice, and worth about 6s. English.

Duchess, the wife or widow of a duke, or the lady who has in her own right control or sovereignty in a duchy.

Duck, a bird of the Anasidae family, widespread and of many species, the Mallard or Wild Duck being regarded as the common ancestor. See *Pears' Dictionary of Poultry*.

Duck-Bill, a strange fur-covered mammal inhabiting Australia and Tasmania, possessing a bill like a duck and a body resembling that of an otter. Called also the duck-mole and the duck-billed platypus.

Duck-Hawk, the common name of the moor-buzzard. In America the peregrine falcon bears this name.

Ducking-stool or Cucking-Stool, an old English instrument of punishment, consisting of a chair suspended by a pole over a sheet of water. It was used for 'common scolds,' the virago being tied in the chair and dipped in the water. One was used at Leominster as recently as 1809. The Domesday Book has a reference to the ducking-stone.

Ductility is a property possessed by most metals which renders them capable of being stretched without breaking. Gold is the most, and lead the least, ductile of metals, the order being gold, silver, platinum, iron, copper, palladium, aluminium, zinc, tin, lead. In animated nature the spider and the silkworm, with their elastic secretions, are the most noted examples of ductility.

Duelling had its origin in France in the so-called days of chivalry, and lingers there still in a more or less serious fashion. It existed in England through mediæval times, and down to the days of George III. In the German army there are frequent duels of a kind, but in no country at the present time are such encounters indulged in, except on rare occasions, with intent to kill. In Great Britain and America duels are now looked upon as childish or foolish methods of settling disputes, and are an offence against the law. The Duke of Wellington fought a duel with Lord Winchester in 1809. Before then, Castlereagh, Pitt, Sheridan, Fox and Canning had all taken part in duels. A duel, it will be remembered, is a chief incident in "The Rivals." An ancestor of Lord Byron's fought and killed his neighbour, Mr. Chaworth, in a duel in a room of Newstead Abbey.

Duet, a musical composition for two voices or two players, and, in the case of the pianoforte, can be performed on one instrument.

Duke, the highest rank in the British peerage next to that of a royal prince. Edward I., Black Prince, was the first English Duke, being created Duke of Cornwall in 1337, since which time all Princes of Wales have held that title.

Dukeries, a range of English woodland and park country, mainly in Nottinghamshire, comprising the adjacent duchies of several English dukes and nobles. The Dukeries stretches in the vicinage of Sherwood Forest, and the principal estates included are those of Welbeck Abbey, Clumber Park, Worsnop Manor, and Thoresby Hall.

Dukhobortal, a Russian sect founded in the 18th century by Pioncepe Loupink, and still numbering many thousand followers. They deny the divinity of Christ, reject rites, ceremonies and images, and give a mystical interpretation to the Bible. The sect was banished to the Caucasus in 1847, and in later years the Russian authorities have dealt severely with them. Some 7,000 of them settled in Canada in 1899.

Dulciana, an ancient stringed musical instrument. The strings or wires, which are tuned to scale and consist of from two to three octaves, are stretched across a wooden box, and are played upon with light cork-headed hammers.

Dulse, a crimson-coloured seaweed, eaten as food in Scotland and New England, and in Kamschatka utilised for making a fermented liquor.

Duma, the Russian National Parliament, started on popular lines in 1906, and reconstructed in 1907.

Dunclad, Pope's famous satire in verse, in which he reviled the attacks of his enemies, and denounced the critics and poetsasters with scathing effect.

Dunes are hills of loose sand which form on the sea-coasts. In some instances they have aggregated at the mouth of an estuary, and, remaining fixed, have been the cause of the estuary being blocked against the tide.

Duodecimal, a system of arithmetic enabling the number of feet or inches in a rectangular surface to be worked out by a calculation of twelfths. It is also called "cross multiplication."

Duodecimo, a sheet of paper folded into twelve leaves, written "12mo."

Duodenum, the first portion of the small intestine, connecting with the stomach, and receiving the hepatic and pancreatic secretions.

Dura Mater, the anatomical name for the outer membrane of the brain and spinal cord.

Duramen, the hardened inner part of the wood of large trees.

Durbars, an Indian official reception, held by either the King-Emperor, the Viceroy or a native Prince. The most important durbars of recent times have been those held in 1877 at Delhi when Queen Victoria was proclaimed Empress of India, the one held in 1903, when King Edward VII. was proclaimed, and that of 1912, the most magnificent of all, when the coronation of his present Majesty was celebrated with great splendour, and the removal of the capital from Calcutta to Delhi, and other great concessions were proclaimed.

Durham University, founded in 1827, comprises University College, Bishop Hatfield's Hall, Durham College of Medicine and the Durham College of Science, Newcastle.

Durian, a tall tree common in the Malay Peninsula, cultivated for its edible pulposus fruit, which is largely eaten by the natives. It possesses a fœtid odour, and is sometimes in consequence called the "Civet durian."

Dwarfs are persons of very diminutive size, of which many notable examples are recorded in history. They are generally regarded as curiosities, and either find their way into the service of kings — nobles, or are exhibited for profit. Stanley reported a tribe of dwarfs, in Central Africa. Geoffrey Hudson, Charles I's dwarf, was only 18 inches high at 30 years old. The smallest of modern dwarfs were "General Mite," 21 inches, and "Tom Thumb," 31 inches.

Dyaks, the native race of Borneo.

Dye-stuffs are of numerous kinds, and have been greatly extended in modern times by chemical discoveries. They include cochineal, indigo, logwood, madder, fustic, and the various aniline matters now forming a great feature of dyeing.

Dyke, the term applied to masses of igneous rock which have flowed into grooves of strata or become infused therewith; the word also signifies, in alternative usage, a sea wall and an open drain.

Dynagraph, a machine for recording the condition of a railway line, the speed of a train, and the amount of coal and water used on a journey.

Dynamics deals with natural forces, either in motion or at rest, describing their positions, velocities, and constitution.

Dynamism, Leibnitz's doctrine that all substances in Nature involve force.

Dynamite, a powerful explosive whose chief element is nitroglycerine. It was discovered by Nobel in 1867, and has a disruptive force of about eight times that of gunpowder.

Dynamo, an electric machine consisting of electromagnets, between the poles of which is an armature of coils of insulated copper wire, which is made to revolve by mechanical power, thus producing the electric current.

Dynasty, a succession of monarchs of the same family, as the Carolingian dynasty, the Bourbon dynasty, the Plantagenet dynasty, the Hanoverian dynasty, etc.

Dytiscus, the name of a large and common water-beetle, a voracious feeder on larvae, tadpoles, and a typical amphibian.

Dzigatal, the name of the wild ass of Asia, referred to in the book of Job, and found in herds on the steppes of Central Asia; related to the onager.

Eagle, a large diurnal, raptorial bird of the Falconidae family, having some nine or ten species, including the Golden, the Russian, the Spotted, the Imperial, and the Bald Eagles. Eagles are fairly common in Europe, Asia, and Africa, but only the Golden Eagle is found in America.

Eagle, a ten-dollar gold coin of the United States. There is also a double-eagle of 20 dollars.

Eagle's Wood, a name given to *Alseylon gallochum*, a fragrant Asiatic wood yielding a resinous gum from which certain medicaments are made. It is also used for incense, and a cordial is concocted from it.

Ear, the organ of hearing, comprises in mammals, the *external ear*, containing the pinna and auditory meatus; the *middle ear*, containing the drum or tympanum; and the *internal ear*, through which the sound vibrations are transmitted to the brain.

Ear-ring, a very ancient form of personal adornment worn by both sexes in Oriental nations. In Anglo-Saxon times ear-rings were worn in Britain, but from the 10th to the 15th century were out of fashion. In Elizabethan days they were revived, and have since continued to be used, more or less. In early Victorian days they were common, then they fell out of fashion again; but there has been a revival of them to some extent in recent years.

Earl, a British title of nobility of the third rank, duke and marquis coming first and second. The title dates from Saxon times, and until 1337 ranked highest in our peerage.

Earl-Marshal, an office hereditary in the family of the Dukes of Norfolk, the "premier earls of England," whose duty is to direct all great ceremonies of State, coronations, and so forth. His seat is at the College of Arms.

Early English Architecture is the pointed style, with long lancet-headed windows, and came between the Norman and the Decorated periods. It continued through the 12th and 13th centuries.

Earth, our habitable globe, is the third of the planets of the solar system in order from the Sun, and revolves upon its axis in one sidereal day, the whole earth revolving around the sun in an ellipse in one year. The distance of the earth from the sun is 93,000,000 miles. The shape of the earth is that of an oblate spheroid, its diameter measuring 7,926 miles and 1,041 yards, and 7,899 statute miles and 1,023 yards, respectively. Two-thirds of the earth's surface is covered with water. It has only one satellite, the moon.

Earthenware. The term comprises objects or utensils composed of non-translucent, baked or fired clay, and may be either unglazed or enamelled. The word is frequently employed to designate only the coarser kinds of pottery.

Earth-Nut is a class of plant of low growth, with a bulbous edible root, slightly aromatic.

Earthquake, a violent disturbance of the earth's action. Earthquakes are frequent in hot countries, more particularly in South America, but they occasionally occur in colder regions, though only in a mild form, and are not unknown in England. An earthquake shock has an undulating motion, varying in duration, sometimes lasting only a few seconds, at other times continuing in a series of shocks for a considerable time. There was a destructive earthquake in San Francisco in 1906. The most serious earthquake of modern times was that of Lisbon in 1755, in which 50,000 people lost their lives. Tropical and sub-tropical countries are rarely long free from seismic disturbance, but British possessions have been fortunate in this respect on the whole, though in January, 1907, Jamaica suffered severely, and particularly the capital, Kingston.

Earthworm, of which there are several species, has a cylindrical body, tapering at both ends, and segmented into rings. It moves by contraction of its rings, aided by retractive bristles; is eyeless, but has a mouth, gullet and stomach. Earthworms exist in immense numbers, and perform an important part in the scheme of nature by loosening the soil and rendering it more amenable to tillage. They also form a valuable food for birds and many mammals, and are unequalled as bait for certain kinds of fish.

Earwig, a genus of insects of the cockroach family, possessing two pairs of wings, and anal forceps. It is of nocturnal habits, lives on vegetable matter, and hides by day under stones or bark. The old belief that it deliberately creeps into people's ears is altogether unfounded.

Easement, a legal term applied to a privilege enjoyed by any one over another's property, the most familiar example being the right of way.

Easter, the annual Church festival in commemoration of the resurrection of Christ. The name is said to be derived from Eostre, the Anglo-Saxon goddess of Spring. The date of Easter Day is fixed by what is called the "calendar moon," and cannot fall earlier than March 22 or later than April 25.

Eastern Question, a term applied to the problems connected with the government of the provinces or states on the south-east of the Turkish Empire in Europe. It was this question that led to the Crimean War, and is always the subject of more or less anxiety.

East India Company was incorporated by Elizabeth I. in 1600. Its first capital was £72,000, but its earlier ventures were unsuccessful. By 1623, however, the company were able to get a footing in India, obtained a charter of privileges from the Great Mogul, and set up a factory at Surat. Under Charles I. the company suffered severe losses and were compelled to open a subscription for new stock, although Madras and St. Helena had been added to their possessions. During the Commonwealth the company's charter was annulled, but renewed three years later, when a new stock of £370,000 was raised. From that time the fortunes of the company improved. In 1685, however, when the infant Catherine's dowry when she was married to Charles II., came under the company's influence, and soon developed into an important trading port. Complications arose later on. France sought to gain power in India, and a fierce struggle for supremacy ensued, but the splendid achievements of Clive gained the victory for England, and after 1765 the company became possessed of the revenues of Bengal, Behar, and Orissa, and thenceforward British dominion in India remained undisputed except by native princes. In 1772 a governing constitution was formed, and Warren Hastings was appointed the first Governor-General. In 1781 a new charter was granted, and in 1784 Pitt established a Board of Control of the India Company. A great increase of trade resulted, and this rule continued down to 1858, when, as a result of the mutiny, the Crown assumed the sovereignty and functions of government, whereby the commercial significance of this vast possession was materially strengthened. From that time the office of Governor-General ceased, and the government is now controlled by a Viceroy and Council. The old company still exists for the purpose of receiving payment of capital and dividends, but has no governing power.

Eastward Position, a position assumed at the altar by an officiating clergyman at the communion service and formally declared illegal in 1870.

Eau de Cologne, a well-known distilled perfume originally manufactured at Cologne in the 18th century by Johann Maria Fanna, an Italian, and now produced in large quantities both in Cologne and other places.

Eau de Luce, an antispasmodic stimulant composed of certain parts of mastic, oil of amber, alcohol, oil of lavender, and aqua ammonia.

Eavesdropper, one who secretly listens to the private conversation of others. Offenders of this kind were often severely punished in olden times.

Eblionites were a religious party of Judaizing Christians of some prominence from the 2nd to the 4th century. They contended for the authority of the Mosaic law, denied the divinity of Christ, and opposed the teachings of Paul.

Eblonine, a crystalline spirit procured from crude pyroxyllic spirit; it is volatile, and called alternatively pyroxanthine.

Ebony, a name applied to various hard, black woods, the best of which are grown in Mauritius and Ceylon. There are also Indian and American varieties. Only the inner portions, the heart-wood, of the trees are of the necessary hardness and blackness. Ebony is largely used in ornamental cabinet work, for dial-plates, cane, etc.

Ebalium, the scientific name of the squirting cucumber, so named from the fact that when ripe it

breaks from the stalk and ejects its seeds and juice from the hole made by the breakage.

Ecc Homo ("Behold the Man!"), used in reference to the pictures and sculptures representing Christ crowned with thorns.

Ecclesiastes, a book of the Old Testament, the word signifying "the preacher." Supposed to contain the reflections of Solomon, though many critics dissent from this view.

Ecclesiastical Commissioners are an incorporated body, existing since 1836, whose duties are to administer ecclesiastical revenues and manage ecclesiastical property generally. The body consists of the two English Archbishops, all the Bishops, the Lord Chancellor, and principal officers of State, the Deans of Canterbury, St. Paul's, and Westminster, the Lord Chief Justice, and nine lay Commissioners. Since 1840 the Commissioners have augmented or endowed over 7,500 benefices, and effected a total increase of incomes of benefices of over a million and a quarter sterling per annum. In 1907 a Pension Fund scheme for poor and infirm clergy was established by the Commissioners.

Ecclesiastical Courts, dealing exclusively with church affairs, are those of the Archdeacons, the Bishops, and the Metropolitan (York or Canterbury), with the Judicial Committee of the Privy Council as the final court of appeal.

Ecclesiasticus, the title of one of the books of the Apocrypha, dating from about 180 B.C. Its alternative title is "The Wisdom of Jesus, the Son of Sirach."

Echidna, an animal of the anteater family, inhabiting Australia and Tasmania. It lives on insects, burrows, lays eggs, and in structure is nearly allied to birds. Owing to its prickly spines it is commonly called the Porcupine Anteater.

Echinodermata, the generic term of the invertebrate animals of the sea-urchin and starfish class.

Echo is a sound repetition or repercussion caused by some obstructing object, which throws the sound waves back to their starting point. Woods, rocks, defiles, valleys, mountains, or walls all act as echo-producers under favouring conditions.

Electiones, a philosophical system built up of selected parts of other philosophies. First used by early Christian writers.

Eelmaster, a genus of starfishes, including the *E. spinosus* and the *E. sentus*, with sheathed spines at the angles.

Eclipse, an obscuration of the light of the sun, moon, or other heavenly body by the passing of another body either between it and the eye or between it and the source of its light. The sun is eclipsed by the moon intervening between it and the earth; the moon by the earth passing between it and the sun. Eclipses vary in number from year to year, though always recurring in the same order over a period of 184 years.

Ecliptic, the circle describing the course of the earth round the sun. Its position at a given date is styled the *fixed ecliptic*; the position of the *mean ecliptic* in relation to the equinox is the *mean ecliptic*; and *true ecliptic* is the mean ecliptic as affected by inclination. *Obliquity of the ecliptic* signifies the angle of inclination of the ecliptic of the equinox.

Ecumenical Council, a specially summoned consultative gathering of the heads of the Roman Catholic Church, when important questions of church doctrine and polity are decided. *Papal infallibility* was the authoritative pronouncement of the last great Ecumenical Council held in 1870.

Edaphodon, a genus of Chimæroid fossil fishes, found from the Cretaceous to the Eocene rocks.

Edda, the book of the mythological lore of Scandinavia, written by Snorri Sturluson in the 13th century.

Eddystone Lighthouse stands on a group of rocks about nine miles from the Cornish coast and fourteen from Plymouth. The present structure is the fourth that has occupied this dangerous position. The first was of wood, completed by Winstanley in 1700, but three years later washed away, its architect with it. In 1709 a second and stronger

wood lighthouse was built by Rudyard. This lasted until 1755, when it was destroyed by fire. Smeaton built the third lighthouse, of granite and Portland stone, on the model of an oak trunk, and this, which was finished in 1759, withstood the storm and tempest for over a hundred years, being superseded by the present building, erected in 1879-82 by Sir James Douglas. It is wholly of granite. Its light can be seen over seventeen miles, and in foggy weather it sounds a two-ton bell.

Edelweiss, a white perennial flower of the daisy order, common in Alpine regions.

Edentata, the name given to an order of mammals which are either entirely toothless or without incisors. Sloths, ant-eaters, and armadillos belong to this order.

Edible Nests are such as are built by certain birds of the Swift family in sunless caves in Madagascar, Ceylon, New Guinea, and other places. These nests are formed of a jelly-like mucus secreted from a salivary gland, and in China fetch a high price, as much as the equivalent of £7 or £8 a pound being paid for good specimens. Soups are made of them. They run about 50 nests to the pound. It is only the first nests that are of value. When these have been taken away the birds build a commoner nest composed in great part of grass, etc.

Edict of Nantes. (See *Nantes*, *Edict of*.)

"Edinburgh Review", the great Whig quarterly, established in 1802, edited by Jeffrey, and numbering among its contributors Lord Brougham, Sydney Smith, etc., and, later on, Macaulay.

Edinburgh University, founded 1582, and now one of the leading medical centres of the kingdom. The annual value of its fellowships, bursaries, etc., is over £18,000. About 3,000 students matriculate yearly. Conjointly with St. Andrew's, it returns a member to Parliament.

Education in the United Kingdom has only been compulsory since 1870, when Board Schools were established in all parts of the country. The elementary school age was fixed from 5 to 14, with exemption for proficiency after 11. Under the Education Act of 1870, there grew up in England and Wales a system including about 2,500 schools. Since the passing of the Education Act of 1880 the Board of Education has been the educational authority. In 1902 a new Education Act was passed, by which Board Schools were abolished and new education authorities were set up in England and Wales, consisting of county, borough, and urban district councils. No denominational formulary was to be taught in the Council's schools, except that in cases of schools not provided by the local education authority religious instruction shall be provided in accordance with the provisions of the original trust deed (if any). There are in England and Wales nearly 14,000 non-provided and nearly 7,000 provided Council schools, affording accommodation for over 7,000,000 scholars. A Welsh Department of the Education Board was established in 1907. In Scotland over 800,000 scholars are on the elementary and higher grade schools register; and in Ireland there are over 8,500 elementary schools, with an aggregate of over 700,000 pupils on the register. The Meteorological and Industrial Schools are also performing good work. For the higher education of women there are several Training Colleges, as well as the special University advantages. An improved Education measure forms part of the Liberal programme.

Eels are soft-finned, serpentine fishes almost without scales, abundant in European waters, salt and fresh. They do not generally exceed 3 feet in length, the females being larger than the males. Young female eels make their way from salt to fresh water, and when full-grown return to the sea for breeding purposes. The Conger (marine) eel grows to more than twice the size of the fresh-water eel. The Electric eel of South America is a variety of great interest, possessing the power of emitting electric shocks.

Eftandil, a Turkish courtesy title, usually accorded to the official and professional class, and equivalent to the modern English use of *esquire*.

Egg-plant, a plant cultivated for its ovate fruit.

varying in colour from dark purple to white. In great esteem as a vegetable in America.

Egre, a bird of the heron family, of pure white plumage, famed for its beautiful silky tufts which appear in the breeding season. There are two varieties, the larger kind being found in Eastern Europe, North Africa, and America, the smaller being confined to Eastern Europe and Asia.

Egyptian Vulture, a numerous species common in Eastern countries, and valuable for the scavenging duties it performs. It is considered a moral offence to kill one of these birds.

Eider Duck, a large duck of which there are five species. It is an inhabitant of northern latitudes, and supplies the beautiful soft down called "eider down." These birds line their nests with down which they pluck from their breasts, and it is this that is so much prized. Down plucked from an eider duck is of much less value. In certain parts of Norway and Scotland the haunts of eider ducks are preserved. Eider down is so elastic that a pound or two of it will fill an ordinary bed covering.

Eiffel Tower, built in Paris in 1886-89; is 985 feet high, and cost £200,000.

Eikon Basilike (Royal Image), the title of a work issued in 1644, supposed to have been written by Charles I. in support of kingly divinity, and replied to by Milton in the same year with his *Lichfield Baites* (image breaker).

Eire (or *Eyre*), an old legal term still in use in Scotland in connection with the circuit of judges. Justices in eyre were judges journeying from assize to assize for the purpose of holding trials.

Eisteddfod (a sitting) was originally a congress of Welsh bards and minstrels, and dates from before the 12th century. These assemblies were discontinued for a long period, but resumed in 1870, and have been held yearly since, each lasting three or four days. Their object is to foster the Welsh patriotic spirit, and they are devoted to orations and competitions in poetry, singing, and harp-playing, prizes being awarded to the successful contestants. The proceedings are partly in Welsh and partly in English. The festival was held in the Albert Hall, London, in 1909.

Eland, the largest species of antelope, a native of Africa; has large pointed horns, stands 6 feet high at the withers, and weighs several hundred pounds. It is a fleshy animal and much valued as food.

Elasticity implies a power of expansion by strain, and a reversion to the original form when the strain is withdrawn. Perfect elasticity is presented by gases and liquids, while solid bodies vary in elasticity according to their composition. The greatest amount of elasticity is possessed by indiarubber, tempered steel, ivory, glass, etc., the least by lead, clay, and fats.

Elateridae, a family of beetles of a numerous species, with short legs and indented antennae. When placed on their backs they are able to easily right themselves, by an action of the body which causes an audible snap.

Elder, a genus of small trees of the *Sambucus* family, with pinnate leaves, and bearing clusters of small black-purple berries. The black elder is the best known. It is common in most parts of Europe, and thrives in Britain. A wine of some value is made from its berries, and the juice is employed as an aperient.

El Dorado, a "golden land," was an idea that found much favour in the days of the early Spanish explorers. It was firmly believed that somewhere on the South American continent there was a country abounding in gold and precious stones, and many were the expeditions that were fitted out to effect its discovery. Amongst others, Sir Walter Raleigh went forth on this illusive quest. The term is still used in regard to any place of rich promise.

Eldritch, a Scottish term, signifying "frightful"; as "eldritch squeal."

Election, a term applied to a school of philosophers established at Elea by Xenophanes, who held that "the One, or Absolute, alone is real and eternal."

Meacampane, a perennial plant found in damp meadows in England, and bearing a large yellow flower. The root possesses certain medicinal properties, and when dried is in popular repute as an astringent and tonic.

Meloeon, in theology, is the theory that God elects to grant eternal life and heavenly favour to a certain number of human beings, and passes over the rest. Calvinism supports the theory as absolute, Arminianism makes it conditional.

Meloeon, in astronomy, one of the Pleiades, also an asteroid, discovered in 1873 by Peters.

Meloeon is the name given to a class of phenomena of attraction and repulsion, the true nature of which is still incompletely understood. It is customary to separate it into two divisions—frictional electricity and voltaic or current electricity. It was first discovered in its frictional form in the 6th century B.C. by rubbing amber with silk, thus creating a power of attraction. Further experiments resulted in obtaining frictional electricity by using other substances in the same way. Other means of exciting electricity were also found later. In the utilisation of frictional electricity, its distribution over the surface of a conductor has to be provided for, and electrical machines are employed for developing quantities of electricity. In voltaic or current electricity, the electricity is produced by a battery or by coil of wire or dynamo machine.

Meloeon Light is light produced by electricity, and is of two kinds, the arc-light and the incandescent light. The first is produced when a strong current passes between two carbon electrodes, first brought together, then slightly separated, leaving the current to continue, but setting up a resistance that causes the carbon points and the air between them to assume a white heat which gives forth an intense light, thus completing what is called the electric arc. The incandescent light is obtained by passing the current through a thin metallic wire or other strong resisting substance until it heats to the point of incandescence.

Meloeon Power, although largely utilised in manufacturing-plants and in some collieries, is still in its infancy. Modern industry and even social life are coming more and more to be dependent on the new source of power. The limitations at present placed upon its further extension are so imposed because of our lack of experience. For the moment, we have come to the limit of the voltage upon which the distance that power can be transmitted depends. The highest in use in any successful commercial operation so far is 55,000 volts. For this limit there are four reasons; the difficulty in maintaining perfect insulation; in securing protection from lightning discharges, etc.; loss due to brush discharges from high-tension conductors; and deterioration of the high-tension conductors. The solution of these problems can only be effected by experience.

Meloeon Telegraph may be said to date from 1836, when Sir Charles Wheatstone and his co-inventor Cooke introduced their Single Needle instrument, which was soon followed by the Double Needle apparatus. Morse, in 1837, invented his famous recording instrument. The first electric cable was between Dover and France, and was laid in 1850. The first Atlantic cable was laid in 1858, and the second in 1865. It was in 1869 that the first Marconi wireless telegraph messages were sent between England and France.

Meloeon Tramways were first introduced in this country in 1783, from Portsmouth to the Gosport Causeway, but it was not until they had been largely adopted and improved in America that they began to be more generally installed in the United Kingdom. They are now established in nearly every town of importance, and there is a total route length of considerably over four thousand miles of electric tramways and light surface railways in Great Britain. The introduction of motor buses has had the effect of considerably arresting the development of tramways.

Meloeon is the condition established when an electric current passes through a conducting liquid, between electrodes, connected with the poles of a

battery, resulting in the decomposition and separation of the liquid, if a compound. Water thus becomes decomposed into hydrogen and oxygen.

Meloeonmeter, an instrument for measuring the amount of an electric discharge.

Meloeon Theory asserts that matter when analysed into its ultimate components consists of electricity, and that electricity itself is composed of atoms. Many leading physicists have accepted the theory, for which it is claimed that it forms a working hypothesis capable of accounting for all the known phenomena of electricity.

Meloeon, an instrument invented by Volta for obtaining static electricity by induction, and consisting of a disc of resin connected with a disc of polished metal. On the resin disc being negatively electrified by rubbing with catkin or warm, dry flannel, the metal plate is placed upon it, causing the plate to be positively charged on the lower surface and negatively on the upper. At this point, if the disc be touched with the finger, the negative electricity is discharged into the earth, leaving the disc charged positively.

Meloeonplating is the process of coating metals or other substances with a metallic film, applied in a bath of the solution of the coating material, by the action of an electric current.

Meloeon, a kind of verse designated by the ancient Greek poets, afterwards adopted by the Romans, and frequently used in modern times, for compositions of a mournful character. An elegiac consists of distichs, "each of a dactylic hexameter and a pentameter." Among the Roman elegiac poets, Catullus, Tibullus, and Ovid were noted.

Meloeon, in the popular interpretation, comprises earth, air, fire and water. In chemistry, an element is a substance in the simplest form to which it has been reduced, and at the present time there are about eighty of these elements demonstrable. They are classed as metallic and non-metallic.

Meloeon, the name given to a venous exudation obtained from various trees of the Burseraceae order found in most tropical regions. Valuable in pharmacy, also for varnishes, and for chewing.

Meloeon, a proboscidean mammal of which only two species exist—the Asiatic and the African elephant. The first inhabits India, the second Africa. No other animals possess a trunk. Both males and females have large ivory tusks of considerable commercial value. A full-sized elephant weighs about 7,000 lbs. and stands three yards high at the shoulder. They are the largest existing quadrupeds. Several fossil animals of this family of still larger bulk have been discovered, including the mammoth and the mastodon. The Indian elephant is domesticated and used as a beast of burden.

Meloeonian Mysteries were festivals of symbolic rites, in which representative gods and goddesses were honoured. They were performed at Athens, and at Eleusis (goddess of corn) was the chief divinity celebrated.

Meloeon, in astronomy, means the height of a celestial body above the horizon.

Meloeon, a fairy personage of a "tucky" disposition, who is supposed to interfere in human affairs with mischievous intent.

Meloeon Marbles, a great collection of sculptures, got together by the 7th Earl of Elgin, in Greece, and brought to England in 1822. These celebrated treasures had originally formed part of the Parthenon at Athens, and were the work of Phidias. Lord Elgin expended over £70,000 upon them, and they were purchased for £25,000 for the British Museum, where they are now to be seen.

Meloeon (Eleac, or Eretriac sect, alternatively) School, a school of philosophy, founded in Eleus by Phaedo, the pupil of Socrates, but of its theories little that is definite has been preserved.

Meloeon, a term derived from the alchemists, and referring to a substance or tincture which it was supposed would transmute inferior metals into gold, and also make old men young again. The word is now applied to many essences and decoctions.

Meloeon, the largest animal of the deer family, possessing

enormous antlers, and standing, when mature, about seven feet high. The American moose is of the same family. Elk hunting is an exciting sport, and is much indulged in in Canada.

Ell, an old English cloth measure, representing a length of 45 inches. It varied in other countries, from 22 inches in Saxony to 47 inches in France.

Ellipse, in geometry, a compressed circle or oval, forming a curve so marked out that the sums of the distances of each point in its periphery from two fixed points are the same.

Elm, a large, wide-spreading tree having a dozen species, and common to Europe, India, China, and North America. It makes valuable timber, its wood being hard and durable, and for shade and ornament, with its curling branches and ample foliage, is unsurpassed.

Elongation, an astronomical term expressing the angular distance from the sun at which a planet is observed.

Elopement, a clandestine running away of a woman with a lover, rendering the man liable to punishment when the woman is under eighteen.

Elzevir, the name of a celebrated family of Dutch printers, who produced editions of Latin, French, and German classics, which were highly valued for their beauty of type, and accuracy of printing. They flourished in the 17th century.

Embalming, the process by which dead bodies are preserved from decay by means of spices and drugs. The art reaches its perfection in ancient Egypt, as the mummies which still exist so powerfully testify. In modern times many experiments in embalming have been tried, with various degrees of success.

Ember-days are days set apart for fast and prayer in the English and Romish churches, at the periods appointed for ordination, viz., the Wednesday, Friday, and Saturday after the first Sunday in Lent, the same days after Whist Sunday and after the festival of the Holy Cross in September, and St. Lucia in December.

Emblem, a symbolical figure or design referring to some person, power, or quality, thence or mortal. Quaker's "Emblems" are emblems in wood-pictures.

Emblements are land crops, or profits thereof, which belong to a tenant, or his executors, although the lease of the land may have expired before the crops matured.

Embossing, the art of stamping in relief letters or designs upon pliant substances.

Embryology, the science of embryos, tracing their development from the fertilization of the germ or seed to its maturity, and applying to all sections of the animal and vegetable kingdom.

Emerald, a variety of beryl of a clear green colour and transparent. It is highly valued as a gem, and the finest come from New Granada and Peru.

Emery, a granular substance of the corundum order, generally mixed with other metallic substances, and used in a powdered state for polishing and grinding purposes. Emery stone is chiefly found in Asia Minor and the Grecian Archipelago.

Emetine, an alkaloid substance forming the leading principle in ipecacuanha, and largely used as an emetic; hence its name.

Emigration is the removal of a person or family from one country to another for the purpose of settlement, and has been a common practice from the most ancient times. The general stream of emigrants in modern times, however, has been from Europe to America, and the British race have in this movement been the most active. America, indeed has been entirely developed by emigrants. British emigrants have had a wide field of choice, however, in Britain's vast Colonial possessions. Since 1853 an average of a quarter of a million persons has annually emigrated from Great Britain (including foreigners), the majority of them having proceeded to the United States. Canada has lately been the most attractive region, and both the British and the Canadian governments provide ample information for those wishing to proceed to British North America. South Africa has also drawn a stream of British emigrants to its mining

and other enterprises, though not perhaps as yet to such an extent as was anticipated at the close of the Boer war. The Emigrants' Information Office was established in 1886, and now performs invaluable public service.

Emir, a title signifying head or chief, applied in Mohammedan countries to princes, chiefs, or rulers. The direct descendants of Mahomet's daughter Fatima were also called Emirs.

Empirics, a sect of Greek physicians founded by Scorpion, who maintained that practice rather than theory was the safest guide in medicine. In recent times the term has been generally applied to quacks or experimenters in physic.

Emplectum, a kind of masonry used by the Greeks and Romans, consisting of walls built with hollow spaces between, which were filled in with rubble. Much used in fortification construction.

Empyrean, the highest heaven of the Ptolemaic system, and the supposed abode of the Deity.

Emu, a large bird of the Struthionidae family, inhabiting Central Australia, and resembling the Cassowary. It is unable to fly, but is very fleet of foot and frequently hunted.

Enamel, a vitrified substance applied as a coating to pottery and porcelain. The art was practised by the Assyrians and Egyptians, and was introduced to Europe by way of Greece. Enamels are all either of the transparent or opaque kind, and are susceptible to an immense variety of colouring, according to the metallic oxides introduced.

Encaustic, an architectural ornamentation consisting of sculptured representations of garlands or festoons of flowers or fruits, and generally wrought on friezes or capitals of columns.

Encaustic Tiles were much used in ancient times, as the evidences of ancient Rome and of the mediæval period in Europe generally clearly indicate. In modern times there has been a revival of this art, which has been very successful in many of the present-day examples of our own tile manufacturers, being of a more beautiful and durable character than those of former times.

Encyclical Letters, a term used in reference to letters addressed by the Pope to his bishops upon matters of doctrine or discipline.

Encyclopedists, a term first applied to the eminent writers who collaborated in the French *Encyclopédie* (1751-66). These writers comprised Diderot, D'Alembert, Voltaire, Helvétius, and others, and their writings generally were sceptical as to religion, and destructive as to politics, and had great influence in popularising the social ideas which afterwards resulted in the French Revolution.

Endive, a plant of the chicory family grown as a hardy annual and yielding a profusion of leaves. Is generally used for salad.

Endogens, the name applied to a large family of flowering plants, of which lilies, orchids, arums, grasses and sedges are prominent examples. The leaves are usually parallel-veined, and the flowers possess three parts. It is estimated that there are more than 20,000 species of endogens, including 5,000 of the orchid species.

Energy is of two kinds, actual, such as the body possesses in right of its motion, and potential, which is conserved. It is demonstrated that energy can neither be created nor destroyed. A definite amount exists, and though its form may be changed, it does not diminish. Heat is the energy of the universe emanating from the sun, and if it is made to disappear in one direction it manifests itself in another.

Engaged Columns are such as are partly embedded in the walls to which they belong. It is an architectural rule that at least half their thickness should stand out from the wall.

Engelhardtia, a genus of resinous trees, reaching in Java to a height of 200 feet. The trunk is cross-cut locally for conversion into cart-wheels.

English Language is composed of many elements Anglian, Saxon, Norman French, Scandinavian, Dutch and the various underlying contributions from Latin and Celtic sources. The result is a strong, expressive, composite language, now spoken by all

ances of English descent, including those of the United States, and the bulk of the population of the various dependencies of the Empire—Canada, Australia, New Zealand, Tasmania, Africa, etc., also largely in India.

English Opera, the First.—The first English opera was "Dido and Æneas," written by Henry Purcell about 1699. It was written for the breaking-up festivities of a school for young ladies, and the marvel of it is that it anticipated the operatic form of a hundred years later, the text being set to recitatives and melodies, and all spoken dialogue omitted.

Engraving is the art of cutting or otherwise forming designs or pictures on wood, stone, or metal surfaces for reproduction by some method of printing. Wood-engraving was the earliest in the field, dating from the 15th century. Later, engraving on steel and copper plates was introduced, and mezzotint, lithography, stipple, aquatint, etc. With the development of photography and an increased knowledge of the use of acids, many readier methods of engraving were adopted, and now wood-engraving, which was formerly resorted to for all general engraving purposes, is comparatively little used. What is styled "process" engraving is the most utilised.

Enlistment, is the act of volunteering for military or naval service. In former times recruits were considered bound on accepting bounty money, but as the law stands to-day they cannot be sworn in within twenty-four hours of their enlistment, when they may withdraw if they wish upon repaying the bounty and costs.

Ensign, a former title given to a commissioned officer of the lowest rank in a foot regiment, and so-called because he was entrusted with carrying the colours or ensign. The rank was abolished in 1871. Officers of like rank are now styled sub-lieutenants.

Ensilage, a method of storing and preserving fodder, vegetables, etc., in pits dug in the ground, and excluded from air or light. Although the system was practised in ancient Rome, it was not until the latter part of the 19th century that it was revived in England.

Entablature, that portion of a building which surmounts the columns and extends to the roof of the tympana of the pediments. It comprises three parts, the architrave, the frieze, and the cornice.

Entasis, the swell of the column in either of the orders of architecture.

Entellus, one of the common monkeys of India, with a ridged forehead, a long tail, and whiskers and beard. It is regarded by Hindus as sacred, and enjoys immunity from injury at their hands.

Entomology is the study of insects, and deals with three main groups—*Amictabola*, which are wingless and undergo no metamorphosis; *Hemimetabola*, which experience metamorphosis in very similar three stages; and *Holometabola*, which go through the same metamorphosis, each stage being markedly different from the other.

Entomostraca, a Crustacean sub-class, known as water-beetles, remarkable for a horny shell covering, jointed, and subject to regular periods of moulting. They mostly live in stagnant waters.

Entozoa is a term used to designate generally internal parasites, such as intestinal worms.

Envelopes, as wrappers for enclosing letters, were not in ordinary use until after the introduction of the penny postage system in 1840. They were known in France, however, in the 17th century.

Envoy, a special diplomatic agent deputed to represent a government at a foreign court, or to perform a special service, such as the negotiation of a treaty.

Eocene, a geological term applied to the lower division of Tertiary strata, and evidencing the beginnings of existing species.

Epect, the excess of the solar over the lunar year or month, and called menstrual and annual. The epect increases by eleven from one year to the next, and by twelve in some years.

Epaulettes, a shoulder badge fringed with cord worn by English army officers until 1865; now confined to naval officers, and varying in form and richness according to the rank of the wearers.

Phemeridae, a typical genus of insects of the order Neuroptera. In the larval condition they exist from two to three years, but no sooner do they arrive at maturity than their lives are hurried to a close. They rise up in myriads on warm summer nights, take no food, propagate, and perish.

Epheus, Council of, was held in A.D. 431, and noted for its condemnation of the Nestorian heresy. (See *Nestorians*.)

Epheod, a vestment worn by a Jewish high priest, and sometimes by priests of lower rank. In olden times it was of rich texture and set with gems.

Epheors were the five annually elected magistrates who exercised almost supreme authority in ancient Sparta; and later, the office was adopted by the Romans. The last of the Spartan epheors existed in 225 B.C. when Cleomenes III. exterminated the existing magistrates and abolished the office.

Epic, a heroic narrative poem dealing with important events and intralucing supernatural features; the most famous examples are Homer's *Iliad* and *Odyssey*, Virgil's *Æneid*, Ariosto's *Orlando Furioso*, Tasso's *Jerusalem Delivered*, and Milton's *Paradise Lost*.

Epicene, pertaining to both sexes, a term now usually applied, in grammar, to nouns which indicate indiscriminately male and female animals, as sheep.

Epidemiology, the science of epidemics, which in recent times has formed one of the most important branches of medical study.

Epidendrum, an orchid of any genus growing upon trees.

Epidote, a mineral occurring in prismatic crystals and consisting of silica, alumina, oxide of iron, lime and magnesia, and having a fairly wide distribution.

Epi-glottis, a lamella or cartilage designed to cover and protect the entrance to the larynx during the process of food swallowing.

Epi-gram, a term originally used to indicate a monumental inscription; afterwards applied to any concise and pointed specimen of verse, but in later times is applied to short, witty expressions in prose as well as verse.

Epi-logue, an address, in prose or verse, delivered at the end of a play, and a usual accompaniment to the dramatic works of the 16th, 17th, and 18th centuries, but now fallen into desuetude.

Epi-phan-y, a church festival celebrated on January 6, Twelfth Day.

Epi-phytes, a genus of plants which grow on other plants, but do not derive nourishment from them; ferns, mosses, lichens, and numerous orchids are of this class.

Epi-son, a distinctive mark on a coin, shield, or badge, used by the ancient Greeks to distinguish particular cities.

Epi-thalamium, a nuptial hymn or song, originally sung by the ancient Greeks and Romans at the door of the bride-chamber. Many specimens of this class of composition, by Sappho, Catullus, etc., have come down to us.

Epi-thelium, a layer of mucous membranes, comprising the cells of the surface of the body, and performing an important function in the glandular secretions.

Epoch, a period of time of such importance that succeeding years are numbered from it; differing from an era in that the latter is a succession of time, while an epoch is a point of time. Among the various epochs may be counted the birth of Christ and the Reformation. There are also the geological epochs, and epochs in arts, science, and invention, as well as in history generally.

Equation of Time represents the difference between clock-time and sun-dial time. This difference is greatest in November, when the sun is sixteen minutes behind. The only days on which there is perfect accord between the two times are April 15, June 15, August 31, and December 24.

Equator, the imaginary great circle of the earth, every point of which is 90 degrees from the earth's poles, and dividing the northern from the southern hemisphere. It is from this circle that the latitude of places north and south is reckoned.

Equidae, the zoological term for the family of hoofed quadrupeds comprising two genera—*Equus*, to which the horse belongs, and *Asinus*, comprising the ass and zebu. In the Tertiary period there were several other species of Equidae—*Hipparion*, *Protolippus*, etc.—of which fossil remains have been discovered.

Equinox, the time when the sun crosses the plane of the earth's equator, making day and night of equal length, occurring about the 21st of March and the 22nd of September, when the spring and autumn quarters are respectively entered upon.

Equites, a body of ancient Roman Cavalry, recruited from citizens of rank, and forming the equestrian order, coming next to the senatorial.

Equity, a term used to express a modification of the severer form of law in order to insure equal justice. It is the principle of fairness, applied to general rule, and in recent times all English courts administer equity as well as law.

Eras are distinctive periods of time associated with some remarkable historical event or personage. The *Christian era*, dating from the birth of Christ, did not obtain adoption for the reckoning of the years until the 8th century, though invented by Dionysius Exiguus in the 6th century. It is now generally understood that the year A.D. is put too late by at least three years. The *7th c.* *15th c.* dates from 3700 B.C.; the *Julian era*, from the alteration of the calendar by Julius Caesar, 45 B.C.; the *Mahomedan era* from A.D. 622.

Erastians, followers of Erastus, who, in the 16th century, advocated the restriction of ecclesiastical power.

Ergot, a fungoid growth that affects the seeds of various grasses, causing them to blacken and lose their virtue. The ergot of rye has medicinal value, and is used to assist contraction in maternity cases.

Eridanus, the constellation of the summer river in ancient astronomy situated south of the Taurus, and visible only in the southern celestial hemisphere. It contains one star of the first magnitude, *Achernar*.

Erl-King, a forest fiend of the German mythology, whose wiles were generally exercised in luring children from their homes and carrying them off. In Goethe's ballad of the "Erlkönig" it is a traveller who is lured to destruction.

Ermine, a small, beautifully-furred animal found in northern latitudes, and most abundant in Arctic America. Its entire coat becomes a lovely white in the winter, the tip of the tail only remaining black. Its fur is highly prized.

Error, Writ of, a process issued when a palpable error has been made in court proceedings, authorising its revision in a higher court.

Erise, the old Gaelic dialect of Ireland, and afterwards of the Lowland Scots.

Escapement is the contrivance by which the pressure of the wheel in a watch or other timepiece is accumulated to the vibratory action of the pendulum or balance-wheel, providing the regulating power which maintains an even impulse in spite of irregularities caused by friction or air resistance.

Escarpment, the face of an abrupt cliff or hill; also a portion of fortified ground whose edge is cut away almost vertically, to render it impossible for an enemy to climb.

Escheat, a term in law signifying the reverting of lands to the Crown, or the original lord, through the failure of heirs.

Escorial, a magnificent palace built in the 16th century by Philip II. of Spain at a village 16 miles north-west of Madrid. It comprises, in addition to a palatial residence, a fine Doric church, a valuable library, and the royal mausoleum, the burial place of the kings of Spain. Although it has suffered from fire and depredation, it is still one of the finest public buildings in the world.

Escutcheon, a shield-shaped surface called a field, upon which a man's armorial bearings are represented. A woman's escutcheon is lozenge-shaped.

Esoteric, a term which had its origin in the teaching of Aristotle, but in later times has been applied to such doctrines as are intended only for privileged students or those of the inner circle.

Espalier, lattice work upon which to train fruiting or ornamental trees.

Esparto Grass, grows in great abundance in Spain and North Africa, the pulp of which is largely used for paper-making, as well as for other purposes.

Esperanto, a proposed universal language, invented by Dr. Zamenhof, of Warsaw, and based on phonetic principles. Many Esperanto societies exist in various countries. Introduced into England in 1902.

Esquimaux.—The people of the Arctic regions. They dwell in skin tents in summer and closed huts in winter, and live by hunting and fishing.

Esquimaux Dog, a peculiar and very hardy animal of great utility to the inhabitants of the Arctic regions as sledge-drawers. In appearance it suggests the Pomeranian, but is of a larger breed and has a wolf-like head.

Esquire was formerly something of a distinctive title applied to the otherwise untitled sons of nobles, also to knights, officers, officials, and professional men; but now accorded generally as a matter of everyday courtesy in addressing people who are of good social standing.

"Essays and Reviews," the title of a volume of theological essays, published in 1860, which caused a considerable sensation in religious circles by the unusual freedom of thought it displayed. Among the contributors were Mr. Temple, Dr. Temple, Dr. Rowland Williams, and other Church of England dignitaries.

Essenes, a Jewish sect established in the 2nd century B.C., aiming at a higher spirituality, and living an ascetic life. "The love of God, the love of virtue, and the love of man" was their motto. They were restricted to Palestine, and did not exist as a sect after the destruction of Jerusalem.

Essential Oils are oils derived from plants by distillation or expression, and much used in perfumery as well as to some extent in medicine.

Estates of the Realm in Great Britain consist of the Lords Spiritual, the Lords Temporal, and the Commons.

Estoppel is a legal term indicating that a person is barred of a legal remedy because of some former act which precludes him from the right. Estoppel may be either by deed or act.

Eatovers, necessities to which a person is entitled by law, as in the case of a tenant who is privileged to help himself to wood for fuel or repairs, or in the case of a woman separated from her husband who has a claim to alimony from her husband's estate.

Etching, a process of engraving, on copper usually, the design being drawn with a steel needle, and the lines produced by the action of an acid or mordant. Some of the more notable etchings of recent times were done by Mr. Whistler.

Ether, a volatile liquid, consisting of carbon, oxygen and hydrogen. It is a valuable anesthetic obtained by heating alcohol with sulphuric acid.

Ethics, the science of moral conduct and duty, a study founded on psychology, and intended to determine what is right or wrong, according to circumstances, conditions, and natural powers and obligations. Aristotle, Plato, Kant, Bacon, Hobbes, Paley, Wilewell, Hume, Bentham, Locke, Mill, and Herbert Spencer have all contributed to the development of Ethics, the last-named being the most illuminating of exponents of a clear ethical system.

Ethide, a compound formed by the union of an element with the monad radical ethyl.

Ethnology and Ethnography are the kindred sciences which treat of mankind, the latter classifying and describing various racial differences, while the former inquires into "the mental and physical differences of mankind and the organic laws upon which they depend." Both sciences are included in Anthropology. Ethnologists divide mankind into three classes only: *Mongols* with tawny skins, straight black hair, flat faces, and receding foreheads; *Negroids*, with black skins, flat noses, projecting jaws, dark woolly hair; and *Caucasians*, with white skins, straight foreheads, prominent noses, and hair mostly brown. The Caucasians are further divided into the Aryan and Semitic races.

- The Mongols are native to Asia, America, and Polynesia; the Negroes to Africa; and the Caucasians to Europe and Western Asia.
- Muscan Pottery** comprises the early cinerary urns; black, unglazed ware, with figures in low relief, painted, imitation Greek vases; and vases coated with black varnish, with figures in relief.
- Nymtology**, the study of the science and structure of words, including classification and derivation.
- Nuomine**, an anæsthetic which makes operations possible that might not otherwise take place owing to heart weakness, for the patient remains conscious during its use, although these parts of the body to which it is applied are insensible to pain. It gives the surgeon more time, and does away with certain people's conscientious objections to anæsthetics.
- Nucalyptus**, an Australian tree that grows to a great height, and possesses remarkable properties. It exudes a valuable gum, has a fibrous bark, and yields an oil from its leaves which is of great use in bronchial affections.
- Eugenics**, the science of racial progress as affected by heredity and environment, first formulated by the late Sir Francis Galton, who in 1905, in this connection, endowed a Research Fellowship at the University of London, and at his death in 1911 bequeathed to the University £45,000 for promoting the study of national eugenics. Thus a Galton Professorship of Eugenics was established.
- Nomphalus**, a species of extinct snail whose fossil discoidal shell is frequently found in the rocks of the Palæozoic period.
- Nupatorium**, a genus of plants of the Composite order, with clustrous flowers, native to America. One species, hemp agrimony, is found in Britain.
- Euphemism**, substitution of a pleasant for an unpleasant, a refined for a vulgar, word, in speech or writing.
- Euphorbiaceæ**, an order of apetalous plants of wide distribution, comprising herbs, shrubs, and trees, bearing flowers and fruit. The latter sometimes yields an acid, more or less poisonous, juice, and in other kinds yields starch, cassava, certain oils, and caoutchouc. The box-tree is of this order.
- Euphuism**, an affected literary style, originating in the 16th century, and deriving its name from Euphuus, the chief character in John Lyly's *Anatomy of Wit*, issued in 1579, a work of forced elegance and bombast. From these exaggerations, however, there sprang many acceptable embellishments to the English language.
- Eurasians** are half-castes, one of whose parents is European and the other Asiatic.
- Euterpe**, an order of palms belonging to tropical America and the West Indies, with very long, slender stems, surmounted by a close cluster of leaves and an edible fruit. There are several species.
- Evaporation** is the process by which a solid or liquid is resolved into vapour by heat. It is a process that it always is acting on the surface of the earth, especially in connection with the sea and other water areas, the vapour rising therefrom being lighter than the air, forming clouds, which afterwards break, the vapour thereupon falling to earth again as rain. The same process is constantly in action over smaller surfaces, the rate of evaporation being dependent on the general atmospheric conditions.
- Evolution**, in biology, is, in the words of Huxley, "a general name for the history of the steps by which any living being has acquired the morphological and the physiological characters which distinguish it." The theory, as laid down by Darwin, "is that all existing species, genera, and classes of animals and plants have descended from a few simple forms, the process being controlled by natural selection."
- Excommunication**, exclusion from the rights and privileges of the Church. It is of two kinds—the Greater, which means a total cutting off, and the Lesser, which only shuts out from participation in the Eucharist. In olden times, Greater Excommunications were often launched against rulers and leaders, and were regarded with considerable awe.
- Exeat**, authority to "go out," as of a bishop giving leave to a priest to remove from his diocese, or of the master of a college permitting a student to leave. In law, a writ of *exeat regno* is sometimes issued to prevent a witness quitting the country.
- Executions**, the carrying out of the sentence of death, are variously performed. In Great Britain the hangman performs the work within the precincts of the gaol; in France, Belgium, Denmark, Switzerland, and parts of Germany the guillotine is used, and in the United States electrocution is resorted to.
- Executor**, a person named by will to administer a testator's estate either alone or with another or others. An executor can decline to act by formally renouncing, but if he accepts it will be his duty to have the will proved within six months of the testator's decease, and to proceed to carry out the directions contained in the will.
- Exedra** were common in ancient times, and consisted of raised platforms, approached by steps, and containing public seats for rest and conversation. The term is now sometimes applied to any external recess in the wall of a large building.
- Exetastes**, a genus of flies of the ichneumon family, with impunctate claws, and having about 50 species, more than half of which are European.
- Exogens**, the old term for Dicotyledons, meaning the process of plant or tree growth where the stem forms in a succession of concentric layers, each layer marking a year's growth. Most forest trees are of the exogenous type.
- Exorista**, a parasitic fly, having its antennæ projecting from the middle of the face, and the third joint considerably longer than the second.
- Esoterics**, the opposite of esoteric, is the term applied to doctrines openly expounded.
- Exotics** are plants of foreign origin not fully acclimated.
- Explosives** are substances by whose combustion gas is generated in such volume as to induce explosion. Gunpowder is the best known example, and has been in use for many centuries. Recent years have seen great developments in explosives, many powerful new preparations having been introduced, including nitro-glycerine, dynamite, gun-cotton, cordite, forcite, etc.
- Extract**, an essence or tincture drawn from a substance by chemical process, the agent of evaporation being water, alcohol, or ether, or a combination of them, according to the substance to be treated.
- Extradition**, the act of giving up fugitives from justice by one country to another, and in the United Kingdom can only be granted after a magisterial investigation, when, if the claim for extradition is justified, the Home Secretary grants the necessary warrant. Great Britain has extradition treaties with nearly every country possessing an organised government. A purely political offence is not extraditable in England.
- Extreme Unction**, the final sacrament of the Roman Catholic and Greek Churches, administered to a dying person, and consisting of the anointing with holy oil, after confession and absolution.
- Eye**, the organ of vision, assumes a variety of forms in different organisms, from the mere rudiments of eyes in infusorians to the complex and delicate visual organ of the higher animals. In man, it is a hollow ball of globular shape, consisting of an opaque membrane, the *Sclerotic*, forming the outer covering of the eyeball; *Choroid* in front, a horny, transparent structure, intersected with blood vessels and nerves, and carrying the Iris and Pupil; and the *Retina*, the innermost coating of the eyeball. The optic nerve transmits to the brain the visual images received. The eyeball is filled with fluid refractive media, and the crystalline lens in the axis of vision collects the rays of light to a focus on the retina. The movements of the eye are controlled by six muscles extending from the back of the orbits to the front of the eyeball. The lachrymal gland is at the outer corner of each eye, and secretes the watery fluid called tears. Protective functions are performed by the eyelids, eyelashes, and eyebrows.
- Eyebright**, a genus of plants, of which only one species, the common Eyebright, or Eyewort, is known in Europe. Its juice is aromatic and astringent, and used to be a country remedy for eye ailments.

Eye-teeth, the two canine teeth of the upper jaw, next to the grinders.

Furra, a species of wild cat, with reddish fur, exceptionally long body, and long tail, native to Texas, Louisiana, and South America.

F

Fabian Society, an association formed in 1883 with socialistic aims, but favouring the old "moral suasion," rather than distinctly aggressive, lines. Mr. Bernard Shaw and Mr. H. G. Wells have been prominent Fabians.

Fables are fictitious narratives intended to enforce some moral precept, and may be either in prose or verse, and deal with personified animals and objects or with human beings. They take the form of the *apologue*, which presents incidents that could not have happened, such as *Aesop* in ancient times, and Hans Christian Andersen and the Brothers Grimm (in many of their stories) in later days, have given us; or the *parable*, which relates to matters that might have occurred.

Facsimile, an accurate copy of an original letter, document, manuscript, or drawing. Aided by photography, facsimile reproductions have been much easier of achievement in recent years than formerly.

Faction, a name originally given to the contending parties in the ancient Roman chariot-racing sports. They were distinguished by different coloured garments, and they and their supporters were frequently drawn into fierce conflict outside the arena. In modern times the term has been mostly used to designate combinations of persons opposed to established authority.

Factory Legislation dates almost from the beginning of factories, when Watt's steam engine and the great inventions in textile machinery led to the establishing of these gigantic workshops. There were Factory Acts passed in 1802 and 1819, for limiting the hours of labour and prescribing health regulations, but it was not until the passing of the Ten Hours' Bill in 1847 that any really satisfactory legislation was introduced for the "slaves of the mill." There were no factory inspectors until 1833, when three were appointed. The general condition of factory life was much improved by the Factory and Workshop Act of 1898 and other Acts on similar lines were passed in 1892, 1901, and 1905 respectively. In 1907, however, a consolidating measure was passed (called the Factory and Workshops Act 1907) which superseded previous Acts and made the whole factory code one consolidated law. By the present law a staff of 205 inspectors (including 18 women) is employed. The Act was extended to Laundries from Jan. 1, 1908. In Jan. 1913, there were 217,275 factories and 155,667 workshops (not including men's workshops, docks, etc.) upon the registers; and the number of persons employed in factories was over 200,000, and in workshops (including men's) 650,000. The Home Department is the controlling authority.

Fagging, a public-school custom in England, once very prevalent, but now falling into disuse, whereby junior scholars were made to perform menial duties for their seniors, receiving in return protection from the insults or attacks of other boys.

Faience, a kind of decorated glazed earthenware, invented in Faenza, Italy, about the end of the 13th century. Wedgwood-ware is a notable example of modern faience.

Fallia, a light silk fabric used for veiling material and other purposes of adornment. In the Middle Ages the name was applied exclusively to long veils worn by nuns.

Fairies are imaginary creatures supposed to be invested with supernatural powers. At one time a general belief in them was prevalent, especially amongst the peasantry, and the uncivilised, rarely still existing cling to similar ideas. It was fancied that the world of fairyland was composed of good and evil spirits, variously embodied, always contending for supremacy, and exercising good and

bad influence over humankind. If a person was lucky it was the work of the good fairy, if unfortunate the evil fairy was the cause. Early literature is crowded with the denizens of fairyland—fairies, elves, fayes, sylphs, sprites, gnomes, goblins, genii, and so forth. Shakspeare's "A Midsummer Night's Dream" is a fairy world of its own, and Spenser's "Faerie Queen" is a still more separate and distinct creative effort. Among the fairies of the domestic order, "Robin Goodfellow" was much talked of in England; as the "Banshee" with its warning apparition, was peculiar to Ireland; while the "Brownie," who rendered nocturnal help in household affairs, was more special to Scotland. In Oriental literature, particularly the "Arabian Nights," the fairyland opened up to us a wonderfully vivid and active realm.

Fairing, a present purchased at a fair, or money given to be expended thereat.

Fairs were established in mediæval times as a means of bringing traders and customers together at stated periods, and formed the chief means of distribution. The great English fairs of early times were those of Winchester and Stourbridge, to which came foreign merchants as well as traders from all parts of the kingdom, everything being sold at these gatherings, from precious stones to herrings, from costly silks to homely huckram. As far as Great Britain is concerned to-day, improved conditions of transit and distribution have practically rendered commercial fairs unnecessary, though horse, cattle, sheep and pleasure fairs continue to be held. In less populous and more remote countries there are still important fairs, such as those of Nijni-Novgorod, Lelaps, Frankfort, and Lyons.

Fairy Rings are circular discolorations or indentations in fields caused by the growth or action of certain fungi, sometimes making their appearance in a single night and giving the circle the aspect of being strewn with ashes. In olden times it was imagined that the rings were the dancing circle of fairies.

Faith-Healing is treatment of sickness based on the supposed Scriptural doctrine that prayer and faith are the true, and only necessary, healing powers. Nevertheless, the Christian Scientists, Peculiar People, and others who endeavour to follow out the idea and fail to procure medical aid in cases whereby fatal results ensue, are liable to prosecution. **Fakirs** are Mahomedan mendicants who are held in great regard in India. There are two classes: those who are strict devotees to the principles of Islam and are called dervishes (*s.w.*); and those who are unattached to any religious order, but are simply wandering Mussulman beggars—or itinerant so-called "holy men." Some of the more fanatical fakirs commit self-mutilation, and pride themselves upon their wretchedness.

Falchions were a kind of sword, generally curved, used by the Roman soldiers, and afterwards adopted by other nations.

Falcon, a diurnal bird of prey of the *Accipitres* order, of great swiftness of wing, feeding on birds and small mammals, which it captures alive. Has a short bent bill, sharp hooked claws, and an eye of great power. The Ger-Falcon, which inhabits northern latitudes, is the most powerful of the falcon family. It was the Peregrine Falcon that was mostly used in the sport of falconry in olden times. These birds were difficult to train, and the office of falconer was an honourable and important one. When the quarry was sighted, the bird was unhooded and set upon mounting high into the air would dart swiftly down and strike the prey. The heron was the usual victim.

Falculia, a black and white bird only found in Madagascar, possessing a bill shaped like a sickle.

Faldstool, formerly a folding stool, but now applied to a small reading desk in cathedrals and other churches at which the litany is recited by the officiating cleric.

Falerian Wine, famed for its place at the banquets of the ancient Romans, was made from grapes grown at Falerus. Virgil, Horace, and Martial all referred to it with enthusiasm.

Fallow Deer received its name from its fallow or yellow colour. It is smaller than the red-deer, and has cylindrical antlers with palmated ends. It is native to many parts of Europe, and is a well-known denizen of British parks.

Falsetto, in music, refers to the tones of a voice higher than the natural tones. It is more common in males than females, and is seldom used in choir singing except by male altoes.

Fanilists, a sect existing in England and Holland in the 16th century, founded by Hans Niklas, who advocated the doctrine that religion was a matter of love rather than of faith.

Fandango, a lively Spanish dance executed by two persons, who usually mark time with castanets, and gradually increasing in pace until the dance finishes in a swift climax.

Fans were used in ancient times in Greece and Rome, but were not much seen in England until after the Conquest, when they were introduced from France. Examples of Egyptian fan-handles are to be seen in the British Museum.

Fantail, a favourite variety of the domestic pigeon; also a genus of Australian birds of the Muscipapidae family.

Fantasia, the name given to a fanciful musical composition, which does not conform to any regular style or series of movements.

Fantoccini, or marionettes, were first introduced in Italy, where they are still popular. Our English "Punch and Judy" descended from this source.

Fan Tracery, a complicated style of roof-vaulting, elaborately moulded, in which the lines of the curves in the masonry or other material employed diverge equally in every direction. It is characteristic of the late Perpendicular period of Gothic architecture, and may be seen *in excelsis* in St. George's Chapel at Windsor and the Chapel of Henry VII. at Westminster Abbey.

Farce is comedy in its broadest form, usually confined to short pieces, and admitting of free and exaggerated treatment calculated to arouse laughter.

Farmer-General, the name given to any of the numerous aristocrats who in the days of the old French monarchy farmed certain taxes, contracting to pay the Government a fixed sum yearly, on condition that the specified taxes were collected and appropriated by themselves. The revolution of 1789 swept Farmer-Generals away, and many of them were sent to the guillotine.

Farthing, an English coin which has been current from the time of King John, when it was composed of silver. It was not until the Stuart period that the farthing was coined in copper. Half-farthings were coined in 1843. (See *Queen Anne's Farthings*.)

Farthingale, a hoop of whalebone worn beneath a woman's skirts for the purpose of extending them, fashionable in the 16th and 17th centuries. The crinoline of the middle part of the 19th century was a partial revival of the fashion.

Fasces, a badge of office in ancient Rome consisting of a number of rods fastened together with an axe-head protruding from them. They were carried in front of the Roman magistrates on public occasions, and were also used for flogging criminals previous to execution.

Fascination, a spell-like influence formerly supposed to be possessed by certain persons over others, and also thought to be a power exercised by snakes over their intended victims, but doubtful even in the latter case.

Faesi Capitolini, marble tablets found in the ruins of the Roman Forum in the 16th century, and containing a list of the Consuls from the year of Rome 250 to 765.

Fatalism, the theory that things are fore-ordained and must happen, as opposed to reason. Orientals are mostly fatalists, but few Europeans of prominence have in modern times allied themselves with the doctrine. Napoleon I. the man of destiny was, however, an avowed fatalist, as was Napoleon III.

Fata Morgana, the name given to a curious mirage often observed over the Straits of Messina, and supposed to be ruled by the fairy Morgana.

Fathers of the Church were early writers who may be said to have laid the foundations of Christian ritual and doctrine. The earliest were the Apostolic Fathers, so called because some of them were contemporary with the Apostles. The next in order are the Primitive Fathers of the 2nd and 3rd centuries, including Justin Martyr, Clement of Alexandria, and Tertullian. The later Fathers were of the 4th and 5th centuries, among them being Athanasius, Basil, and John Chrysostom.

Fathom, a measure of depth of six feet, used in sea-soundings.

Fatigue-Duty, the routine employment of soldiers distinct from the use of arms.

Fats are only substances furnishing the chief adipose tissue of animals. Among the solid neutral fats are spermaceti, lard, and suet, and composed of carbon, hydrogen, and oxygen. Steam, palmitin, and olein are common forms of fats. Fats that are treated with alkali are saponified.

Fault, a geological term designating a breakage or displacement in the continuity of any rocky strata. The breakage sometimes amounts to thousands of feet, but ordinarily to not more than a few feet.

Favosites, a kind of fossil coral found in the Silurian, Devonian, and Carboniferous strata, and of honey-combed form.

Feathers, the epidermal covering forming the plumage of birds. A feather comprises a main stem or shaft, a supplementary stem or after-shaft, and a series of lateral webs, each of which contains numerous small branches termed barbs. A bird carries various classes of feathers, the two main divisions being the quill feathers of the wings and tail, and the clothing feathers of the body. Feathers are of every variety of colour and of many shapes, the more beautiful of them being extensively utilised in millinery and for other adornments. Ostrich feathers are worth over £40 a pound.

February, the second month of the year, comprising ordinarily 28 days, but in leap years extending to 29 days. When first introduced into the Roman calendar by Numa about 713 B.C., it was made the last month of the year and preceded January. It was not until 450 B.C. that it was made the second month.

Fees, in law, are either absolute, that is, when lands are held in fee simple for the owner and his heirs for ever; or limited, when the land can only be held by specified heirs or on particular conditions.

Fellbrige, the name of a septennial festival held in Provence, by writers of the "langue d'oc," to celebrate the troubadours of the Middle Ages.

Felidae, the scientific name of all mammals of the Carnivore order which walk upon the tips of their toes, and embracing the members of the cat family, from the lion downwards.

Fell, a term in weaving indicating the end of a web formed by the last three of the loom, and in sewing a form of hem in which one edge is folded over the other and secured with stitches; also a rocky upland, usually barren.

Fellahs, or **Felacheen**, are Egyptian labourers, agricultural chiefly, and form the lowest class of the community, possessing little or no political status. They are of Nubian, Coptic, and Arab descent.

Felo-de-se. (See *Sulicide*.)

Felonys, in law, is any crime of a more serious nature than a misdemeanour. In former times such an offense was punishable by death and forfeiture of lands, but since about the middle of the 19th century the only felonies involving capital punishment are those of murder and treason.

Felspar, the name given to a group of minerals, silicates of aluminium, and occurring in crystals. It is formed in granite and other rocks of ancient formation, and is much used in the manufacture of porcelain. Moonstone is a variety of felspar.

Felt is unwoven wool, hair and fur matted together by moisture and heat, the fibres becoming so closely intertwined that a compact cloth surface is formed. Roofing felt is produced by mixing the material with coal-tar or asphalt.

Felucca, a long narrow vessel with two lateen sails;

occasionally propelled by oars and used on the Mediterranean for carrying light merchandise.

Femme Covert, a legal term designating a married woman who, in consequence of being under the protection and control of her husband, cannot sue or be sued for debt (except as regards her separate property, legally secured to her), or proceeded against in minor criminal cases because of the presumption that she would act under her husband's compulsion.

Fencibles, a body of volunteer cavalry organised in 1794 for service within the United Kingdom. It comprised over 24,000 men, was of great utility during the invasion panic of that period, and seems to have been the forerunner of the yeomanry cavalry of later times.

Fenestella, the name given to the niche set apart for the piscina in Roman Catholic churches, and situated on the south side of the altar.

Fenians, an Irish organisation begun about 1855 with the avowed object of establishing a republic in Ireland. The movement spread to the United States, and assumed at one time serious proportions. In 1864 numerous arrests of Fenians were made in Dublin, and in the following year the American Fenians issued a manifesto to the effect that American officers were proceeding to Ireland to organise an army of 300,000 men. A considerable fund was raised in America, and in 1866 an attempt was made to invade Canada by a band of Fenians, but they were speedily suppressed and the ringleader arrested. In 1867 two Fenian prisoners were rescued from a prison van at Manchester, when a policeman was shot. The leaders of this attack were arrested, tried, and executed. In the same year a part of the Clerkenwell prison in London was blown up by Fenians in order to effect the rescue of Fenian prisoners inside. The explosion caused the death of some 20 persons, and over 100 were wounded. The organisation continued to give trouble until about 1887, when dissensions among the brotherhood brought the movement to an end.

Fennec, the African Zerd, a small light fawn fox-like animal, with a black-tipped tail and large pointed ears. It is not a burrowing animal, but builds its nest in trees, and is of nocturnal habits.

Fennel, a plant cultivated for its aromatic seeds, which are of considerable utility as a medicament, and grown in British gardens for its leaves, for salads and garnishing.

Fens are low-lying lands covered with water, or of a boggy or marshy nature. The Fen districts of England are chiefly in Lincolnshire and Cambridgeshire, but in recent times most of the Fen land has been drained and put into cultivation.

Fiefdom, an act or deed of transfer by which the fee simple of any specified land is transferred for a consideration from one person to another.

Ferret, a carnivorous animal of the Polecat family, with a round head and long sinuous body, well adapted for following rabbits and game into their burrows and hiding-places, it being kept in this country for that purpose. It is a native of Spain and Africa, and does not exist in England in a condition of natural freedom.

Fetichism, the worshiping of a Fetich, any object supposed to be invested with supernatural powers, and including such objects as a serpent, a bear, a tooth, etc. It has been practised more or less by all primitive races, and is confined at the present day to a few of the savage tribes of Africa.

Feudal System existed in England from the Saxon period down to the end of the 15th century. It was a military and political organisation, based on land tenure, the land being divided into fiefs or fiefs, held on condition that certain military duties were performed; and, in default of this, the land reverted to the superior lord. Feudal tenures were abolished by statute in England in 1660, although from 1495 they had practically been imperative. The system was abolished in Scotland in 1747, but in France not until the Revolution of 1789. There was a feudal system in Japan as lately as 1871.

Fou de Jolie, the discharge of guns to denote public rejoicing.

Fouilleton, a French term applied to a serial story or other light literature occupying the bottom portion of a newspaper page, and adopted in England to some extent in recent years, several of the daily journals now running serial stories as part of their daily fare.

Fiasco, an Italian word signifying a fiasco, but applied both in Italy and elsewhere to a complete breakdown or failure in any enterprise, especially in regard to musical or dramatic performances.

Fiat ("Let it be done") a legal term generally applied to a decree, judgment, or warrant commanding a specific thing to be done.

Fibre, a thread-like filament, such as that constituting the tissues of animals and plants.

Fibrin, a nitrogenous compound of the proteid class, present in blood, and obtainable by beating the blood with twigs, to which it adheres. It is a white substance composed of carbon, oxygen, hydrogen, and other elements, is insoluble in water, but dissolves in solutions of certain neutral salts. There is a vegetable fibrin, extracted from certain grains.

Fibrolite, a white or light grey mineral of a fibrous structure; a sub-silicate of aluminium.

Figma, a curious kind of very small leaf-beetle, covered with short white hair and very destructive to grape vines.

Fialdura, a kind of thrush, a regular winter visitant to this country. It is of a reddish-brown colour with spotted breast and is about ten inches long.

Field-Marshal, the highest rank title in the British army and only bestowed on royal personages, and generals who have attained great distinction. The first English Field-Marshal was created in 1736, when John, Duke of Argyll, had the title conferred upon him by George II.

Field-Officer is of military rank between a captain and a general, as, major, lieutenant-colonel, and colonel.

Flary Cross, a call to arms used in the Scottish Highlands in olden times, and consisting of a wooden cross that was carried blazing to and fro among the clansmen, to rouse them to action.

Fife, a small flute with a compass of about two octaves, ranging from the second "D" above the middle "C." Fife and drum bands are common in the army.

Fifth-Monarchy Men, were a fanatical sect which proclaimed about 1645 that the Millennium was near at hand, when Christ would come to earth again and establish the Fifth Universal Monarchy. They were dispersed by Cromwell in 1653, but in 1661 revived and became a menace to the public peace and 17 of them were arrested and executed.

Fig, a tree common in most hot countries and bearing a fragrant fruit which is much liked as an article of dessert and has a large general consumption.

Figure, a well known comic character in drama and opera, invented by Beaumarchais, adopted by Mozart, and the name of a popular paper of Paris.

Fighting-Fish, small pugnacious Siamese fish with long snouts and ventrals of five rays. They are kept in glass globes in Siam, and when brought into contact will fight to the death, these encounters being the occasion of much gambling.

File Fish, a fairly common fish in European waters, mostly found in the Mediterranean, but not infrequently off the southern coast of England. It averages from 18 inches to 2 feet in length, and derives its distinguishing name from the toothed character of the dorsal fin.

Fillibuster, a name first given to pirates and buccaners in the 17th century, who took possession of small islands or lonely coast lands, and there maintained themselves apart from any governing authority. In later times the term was used to specify men taking part in expeditions whose object was to appropriate tracts of country and settle upon them in disregard of international law. The most notable expeditions of this kind in modern times were those of Narciso Lopez against Cuba in 1850-1, and that of William Walker against Sonora in Central America and Nicaragua, between 1855 and

1858. Both leaders were ultimately captured and executed.

Filigree, the name given to a class of ornamental work done with threads of gold or silver, or with fine wire, and frequently attached to apparel or decorative objects. It was made by the ancient Greeks, and in the Middle Ages was greatly in vogue, and reached a high standard of artistic beauty. It is still made to a considerable extent in certain parts of Italy.

Filioque, the part of the Nicene Creed which proclaims that the Holy Ghost emanates jointly from Father and Son, and is styled the doctrine of the "double procession." It is generally accepted in the Western Church, but is rejected in the Greek Church.

Filter, an apparatus used for clarifying water, and constructed in many different forms, the filtering substances used ranging from sand, charcoal, and sponges to porous stones and fabrics.

Filtration is the process of separating solid matter from a liquid, and the substances used for this purpose include charcoal, fine sand, unsized paper, linen, canvas, etc. The filtration beds used in connection with reservoirs for large water supply purposes are composed of fine and coarse sand, fine and coarse gravel, and large stones. For removing substances which are dissolved, distillation is requisite, and for the still more efficient filtration of serious bacteria, specially constructed filters, in which a fine earth forms the filtering medium, are necessary.

Finial (*archit.*), the term employed to designate the ornamental apex of a spire, pinnacle, or gable, and of Gothic origin.

Fir, a cone-bearing tree with small evergreen leaves and of considerable use as timber. There are four leading varieties—the Silver Fir, the Norway Spruce, the Larch, and the Lebanon Cedar. All these fir attain to a considerable height, and all yield turpentine or other resinous material.

Fire Engines, for forcing water upon burning buildings have been known since A.D. 70. In modern times great improvements have been made in these machines, steam power having been utilised with great effect in operating them. Some fire-engines are capable of throwing out 400 gallons of water a minute to a height of 130 feet, from a hose, the nozzle of which is 1½ inches in diameter. Motor fire engines are now much in use, and there is a general decrease in the number of serious fires, as compared with the period when less efficient engines were employed. The London Fire Brigade comprises a staff of 1,353 men, and is under the control of the City Council.

Fire-Fly, a well known beetle of the Elateridæ family which is able to throw out a strong phosphorescent light in the dark. There are some remarkable specimens in tropical countries.

Fire of London, of 1666, extended from East to West, from the Tower to the Temple church, and northward to Holborn Bridge. It broke out in a baker's shop in Pudding Lane, and lasted four days, and destroyed 89 churches, including St. Paul's Cathedral, and many public buildings, among them the Royal Exchange, the Custom House, and the Guildhall. In the ruins were involved 13,200 houses, and 400 streets.

Fire-Proof Buildings, are such as are constructed exclusively of non-combustible materials, such as stone, iron, brick, concrete and cement. To make wood fire-proof, coating of silicate of soda is necessary. Fire-proof materials are produced in most modern buildings.

Fireship, the name given to a vessel stored with inflammable and explosive material, and floated into the midst of an opposing fleet to cause destruction and alarm.

Firkin, a former measure of capacity, the fourth part of a barrel, now only used in reference to a small cask or tub for butter, lard, tallow, etc.

Firman, a document of authority issued by Oriental governments granting any special privileges or concession, and was given to a traveller insuring him official protection.

Fiscal Policy. (See *Free Trade*, p. 914.)

Fisk University, an American institution devoted entirely to coloured students, at Nashville, Tennessee.

Five-Mile Act, prohibiting dissenting ministers from preaching within five miles of "any corporate town, or of any place where they had preached since the Act of Oblivion, under a penalty of £40," was passed in 1665, but repealed in 1689.

Fixed Stars, those which until recently were supposed to maintain perennially their position in the firmament, relatively to each other, and which are still admitted so to do, approximately; thus being contradistinguished from the planets, or wandering stars. They form the luminousities of the constellations.

Fiabellum, an ecclesiastical fan, formerly employed to drive away flies from the chalice during the celebration of the Sacred Mysteries; the fiabellum was usually formed of the tail feathers of the peacock.

Flagellants were a fanatical sect which sprang into notice at Perouse in the 13th century during a time of plague. They held processions and begged themselves as they walked naked about the streets until they bled. They declared that sins could not be remitted without such practices. The sect continued down to the 16th century, in spite of their being declared heretics by Pope Clement VII., and 90 of them being burnt at the stake.

Flageolet, a sweet-toned musical instrument of wood with a fretted neck-piece, and a tube in which finger-holes and keys are placed. It is an important musical instrument, and is said to have been invented in 1571. There is also a double flageolet, producing double notes, and played by one mouth-piece.

Flag Officer, a British naval officer who enjoys the right of carrying a flag at the mast-head of his ship, and is of the rank of Admiral, Vice-Admiral, or Rear-Admiral. The Admiral's flag flies from the main mast, the Vice-Admiral's at the fore, and the Rear-Admiral's at the mizen.

Flagship, the ship that flies the Admiral's flag, and from which all orders proceed.

Flamen were priests of ancient Rome dedicated to the service of particular deities, such as those of Jupiter and Mars, and were always of pat.

Flamingo, a bird of dominant bright red or rose colour, with long slender legs, long sinuous neck, and a huge curved bill. They are picture-worthy birds, live on worms and molluscs, and are widely distributed, being found in Egypt, in Southern Europe and South America.

Flannel. (See *Wool*.)

Flat, a sign in musical notation (b) indicating that the note in front of which it appears is to be played or sung a semi-tone lower than its natural sound.

Flavin, a dyestuff prepared from quercitron bark, producing a bright yellow colour. There is also a substance called Flavindin obtained by fusion with potash.

Flax, a textile fibre obtained from the flax plant, which is an annual, and is largely cultivated for commercial purposes, being grown in Russia, Germany, Italy, Holland, and the North of Ireland. After undergoing various preparatory processes, the flax is spun into yarn and woven into linen fabrics.

Flea, a genus of parasitic insects possessing a suctorial mouth, from which protrudes a lancet-shaped proboscis, with which it pierces animal skin and draws blood. It is said that the "flea of man" (*Pulex irritans*) can leap 400 times its own length.

Fleet. (See *Navy*.)

Fleet Prison, a noted debtor's prison that stood in Farringdon Street, London, where the Congregational Memorial Hall now stands, taking its name from the Fleet Ditch. It was pulled down in 1846.

Flemings, the people of Flanders, whose ancestors of mediæval times greatly excelled in the textile arts, and it was to the migration of large numbers of Flemings to this country in the 15th and 17th centuries that England owes its early eminence as a manufacturing nation.

Fleur-de-Lis, the former national emblem of France, the flower of the lily. It was superseded by the Tri-colour in 1790, but is still adhered to by the supporters of the old French royalists.

Flint, a kind of silica of a light grey colour and

excessive hardness, which enabled it to be utilised in the formation of cutting implements in pre-historic times, and, before the invention of lucifer matches, was used along with steel for striking lights.

Flint Implements are fossil objects formed in the earlier geological strata, and constituting evidence of the condition and life of the period. These implements ranged from the unpolished spear and arrow heads of the Palæolithic age to the highly polished and more skilfully formed weapons of the Neolithic period.

Fitch of Dunmow, a bacon fitch awarded annually at Dunmow in Essex to any married couple presenting themselves and bringing proof that they have lived in perfect agreement, without quarrel or dispute, for the first year of their married life. The custom originated in the 13th century, and fell into abeyance in the 18th century, but has been revived in recent years.

Flock, a fibrous material for stuffing mattresses, upholstering, etc.; it is made by reducing coarse woollen rags, waste, etc., to a degree of fineness by machine manipulation.

Flodden Field, Battle of (Northumberland), was fought on September 9th, 1513, between the English and Scots. James IV. of Scotland, his leading nobles, and 20,000 of his army were slain. The Earl of Surrey commanded the English forces, and his loss was comparatively small.

Florin, a coin first made in France in the 13th century. The name was afterwards given to an English coin of the value of 6s. issued in 1337. The English florin of to-day represents 2s., and dates from 1849. There are florins in Germany worth nominally about 2s. 4d. English, Spain 4s. 4d., and Holland 2s.

Florist, one who cultivates or is concerned in the cultivation of flowering plants, or one who maintains and vends varieties of the different genera.

Flounder, one of the most familiar of the smaller flat fishes common round the British coasts, and seldom attaining a weight of over three pounds.

Flour, the finely ground meal of any kind of grain, but more particularly applied to that of wheat.

Fluorine, a chemical element found in combination with calcium or fluor spar, and occurring in minute quantities in certain other minerals. It was first obtained by Moissan in 1886, and possesses extraordinary corrosive properties.

Fluor Spar, a compound of calcium and fluorine, occurring chiefly in connection with silver, tin, lead, and cobalt ores. It is most abundant in Derbyshire, and forms a valuable flux in fusing refractory minerals.

Flute, a wooden musical instrument of much purity of tone, played by blowing through a mouth-hole, the notes being produced by the media of finger-holes and keys. The flute was familiar to the ancients, but was greatly improved by German and French instrument makers in the 17th and 18th centuries. It has a compass of three octaves.

Flux, any substance used in assisting the fusion of metals. The fluxes most used for large operations are limestone or fluor-spar, and for smaller purposes, alkalis, borax, etc. Black flux is obtained from cream of tartar, and is used mainly for analytical operations, while white flux, used for decomposing minerals, is obtained from carbonates of sodium and potassium in equal portions.

Fly, the popular name given to a large number of insects all of which are distinguished by having a proboscis terminating in a sucker through which fluid substances can be drawn up. The best-known species are the common house-fly, the blue-bottle fly, and the blow-fly. In the larval form, flies are maggots, and feed upon decaying substance, animal flesh, etc. Flies are enabled to walk upon ceilings or upright surfaces by having suckers at the soles of their feet.

Fly-catcher, the name of a numerous family of birds, of which there are nearly 300 species. They are insect feeders, catch their food in the air, and are more or less distributed over the world. Two of them, the spotted fly-catcher and the pied fly-catcher, are summer visitants of Britain.

Fly-drill, a kind of machine-tool having a reciprocating fly wheel imparting steady momentum; the

driving power consisting of a cord winding in reverse directions alternately upon a rotating spindle.

Flying Dutchman, a mythical mariner who, as the legend goes, was doomed as an expiation for his crimes to be for ever striving to reach harbour with his ship but never succeeding. Wagner constructed an opera round this weird subject.

Flying Fish are frequently to be seen in southern waters, and are capable of flying considerable distances—a quarter of a mile or more—without touching the water. They can be caught in nets while in flight.

Flying Fox, an animal of the Bat family, but of much larger size, found chiefly in Africa and Asia. Its habits resemble those of the common bat, except that it feeds entirely on fruits.

Flying Lemur, a remarkable family of mammals of which there are only two species, inhabiting Java, Sumatra and Borneo. They live on insects, fruit, and birds, and are provided with a parachute-like membrane which covers them from the neck to the tip of the tail, and used in regulating their flight.

Flying Lizard, a kind of Asiatic lizard possessing wing-like projections from each side, which enable it to make flying leaps through the air, though not sufficient for continuous flight.

Flying Machines. (See *Aerial Navigation*.)

Flying Squirrel, an animal of which there are several species in Europe and America. It possesses a parachute-like fold of skin by means of which it projects itself through the air. It is of the true squirrel type, and belongs to the Sciuridæ zoological classification.

Focus, a word designating the point at which heat or light is concentrated by refraction or reflection.

Fodder, food stall-fed to horses, cattle, etc., as distinguished from pasture feeding; also a weight-standard for lead, equivalent to 27 cwt. avoirdupois.

Fog is formed of aqueous vapour, or minute globules of water, near the earth's surface, caused by the cooling of the air below the dew-point. Huxley distinguishes fog from cloud thus: "A fog is a kind resting on the earth; a cloud is a fog floating high in the air." Large towns, and especially London, are most susceptible to fogs.

Fogey, an eccentric or old-fashioned person.

Foil, an extremely thin layer of rolled metal, as gold, tin, or lead, according to the purpose for which it is intended. Jewelers use it as a background to increase the colour or lustre of inferior precious stones. Any thin substances used for similar purposes—thrown into relief over other objects—is termed foil. Tin-foil, as its name implies, is tin rolled out into thin sheets in the flattening mill.

Fold, an enclosure or pen in which sheep or cattle are sheltered.

Foliation, a geological term applied to rocks whose component minerals are arranged in parallel layers as the result of strong metamorphic action.

Folio, a paper and printing term applied to paper which is only folded once, a half sheet constituting a leaf.

Folk Lore, a term used to denote the beliefs, traditions, legends, customs, and superstitions of the people, and was first suggested by the late Mr. W. J. Thoms, F.S.A., editor of *Notes and Queries*, in 1846.

Foot, a lineal measure of 12 inches of almost universal use, and originally adopted from the average length of the human foot. In prosody a foot is a measure of syllables making rhythmical accent.

Football is one of the most ancient outdoor winter sports, and was in a crude form popular in England in the Middle Ages. For modern developments of the game see articles in *Pears' Dictionary of Sports and Pastimes*.

Foot Guards in the British Army include the Grenadiers, Coldstream, Scots, and Irish Guards, from which the garrisons of London and Windsor are formed.

Foraminifera, an order of animals belonging to the sub-kingdom Protozoa, carrying a porous shell, and having gelatinous bodies without definite organs. They are of the most primitive organisation and of minute size. Their shells are composed of matter secreted from the water in which they live.

Forbesite, a name given by Kennigott to a hydrous bibasic arseniate of cobalt and nickel, found and described by David Forbes, the chemist, in the desert of Atacama, in veins in a decomposed diorite.

Force, as a term in physics, signifies an influence or exertion which, when made to act upon a body, tends to move it as it rests, or to affect or stop its progress if it be already in motion. Gravity, traction, repulsive energy are all physical forces. Moral force is a mental principle.

Forests in the British Empire. The woodlands of Great Britain comprise 21 million acres, less than 4 per cent. of the total area. Of these, 175,293 acres are national woodland, only about 57,000 acres being under timber crops. There are some 88,000 square miles of forest under Government protection in India, and 124,000 square miles outside their protection, besides large private forests. The average net annual revenue of the Indian State forests is over 8 million rupees, and the total number of foresters employed, including the Imperial Service, provincial, executive, and protective, exceeds 20,000. The Government has already planted 120,000 acres of forest in India. Next to India, Cape Colony has done best in forests, and yields fuel and building timber, and the Government has planted 30,000 acres. In the Orange River valley planting has been commenced, and also in the Soudan. The forests of Australia have jarrah trees which grow to the height of 120 feet and karri trees to 200 feet. A Departmental Committee on British Forestry is doing practical work under Government auspices, and the Treasury has made grants for lectureships in forestry at various educational centres.

Forgery, the fraudulent imitation of a signature or writing whereby injury is done to another, or some deceit is practised. Up to well into the 19th century, forgery was punishable with death in England, and at present penal servitude for life is the maximum punishment for forging bills and bank notes. Other classes of forgery entail maximum punishments of 14, 7, or 2 years' imprisonment respectively.

Forme, a body of letter-press type, composed and secured for printing from; or a stereotype in a similar condition of readiness.

Formic Acid can be obtained from a colourless fluid emitted from the bodies of ants, but is usually obtained by treating oxalic acid with glycerine. It is sometimes substituted for vinegar. It also exists in nettles and certain animal fluids.

Forte, a musical term signifying "loud," and represented by the letter "f"; "ff" (fortissimo) indicating "very loud."

Forth Bridge, which spans the Forth at Queen's Ferry, near Edinburgh, was completed in 1890 at a cost of nearly £2,000,000. It is one and a-half miles in length.

Forum, in ancient Rome, was a public meeting place, market or exchange. The Great Forum was reserved for banquets, and gladiatorial contests.

Fossils are mineral substances of organic origin found in the strata of former ages. They are animal and vegetable and have been the means of disclosing a knowledge of prehistoric periods which would otherwise have been unknown.

Fox, a well-known carnivorous animal of the Vulpine family, found in considerable numbers in most parts of the world. The common fox of Europe is a burrowing animal of nocturnal habits, living upon birds, rabbits, and domestic poultry, in the capture of which it displays much cunning. The fox in Britain is preserved from extinction chiefly for hunting purposes. Among other notable species, the Arctic fox, and the red fox of North America, may be mentioned.

Fox-Shark, a large species of shark common in the Atlantic and in the Mediterranean. It is very destructive to small fish, but although it attains a length of fifteen feet it is not to be classed with the sharks that are dangerous to man.

Franc, the unit of French currency, and a silver coin equivalent to one hundred centimes, or a little over one English penny.

Franchise, an incorporeal hereditament, analogous

to the liberty of the subject, in the literal sense; but usually interpreted to mean simply the right of voting in the election of a member of Parliament.

Franciscans. (See **FRIARS**.)

Franco-German War lasted from July, 1870, to May, 1871. It was opened by a declaration of war by Napoleon III., and a cry of "A Berlin!" but the Germans, who were much better prepared than the French, won victory after victory. In September Napoleon was made prisoner and after a surrender of 80,000 troops at Sedan, a Republic was then proclaimed, and Paris sustained a four-months' siege. In the end France ceded Alsace and part of Lorraine to Germany, who claimed a war indemnity of over £200,000,000.

Francolin, a genus of birds of the pheasant family living in the marshy woodlands of the Black Sea coast and in the Island of Cyprus. The Sangune Francolin is a gorgeous Himalayan variety.

Francs-Tireurs, the name given to an irregular body of French troops which came into prominent notice in the Franco-German War of 1870-1.

Frankincense is of two kinds, one being used as incense in certain religious services and obtained from olibanum, an Eastern shrub, the other is a resinous exudation derived from firs and pines, and largely used in pharmacy.

Frankenstein, the hero of the novel of that name by Mrs. Shelley. He is supposed to have been able to construct a living creature from the forces of nature under his control, which creature assumed the form of a monster that became the terror of its creator's existence.

Franklin, the name given in feudal times to a country landowner who was independent of the territorial lord, and performed many of the minor functions of local government, serving as magistrate, and so forth.

Free Church Federation, established in 1892, is an association of British Nonconformist Churches, formed with the object of promoting the general cause of nonconformity by combined action.

Free Cities. (See **MUNICIPAL LEAGUE**.)

Freehold, a legal term signifying an estate in fee simple, or fee tail, or for life, and to which no service to a superior (as in copyhold) attaches.

Freemasonry dates back to medieval times, if not to a more remote period. It is a secret organisation, having lodges for social enjoyment and mutual assistance. The Grand Lodge of England was established in 1717; that of Ireland in 1730, and that of Scotland in 1736. Freemasonry is under the Papal ban, Roman Catholics being prohibited from being Masons.

Freestone, any stone that can be easily worked with tools, the term being generally, however, specially applied to fine grained sandstone.

French Ministries of the Third Republic have been as a rule short-lived. That of M. Combes (which came to an end in January, 1905) endured for two years, seven months and a few days; that of M. Waldeck-Rousseau had a life of three years, and fifteen days, and M. Clemenceau was Premier 1906-8. The Ministry of M. Méline held together for two years, one month and sixteen days. The Ministry of shortest duration was that of M. Ribot in June, 1914, which lasted only three days; that of M. Dufaure, in May, 1873, fell on the fifth day of its existence. Next in shortness was the ten days' Ministry of General de Rochebouet, in 1877. In February, 1905, M. Rouvier became Prime Minister. In March, 1906, he was succeeded by M. Sarrien. Altogether (up to March, 1908) there were forty-two Prime Ministers of the Third Republic. They had formed forty-one Cabinets. In May, 1902, M. Aristide Briand became Premier. He was followed in turn by M. Monis and M. Calliaux; and in January, 1912, M. Poincaré acceded; on the latter's election to the Presidency M. Briand again became Premier, Jan. 20, 1913, but his Ministry only lasted until March 18, when M. Barthou succeeded. A fresh shuffling of the ministerial cards took place in June, 1914, when M. Ribot was Premier for three days, being succeeded by M. Viviani.

Fresco, a painting executed upon plaster walls or ceilings, and much in favour for churches and

public buildings in former times. The work is done on damp plaster with prepared pigments. In recent days dry fresco has been largely resorted to.

Freshwater Shrimp, a small crustacean abounding in British streams, and feeding on dead fish or other decomposing matters. Although of shrimp-like form, it does not strictly belong to the shrimp order, but is classified as *Gammarus pulex*.

Friars, members of certain mendicant orders of the Roman Catholic Church. The four chief orders of Friars are the Franciscans or Grey Friars, the Dominicans or Black Friars, the Carmelites or White Friars, and the Augustinians (Austin Friars). In the 13th century a brotherhood of Crutched Friars existed in England, so called from the cross or *crouch* worn by them.

Friday, the 6th day of the week, named after Frigg, the wife of Odin. It is the Mohammedan Sabbath, and is a general fast day of the Roman Catholic Church. According to popular superstition, Friday was an unlucky day.

Friendly Societies were established on a small scale towards the close of the 17th century, and were sufficiently numerous in 1793 to be placed to some extent under Parliamentary control. They are now very numerous, and in 1890 an Act was passed consolidating all previous laws regarding them. The Registrar of Friendly Societies is an important Government official, to whom returns have to be made, and who issues an annual report. The most important of existing friendly societies include the Oddfellows, the Foresters, the Druids, the Hearts of Oak, the Rational, the Church Temperance, and the Rechabites, also a temperance organisation. There are about 30,000 friendly societies in the United Kingdom, with a total membership of 15,000,000, and funds aggregating over sixty-five millions sterling. The Insurance Act of 1911 has linked up with the Friendly Society system by making "approved societies" channels through which the benefits of the Act can be administered to their members, and a large accession of members has resulted.

Friends. (See *Quakers*.)

Frigate, a small, swift war-vessel, generally with two decks, and carrying a number of guns, usually from 20 to 60. Now superseded by the armoured cruiser.

Frigate-Bird, a web-footed bird widely distributed over tropical latitudes, and deriving its name from its great expanse of wing and forked tail, which seem to suggest the shape of a swift vessel. It feeds on flying fish mostly, being unable to dive.

Fringillidae, the scientific family name of a large class of birds of the Passeroides order, including finches, sparrows, linnets, grosbeaks, weaver-birds, etc.

Frisians, an old Teuton race formerly settled on lands now covered by the Zuider Zee. Many of them joined in the Anglo-Saxon invasion of England, and occupied Mercian territory.

Fritillary, the name of a large class of British butterflies, all of them of beautiful colours and markings. There are seven species, the most prized of which is the "Queen of Spain" variety.

Frog, a familiar amphibian of interesting structure, breathing through gills in the earlier (tadpole) part of its existence, and through lungs later. It remains three months in the tadpole stage. The frog hibernates in winter at the bottom of the water.

Frost occurs when the temperature falls to or below 32° F., which is freezing-point.

Froth-Hopper, a family of insects related to the Cicadas, and possessing great leaping powers.

Fruit Eating, its healthfulness. Nothing is more palatable or wholesome than good peaches. They should be ripe, however, but not over-ripe, and may be eaten at any time, though it is better to make them a part of the regular meals. It is a mistaken idea that no fruit should be eaten at breakfast; indeed it would be far better if people would eat less bacon at breakfast and more fruit. The apple is one of the best fruits. Baked or stewed apples will generally agree with the most delicate digestion, and are an excellent medicine in many cases of indigestion. Green or half-ripe apples stewed and sweetened are pleasant to the taste, cooling, and nourishing. Raw

apples are better than liver pills. Oranges are very acceptable to most people; but the orange juice alone should be taken, and the pulp should be rejected. Lemonade is the best beverage in hot weather and during fevers, and when thickened with sugar is better than syrup of squills and other medicines in many cases of coughs. Tomatoes are very beneficial, but the skins should not be eaten. The small seeded fruits, such as blackberries, figs, raspberries, and strawberries may be classed amongst the best medicines. The sugar in them is nutritious, and the acid is cooling and purifying.

Fucosae, an order of seaweeds of a leathery structure, with dark spores underlying the fronds, and found both attached to rocks and floating. There is a gelatinous kind which is edible, and is commercially valuable as the source of iodine and as a manure.

Fugue, a kind of polyphonic musical composition of a contrapuntal form, in which a theme is enunciated, followed up, answered, and interwoven according to prescribed rules. Fugues are of several kinds, named in relation to the character of the theme, as diatonic, chromatic, doric, etc. Bach was perhaps the greatest of fugue composers; Handel was also highly effective in fugue writing.

Fulani, a Mohammedan race inhabiting the Soudan, at one time possessing a kingdom in Nigeria, sometimes called the Sokoto Empire.

Fullers' Earth, a special kind of clay or marl possessing highly absorbent qualities, and used from ancient times in the "fulling"—that is, cleansing and felting—of cloth. It is common in certain parts of the south of England, and is valued as a skin emollient.

Fur—the hairy protective coating with which Nature has provided numerous animals, especially those of the colder regions—has from time immemorial been utilised by mankind for winter clothing. The fur most prized is probably the sable. The best sable comes from East Siberia. In the hunting of this animal which has opened up so much of the geography of that wild country. The sable is quite a small animal, about 18 inches long, and wearing a lustrous coat of amber brown hair. In winter its fur becomes thicker, and the soles of its feet are also covered with hair. To avoid spoiling the fur, the hunters catch the sable in traps, and with nets thrown over its hole.

Common skins will fetch from £2 in the rough, but good dark ones will bring £30 to £40, and a robe of real sable such as Russian aristocrats wear may easily cost £1,000. The fur of Royalty is ermine; but to judge by recent fashions, "we are all born princes" if the wearing of the white fur, which was once the exclusive prerogative of sovereigns, has still anything to do with that matter. The ermine alive is not "very costly," and as its white winter coat, made into articles of apparel, or employed for the ornamentation of State robes, cannot be said to be more becoming than any other fur, it would be interesting to know how the ermine first came to be connected with, and adopted at, State functions. There are numerous other animals—the lynx, the beaver, the red fox, the squirrel, the seal, the bear, etc.—all of which contribute to our stock of furs. The north-western portion of the American continent is prolific in fur-bearing animals, and there the Hudson Bay Company, founded in 1670, has carried on a most profitable enterprise in pelt capture. The originator of the Vanderbilt fortune was a fur trader in the North-West. London, New York, Leipzig, and Nijni Novgorod are the chief fur marts of the world, the fairs at the two last-named places being very important. Fur trading has many hazards, not the least being that of fashion. It is an old saying that "furs when wanted are diamonds, when not wanted, charcoal."

Furlough, a term designating holiday-leave granted to non-commissioned officers and privates in the British Army, or home holiday-leave given to British officers serving abroad.

Fusel Oil is a resultant of alcohol, the residue left after the separation of ordinary alcohol from the raw spirit by fermentation. It has a strong odour and a fiery taste, and its consumption produces an injurious effect upon the brain.

Fusible-Plug, a safety-plug placed in the skin of a steam-boiler so as to be melted and allow of the discharge of the contents when a dangerously high temperature is attained.

Fusil, the old fire-lock which superseded the match-lock in our army, and was fitted with a flint and steel; it was about the length and calibre of the musket, but of lighter construction.

Fusiliers, were originally bodies of foot soldiers carrying fusils, at a time when archers and pikemen still formed the main part of an army. There is still a British regiment called the Royal Fusiliers.

Fustian, the name given at various times to different kinds of textile fabrics. Originally fustian was made of linen and cotton; later, wool was used; but in recent times the name has been mainly applied to a twilled cotton material with a nap surface.

Fustic, a kind of dyewood yielding various shades of yellow according to the mordants used. The tree grows in India, tropical America, and the West Indies.

Futurism. (See *Post Impressionism*.)

Fuz-ball, a genus of fungi, including the familiar *Lycoperdon Bovista*.

G

Gabardine, a long, loose, coarse, over-garment, worn by men of the common class in the Middle Ages, and prescribed by law as the distinctive garment of the Jew.

Gabbatha, the Hebrew term for that part of a judgment-hall which was occupied by the governor or supreme authority, and from which he pronounced sentence. Used in John xix., to designate the place where Pilate sat at Christ's trial.

Gabbro, a kind of euphotide diallage rock of many varieties, found in the marble regions of Tuscany, containing a good deal of felspar, and sometimes also serpentine or mica.

Gabbroisite, a mineral of foliated structure, mostly of a greyish colour, and of the appearance of scapolite. It is found in Norway.

Gaberlunzie, the name given to an old-time class of beggar in Scotland, who had licence to ply his "profession" within a prescribed district.

Gable, the triangular end of a building, rising above the cornice to its apex. The end wall of a sloping roofed house is called the gable-end; and a gable-window is a window situated in the gable or constructed in gable form.

Gabrielites, a sect of Anabaptists, founded by Gabriel Schelling, in Pomerania.

Gadfly, the name of a family of flies with only one pair of wings (*diptera*), possessing great power of flight. The females are very voracious, being able to bite through the skin and suck the blood of animals. The males are harmless. Gadflies are of many species and distributed over the world.

Gadolinite, a mineral named after Gadolin, a Finnish chemist, its discoverer. It is a silicate of the yttrium and cerium metals.

Gaelic, relating to the Gaels and their language, a term in modern days applied only to the Celtic people inhabiting the Highlands of Scotland, but formerly used also in regard to the Celts of Ireland and the Isle of Man.

Gag, a word of modern stage slang referring to dialogue or expressions other than the author's words, introduced into a play by an actor, and usually indulged in by comedians for raising a laugh.

Gahnite, a dark mineral substance of the spinel group, an oxide of zinc and alumina, or an admixture of zinc. Sometimes called zinc-spinel. Called after Gahn, a Swedish chemist.

Gaine, a sculptured figure, the upper part of which is in natural form and outline, and the lower part (except sometimes the feet) is some simple architectural feature seeming to envelop the body and legs. The gaine was often used in ancient Greek and Egyptian architecture.

Galactia, a stone found in Scotland, yielding, when moistened and rubbed, a milk-like juice.

Galago, a sort of lemur, native to Africa, large-eyed, in keeping with its nocturnal characteristics.

Galatians, St. Paul's Epistle to the, is supposed to have been written by the Apostle about A.D. 56. It was addressed to the Galatian Churches, and, in addition to supporting Paul's apostolic authority, advocated justification by faith.

Galaxy, the Milky way, the part of the heavens which, in Milton's words, is "powdered with stars."

Galena, sulphide of lead, and one of the commonest of minerals. One variety carries silver.

Galeries, a genus of *echinoderm*, or fossil sea-urchins, found in the chalk formation.

Galidia, a kind of ichneumon (*G. elegans*) peculiar to Madagascar, valuable for its fur, which in some varieties is beautifully striped; it is easily tamed, and serviceable as a destroyer of vermin.

Gall, a vegetable growth, the result of an egg-deposit on leaves or bark by a class of insects very widely distributed. As they appear on oaks they are called oak-apples. They are nearly spherical in form, inodorous, have a bitter taste, and vary in colour from blue to deep olive and black. They yield an acid which is of value for dyeing, tanning, and other commercial purposes.

Galloon, the name given to the old three-decked Spanish treasure vessels employed in conveying the precious minerals from the American colonies to Spain.

Galley, an air-propelled sea-boat used by the ancient Greeks and Romans for transport purposes, manned by slaves. Boats of a similar class were used by the French down to the middle of the 18th century, and manned by convicts.

Gallio Acid, obtained from gall nuts, sumach, tea, coffee, and the seeds of the mango, is used in the manufacture of inks and as an astringent in medicine. It is odourless, has a bitter taste, and is mostly of a pale yellow colour.

Galium, a malleable metal of a greyish-white colour, discovered in 1875 by J. E. Coen, the Belgian, in zinc-blende crystals in the Pyrenees, but only obtained in minute quantities. It is classed between aluminium and zinc.

Gall Moth, a species of insect, the larvae of which live in the stems of plants and produce gall-nodes.

Gallopardix, a kind of partridge, found in the hilly regions of India and Ceylon. There are three species.

Gallows, a wooden erection consisting of two posts supported by a cross-beam, suspended from which is a rope used for hanging criminals. Sometimes it takes the form of a single projecting wooden beam, which serves to carry the rope.

Galvanised Iron is iron coated with zinc and other substances, but in no form galvanised, therefore wrongly named.

Galvanism is the branch of electricity which deals with electric currents produced by chemical action, and named after its discoverer, Aloysius Galvani.

Gambeson, a protective garment of leather or padded material, reaching from the neck to the knees, worn by soldiers prior to the introduction of plate-armour, and also, as a modified surcoat, beneath the hauberk.

Gamboge, a resinous gum obtained from certain trees in Siam, Cochinchina, Ceylon, and other hot countries, and much used for producing a yellow pigment, as well as a medicinal purgative, though too drastic to be used alone.

Game is the term applied to wild animals which are protected from indiscriminate slaughter by Game Laws.

In the United Kingdom game comprehends deer, hares, pheasants, partridges, grouse, black game, moor game, woodcocks, bustards, and certain other birds and animals of the chase. Game can only be killed (with few exceptions) by persons holding game licenses, which cost £3 a year. Occupiers of land and one other person authorised by them in each case are allowed to kill hares and rabbits on their land without license. Game cannot be sold except by a person holding a proper license. There is a "close time" prescribed for the different classes of game, during which period they cannot be legally killed or sold, and it is not lawful to kill game on a Sunday or Christmas Day. Grouse cannot be shot between December 11th and August 31st; partridges between February 2nd and August 31st; pheasants

between February 2nd and September 30th; and black game between December 11th and August 10th. In regard to foxes, stags, and others, custom and not Parliament prescribes a certain law which sportsmen are to adhere to. The fox-hunting season is from November 1st to April 1st; stag-hunting from August 15th to October 15th; and other hunting from April to September.

Gaming, or Gambling—i.e., staking money on the chances of a game—differs from betting in that it depends upon the result of a trial of skill or a turn of chance. Gambling has long since been illegal in Britain, and no public gaming houses have existed here since the early part of the 17th century. The only place in Europe where gaming is still carried on by the sanction of the law is at Monte Carlo. Nevertheless, in many semi-public places and at some clubs gambling is indulged in to a considerable extent. A gambling debt cannot be recovered at law, but is simply "a debt of honour."

Garnet is the musical scale of lines and spaces upon which are written the notes of music designated by the first seven letters of the alphabet.

Ganga, the pin-tailed sand-grouse, a handsome bird mostly found in North-Western Africa.

Gangue, a term applied to non-metallic minerals found in mineral veins and often called vein-stone. Quartz is the most prevalent of these vein-stones.

Gangway, a narrow passage running across the House of Commons, and dividing the seats on each side into two parts. Above this gangway, and nearer towards the chair, sit the principal members, Ministers and ex-Ministers, the former on the Speaker's right, the latter to his left. Below the gangway sit independent members.

Gannet, the name of a genus of birds of the pelican family. It is found in large numbers on the coast of Scotland, and having breeding stations in the Hebrides, St. Kilda, Ailsa Craig, and the Bass Rock. It is a bird of white plumage, and weighs about 7 lbs. Its common name is the Solan goose.

Garandin is a dye substance obtained from madder root by chemical treatment, but in recent times has been superseded by alizarin.

Garden Cities, have been established in various parts of the country with considerable promise of success. The first and most extensive of these was formed at Letchworth, near Hitchin, in 1869. It comprises nearly 4,000 acres, and is controlled by a company with a capital of £300,000, and shows a prosperous working community living and labouring under morally and physically healthy conditions. The idea is an adaptation to modern ideas of the model villages of certain industrial philanthropists such as Salt, Richardson, Cadbury, Lever, and others. The Hampstead Garden Suburb is a successful experiment in the same direction.

Gardener-Bird, a bird possessing many of the characteristics of the bower-bird, and found only in New Guinea.

Gargantua, the giant hero of Rabelais' satire, of immense eating and drinking capacity, symbolical of an antagonistic ideal of the greed of the Church.

Gargoyle, a projecting spout for carrying off water from the roof gutter of a building. It is only found in old structures, modern water-pipe systems having rendered them unnecessary. At first gargoyles were only plain spouts through which the water was discharged well away from the wall. Later, they were turned to architectural account and made to take all kinds of grotesque forms—grinning goblins, hideous monsters, dragons, and so forth. The effect of rows of these fantastic figures, projecting from some of the old ecclesiastical buildings, castles, etc., is often weird and strange.

Garibaldi, a kind of blouse-jacket formerly a good deal worn by women, and so styled because of its resemblance to the skirts worn by the Italian Patriot and his soldiers.

Garlic, a bulbous plant of the onion tribe, and a favourite condiment among the people of Southern Europe. It possesses a very strong odour and is used largely for medicinal purposes.

Garner, a granary, or store-house for corn.

Garnet is the name of a precious stone varying in colour, but mostly red. The finest garnets are of a blood-red and transparent.

Garnish, a person who has received legal notice not to pay away sequestered monies owing by him to a third party.

Garrison, a body of soldiery stationed in a fortified place to defend it against a foe, or to keep the surrounding population in subjection; also such a fort, manned with troops, guns, etc.

Garrot, the name of a species of wild duck, widely distributed over the Arctic regions, and a winter visitor to the northern parts of Britain. It is distinguished by having a large white spot in front of each eye on a dark ground.

Garrote, a method of strangulation adapted as capital punishment in Spain, and consisting of a collar which is compressed by a screw that causes death by piercing the spinal marrow. Garroting was also applied to a system of highway robbery common in England some years ago, the assailants seizing their victims from behind and by a sudden compression of the windpipe disabling them until the robbery was completed.

Garter, Order of the. Was established by Edward III in 1349 and is the premier order of knighthood in Great Britain, limited to the Sovereign, the Prince of Wales, and eight of George V's may be elected members, and twenty-five knight companions. Queen Alexandra is a Lady of the Order. The traditional story of the origin of this order is well known. Edward III is said to have picked up a garter dropped by the Countess of Salisbury at a ball, when his Majesty put it round his own knee with the remark "Honi soit qui mal y pense." The insignia of the order are blue and gold worn on the left leg below the knee, and the sustinents and badge, the latter are of great magnificence.

Gas is an elastic fluid substance, the molecules of which are in constant motion, and exerting pressure. Any gas can be reduced to the liquid form by increasing pressure and diminishing temperature. Hydrogen, oxygen, and nitrogen were formerly regarded as "fixed gases," but they have been liquefied. The definition of gases by Clerk Maxwell is as follows: "Gases are distinguished from other forms of matter, not only by their power of indefinite expansion, so as to fill any vessel, however large, and by the great effect which heat has in dilating them, but by the uniformity and simplicity of the laws which regulate their changes."

Gas from Coal for lighting purposes is obtained from bituminous coal, or from a mixture of such coal and cannel. Such a gas was produced and used for illuminating purposes by William Murdoch to the end of the 18th century in Birmingham, and about 1807 the illuminant was introduced in London, one suit of Pall Mall being lighted with it. After that it soon supplanted oil and candles for outdoor and indoor lighting, and is still, in spite of the advances of electric light, the most general illuminant, its power having been greatly increased in recent times by the incandescent burner.

Gas-Engine, invented in principle by a French workman over a hundred years ago, and greatly improved by Siemens, Crossley, and others, in more recent times. Its power is obtained by a mixture of gas and air, compressed, ignited, expanded and re-compressed. Heat is produced by gases of various kinds—coal gas, natural gas, petroleum, etc. At first, gas engines were only constructed of small size, but are now built of considerable magnitude and power, and effect a great saving of fuel.

Gastropacha, a genus of lepidopterous insects of the Bombycidae family, including the lapier moth.

Gastropoda, a family of Molluscs, which includes all such as possess a univalve shell—snails, whelks, limpets, etc.

Gastrostomy, the surgical operation of making an artificial opening into the stomach for the introduction of aliment in the case of obstruction or stricture.

Gate House, a structure built over and flanking a gateway, and common in ancient times at the more

important entrances of a city, castle, monastery, abbey, or college. The only example left in London is St. John's Gate-way, in Clerkenwell, but many still remain in the old continental cities, and some are of great architectural beauty.

Gate of Justice, in medieval times, was the place where a king, feudal lord, or judge sat to redress grievances and deal out justice. It was situated sometimes at the city gate, in front of the temple or other public place, and where no actual gate existed, the judgment seat was enclosed in a structure that suggested gates.

Gauchos are South Americans of Spanish descent, and of a wild and fearless disposition. They are mostly employed in the management of cattle, and are noted for their skill in the saddle, and for their lasso throwing. Their numbers grow less from year to year, and as the pampas comes more under modern European control their existence as a distinct class will gradually dwindle away.

Gauge, a standard dimension or measurement, applied in various branches of construction. Thus, in railways we have the standard distance of 4 feet 8½ inches between the rails, and this is the ordinary narrow gauge in most countries. In the United States the standard gauge is 6 feet. The old 7 feet gauge adopted by the Great Western Railway was abandoned some years ago. The gauge for Indian lines is 5 feet 6 inches. Narrow railway gauges of different standards are in use on very steep inclines in various countries. Other standard gauges are fixed in building, gun-boring, and other operations.

Gauls were inhabitants of ancient Gaul, the country which comprised what is now France, Belgium, and parts of the Netherlands, Switzerland, and Germany.

Gault, a blue clay deposit found in the upper cretaceous rocks, and of marine form.

Gauntlet, a glove of armour, worn in the 12th and 13th centuries as a sort of mitten, and attached to the sleeve of the hauberk. In the 14th century gauntlets were made of mail, and later of hammered steel with separated and jointed fingers.

Gautama, one of the names of Buddha.

Gauze, a thin, transparent material made of silk combined with cotton, linen, or hemp, and plain or figured. There are also gauzes of flannel, lace, ribbon, and wire.

Gavel, enough grain in the straw to form a sheaf, into which it is converted by binding.

Gavelkind, an old English custom of land tenure obtaining in Kent and a few other places in England, whereby on the death, intestate, of a property owner, his property is divided equally amongst his children and not according to the law of Primogeniture.

Gavial, the crocodile of the Ganges, feeding chiefly on fish, and not infrequently given to attack mankind; it reaches a great length when fully grown, exceeding 30 feet, and has very long thin jaws, sub-cylindrical and dilated at the end.

Gavay, a kind of wild ox about the size of an English bull. A native of western India, and easily domesticated. The Hindus hold it in great reverence, making use of its milk, but not subjecting it to labour.

Gaydang, a junk-like, Annamese vessel, with two or three masts and triangular sails, carrying cargo from Cambodia to the Gulf of Tonkin.

Gazelle, an animal of the antelope family, of small and delicate shape, with large eyes and short cylindrical horns. It is of a fawn colour, a native of North Africa and easily domesticated.

Gecko, the name of a family of lurid-hued lizards, common in the warm tropics. The male is of nocturnal habits and feed on insects, and though by some accounted venomous, they are harmless.

Geez, a Semitic or Arabic dialect, or language-variant, surviving in the ecclesiastical literature and speech of Abyssinia, and still spoken by some of the natives of the province of Tigre, but mostly superseded by the Amharic.

Geissler's Tubes are used for producing light by an electric discharge through rarefied gases. The tube is sealed, and the electric spark is transmitted by means of platinum connections at each end. Geissler, the inventor, was a native of Bonn.

Gelada, the name of an Abyssinian baboon, possessing a large mane and long tufted tail. It is of a dark brown colour, and is closely allied to *Hamadryas*.

Gelasma, an era introduced by and named after Gelal-u-Din, Sultan of Khorrassan, and commencing March 4th, 1099 A.D.

Gelatin, a transparent, tasteless, organic substance obtained from animal membranes, bones, tendons, etc., by boiling in water. It is of various kinds, according to the substances used in making it. Isinglass, the purest form of it, is made from air-bladders and other membranes of fish, while the coarser kind—glue—is made from hoofs, skin, hides, etc. Its constituents are carbon, hydrogen, oxygen, and nitrogen. Gelatine is of great utility, and applied to an immense variety of purposes, from the making of food jellies to substances for photography.

Gelsemium, a wild jasmine grown in the United States and bearing yellow flowers of convolvulus shape. A tincture prepared from the root of this plant is a valuable medicine in small doses, but in over doses produces paralysis of the respiratory muscles.

Gemini, one of the signs of the Zodiac lying east of Taurus and containing numerous stars, only two of which—Castor, the upper and brighter one, and Pollux the lower one—are visible to the naked eye. The stars are named after twin divinities of the classical mythology.

Gemsbok, a large South African antelope, with long straight horns and tufted tail. Light fawn in colour, it has a black streak across its face, and is very fleet of foot.

Gems are precious stones cut and polished for wearing as jewellery.

Gender is a sort of sexual distinction grammarians give to nouns or pronouns. Thus, in English, we have the masculine (male), feminine (female), and neuter (no sex) genders. The French language has only the masculine and feminine genders, rendering gender classification difficult and complicated. In modern Persian there is no gender distinction.

Genealogy, is the science of family descent, treating of ancestors and their descendants in various branches in the natural order of succession. Pedigrees of the principal families in Great Britain are recorded at Herald's College.

General, a military title next in rank to that of Field-Marshal, the highest officer in the army. Ranking below full General are Lieutenant-General, Major-General, and Brigadier-General.

Generation, the average lifetime of persons who live beyond infancy is reckoned at about thirty years. The average of all who are born does not amount to more than seventeen years.

Generation, Spontaneous. (See **Abiogenesis**.)

Genesis, the first book of the Pentateuch, which carries the Scriptural narrative from the Creation to the death of Joseph.

Genet, one of the smaller carnivorous animals about the size of a cat, but with longer tail, and spotted body. It is a native of Southern Europe, North Africa, and Western Asia, and is valued for its fine soft fur, and also for a perfume it produces.

Geneva Convention was a convention signed at the holding of a conference of representatives of the leading European powers in 1864, whereby the neutrality of ambulances, hospitals, sanitary officers, chaplains, and others engaged in succouring the sick and wounded was guaranteed. All persons employed in such service are required to wear a Geneva cross—red cross on a white ground—as a badge of office.

Genii, fabulous beings, regarded by the Arabs as between mankind and the angels, capable of becoming invisible at will, or assuming any shape.

Genite, an ancient sect of Jews spoken of by Purchas in his *Pilgrimage*, as claiming to be of the pure stock of Abraham, by reason of their not having "taken strange wives."

Genoulillares, ancient metal caps for covering the heads of armed men: an example may be seen on the Black Prince's monument in Canterbury Cathedral.

Genre, an art term used to describe a style of painting which deals with subjects of homely life, but also applied in France in connection with other kinds of paintings as *genre du paysage* (landscape painting), *genre historique* (historical painting), etc.

Gens, a group term used by the ancient Romans to designate the kindred or connections of any particular family, but only used in regard to the members of a noble family. The modern word clan most nearly corresponds with *gens*.

Genthite, a silicate of nickel and magnesium, found in stalcite formations in certain parts of Pennsylvania, and named after its discoverer, Dr. Genth.

Gentian, the name for a species of plants of the *Gentiana* genus. Gentian root is of great value in pharmacy, and from it a valuable bitter is made and used as a tonic.

Gentian Root, the dried root of the *Gentiana lutea*, much used in pharmacy as a tonic. The plant bears clusters of mostly blue flowers, and the most valuable species commercially are those of central and southern Europe.

Gentile, a term used in the Scriptures to designate any person who is not a Jew.

Gentleman-at-Arms, one of a company of military esquires forming the sovereign's bodyguard. They number in England some 40 gentlemen and 6 officers, and their duty is to attend the King on all special occasions. The Captain receives £1,500 a year, and each of the "gentlemen" £70 a year.

Genus, a term applied in biology to designate any kind, sort, or class of species.

Geodesy, the art of calculating the configuration and extent of the earth's surface, and determining exact geographical positions and directions, with variations of gravity, etc. In former times the term geodesy was applied to land-surveying in general.

Geogeny, the science of the earth's formation in its relation to the solar system, and of practically the same meaning as cosmogony.

Geography, the science which describes the earth's surface, its physical peculiarities, and the distribution of the various animals and plants upon it. It is usual to divide the subject into two main branches—physical geography, which deals with the composition of the earth's surface and the distribution of its living occupants, animate and inanimate; and political geography, which deals with the tribes, peoples, and governments of the earth.

Geology, the science which deals with the condition and structure of the earth, and the evidences afforded of ancient forms of life. The various periods and sub-periods of geological classification as at present defined are:—Primary, or Palæozoic; Secondary, or Mesozoic; Tertiary, or Cainozoic; and Post-tertiary.

Geometrical Progression is a term used to indicate numbers which increase or decrease at an equal ratio—as 3, 9, 27, or 27, 9, 3.

Geometry is the branch of mathematics which demonstrates the properties of figures, and the distances of points of space from each other by means of deduction. It is a science of reason from fundamental axioms, and was perfected by Euclid about 300 B.C. The books of Euclid contain a full elucidation of the science, though supplemented in modern times by Descartes, Newton, and Carnot.

George-Noble, a gold coin of the value of 6s. 8d., receiving its name from the St. George depicted on its obverse. First issued in the reign of Henry VIII.

German Silver, an alloy of copper, zinc, and nickel, and much used in the manufacture of tableware, such as spoons, forks, etc.

Germ Theory, the biological doctrine which holds that living matter cannot be generated from non-living matter, but must spring from germs or seeds. In medicine it demonstrates that zymotic diseases are due to the presence of bacterial germs.

Gesta Romanorum, a collection of stories published in the Middle Ages, and of unknown origin. It was greatly aided under contribution by our earlier writers, who found many romantic incidents and legends which they were able to turn to good account. The collection circulated over Europe, and is

believed to have been written by a monk, Pierre Bercheur, of the convent of St. Eloi, Paris.

Gestation, the carrying of young in animals during pregnancy, varies considerably in its length. In the case of an elephant, the period is at months; a camel, 20 months; a cat, 8 weeks; a horse, 10 weeks; a dog, 9 weeks; and a pig, 16 weeks. Hens "sit" for 27 days; geese, 30; swans, 42; turkeys, 28. A pigeon only "sits" 14 days.

Gethsemane was at the foot of the Mount of Olives; see *Pears' Dictionary of the World*.

Geysers, hot springs of volcanic origin, and action, are remarkable for the fact that they throw out huge streams of boiling water instead of lava as in the case of a volcano. The most famous geysers are those of Iceland which number over a hundred, the principal one having an opening 70 feet in diameter and discharging a column of water to a height of 200 feet. There are also geysers in the Yellowstone region of America, and some in New Zealand.

Ghat, a river landing-place or stairway, in India, above which there is usually a temple, or pagoda, and sometimes a space set apart for rest; "ghaut," another form of the word, means a mountain pass in the Mahratta tongue.

Ghee, a kind of butter much used in the East Indies and made from coagulated milk. It is a deep sweet for a long time when properly prepared.

Ghetto, the name given to the Jewish quarter in any city or town, but more especially applied to such quarters in Italy.

Ghost-Moth, an interesting nocturnal insect (*Hepialus humuli*), common in England, possessing in the male a white collar and known for its habit of hovering with a pendulum-like action in the twilight over a particular spot where the female is concealed.

Ghurkha, or Gurkha, are a native Indian military force of sturdy fighters, famous, brave and useful force. They are natives of Nepal.

Giambeaux, metal armour for the legs and shins, worn by the warriors of Richard I's reign.

Giants, men of abnormal stature and bulk, have been met with in all ages, but it may be doubted whether ever any actual race of giants has existed, except in mythological fable.

Gibbet, a kind of wooden gallows with a projecting arm, from which in former times criminals were hung in chains and left to decay.

Gibbon, the name of a long-armed ape, inhabiting the East Indian Archipelago mainly. It is without tail, and possesses the power of very rapid movement among the trees of the forests.

Gifford Lectures, on natural Religion, are restricted to the four Scotch Universities, and were established by Lord Gifford with a grant of £30,000 for the lectureships. The lecturers are selected from religious test of any kind.

Gilbertines were members of a religious order of monks and nuns founded by St. Gilbert in the 12th century, but did not spread beyond England. There were 25 Gilbertine monasteries at the time of the suppression of these institutions.

Gimp, a narrow trimming of worsted or silk cord, largely used for edging to gowns, draperies, etc.

Gimp-Machine, a narrow-warped loom designed to catch the wool and form loops or patterns, the gimp-cords of variant sizes being carried by independent needles or shuttles.

GIN, a well-known spirit distilled from malt or barley and flavoured with juniper-berries. The purest gin is that of the Holland variety, produced mainly at Schiedam. English gin is less pure, often containing flavouring substances that detract from the quality of the spirit. Gin is frequently recommended as beneficial in urinary troubles.

Ginger is obtained from a reed-like perennial plant grown in tropical countries. There are two varieties, black ginger and grey ginger. The former is obtained by peeling and drying the root, the latter by scalding and drying. Ginger is largely used as a condiment.

Gingham, an ordinary kind of cotton fabric, dyed, plain, or figured, which received its name from being originally manufactured in Guingamp in Brittany.

Ginseng, a plant whose forked root is greatly valued as a tonic and stimulant by the Chinese. The Manchurian variety is considered the best, and fetches a high price; it is a plant of an allied species grows in America, and its root is exported to China and sold as ginseng. In spite of the almost miraculous virtues ascribed to ginseng by the Chinese, it has really but little medicinal value.

Gipon (or Jupon), a tight-fitting vest or cassock; an old French term.

Gipsies are a nomadic race, supposed to be descended from some East Indian tribe. Their language, Romany, is certainly a Hindu dialect mixed with other tongues. They are spread over many parts of the world but are most common in Europe, having appeared in the Eastern portions of the Continent about the 14th century, finding their way to England at the beginning of the 16th century. They give evidence of their Eastern origin in their dark skins, large black eyes, black hair, and pearly white teeth. They are born wanderers, and pass from place to place following certain small occupations such as tinkering, basket-making, and the like, while some of the men are clever as horse-dealers, and some of the women pose as fortune-tellers. They do not seem to have any religious creed, nor are they regarded as particularly honest. In England gipsies are not very numerous at this day, the enclosure of land and stricter methods of dealing with vagrants having made it more difficult for them to find resting places.

Giraffe, the tallest of existent animals, reaching a height of from 18 to 20 feet when full grown. Its sloping back and elongated neck seem to be the natural evolution of an animal that has to feed on the branches of trees. It is a native of Africa, is of a light fawn colour marked with darker spots, and has a prehensile tongue.

Girandole, a branching chandelier, or swing-armed candelabrum.

Girasol, a mineral of the opal variety. Of a bluish-white colour, with a red reflection under a bright light.

Girondists, one of the prominent parties of the early period of the first French Revolution. They were Moderates, and up to 1792 were a strong party. Their first leaders were from the department of Gironde, hence their name. With the Reign of Terror their influence came to an end, Robespierre and his party overthrew them, most of them being sent to the guillotine.

Girton College, founded at Hitchin in 1859, and removed to Cambridge in 1873, is the leading English training college for women, accommodates about 150 students, whose educational course covers three years. The teaching includes nearly all the higher branches of education. The fees amount to £105 per annum.

Glacial Epoch was the period when northern Europe, including part of Britain, was covered with ice, strong geological testimony of the epoch being found in the many fossil remains which have been discovered, in the Tertiary formation, of animals such as only exist to-day in Arctic regions.

Glaciers form in the higher Alpine ranges, and are immense consolidated masses of snow, which are gradually impelled by their own force down the mountain sides until they reach a point where the temperature causes them to melt, and they run off in streams. From such glaciers the five great rivers, the Rhine, the Po, the Rhone, the Inn, and the Arge have their source. The longest of the Swiss Glaciers is the Gross Aletsch, which sometimes extends over ten miles. Some of the glaciers of the Himalayas are four times as long. The Muir in Alaska is of enormous magnitude, and that of Justeldals Brae in Norway is the largest in Europe.

Glacier-valley, a vale, the essential factor in the formation of which has been glacial-action.

Glacia, a sloping bank of fortification forming a parapet to the covered way, and serving to expose besiegers to the fire of fire.

Glade, an open space in a forest.

Gladiators were professional athletes and combatants in ancient Rome, contesting with each other or with wild beasts. At first they were drawn from

the slave and prisoner classes exclusively, but so much were the successful gladiators held in esteem that men came to make a profession of athletics, and gladiatorial training schools were established. When a gladiator was vanquished without being killed in combat, it was left with the spectators to decide his fate, death being voted by their hands, being held out with the thumb turned inward, and life by putting forth their hands with the thumb extended. Gladiatorial shows were the chief public displays in Rome from the 3rd century B.C. to the 4th century A.D.

Glands are secretory organs whereby certain natural matters, such as urine, milk, bile, saliva, sweat, tears, etc., are drawn from or distributed over the system. Such of the matters as undergo rapid glandular expulsion, as urine, etc., are termed *excretions*, while such as are utilised in promoting the performance of the functions of digestion or milk-production are called *secretions*. Glands are composed of numberless minute secreting cells, arranged in simple or compound vesicles. In man, the chief glands are the liver, the pancreas, kidneys, and salivary glands.

Glasgow University, founded by Pope Nicholas V in 1451, had a new charter granted to it in 1577 by James VI of Scotland, and in 1858 and 1889 was remodelled by the Universities (Scotland) Acts. It has usually over 2,000 students, including women.

Glass, a substance obtained from the fusion of a combination of silica with various bases, and is more or less transparent. There are numerous kinds of glass, but they group themselves under one or other of the following (classifications):—Flint glass or crystal, whose components are potash, silica, and oxide of lead; window glass, made from soda, lime, and silica; Bohemian glass, containing potash, lime, and silica; and bottle glass, composed of soda, lime, alumina, silica, and oxide of iron. Glass was made by the Phœnicians, and was familiar in ancient Egypt. The Egyptians introduced it into Rome. In the Middle Ages Venice was famed for its glass manufactures, but after the 17th century Bohemia acquired pre-eminence in the same style of the industry. Window glass was not used in this country until about the 7th century.

Glass-Snake.—What is so called is really a lizard, with a long, sinuous tail, which has the faculty of regrowth if broken off. It is an inhabitant of the Southern States of America, and attains a length of about a foot, and its main colouring is green, with black and yellow markings.

Glaucus is the curious kind of cray fish often called the Sea Lizard. It is without shell and has a soft body, with horny mouth and four tentacles. It is a native of the South Atlantic, and is not more than 1½ inches in length.

Glee, a musical composition for three or more voices without accompaniment. It is an essentially English composition and was much in vogue during the 18th and the first half of the 19th century. There are still numerous glee clubs, and many of the compositions of this class are of very high merit. The favourite glee writers have been Webbe, Boyce, Callicott, Bishop, Stevens, and Goss.

Glencoe, Massacre of, occurred on the 14th February, 1692, in the wild Glencoe pass at the head of Loch Etive. The victims were the Macdonald clan, who had been required to take the oath of allegiance to William III, but their papers having been treacherously kept, gave the Government agent, Captain Campbell, of Gleniloy, the excuse to kill the Macdonalds. They were torn from their beds in the early morning and murdered in the pass.

Glisson's Capsule, a sheath of areolar tissue surrounding the branches of the portal vein and the hepatic duct and artery; first pointed out in the 17th century by Prof. Frac. Glisson.

Globigerina, an ocean unicellular animalcule with a perforated shell, and occurring in certain parts of the Atlantic in such vast numbers as to form a bed of chalk ooze with their empty shells. The English chalk cliffs are survivals of prehistoric beds of Globigerina ooze.

Gloria in Excelsis ("Glory to God in the highest"), is the opening of the Latin hymn adapted

from Luke ii. 4, and the most prominent hymn of the ecclesiastical rites in the Christian liturgies.

Gloria Patri, the lesser Doxology, with which chants are generally concluded in the English Church service—"Glory be to the Father, and to the Son."

Gloriosa, a genus of gorgeous flowering climbers growing in the Himalayas and Senegambia, lanceolate of leaf, with clinging tendrils and large red or yellow bloom; is of the Tulipaceæ family.

Gloss, an explanatory statement or marginal note, often found in ancient manuscripts, and is sometimes more valuable than the text to which it refers.

Glaucosolite, a milk-white variety of halloysite, found in a siliceous Silurian rock in Georgia; translucent on fracture.

Glossic, the name given to a phonetic system or spelling introduced by Alexander J. Ellis, and based on rules of simple sound. It has not, however, been much used apart from printed material contained in Pictam's phonographic publications.

Glove-Money, an extraordinary reward paid to officers of courts, and fees given to clerks of assize and judges' attendants by a County Sheriff when no offenders were left for execution; the white gloves presented to justices when there is a maiden session are a survival of this old legal usage.

Gloves are coverings for the hand with a separate sheath for each finger, and are made of a great variety of materials. They were not in general use in England before the 13th century, and were not manufactured in this country until the next century. There was a London Glovers' Company in 1464.

Glow-Worm, a kind of beetle, possessing in the female the power of emitting a phosphorescent light underneath the extremity of the body. The male has the same power, but to a very limited extent; and has wings, while the female is wingless. The light of the glow-worm can be given forth by the insect at will.

Glucinum, or Beryllium, is a white metal prepared from beryl, and found also in the emerald and other rare minerals. Most of the salts of this metal have a sweet taste, hence the name.

Glucose is the name given to a group of sugars produced from cane-sugar, dextrose, starch, cellulose, etc., by the action of reagents. It also occurs in many plants, fruits, and honey. For brewing purposes glucose is prepared by the conversion of starch into sugar by sulphuric acid.

Glue, a glutinous substance obtained by boiling and chemically treating hides, hoofs, etc.

Gluten, the insoluble nitrogenous element in flour or wheat and other grains. It is a proteid substance, and is a mixture of gluten casein, gluten fibrin, mucin, and gliadin.

Glutton, or Wolverine, the biggest animal of the weasel order, inhabits the northernmost parts of Europe and America. In build it resembles the bear, and is rather larger than a badger. Its fur is of a brown-black hue, but coarse; the animal has great strength, and is remarkable for its voracity.

Glycerine, occurs in natural fats combined with fatty acids, and is obtained by decomposing those substances with alkalis or by super-heated steam. It is colourless, only and sweet, and is put to a variety of commercial uses, being widely utilised for medicaments, for lubricating purposes, and in the manufacture of nitro-glycerine.

Glyptodon, an extinct species of gigantic armadillo, fossil remains of which have been discovered in South America. It was some a foot long, carried a huge tortoise-like shell, and had fluted teeth.

Gnat, a two-winged insect of the Diptera order. The female possesses the power of biting and stinging. Its eggs are laid upon the surface of water, fastened together in boat form.

Gneiss, a metamorphic rock containing quartz, felspar, and mica, the same constituents as granite.

Gnomes, dwarf supernatural beings, popularly supposed to exercise protective powers over mines and minerals.

Gnosticism was an early Christian sect prominent from the 1st to the 6th century. They held that Christ was of divine origin, but they rejected the

literal interpretation of the Scriptures; contending that God was unknown and beyond man's comprehension, and that knowledge rather than faith was the passport to Heaven.

Gnu, an animal of the antelope family, combining the characteristics of the buffalo in its head and horns, the ass in its neck and mane, and the horse in its long and bushy tail. There are two species, the common and the brindled, and they are about the size of an ass. They abound in Africa and congregate in herds.

Goa Ball, a peculiar and powerful drug, scented with musk, and sold in India in egg-shaped masses. It is a favourite specific in cases of fever and certain skin diseases, but its precise composition is kept secret.

Goat-Moth, a large moth of the Zenzende family, common in Britain, evil-smelling, and very destructive in the larval stage to trees of the poplar and willow genus, into the wood of which the caterpillar bores during its three years' period of development.

Goats are horned ruminant quadrupeds, indigenous to the Eastern Hemisphere, but now domesticated in all parts of the world. Though allied to the sheep, they are a much harder and more active animal. The male has a tuft of hair under the chin. Many species, including those of Cashmere and Angora, are valuable for their hair, which is used for fine textile fabrics. The milk of the goat is nutritive and medicinal, and goat-skins are in good demand for leather for gloves, shoes, etc.

Goatsucker is the popular name of the night-jar, and the bird was so called from the now exploded tradition that it was in the habit of sucking goats. It is a regular summer visitor to this country, and lays its eggs on the ground.

Gobelin Tapestry was originated by a family of dyers named Gobelin in the 15th century in Paris. The Gobelin establishment, which produced this beautiful tapestry, made of silk and wool, or silk and cotton, and used for upholstery purposes, was taken over by the Government in 1662, and since then has been the French National factory for that class of fabric.

Goby, the name of a well-known and widely distributed fish, of many species, some of which are common along the British coasts. The ventral fins of the Black Goby form a hollow disc, whereby the fish can cling to the rocks or other external objects.

God is the term by which the idea of the one Supreme Being is expressed. The conceptions of God vary with different religions and different countries. Theism regards God as a personal being, and the author and ruler of the universe; Pantheism identifies God with the universe and not as a personal being.

Gog and Magog, two legendary British giants, supposed to be the last of the offspring of certain wicked daughters of the Emperor Dacian and a band of demons. Gog and Magog, the story goes, were brought captive to the London palace of Brutus, and there kept in chains. Effigies of these giants existed in the Guildhall prior to, and were destroyed in, the Great Fire. A fresh pair, 14 feet high, now in the Guildhall, were carved by Richard Saunders in 1702, and it was for a long time the custom to carry them round in the Lord Mayor's procession.

Gold, one of the precious metals, found more or less in all parts of the world, though only here and there in such quantities as will pay for its getting. We have evidence of its existence through the whole of the historical record from the days of the Phoenicians down to the present time. It can be traced in the story of the Pharaohs, King of Tyre, laden with the gold of Ophir; in the splendours of the reign of Sardanapalus; in the days of the greatness of Carthage and her hundred tributary cities; through the exploits of Columbus, the barbaric marchings of Cortez, and the conquering magnificence of Pizarro. It has been to man the strongest of all allurements. It was for gold that Alexander the Great despoiled Asia, that Scipio descended upon Carthage and Spain, that Cesar subdued Gaul, that Cortez robbed Mexico, that Pizarro pillaged Peru, and that the Portuguese swept over Brazil and Japan. The most remarkable discovery of gold was in California in 1848. The next in importance was the discovery of the Australian goldfields in 1851.

Victoria alone, in the first year of its gold-mining producing £16,000,000 worth. Among the more recently developed goldfields, are those of Colorado, the Klondyke and South Africa. The largest gold nugget was found in Australia. It weighed over 28 lbs. and was worth when melted about £10,000. In 1892 the value of the gold production of the world amounted to £17,300,000; in 1911 it was £5,738,000, the British Empire yielding considerably more than half the total quantity. For coinage purposes gold requires to be associated with an alloy, usually copper or silver, the fineness of the gold being estimated by the number of carats of gold in 24 carats of the alloy. The gold coinage of England is a mixture of 22 parts of gold and 2 parts of copper.

Gold-Beaters' Skin is the outside membrane of the large intestine of the ox, specially prepared, and used by gold-beaters for placing between the leaves of gold while they beat them. This membrane is of great tenacity, and gets beaten to such extreme thinness that it is used to put on cuts and bruises.

Golden Age of the classical mythology was the age of peace and innocence and patriarchal years.

Golden Bull was the name given to the famous edict issued by the Emperor Charles IV in 1356, proclaiming the order of procedure for the election and crowning of his successors.

Golden Legend, the title of a famous history of the Saints, compiled by Jacobus de Voragine, a Dominican Monk, in the 13th century, translated and published by Caxton in 1480.

Golden Number, the number of any year in the meteoric cycle of 19 years, deriving its name from the fact that in the old calendars it was always printed in gold. It is found by adding 1 to the number of the year A.D. and dividing by 19, the result being the Golden Number; or, if no remainder, the Golden Number is 19. Thus: $1920 \div 19 = 101$. $1921 \div 19 = 101$, with 11 over, the Golden Number. The only use to which the Golden Number is put now is making ecclesiastical calculations for determining movable feasts.

Golden Rose, the Pope's rose of wrought gold blessed and sent from time to time to the church or community his Holiness selects to honour.

Goldsmiths' Company, one of the richest of the London City Companies, dating from 1130, and the official assayers of gold and silver, invested with the power of "hall-marking" the quality of objects made from these metals. Total income, £58,000.

Gondola, the old regulation black boats so common on the canals of Venice, propelled by a gondolier with one oar who stands at the stern, his passengers being accommodated in a covered space in the centre.

Gonfalon, the pennon affixed to a lance, spear, or standard, consisting usually of two or three streamers, and made to turn like a weathercock.

Good Templars, a temperance organization established in England in 1868, but existing some years earlier in America. It has a very extensive membership in this country, and its headquarters are at Birmingham.

Gordon Riots were caused by an anti-popey agitation fomented by Lord George Gordon, who along with a mob of 50,000 persons marched to the House of Commons to present a petition, the people afterwards proceeding to destroy much valuable property. The riots were suppressed by the military.

Gorilla, the largest of the anthropoid apes, found in the forests of Equatorial Africa, and at maturity standing from 4 to 5 feet high.

Goshawk, or *goshawk*, a bird of prey of the falcon family. Being rather slow and weak in flight, it is trained by falconers for catching hares, rabbits, etc. It is only occasionally seen wild in Britain, but is common in Southern Europe and Asia.

Gospels are those portions of the New Testament which deal with the life, death, resurrection, and teachings of Christ. They are the gospels of Matthew, Mark, Luke, and John, and the first three are called the *synoptic gospels* because of their general unity of narrative. That of John is of somewhat wider scope, and gives in addition to the story of the Passion, an account of the ministry in Judea.

Numerous other so-called Gospels were put forward, but they are regarded as apocryphal.

Gothenburg System, a method of controlling the sale of intoxicants originally adopted at Gothenburg, and since tried in Norway, Sweden, and other places with some success. It restricts the sale to houses appointed by the State, appoints companies to manage them at a fixed rate of interest, and applies the surplus profits to public objects.

Goths, a Teutonic people whose descent on Central Europe from Baltic regions and ultimate domination of a great part of the Continent had a widespread historic influence in the 4th and 5th centuries. Under the leadership of Alaric (and then known as the Visigoths) they conquered both Greece and Rome in 476, but by the 8th century they became merged in the Spanish race.

Gowrie Conspiracy was a project for securing the person of, or assassinating, James VI of Scotland, afterwards James I of England, and implicated the Ruthvens and other of the Scottish Protestant nobility. The frustration of the plot gave James the excuse for throwing over the Presbyterians and co-operating with the Bishops.

Grail. (See *Holy Grail*.)

Gramme, the unit of weight in the metric system, being formulated as the 1,000th part of a certain piece of platinum called the "Kilogramme des Archives" preserved in Paris. It is equal to about 15 1/16 grains Troy. The further division of the gramme gives the centigramme (100th part), decigramme (1-10th), decagramme (10 grammes), etc. (See *Metric System*.)

Gramophone, an apparatus on the disc principle for recording and reproducing vocal sounds, invented by E. Berliner, and one of the most popular of the talking machines.

Grampus, a Cetacean of the Dolphin family frequent in temperate waters, and at maturity being over 20 feet long.

Grand Prix, the "French Derby," was established by Napoleon III in 1863. It is the chief French race and is an international competition of three-year-olds.

Graphite, or plumbago, commonly called black-lead, is a carbon substance occurring in foliated masses in limestone, granite, etc. It is soft, will make black marks on paper or other plain surfaces, and is mainly used for lead pencils. The best graphite comes from Siberia.

Graphophone, a disc sound-recording and reproducing machine, different in construction from the phonograph, but producing results of a like kind.

Graphotype, a kind of block for printing from, the drawings for which are made on a chalk surface with a silicious ink. The soft parts are brushed away after the surface is dry, and a block is made from what remains in relief.

Grapple, a modified kind of boat's anchor, with flukes for holding by. Also an arrangement of hooks or clamps for fixing to any holding one ship to another while being boarded in an engagement.

Grass-Cloth, a fabric made from China grass, the fibre of certain plants of the nettle order.

Grasses form the general verdurous covering or herbage of the fields, and include a wide variety of plants. Ordinarily the term is applied to pasture plants on which cattle and other animals feed, but in its broader application also takes in the various cereal plants, such as wheat, barley, oats, rice, etc.

Grasshopper, a well-known insect, whose third or hind pair of legs are constructed to enable it to make progression by leaps. There are many species, most of which are of the locust order. The male grasshopper makes a shrill sound as he leaps.

Gravitation is the natural attraction of bodies of matter to the centre of the earth, the principle having been set forth by Newton in 1687.

Gravity Railway is a railway worked by the power of gravity alone. The road is constructed on inclined planes, usually so arranged that descending cars pull the cars from below to the higher level.

Graying, the ordinary wild gray goose of Europe, and so called from the fact that at one time it did not

migrate with the old wild geese, but lagged behind in the fens and marshes.

Grayling, a fresh-water fish of the salmon family, having a large dorsal fin, and averaging about 1 lb. in weight. It affords good sport to the angler, and feeds mainly on flies.

Grease, animal fat in a soft condition, used partly for lubricating purposes, and as an emollient. It assumes many forms, and is derived from many sources.

Great Circle Sailing is the art of steering a ship in a line with a straight diameter of the earth.

"Great Eastern," the ship built by Scott Russell at Millwall and launched in 1858, and then by far the largest vessel afloat, measuring 601 feet in length and 65 feet in breadth, and of 22,800 tonnage. It was long regarded as practically useless for ordinary ocean traffic, and, after being used for Atlantic cable laying, was ultimately sold to be broken up.

Great Powers, the six European countries to which this term applies are Great Britain, France, Germany, Austria, Russia, and Italy.

Grebe, a diving bird of beautiful plumage, of which there are some 20 species. The two species familiar in this country are the Dalmatian and the Great Crested Grebe, the latter having a feathery tuft on each side of the head. The breast feathers are of a downy softness, and silver lustre.

Greek Church represents the churches in accord with the Greek patriarchal see of Constantinople, and marks the point of separation from the Roman Catholic Church, which occurred in 1554 A.D., when Pope Leo IX. excommunicated the patriarch and the countries comprised in Greek, Greco-Roman, Russian, and certain Oriental groups remained faithful to the Patriarchal cause. The Greek Church accepts the doctrine of transubstantiation, believes in the intercession of the Virgin and saints, and the power of priestly absolution, but rejects purgatory, Papal supremacy, and the worship of images. It also allows its priests to marry. It has over 80,000,000 adherents, nearly two-thirds being Russians.

Greek Fire, a combustible, supposed to have been composed of sulphur, nitre, naphtha and asphalt, used with destructive effect by the Greeks of the Eastern Empire in their wars. The secret of its composition was preserved for hundreds of years, but, when Constantinople was conquered, was discovered by the Mahomedans. The Saracens employed it against the Christians during the Crusades, and it was so powerful that it would burn under water.

Greek Kalends, equivalent to never, as only the Romans, not the Greeks, had kalends.

Greenovite, a kind of titanite found at St. Marcel in Piedmont. It is of a manganian variety, and is rose-red in colour. Its name is derived from its discoverer, Mr. C. B. Greenough, the geologist.

Green Robe, the common name for the robe worn for actors and actresses, behind the stage, so called from the first rooms of the kind being decorated in green.

Gregorian Song, a name applied to the ritual music as established by Pope Gregory I. Gregorian music requires a more rigid harmony than can be given in the modern system, and is peculiarly appropriate for church use.

Grenade, an explosive shell which was thrown by hand or with a shovel. Grenades were made of various materials—wood, glass, gun-metal, bronze, etc.—and were in use in the 17th century. Modern grenades are of spherical shape, and usually cast in cast iron.

Grenadier was originally a picked soldier, employed in throwing hand grenades. The Grenadier Guards regiment perpetuates the now obsolete usage in connection with our own army.

Greyhound, one of the oldest known varieties of dog, bred for the chase, and of great fleetness. It is a large, slenderly built animal, and pursues by sight, not scent, being kept for hare-coursing chiefly. Among its sub-varieties are the Scotch deerhound, the Irish borzoi, and the Russian wolfhound.

Griffin, the name given to a claw-like architectural decoration common in mediæval buildings, and placed at the base of columns.

Griffin, an imaginary monster, half eagle, half lion, a figure familiar in heraldry, legend, and architectural decoration.

Grille, a metal-work covering in the form of decorative bars, used to protect apertures in walls or doors.

Grilse, a young salmon, at that period of its development when the fish makes its first return to fresh water, usually in its second year.

Grimmel, a sub-order of apocarpous mosses; *Grimmia pulvinatum*, the Swan's Neck Bryum, is the typical genus.

Grimm's Law, formulated by Jacob Grimm, an eminent German philologist, lays down a principle of consonantal interchange in the Aryan languages, establishing a mnemonic rule whereby a consistent classification can be applied.

Grindery, the materials employed by shoemakers and other workers in leather in their craft.

Grindstone, a wheel of sandstone, employed in smoothing surfaces, and grinding and sharpening tools; it may be worked by treadle or machinery. The millstones used for grinding corn are also called grindstones.

Grisette, the name given in France to young women who serve in shops and elsewhere, and are not specially bound by domestic ties.

Groat, an old English silver coin of the value of $\frac{1}{4}$ d. It was first issued in the reign of Edward III, but after 1602 only coined as Maundy money. The fourpenny piece was resumed, though not under the old name, in 1836, but in recent years has dropped out of the coinage.

Groats (or grits) are the grain of oats deprived of the husks; and, crushed, become whole meal.

Grog, the beverage served out to sailors, and compounded of spirit and water in prescribed proportions. The name, it is said, was derived from the fact that Admiral Vernon who introduced it into the English navy in 1745, wore Groggman breeches. Now, any sort of mixed drink is called "grog."

Program, a kind of rough fabric made of wool and some other fibre, such as silk, mohair, or cotton, formerly much used for commoner kinds of wearing apparel.

Groschen, a small silver coin introduced into the German currency about the 14th century and still in use. It is a thirtieth of a thaler, or about $\frac{1}{12}$ of a penny, English.

Grotto, a natural or artificial cave. Some grottoes are of great beauty, and are much frequented. The most famous are those of Capri, del Cane, and of Antiparos. The latter is covered with stalactite formations of singular picture-queeness.

Grouse, a kind of game-bird common to the moors of England and Scotland. Of the same family are the ptarmigan of Scotland, the capercaillie, also found in Scotland, the Canada grouse, the American prairie hen, and the common partridge. Grouse shooting begins in Britain on the 1st August.

Grub Street, the London city quarter of hack writers during the Georgian period, and frequently alluded to in the literature of those days. To-day it is called Milton Street.

"Grundy, Mrs." a sort of Mrs. Harris, introduced by Dame Ashfield, a character in Morton's comedy "Speed the Plough." The Dame considers every action from the point of view of Mrs. Grundy (a personification of British respectability), and is continually putting the question, "What will Mrs Grundy say?" Thus the name became proverbial.

Gruyère, a special kind of cheese, first peculiar to the small town of that name in the canton of Freiburg, Switzerland, but now made in other parts of Switzerland and in France. It is of a pale yellow colour, and contains air passages and bubbles which give it a rather honeycombed appearance.

Guanaco, a large species of llama, common to South America, and utilised as a beast of burden.

Guano, the excrement of sea-birds, found in the largest quantities on the rocky islands of the western coasts of South America. It forms a useful fertilising agent, and first came into use in 1821, since which time Peruvian guano has been a recognised article of commerce. Beds of guano of from 50 to 60 feet in

thickness are not uncommon. Fish guano and bat guano from caves in South America and the Bahamas are also of modern fertilisers.

Guardian, one who has the care of the person or property of another, or (as Guardian of the Poor) is one of a body entrusted with the administration of the poor law system.

Guards in the British Army comprise three regiments of cavalry, and four foot regiments. The cavalry regiments are the 1st and 2nd Life Guards, and the Royal Horse Guards; the infantry guards are the Grenadiers, the Coldstreams, the Scots Guards, and the Irish Guards.

Gudgeon, a small fresh-water fish of the carp family, easily caught by reason of its voracity, and much used as bait.

Guelphs, the name of a powerful German family of the Middle Ages, for a long time in conflict with the Ghibellines. The Guelphs were founders of the royal houses of Brunswick and Hanover, and therefore ancestral to the present royal family of England.

Guinea, a large and remarkable African monkey, *Colobus guinea*, with long flowing masses of white hair and tufted tail.

Guildhall, the place of assembly of the members of a guild, and at one time, when guilds were in full strength, was practically the Town Hall. The London Guildhall is to-day the hall of meeting for the City of London Corporation.

Guilds for the fostering and protection of various trades have existed in England since Anglo-Saxon times, and from the 14th to the 18th centuries, during which period they greatly developed, exercised great influence and enjoyed many privileges. There were trades' guilds and craftsmen's guilds, and in all large cities and towns there was a guild hall. Many guilds still exist and enjoy considerable revenues, but they are now but private bodies and have little direct influence upon the course of trade. Their successes in the Middle Ages led to many monopolistic abuses, and in the end it became necessary to free the country from their restrictive power.

Guillemot, a genus of sea-birds of the auk family, common in Northern Europe, two species—the Common Guillemot and the Black Guillemot—being natives of our own sea coasts, nesting and breeding on the cliffs.

Guiltotine, the apparatus used in France for the punishment of death. It consists of an oblique-edged knife, fixed between two grooved posts, and being heavily weighted, falls forcibly on the neck of the victim, severing head from body. The machine, which is a modification of a beheading machine used in various countries in the Middle Ages, was named after Doctor Guillotine, on whose proposition, in the French National Assembly of 1793, such a method of execution was adopted. Dr. Guillotine was not the actual inventor of the machine, nor did he, himself, as is popularly supposed, suffer death by its agency.

Guinea, an English gold coin of the value of twenty-one shillings, current from 1663 to 1817, and deriving its name from the first guinea coinage being struck from gold obtained on the coast of Guinea. Spade guineas, with the royal arms engraved on a spade-like shield, belong to the reign of George III.

Guinea Pig, a small animal of the cavy order, a native of South America, of various colours, and very prolific. It is often kept as a pet, but does not display much intelligence. How it got its popular name is a mystery, since it did not come from Guinea, nor is it a pig.

Guitar, a six-stringed musical instrument of the lute order. Spain seems to have been its country of origin, and it is still popular there, in Italy and France, and has also a certain vogue, and was once much heard in England in song accompaniments. It has a range of from 3 to 4 octaves.

Gulden, a former gold coin of Germany, the Low Countries, and a former silver coin of Austria, worth about 1s. 8d. English. The silver gulden is still current in Holland.

Gules, a heraldic term, denoting a rose or red tincture, indicated by vertical lines drawn or engraved without colour.

Gulf Stream is commonly supposed to have an important influence upon the climate of the British Isles and North Western Europe generally, but in recent years scientific geographers have shown that the belief has no foundation in fact. The Gulf stream cannot be distinguished from the rest of the Atlantic anywhere east of Newfoundland, so that it disappears long before it reaches our shores. The stream is, in fact, only an incidental part of a great system of circulation of the surface waters of the North Atlantic, and the drift of water from North America to Europe is caused entirely by prevailing winds. These most south-westerly winds possibly derive some heat from the great mass of Atlantic water which they keep in circulation, but in the main the warmth is due to the fact that the wind itself comes from warmer regions. If the Gulf stream were diverted at the Straits of Florida we should not experience the slightest change of climate, for the warm wet south-west winds would still ameliorate the temperature of our Islands.

Gulls, a web-footed sea-bird of numerous species, inhabiting the sea coasts of all parts of the world. They are mostly of a soft greyish-white plumage, and are voracious feeders, living on fish, eggs, small birds, worms, etc. Eight or ten species are native to the British Isles.

Gulliver, the hero of Swift's satire, *Gulliver's Travels*, who, in Lilliput and Brobdingnag, passed through a series of adventures which were so contrived as to reflect the humours, follies, and shortcomings of Swift's day. Apart from its satire, it forms one of the best books for boys ever written.

Gums are glutinous compounds obtained from vegetable sources, soluble in cold or hot water, but not in alcohol. There are innumerable varieties. Gum Arabic is exuded from a species of acacia grown in Senegal, the Sudan, Arabia, India and other countries, and is a valuable commercial product, used in dyeing, ink-making, as a mucilage, and in medicine. India-rubber is an elastic gum. Gums are also made from starch, potatoes, wheat, etc., from seeds, bark, roots, and weeds. Many so-called gums are resins.

Gun-Cotton, a powerful explosive manufactured by subjecting a prepared cotton to the prolonged action of a mixture of three parts sulphuric acid and one part of nitric acid. It burns without explosion on ignition, but by percussion explodes with a force five times greater than that of gunpowder.

Gun-Money, the name given to the money coined by James II. as "sinews of war," on his attempts, in 1689 and 1700, to recover his lost kingdom. The coins were mostly made from brass cannon and kitchen utensils, and were of the nominal value of 6d., 1s., 2s. 6d. and 5s. respectively.

Gunny, a coarse cloth made in India from jute and hemp, used chiefly for bags and sacking, though sometimes also for clothing by the very poor. Gunny cloth is largely manufactured in Dundee.

Gunpowder, the oldest of the explosive materials, a compound of saltpetre, sulphur, and charcoal thoroughly amalgamated and reduced to fine powder. The proportion of the ingredients is varied according to the uses for which it is destined. In recent years a smokeless gunpowder has been much used, an oxidising agent being used to prevent the smoke. Cordite is a familiar example.

Gunpowder Plot was the conspiracy entered upon by a desperate band of Roman Catholics, in the reign of James I., to avenge the harsh treatment which the Catholics were subjected to those days. Barrels of gunpowder were secreted in the vaults underneath the Houses of Parliament, and it was proposed to fire these when the King and his Ministers assembled on the 5th November, 1605. A letter of warning to Lord Montague led to the discovery of the plot, and Guy Fawkes and his co-conspirators were arrested, and executed.

Guns comprise muskets, carbines, rifles, cannons, etc., in a never-ending variety. In the 14th century they were simply tubes by means of which stones were thrown at an enemy. Then gunpowder came into use, and a metallic tube which could be carried

in the hand was utilised for firing and directing the shot; and so the development proceeded, improved forms of guns being introduced from time to time, until from small arms the advance was made to cannons, and machines of immense power came to be adopted. Among the leading modern inventors of guns may be mentioned the following: Lord Armstrong, who in 1855 invented the wrought-iron, breech-loading gun of small and large calibre; Major Palliser, who was responsible for the tubed gun, adopted in the British army about 1870; Krupp with his powerful steel guns for the German army; and Whitworth's rifled firearms. Of the machine guns the best known are those of Maxim, Gardner, Gatling, Hotchkiss and Nordenfeli.

Gunter's Chain, a surveyor's chain invented by Edmund Gunter to facilitate the admeasurement of areas. It possesses 100 links, and is 22 yards long, each link representing $7\frac{1}{2}$ inches.

Gurnard, a sea-fish, with large, bony head and diminutive body, of which there are some forty species. They are plentiful in British waters. The flying fish of the Mediterranean is of the gurnard family, but the so-called Armed Gurnard, noted for its spiky coating, is of the Cataphrati family.

Gutta Serena, the tree-juice of an evergreen tree common in the Peninsula and Islands of Malay. It possesses normally and naturally little elasticity, but becomes pliant under a rising temperature and has many commercial uses. Though tough and hard at ordinary temperatures, it gradually softens as it is subjected to heat, but when very hot develops a stickiness rendering it difficult of manipulation. In recent times it has become of considerable value as a covering for electric wires, being a non-conductor, while it is largely employed in making hose, belting, and other flexible goods. Combined with the more elastic caoutchouc it is easily vulcanised.

Guy's Hospital, founded by Thomas Guy in London in 1725 is one of the most important institutions of the kind. It has an income from endowment of £95,000; but its expenses are vastly beyond that, and the hospital relies largely on voluntary subscriptions for its great work.

Gybing, in navigation, means the moving of any boom sail from one side of a mast to the other.

Gymnasium, originally a Greek institution, and forming a part of the general education equipment. It was also adopted by the Romans to some extent, and in modern times, especially in England, has been largely used. In ancient Greece the term Gymnasium came to be specially associated with higher teaching, as is now the case in Germany.

Gymnastics, the general term for athletic diversions when performed not as sports or games, but as disciplinary or health-promoting exercises.

Gynæceum, the nursery or apartments of the females in the interior of a dwelling house; a term in Greek architecture.

Gypsoplaster, a cast taken in white lime or plaster of Paris.

Gypsum, a whitish mineral consisting of sulphate of calcium. Some varieties are of a brown-red tint. Ground to a powder, it forms a manure; heated to 400°, it becomes fired from the water it contains, and resolves itself into the powder called plaster of Paris. The finest grained variety of gypsum is alabaster.

Gymnancy, divination by walking in circles, was one of the ancient superstitions. The person for whose benefit the art was invoked walked round and round in a circle (about which certain signs had previously been placed) until he fell from giddiness. From the manner of his fall in relation to the signs, the interpretation was formulated.

Habeas Corpus, the name given to a writ ordering the body of a person under restraint or imprisonment to be brought in court for full inquiry into the legality of the restraint to be made. The first Habeas Corpus Act was passed in 1679, though nominally such a right had existed from Magna

Charta, but some of the more despotic kings had disregarded it. In times of public peril the privilege of *habeas corpus* is sometimes temporarily suspended, many instances occurring in the recent history of Ireland.

Habendum, the name applied to the special clause of a deed of conveyance which specifically sets forth the estate or interest which the grantee is "to have and to hold."

Habrocoma, a genus of South American rodents, possessing four toes to each fore foot, having large ears, and a fur, soft chinchilla-like fur.

Hacking-Machine, an apparatus employed in removing burrs and other foreign substances from raw flax prior to spinning. It consists of a pair of rollers covered with brushes and hackles.

Haddock, one of the best-known fishes, abounding in northern seas and averaging about 4 lbs in weight. Largely used for curing, and sold as "finnan haddies."

Hade of veins, a mining term indicating the particular inclination that any vein, seam, or strata may have from the perpendicular - thus, in Weardale the veins mainly "hade" to the north.

Hadj, a title given to any Mussulman who has made the pilgrimage to Mecca. A green turban is the distinctive headgear of the Hadj.

Hæmatite, peroxide of iron, one of the principal ores, containing about 70 per cent. of the metal. It is usually found in kidney-shaped masses, and is specular, red or brown, in thin fragments, but greyish in bulk.

Hafiz, besides being the name of a famous Persian poet, is a title conferred upon any Mahomedan who has committed the whole of the Koran to memory.

Hag-fish, a parasite sea-fish about a foot long, of eel-like type, with soft backbone and eel-like form; found within the bodies of other fish, and called sometimes the "borer," or "the glutinous hag-fish."

Hagiarchy, a form of government composed of priests and devoted to sacred things.

Hagiographa, the "Holy Writings" of the Jewish Scriptures, and comprising the Chronicles, the Psalms, Proverbs, Song of Solomon, Ecclesiastes, Job, Ruth, Lamentations, Esther, Daniel, Ezra, and Nehemiah.

Hagiology, a branch of literature that is wholly given to the history of the saints, and the setting forth of the stories and legends associated with their names.

Hail, frozen rain drops or hailstones, are composed of ice and snow, and vary in shape according to the producing conditions, although most commonly conical. It is on record that hailstones weighing over half a pound have occasionally fallen. Hail is often an accompaniment of a thunderstorm. Hailstorms do much damage to vines, fruit, and agricultural produce, and many societies exist on the Continent for hail protection, the method of procedure being to keep up a discharge of artillery at threatening periods, which usually has the effect of dispersing or warding off the hail.

Halesbury College, in Hertfordshire, originally established in 1809 for the education of boys for service under the East India Company. Since 1866 it has been a public school, receiving its charter in 1864.

Hair, a more or less fine capillary covering forming on the skin of animals generally, in many instances covering the entire body, but in human beings having its chief development on the head. Human hair grows longest on the heads of women. Ordinarily, the structure of a hair comprises a root, a stem or shaft, and a point. The root, which is bulbous, is enclosed in a skin follicle, connected with which are sebaceous glands whose secretion feeds and imparts gloss to the hair. Hair bears a colouring pigment, black, brown, flaxen, or red, and when the pigment begins to fail in its supply the hair loses its colour and turns grey. Males have usually a distinctive hair formation, as in man the beard.

Hake, a fish of the cod family, found in large numbers in the seas of Europe, but not in high favour for the table with fastidious feeders.

Halbard, a kind of spear much used as a military weapon in feudal times. Its blade was sharp-edged, and it bore an axe or projecting knife a few inches

from the point. Halberdiers often formed the body-guard of kings and nobles.

Halcyon, a term associated in olden times with the kingfisher and days of soothing calm, "halcyon days" being a frequently used expression. The legend was that the kingfisher laid its eggs on the sea at a time of perfect stillness.

Haldanites, a small religious sect established about a century ago by James and Robert Haldane in many parts of Scotland, but the divergence of doctrine from the orthodox Christian teaching was so small that the Haldanites in time became affiliated with other denominations.

Half-pay, pay allowed to naval or military officers retired from active service, but liable to be called upon for active duties in an emergency.

Halibut, one of the largest of the flat fishes, averaging when full grown from 4 to 6 feet in length, and highly esteemed for the table. Specimens of still larger size occasionally occur. It is plentifully distributed. Its two eyes are on the right side of the head.

Hallidon Hill, the spot upon which Edward III. won the victory over the Scots in 1333, which enabled him to obtain possession of Berwick.

Haliotidæ, a genus of sea shells to which the term ear-shells is commonly applied by reason of their shape; largely used as ornaments and for inlaying. Some species are found on the British coasts, but the best kinds are tropical. The inmates of these shells are edible.

Hallowe'en (October 31st), the eve of All Saints' Day, a time associated, especially in Scotland, with certain pleasing superstitions attractively set forth in Burns's famous poem "Hallowe'en." It is the night when young men and maidens are supposed, by observing certain rites, to have their future wives and husbands disclosed to them.

HALO, a lustrous circle surrounding the sun or moon, and due to the refraction of the light by ice-crystals in the highest atmosphere. Small halos are termed coronæ. Solar halos are rainbow-hued, lunar halos are mostly colourless.

Halogens is a general scientific term applied to the four combinable non-metallic elements, chlorine, bromine, iodine and fluorine. Cyanogen is also a compound halogen.

Malice, a family of flea beetles, which include the turnip flea, the cucumber flea, and the cabbage flea. They are very small but destructive.

Halwa, a Cornish mining term, signifying refuse ore.

Hammock, a hanging bed, net, or canvas for resting or sleeping upon. In tropical countries hammocks are in general use, also in summer time in colder countries, while on shipboard they are very largely resorted to, especially in hot climates.

Hampton Court Conference, called together and presided over at Hampton Court Palace by James I. In 1604, had an important bearing on the religious differences of the time. Prominent representatives of both the Church and the Puritan parties were present, and amongst other things that this Conference brought about was King James's authorised translation of the Bible.

Hamster, a kind of burrowing rodent, about the size of a rat, an inhabitant of Northern Europe and Asia. Remarkable for its cheek pouches, in which it stores food. Its fur is of considerable commercial value.

Hanaper Office, a former Chancery office, deriving its name from the fact that such of its writs as referred to public matters were kept in a hanaper (bag), while those relating to the Crown were kept in a small bag. The custodian was named Clerk of the Hanaper. The office was abolished in 1792.

Hand, a measure of four inches, the average size of the palm; a term used in reckoning height of horses.

Handfasting, an informal marriage custom once prevalent in Scotland, whereby a man and woman bound themselves to cohabit for a year and a day, and at the end of that period either confirmed their contract by a regular marriage or separated.

Hand Grenade, an iron shell charged with gunpowder, fired by means of a fuse, and thrown by hand. In the early days of explosive warfare the hand grenade was greatly used, and even now there

are times when it can be employed with effect. Filled with certain chemicals, the grenade is provided for use in fire-extinguishing.

Handicap, in horse-racing or other contests, is an equalising of the chances of the contestants by putting extra weight on to proved superior horses or men, also by conceding privileges, in shortened distances, or otherwise, to inferiors. The aim is to give all competitors an even chance.

Handkerchiefs of one kind or another have existed since the dawn of civilisation. The Bible has references to them; and even in the earliest literature we find mention of handkerchiefs of special value and ornamentation. Handkerchiefs of silk and gold lace were in use in Queen Elizabeth's days.

Handspike, a lever of wood or metal used on shipboard for raising weights, moving guns, and other heavy work; now to a large extent superseded by more useful labour-saving contrivances.

Hansard, the title formerly given to the official reports of the proceedings of Parliament, so named after Luke Hansard, who printed the reports from 1798. The Hansard firm continued the publication down to 1889.

Hanseatic League was a formidable trading confederation established in 1241 for purposes of mutual protection in carrying on international commerce. The Hanse towns numbered over 200 when the League was at the height of its power, and exercised greater influence, concluding treaties and exercising almost supreme authority within its own limits. The League safeguarded the seas from pirates, the land from robbers, and coerced opposing governments. A branch of the League was established in London, and had its guildhall in Cannon Street for hundreds of years. The League existed down to the middle of the 17th century. Hamburg, Lubeck, and Bremen were to-day the only cities which, as free ports, still by commercial courtesy retain the name of Hanse towns.

Hansom, a two-wheeled one-horse cab, invented by Joseph A. Hansom in 1843. It was, until the recent introduction of the motor-cab, the cab in most ordinary use in London, and many other cities and towns in the United Kingdom. Lord Beaconsfield styled it the "gondola of London." It is constructed to seat two persons, and the driver sits on a "dickey" behind, level with the roof of the cab.

Hara-kiri, the custom of suicide by compulsion, or "happy despatch," once common in Japan, but no longer permitted. The condemned person gave himself the first cut, and if his courage then failed him, the fatal blow was dealt by a friend.

Hare, the leading member of the *Lepus* family, and common in Northern Europe. Noted for having four upper front teeth, one pair behind the other, long ears, short tufted tail, and a cleft upper lip. It is a very swift animal, and intelligent in eluding pursuit, therefore much hunted, greyhounds being used to chase it, the sport being called "coursing." The hare makes a nest of grass, called a "form."

Harem, the portion of a Mahomedan's dwelling set apart for the female members of his family, and forbidden ground to visitors. In India the harem is called the *Zanana*.

Harlaw, Battle of, the famous fight in 1411 between the Highlanders, under Donald, Lord of the Isles, and the Lowlanders, led by the Earl of Mar, when the latter were completely victorious.

Harleian MSS. comprise some thousands or volumes of MSS. and documents collected by the first Earl of Oxford and his son Edward. After the death of the latter, his widow handed the MSS. over to the nation for £10,000, a sum that did not represent a quarter of their value, and they are deposited in the British Museum.

Harlequin, the buffoon of ancient Italian comedy. As adapted to the British stage, however, harlequin is a pantomime character only, in love with Columbine, appearing in parti-coloured garments and carrying a wand, by which he exercises a magic influence in thwarting the fantastic tricks of the clown and pantaloons.

Harmattan, the Arabic name of a warm, dry wind

that from January to March blows across the Sahara to the Gulf of Guinea and gives rise to nose and mouth ailments, though a deterrent to fever.

Harmonics, the science of musical sounds; the term is also specially applied to the class of sounds which can be given on a musical instrument in addition to the primary sounds, and are produced by a certain skilled manipulation that causes the string played upon to emit its higher octaves thirds, fifths, and so on.

Harmonium, a keyed musical wind instrument, invented by Delabian in 1840, the air being supplied from bellows operated by the feet, and driven through metallic reeds. The American organ is an improved variety of harmonium.

Harp, one of the most ancient of stringed instruments, and in its simpler form much used in England and Wales in early times. The modern harp, however, is a greatly improved instrument, the present double-action harp being capable of producing music in any key with very fine effect. It forms a part of most large orchestras, and for song accompaniments is much appreciated.

Harpoon, a kind of barb-headed spear used for attacking whales. These used to be thrown by hand, but the modern harpoon is an instrument of ingenious mechanism, with shaft, slot, and ring, and is fired from a gun.

Harp-seal, the ordinary Greenland seal, with a dark harp-shaped marking on its back, hence its name. It abounds in Newfoundland waters and further northward towards the Arctic.

Harpisichord, the prototype of the pianoforte, was a valued musical instrument from the 16th to the end of the 18th century. Its keyboard was from 4 to 64 octaves, and the notes, which were thin, were produced by a plucking operation, not by striking.

Harpy Eagle, a native of South America, one of the most powerful birds of prey in existence. It is of grey plumage, and has a large crest. It attacks sheep, calves, and deer, and is very destructive.

Harrowian, a bird of prey, the falcon family, three species of which are found in the North of England and Scotland. It has a ruff of fine feathers round its neck. In some parts it is called the blue hawk.

Harrow, an agricultural implement of great antiquity, formerly made wholly of wooden cross-bars, with a series of strong teeth underneath which when pulled over the ground break it up. Iron is now largely used both for teeth and frame.

Varieties are cham and revolving harrows.

Hartebeest, a species of common African antelope, of a grey-brown colour, with knotted horns bending backward and tapering to sharp points; it is gregarious, of large size, and capable of domestication. Its flesh is not unlike beef in flavour.

Hart's Tongue, the common name for ferns of the *Scolopendrium* genus, only one variety of which is found in England in the wild state.

Harvard University, the first American University established in Cambridge, Massachusetts, in 1636, by John Harvard, a settler from Cambridge, England. It has about 3,000 students.

Harvest Bug, a very small insect, of a dark red colour, which appears in large numbers in the fields in autumn, and is peculiarly irritating to animals and man by the tenacity by which it attaches itself to the skin, and burrows underneath.

Harvest Moon, the first moon that occurs nearest to the autumn equinox, in September. The fact that it rises for several nights running about the same time, and yields an unusually brilliant series of moonlight nights, constitutes its striking phenomenon.

Hashish, a narcotic drug prepared from the gum extracted from Indian hemp, and largely used for smoking by the Arabs, and made into a beverage called *bang* in India, in both cases having much the same effect as opium.

Hashtment, in heraldry, is a square board, in vertical diagonal position, placed outside a house or on the tomb at the death of a member of a family, and so arranged that it indicates the sex and condition of the deceased.

Hatchways, places or openings in the centre of a ship's decks, through which goods are lowered to or lifted from the hold.

Hauberk, a name first given to a portion of mail armour worn over the neck and shoulders, but later applied to a coat of mail extending below the knees.

Haussa, an energetic West African people occupying a tract of country between Lake Tchad and the Niger, and reputed to be of an enterprising spirit, with strong trading instincts.

Hawfinch, a well known European bird of the finch family, having a variegated plumage, a sturdy bill, and black and white tail. In England it is seldom found away from the British and Eastern Counties.

Haw-haw, a fesse or ditch sunk between slopes for defensive purposes, and not perceptible until closely approached.

Hawk, a name applied to a diurnal bird of prey of many species; including buzzards, falcons, kites, ospreys, kestrels, etc., but only rightly belonging to the smaller kinds, such as the goshawks and sparrow-hawks, which swoop down on their prey from a height. There are only these two species in England; in America hawks are numerous.

Hawk-moth, the sphinx moth, is a large species, thick of body and strong of wing, and flies with rapid swooping motion, hence its name. There are numerous handsome varieties in Britain.

Haymarket Theatre, "the little theatre in the Haymarket in London," has existed in one form or another since 1702, and has witnessed many memorable histrionic triumphs. It was here that the famous comedy company got together by J. B. Buckstone played for so long, here Charles Mathews, Mrs. Kendal, Amy Sedgwick, Adelaide Neilson, Sir Squire and Lady Bancroft, Mr. Beerholm Tree, and many other "bright particular stars" of the footlights have appeared.

Heart, the fount and centre of the circulation of the blood in human beings and other animals. It is the organ of the reception and distribution of the circulating fluid, dilating, contracting, and pulsating with the regular action of a force-pump. Its position is behind the breast bone, between the two lungs, and its beating is most apparent below the left nipple, between the fifth and sixth ribs. The male heart weighs 10 to 12 ounces, the female 8 to 10 ounces. Its average size is about 5 inches long, 3½ inches wide, and 2 inches in greatest depth.

Heath-money was an impost put upon every hearth or fireplace in the country. Charles II. was responsible for its introduction, in 1662; it existed for over a quarter of a century, and yielded £300,000 a year. William III. abolished it, because of "having been informed" that it was "very grievous to the people."

Heat, according to the modern scientific definition, is not a material substance, but molecular energy. This molecular motion consists, in the case of a liquid, of the irregular movement of its molecules; in a solid the movements are oscillatory; and with gas the motions are rectilinear with swift alterations of velocity and direction as the molecules come near enough to each other. Cessation of motion results only at zero point. As to the transmission of heat, Lord Kelvin lays it down that "in the strictest modern scientific language, the word *heat* is used to denote something communicable from one body or piece of matter to another." The transmission of heat may be effected in three ways: by convection, by conduction or by radiation.

Heath, a plant of the Ericaceae order, very widely distributed over the uncultivated spaces of Europe and Africa. In this country thousands of acres of waste lands yield it, it being especially abundant on the northern moors, and known as heather and ling. Some of the African, or Cape heaths, are very beautiful, and are much cultivated for the florists.

Hebrews. Epistle to the Hebrews, one of the books of the New Testament, to which no direct authorship can be assigned. Its chief mission was to proclaim Christianity as the continuation and fulfilment of the older Jewish faith.

Hecatomb, the name given to the public sacrifice of a hundred oxen in ancient Greece. In later times the word has been used to express any wholesale sacrifice of human beings or animals.

Hedgehog, a common insectivorous animal covered with sharp spines, which it can, when on its defence, project in every direction by rolling itself up into a ball. It is a hibernating animal.

Hegira, an Arab term signifying departure or flight, and used more particularly in reference to Mahomed's departure from Mecca for Medina, A.D. 662, from which date the Mahomedan era is reckoned.

Heliograph, an apparatus used for sun-signalling, consisting of a movable mirror fixed on a tripod, which mirror flashes light reflections to a distant station according to a pre-arranged code, on the dot and dash system, forming an effective means of communication. Heliograph signalling can be carried on at very long distances—up to 50 miles in ordinary weather—without the aid of field glasses.

Heliometer, an astronomical instrument for investigating the parallax of the fixed stars, and consisting of a telescope which has had its objective cut through the optical axis, admitting of both halves being conjointly utilised, one directed on one star while the other brings another into coincidence.

Heliostat, an instrument comprising a mirror (operated by clockwork) which reflects the sun's rays continuously in the same direction.

Heliotrope, a favourite sweet-scented flowering plant, common in tropical and sub-tropical countries; the Peruvian heliotrope is the "cherry pie" of our summer garden borders.

Heliotype, a method of printing from photograph negatives by the use of a chemically treated gelatine surface as from a lithographic stone.

Helium, a gaseous substance discovered in 1895 by Sir William Ramsay in eleven, uranium, and other kindred minerals associated with argon and nitrogen. It is also found in the gas given off by radium.

Hell, according to the teaching of the earlier Christian fathers, is a place of eternal torment, to which the spirits of the wicked are doomed after mortal death. The Inferno, as imagined by Dante, is even now believed in by many, but in the general broadening of philosophic inquiry in modern times, the idea of this material hell has been greatly modified. The most orthodox of teachers in these days would hesitate to proclaim his belief in the hell of burning fires as accepted so generally a few generations ago.

Hellebore, a plant of the Ranunculaceae order. The best known British examples are the green and stinking varieties. There is also a garden kind, which flowers in December. It is called the Christmas Rose. Hellebore yields a bitter substance which forms a drastic purgative, but is now little used.

Hellenism is the pursuit of the Greek ideal of physical and intellectual culture. Matthew Arnold's doctrine of "sweetness and light" had its foundation in Hellenism.

Helmet, originally a soldier's protective head covering, now a term applied to defensive head-gear generally. In medieval times helmets were for the most part of metal, and varied in shape from reign to reign. Roman gladiators wore helmets that covered the face entirely, and the helmets worn at tournaments in the 15th and 16th centuries were so closed in that the wearers could only see through the perforations of the visor. The stiff hats worn by soldiers, policemen, and firemen generally are now styled helmets.

Hellata, bondmen of ancient Sparta upon whom devolved the most menial occupations without other recompense than food and lodging.

Helvetii, an ancient Celtic race who inhabited the part of Switzerland of which the capital was Aventicum.

Helvín, a mineral substance found in Saxony and Virginia, being a silicate of beryllium, manganese, and iron, and containing a small proportion of sulphur, which gives it a yellowish hue.

Hemiptera, an order of insects most of which are known by the general term of "bugs." Their wing structure is in most species incomplete, hence the

term hemiptera. There are supposed to be some half million species, including plant lice, cicadas, etc. They feed on plant juices, insect and animal blood, sap, etc. The order has two main divisions, Heteroptera, indicating true bugs, and Homoptera, the lice classes.

Hemisphere, half of the terrestrial or celestial globe. This, taking the equator as the dividing line, we have the Northern Hemisphere above that line, and the Southern Hemisphere below it. Again, there is the geographical division of the Eastern and Western Hemispheres, the former comprising Europe, Asia, Africa, and their outlying islands; the latter including North and South America.

Hemlock, a plant of the Umbelliferae family, growing in all parts of Britain, and containing a strong alkaline poison. Used medicinally, this alkaline substance is of considerable service, being a powerful sedative. According to Pliny, hemlock was the poison used by the Athenians in putting criminals to death.

Hemp, a plant of the nettle family, growing abundantly in tropical countries, and cultivated for a valuable fibre contained in its bark. This fibre, which is obtained by maceration, is tough and strong, and is largely used for rope making and in manufacturing coarse fabrics. It contains a resinous substance which the husbandry practiced by the Arabs is made. The seed yields a valuable oil, and is also largely used as bird food.

Herbane, a plant common in Britain and other parts of Europe and Northern Asia. It belongs to the Solanaceae order, grows mostly on waste ground, and bears yellow-brown flowers veined with purple. The leaves yield a poisonous alkaloid substance which, medicinally prepared and administered, is of great use. Tincture of herbane is often preferred to laudanum.

Henna, an Egyptian plant bearing small white flowers. Mahomed's "chief of flowers," and the "camphure" mentioned in the Bible. The leaves yield a dye with which it is the practice of Eastern women to stain their nails, eyelids and hair.

Heptameron, a book of stories, written or compiled by Queen Margaret of Navarre in imitation of Boccaccio's *Decameron*, and supposed to have covered seven days in the telling.

Heptarchy, the name applied to the seven kingdoms into which England was divided after the Anglo-Saxon invasion, and lasting, with occasional variations, from 457 to 827—from Hengist to Egbert, the latter assuming the sole sovereignty in 827. The seven kingdoms were Kent; Sussex (including Surrey); Wessex (Hants, Wilts, Somerset, Dorset and Devon); Essex (with Middlesex thrown in); Northumbria (all the country from the Humber to the Forth); East Anglia (Norfolk, Suffolk, and Cambridge); and Mercia, the Midland counties.

Heracleum, a plant of the Umbelliferae order, common in Southern and Central Europe, though only one species, the cow parsnip, grows in England. It has a bitter root, and from the juice of the stem an intoxicating liquor is occasionally prepared.

Herald, an officer of state empowered to make formal proclamations and deliver messages from the sovereign or other high personage whom he served. In the Developments which took place in armorial bearings, the herald was the functionary charged with the duty of their proper depiction.

Heraldry, the art or science of genealogy and armorial bearings, was mainly the outcome of the love of outward distinction which prevailed in medieval times. "Heraldry," says Stubbs, "became a handmaid of chivalry, and the marshalling of badges, crests, coat-armour, pennons, helms and other devices of distinction, grew into an important branch of knowledge." The shield, or *escutcheon* is the ground upon which armorial signs are traced, the colour of the shield being called the *background*, the signs recorded the *charges*. There are seven *tinctures*—or (gold), *argent* (silver), *gules* (red), *azure* (blue), *vert* (green), *purpure* (purple), and *sable* (black). The *charges* are classed as "Honourable" and Sub-ordinate, "ordinaries," comprising lines and geometrical forms: "and" "Common"

ordinaries, which latter includes all representations of natural objects. There is also a system of external signs, such as crowns, coronets, mitres, helmets, mantling, wreaths and crests, each having its distinctive significance. For other distinguishing marks see *Supporters, Hatchments, Ragdes*, etc.

Herald's College, or College of Arms, was incorporated by Richard III., in 1483. Its head is the Earl Marshal (an office hereditary in the family of the Dukes of Norfolk), and there are three Kings-of-Arms, six Heralds, an extra Herald, and four Pursuivants. The business transacted is wholly connected with the tracing of genealogies and the granting of armorial bearings. In Scotland the Heraldic functions are performed by the Lyon King-of-Arms, and in Ireland by the Ulster King-of-Arms.

Herbarium, a systematically classified collection of preserved plants. A special size of herbarium sheet is adopted for mounting the specimens, that of the United States being larger than that used in Europe.

Herbivora, animals, especially mammals, subsisting upon grass, herbs, or other plants.

Herbs, a term used to designate all plants with succulent, non-wood producing stems, whose leaves or flowers die down on the approach of winter, in some instances the root perishing as well.

Heredity, the transmission of physical or mental characteristics from parent to offspring in successive generations. Thus, we have families of musicians, families of financiers, families of artists, families of actors, families of soldiers, and so on, members of which, as a rule, may show the ancestral characteristics in a certain degree, although the striking genus may not appear except at wide intervals.

Hersford Cattle, a breed having a dark-red body, with a white face and breast, and sometimes a long line of white upon the back. They are hardy, good grazing animals, excellent for the butcher, but not useful for dairy purposes.

Heretics, a term applied to those who adopt a religious belief opposed to that of the Christian Church in general, or to that imposed for the time being by a state. Before, and for some time after, the Reformation, heretics were severely dealt with, hundreds being burned at the stake; but opinions which made heretics in one reign were often those that proved the orthodox Christians of another.

Heriot, a fine and acknowledgment of service due to a lord or lord and paid on the decease of the tenant. Its form of tribute is still retained in connection with some copyhold holdings. In feudal times the heriot usually consisted of some portion of military equipment.

Hermaphrodite, a term applied to human beings, animals, or plants, possessing both male and female generative characteristics. True hermaphrodites very rarely occur, so-called hermaphrodites being generally undeveloped as to either sexual distinction.

Hermetic Philosophy, the doctrine or system propounded by Hermes Trismegistus, an Egyptian of the 2nd century, who was supposed to have written forty-two books devoted to religion and the occult sciences, which books were always kept under secret guard, hence the term "hermetically sealed." These Hermetic Books were presumed to be copied from the more ancient sacred books of Egypt, and the "Philosopher's Stone" was one of their chief propositions.

Hermite, one who retires into seclusion for the purpose of religious contemplation, and a desire to live apart from the world. Hermits were regarded with great reverence in medieval times and were free to wander from country to country. It was Peter the Hermit who instigated the first Crusade.

Hermite Crab, a kind of crab having a soft fleshy body, without shell-protection. It possesses itself of the empty shell of some mollusc, into which it backs itself, and this usurped shell it carries about with it thenceforward, or until it has outgrown its dimensions, when it seeks a larger one. The common Hermit Crab of Britain usually resorts to a whelk shell.

Heron, a large wading bird with long curved neck and pointed bill, is a member of the Ardeide family, of which there are many species. Egrets and bitterns

are included as herons. Herons are to be met with in marsh lands and near rivers and lakes, where they feed on fish and frogs. They nest in trees in large numbers, these colonies being called heronries. The common heron is native to England, and other species from the Continent are frequent visitors.

Herring, a common sea-fish abounding in northern seas and always to be found in large numbers round the British coasts. The herring fishing is the most important fish industry in this country, a very numerous fleet being engaged in it. The fishing season proper lasts from May to October, the enormous shoals being followed as they move from place to place. The spawning season is about the end of August. One female herring will yield as many as 70,000 eggs. The annual value of the British herring fishery is between £2,000,000 and £3,000,000, over half a million barrels being cured in Scotland alone every year.

Heterogenesis, a term first used by Huxley to indicate the production of offspring, plant or animal, differing permanently in structure and habit from its parent, and representing to a certain extent spontaneous generation. In instances cited, however, there is a return to the original form after one or two generations.

Heteromys, a species of "spiny pocket" rodents, possessing cheek pouches, belonging to the family Saccomyina, and indigenous to Trinidad.

Hexagon, a figure consisting of six sides and six angles, called a regular hexagon when all the sides and angles are equal.

Hexahedron, a solid body having six sides, particularly exemplified in the cube, or regular hexahedron.

Hexameter, a measure of verse consisting of six feet, the first four of which may be either spondee or dactyl, and while the fifth is normally a dactyl, the sixth must be a spondee.

Hexapla, a 3rd century edition of the Old Testament in Greek, compiled by Origen.

Hexateuch, the title given to the first six books of the Old Testament, comprising the Book of Joshua in addition to the five books of the Pentateuch.

"Hiawatha," the title of one of Longfellow's best-known poems. The hero is a being supposed by the Red Indians to be a spirit sent from realms of space to lead them to a higher existence.

Hibbert Lectures, founded in 1878 by the bequest of John Hibbert, a West Indian merchant, their aim being to allow important matters of theology to be dealt with by eminent authorities.

Hibernation expresses the dormant condition in which numerous animals, reptiles, amphibians, insects, plants, etc., pass the winter. In the case of animals it is a deep sleep that they undergo, and is due probably more to the winter being the period when natural food is unobtainable than to the cold. Before hibernation sets in, the animals fatten themselves up, but in spite of this there is considerable loss of weight sustained. Animals of the torrid regions pass through an analogous period during the hot season, when the sources of food are dried up.

Hickory, an American tree of the walnut family remarkable for its very hard, solid, heavy white wood, and bearing an edible, four-lobed nut.

Hickory-shirt, an American term signifying a shirt made from checked cotton stuff.

Hickites were a small community of American Quakers, who separated themselves from the parent church, under Elias Hicks, in 1827, and held doctrines almost similar to those of the Unitarians.

Hierarchy, a term applied to ecclesiastical or Church government, and involving a graded organisation with a supreme head.

Hieroglyphics are the earliest form of pictured symbolic expression, and are supposed to have been introduced by the ancient Egyptians. They consist of rude depictions of animals, plants, signs, and objects, and in their later examples express, in abbreviated form, ideas and records from which significant historical information has been gleaned. The deciphering of Egyptian hieroglyphics long formed an arduous study, but gradually the key to the riddle was discovered, and most of the ancient records can now be understood.

Hieronymites were hermits of the order of St. Jerome, established in the 14th century, on the Peninsula. The order survives now only in America.

Hindus are the native race of Hindustan, the Brahmans and the Rajputs being regarded as the purest types. They are mostly of Aryan descent, and their religion—Hinduism—is a faith evolved from a combination of Brahminism and Buddhism.

Hippodrome, in ancient Greece, was a building set apart for horse and chariot races, and was often the scene of great spectacular performances.

Hippogriff, a fabulous animal, like a horse in body, but with the head, wings, and front legs and claws of an eagle. The monster frequently appears in the romances of the Middle Ages.

Hippophagi, eaters of horse-flesh, applied specifically to certain nomadic tribes of Scythia and the north of the Caspian.

Hippopotamus, the largest living representative of the hog family, and widely distributed over Africa, where it is known as the "river-horse." It is of immense bulk, attaining a length of from 12 to 14 feet, and stands about 5 feet high. Its skin is hairless and about a inches thick, and it has a pair of tusks often weighing as much as 6 lb. In Britain fossil remains of a larger species, the *hippopotamus* than any now existing have been found.

Hippuric Acid, an acid soluble in warm water and forming into hippurates in association with metals. It is obtained chiefly from the urine of herbivorous animals, and when heated with a powerful acid resolves into benzoic acid and glycolic acid.

Hippuris, a genus of plants growing in marshy places. It has an erect stem, bears polygamous flowers, and has its leaves in whorl form. Its astringent qualities render it of use in medicine. The common Mare's-tail is a well-known variety.

Hyalargite, a hydrous iron silicate found in certain parts of Scandinavia, and named after Hisinger, the Swedish mineralogist.

Histology is that part of anatomical science which deals with those details of the human structure that can only be investigated with the aid of the microscope.

Historiography, the art or avocation of the historian.

Hittites, an ancient race of northern Syria, referred to in the Old Testament, and rendered subject to Solomon, to whom they paid tribute.

Hobby, a bird of the falcon family, and about 12 inches long, seen in England in the summer, and formerly flown at small birds, which are its chief food.

Hobson's Choice, a term meaning the compulsory acceptance of the thing offered, is an English proverbial phrase which had its origin in the circumstance of the letting of horses by a Cambridge innkeeper named Hobson, who compelled each customer to take the horse which stood nearest to the stable door, "that or none."

Hocce, the common name of the curassow and other birds of that family, of which there are twelve species, all natives of South America.

Hochheimer, a Rhine wine of high repute, made from the yield of the vineyards of Hochheim, near Mayence, Germany.

Hog, the common name of animals of the *Sus* family, including the wild boar, pig, and sow. The wild boar, *Sus scrofa*, is the common ancestor. The skin of the hog is covered with bristles, the snout truncated, and each foot has four hooved toes. Hogs are omnivorous feeders and eat almost anything that is given them.

Hogmanay, the Scottish New Year's Eve festival and a national holiday of the country. The custom of demanding Hogmanay bread is still upheld in many parts of Scotland.

Hogshead, a cask of varying capacity, also a specific measure. In the old English measure a hogshead was 54 imperial gallons, or 93 old gallons of wine. Of beer 54 old gallons make a hogshead.

Holland, the name given to a fine kind of cloth made from flax, originally manufactured only in Holland. Brown Holland is the kind not fully bleached.

Hollands, Schiedam, or Schnapps, a kind of gin made mostly in Holland from rye and malt, with a flavouring of juniper berries.

Holly, a hardy evergreen shrub, largely grown in England. Its bright dark green prickly curved leaves and its clusters of red berries are familiar in all parts of the country. Its wood is white and hard, and much valued for carved work, while its bark yields a gummy substance which is converted into birdlime.

Holograph, a letter, manuscript, or document written throughout by its author.

Holothuridae, the class of marine animals commonly called sea-cucumbers, a variety of which—the trepan—is highly prized as a food in China.

Holy Alliance, the league entered into after Waterloo by Russia, Austria, Prussia, and other powers, except England, for mutual protection of their dynasties and the prevention of any member of the Bonaparte family from occupying a European throne. The alliance only existed down to 1890.

Holy Coat of Treves, a garment preserved in the Cathedral of Treves, and said to have been worn by Christ. It was brought from Jerusalem by the Empress Helena in the fourth century.

Holy Grail, the cup from which Christ drank at the Last Supper, and supposed to have been preserved by Joseph of Arimathea. Many poets and romancers have made the "Quest of the Holy Grail" the subject of their imaginings, Tennyson making fine use of it in his "Idylls of the King."

Holy Rood, an annual Roman Catholic festival, on September 14th, to celebrate the recovery by the Emperor Heraclius in 615 of a portion of the original Cross, after it had been lost for nearly 300 years and had fallen into the hands of the Persians. Also included in the Church of England calendar.

Holyrood, the ancient royal palace at Edinburgh, dating from the 15th century, and inhabited by many Scottish sovereigns, notably Mary Stuart, the room occupied by her (including the one in which Rizzio was murdered) being still shown. It has not been used as a royal residence for 300 years.

Holy Water, water blessed by a priest and kept in small fountains at the entrance to Roman Catholic churches, and used by worshippers going in, and out, or by priests in sprinkling.

Holy Week, or Passion Week is the week preceding Easter Sunday, and includes the days of the Sufferings of Christ, ending on Good Friday.

Homage, an act of fealty whereby a person acknowledges his service of inferiority to another.

Home Rule, the term applied to a separate Irish Parliament, which was the object of two Bills introduced by Mr. Gladstone in 1886 and 1893 respectively, both of which were rejected, and led to the establishment of a Liberal Unionist party of seceding Liberals. Mr. Asquith introduced a new Home Rule Bill on February 12, 1912. In September strong counter demonstrations, headed by Sir Edward Carson, took place in Ulster; on January 16, 1913, the Bill was passed through the Commons, by a majority of 110, on the vote of 110, the same month being rejected by the Lords by 265 to 69. It was reintroduced by Mr. Asquith in the new session of 1913, again repassed by the Commons, and again rejected by the Lords. In 1914 the conflict between the opposing parties became more acute, but the Bill passed its third reading in the Commons on May 25 by a majority of 77. Meanwhile, the Ulster Volunteers on the one hand, and a force of Nationalist Volunteers on the other, were organised, and there was much agitation. The King summoned a conference of party leaders to Buckingham Palace and still no decision was reached; but on the outbreak of war party politics was set aside, and ultimately the Bill was allowed to pass and the Royal Assent was given to it, its operation to be delayed until after the war.

Homer, a Hellespontine measure containing ten ephahs.

Homicide (the killing of a human being) has three classifications—*justifiable*, as when the killing is an act of necessity, or performed in the execution of justice; *excusable*, when done in self defence or by misadventure; and *felonious*, when done of deliberate intent, as murder, manslaughter, and suicide.

Homily, something between a discourse and a sermon; not so discursive as the one, or so placidatory as the other.

Homoeopathy, a medical system introduced by Hahnemann, the German physician, early in the last century, and founded on the principle that "like cures like." The homoeopathic theory is that diseased conditions are curable by the administration of such drugs as would, if the conditions were healthy, produce symptoms similar to the disease itself. Homoeopathic medicines are given in infinitesimal doses with the idea that the minute subdivision of a drug adds to its power. Homoeopathy has still many professors and adherents, but it can hardly be said to have realised the expectations of its earlier exponents.

Homoeosians, religionists who, in the 4th century, in the contentions then raging regarding the nature of Christ, maintained that the Son and the Father were the same in essence, as against the Homoiousians, who held that while being similar the natures were not the same. The Homoeosians are sometimes styled Athanasians, from their leader.

Honey, the sweet substance gathered by the honey-bee, and some other insects, from flowers, and deposited by them in honeycombed cells as food storage. It is of a yellow-white colour, and is largely composed of water, dextrose, and levulose. Ferment, when exposed to the air. (See *Bee*.)

Honey Bees, the same given to honey-eaters who receive from the workers the honey they have gathered, swallowing it and storing it in their bodies for the after-use of the workers as required.

Honeydew, a viscid secretion, from plants or plant lice, found on leaves, chiefly in hot weather, and looking like dew.

Honeyeater, an Australian bird (of which there are many species) provided with a long curved bill, and tufted tongue. It lives by sucking the "nectar" from the flowers which abound in rural parts of Australia and New Zealand.

Honours of War, a privilege sometimes conceded to a defeated force of marching out of the place surrendered with colours flying and drums beating.

Hookah, an Oriental pipe or apparatus for tobacco smoking, the smoke being drawn through the water of a glass goblet by means of a long flexible tube.

Hook-money, an old silver currency of Ceylon, consisting not of coinage, but of hooked pieces of actual silver, in use in the 17th century.

Hoopoe, a peculiar bird, with a movable semi-circular crest on the top of its head, and a long, slightly curved bill. It is a native of Africa, and one of the six known species migrates to Europe, occasionally visiting Britain.

Hop, a biennial twining plant largely cultivated in the southern, south-eastern, and south-western counties of England for its female flowers, used mainly for flavouring malt liquors. Hop-plants are trained upon poles, and in the autumn the flowers are picked by hand, an immense number of persons being engaged in the harvesting of them. The Flemings are said to have introduced the hop plant to England, about the time of the Reformation.

Hop-fly, the name of an insect of the Hemiptera order, which preys upon the hop and certain other plants, and sucks the juice from them, acting like a blight when the visitation is numerous.

Hoplia, a genus of beetles, peculiar in having the lowest abdominal segment short and the pygidium vertical. They are found in most parts of the world.

Hoplite, the name given to a heavily armed foot soldier in ancient Greece, carrying shield and javelin, and wearing a helmet and armour.

Horary, a term used of the arc which a celestial body describes in an hour, or the angle which that arc subtends, the eye of the onlooker being supposed to be at the angular point.

Horizon, the limit of vision, the apparent line where sea and sky, or land and sky, meet. This is termed the *sensible* or visible horizon. The astronomical horizon is a plane which, perpendicular to gravity at any point, divides the celestial sphere into two equal portions, upper and lower halves. There is also an artificial horizon, consisting of a surface of mercury or other fluid, whereby the altitude of any particular star can be reckoned.

Horn, a wind musical instrument, usually of brass

and of varying sizes, shapes, and musical power, ranging from the long coaching-horn to the small hunting-horn. The French horn is formed of a continuous twisted tube, and furnished with a movable mouthpiece.

Hornbill, a large bird, remarkable for its having an immense horned upward curved helmet, growing over its downward curved beak. It inhabits tropical regions, and feeds on fruits. When the female has laid her eggs in the hollow of a tree, the male-bird stops up the entrance, and keeps her imprisoned until the hatching is completed and the young ones are able to fly.

Hornblende, a hard common mineral, a silicate of calcium, magnesium, iron and aluminium, of a dark green colour. It is a constituent of numerous rocks, including diorite, syenite, and hornblende schist.

Horn Book, a children's alphabet and primer which had a cover of thin horn; hence its name. It was in use until about a hundred years ago.

Horned Viper, a curious African genus of Viperidae, with a small pointed horn over each eyebrow; a venomous species, found in Egypt, is thought by some to be identical with the "adder" mentioned in Genesis xlix. 17.

Hornets are well-known insects of the wasp family, and live in communities, generally nesting in hollows of trees. The hornet's sting is very painful.

Hornpipe, an old English single-step dance, which used to be executed to the music of an ancient horn-pipe, hence its name.

Hornstone, a dark, flint-like rock, largely used for flint mull in potteries.

Hornywink, a popular name for the lapwing.

Horology, the science of time-measurement, including the construction and management of clocks, watches, etc. Instruments of this kind are not known to have existed before the 13th century, and until the introduction of the pendulum in the 17th century, clocks were ill-regulated and inaccurate. The time-recording mechanism of the present day include (a) the *clock*, which shows the hours and minutes by hands, and strikes the hours, and sometimes quarters; (b) the *timepiece*, which is not generally a fixture and shows the time, but does not strike; (c) the *watch*, which is a pocket time-keeper; and (d) the *chronometer*, which indicates the minutest portions of time.

Horoepope, an astrological term, indicating the reading of the signs of the planetary bodies, according to the methods of the astrologers, at the date of a personal nativity, or other given date. In ancient times there were astrologers attached to the various courts, and their "castings" and predictions had many believers.

Horse, in its domesticated form, one of the most familiar of quadrupeds. How, when, or where its first domestication took place is unknown. The wild horses of the present day can be traced to have descended from domestic breeds which have broken from restraint, such as the wild horses of the South American pampas, and of Tartary. The two leading types are the Arabian, whose strain is apparent in the racehorse and other animals in which speed is the pronounced characteristic, and the powerful Flemish horse which has contributed the elements of strength and endurance to the various breeds of draught horses. The anatomical features of the horse are too well known to need description.

Horse Chestnut, one of the large forest trees, with ample branches and full foliage, and much esteemed for parks and ornamental grounds. The bark and fruit seeds yield substances of commercial value, but the timber is not worth much. The tree came originally from Asia about the 16th century.

Horse Guards, the building in Whitehall which until 1872 was the headquarters of the Commander-in-Chief of the British Army. The archway is still sentinelled by mounted guards.

Horse, Master of the, the Court official having charge of the royal stables. It is a party appointment and carries with it a salary of £2,000 a year.

Hospice, a place of refuge and rest for travellers and pilgrims. The most famous is that of the St. Bernard Pass, where dogs are kept for the succour and help of belated wayfarers.

Hospitaliers, Knights, were of the order of St. John of Jerusalem, at first devoted to the aid of the sick, but afterwards military monks, who became prominent figures in the Crusades of the 12th century, and after successive defeats were dispersed and led an unsettled existence shifting from place to place, until in the 16th century they had the island of Malta given to them, and continued there until dislodged by Napoleon in 1802. In recent times there has been some attempt to revive the order on a firmer basis, and the modern English institution of Knights of St. John serves to commemorate the old name and to continue something of the original service.

Hôtel des Invalides, the famous military hospital and soldiers' home in Paris, founded in 1670, and one of the attractions of the city in later years, from the fact of its containing the tomb of Napoleon.

Hottentots, an African native race of considerable intelligence, mostly following the pursuits of herdsmen and hunters, and numbering some 200,000.

Hounds are dogs that were originally bred and trained for hunting, such as the greyhound, foxhound, bloodhound, wolfhound, deerhound, beagle, harrier, etc., but now often kept also as domestic dogs. The greyhound, deerhound, and wolfhounds hunt by sight, the others, with the bloodhound first in order, track by scent.

Hour-glass, a glass instrument tapering to the middle to a narrow office, through which a sufficient quantity of fine sand gravitates to mark an hour of time. When the sand has run through from one end, it can be reversed and made to count the hour in the opposite direction. The same kind of glass, with smaller supplies of sand will indicate shorter periods, as an egg-glass which runs its course in three minutes—time to boil an egg by.

Hours, according to the Koran, are beautiful nymphs of paradise set apart to attend upon the "faithful" Mohammedans as they enter the celestial abode.

House-boat, a boat fitted up with living, sleeping, and cooking apartments, and serving for temporary occupation by families or pleasure parties in making river excursions. In England such boats are mainly confined to the Upper Thames. In Eastern countries house-boats that are permanent habitations are common on the big rivers.

Household Brigade, a body of soldiers retained for the special service of guarding the king and garrisoning the capital; consisting of the three cavalry regiments of the Royal Horse Guards and the 1st and 2nd Life Guards, and four foot regiments—the Grenadier, the Scots Fusilier, the Coldstream, and the Irish Guards, comprising in all some 6,000 men.

House Flies abound in all countries, and are exceedingly prolific. Their eggs are hatched within 24 hours of being deposited, and full maturity is attained in a month. They feed mainly on decayed animal and vegetable matter.

Hovas, the dominant tribe in Madagascar until the French took possession of the island in 1895.

Hovite, the name of a white earthy mineral of somewhat uncertain composition, but generally described as a hydrous carbonate of aluminum and calcium. It derives its name from being found at Hove.

Howdah, a raised, canopied seat fitted on to the back of an elephant for conveying people in. The name is also given to a somewhat similar contrivance for the backs of camels.

Howitzer, a cannon, short and light in proportion to its bore, used for throwing shells and case-shot, and requiring a comparatively small charge.

Howling Monkey species of South American monkey noted for a laryngeal conformation which enables it to emit a loud reverberant noise something between a yell and a howl; hence its name. The peculiarity is developed most strongly in the males, which are the largest American species.

Hoy, a small sloop-rigged vessel usually engaged in light traffic, such as conveying passengers and goods from the shore to steamers, or *vice versa*.

Huango-bark, a medicinal bark, brought from the Peruvian town of that name, and derived from the *Cinchona micrantha* tree.

Huckaback, a kind of strong linen cloth, with one side rough; generally used for towelling.

Huguenots, a name applied to the French Protestant communities of the 16th and 17th centuries. Under Francis I. and later monarchs they were subjected to many persecutions, and at times were in active conflict with the Catholics. Henry of Navarre, by the Edict of Nantes in 1598, granted them religious freedom, but more than a quarter of a century before—August 24th, 1572—70,000 of them had been put to death in the Massacre of St. Bartholomew. In 1685 they were further persecuted by the revocation of the Edict of Nantes by Louis XIV., when hundreds of thousands left the country never to return, a large proportion of them taking refuge in England, where they greatly helped in the development of many industries.

Hulsean Lectures, a series of from four to six lectures delivered annually by a selected preacher before the University of Cambridge on scriptural subjects, under the provision of the will of John Hulse, who died in 1700. There is also a Hulsean professorship of divinity at the same university, established in 1860 in substitution for the office of "Christian Advocate" originally founded by Hulse.

Humane Society, Royal, dates from 1774, gives rewards and medals for the saving of life or attempts to save life to the number of many hundreds annually, expending nearly £2,000 a year in that object. It provides boatsmen to watch over the swimmers at the chief bathing-places round the coast.

Humanitarian, one who holds the belief that Christ was only human, that the whole duty of man is summed up in the performance of good deeds, and that Divine aid is not necessary to a perfect existence.

Humble-bee, the common name of the insects of the genus *Bombus*, of the Hymenoptera order. They live in small communities comprising males, females, and neuters, their habitations being underground. They do not have one queen bee only like the hive bee, but several females occupy the same nest, and these alone live through the winter, breeding and forming new colonies in the spring.

Humite, a mineral of the Chondrodite variety, crystalline and translucent, brownish-yellow to white in colour, composed of magnesia, silica, fluorine, and protoxide of iron.

Humming Birds are so called because of the humming noise made by the vibration of their wings in flying. They are of radiant plumage, bright crimson mingling with lustrous green, with other iridescent colours flaring and shining, and in size they are among the smallest of birds. There are from four to five hundred species, and they are confined wholly to North and South America, being most numerous in the tropical latitudes.

Hummum, the original name for what is now called the Turkish Bath in this country. One of the first of these baths to be established in London was the Hummums in Covent Garden.

Hundred, the ancient divisional name given to a portion of a county for administration or military purposes. The origin of the name is somewhat obscure. By some it is supposed to imply the territory occupied by a hundred families; by others the space of a hundred hides of land, or the capacity of providing 100 soldiers. Each hundred had its hundred court, with powers similar to those of a manor court.

Hundred Days, the period that derives this title from the fact that it covers the time within which Napoleon I. escaped from Elba and was finally overthrown at Waterloo, March to June, 1815.

Hundredweight in Great Britain is 112 lb. avoirdupois; in the United States it is an even 100 lb. The English cwt. is divided into four quarters of 28 lb. each.

Hundred Years' War, a term applied to the almost incessant contest between England and France, lasting from 1337 to 1453, including such famous battles as Crecy, Poitiers, and Agincourt, and engaging successively Edward III., Henry V., and Henry VI., among English kings.

Huns, a fierce Asiatic race which swept over Eastern Europe in the 4th century, and took possession of the

country between the Volga and the Don, Attila being their formidable leader. They defeated the Goths and forced the Romans to pay tribute. When they lost their chief, however, in 454, they were soon driven back, and it is doubtful whether any of the present races of Eastern Europe are their direct descendants.

Hunterian Museum, a celebrated collection of anatomical specimens originated by John Hunter, the distinguished surgeon and physiologist, towards the end of the 18th century in London, and now in the possession of the Royal College of Surgeons. Dr. William Hunter, the brother of the great anatomist, also founded a Hunterian Museum at the University of Glasgow.

Hurdy-Gurdy, an Italian rustic so-called musical stringed instrument of the lute order, the sounds of which are produced by the action of a rosined wheel turned by the left hand, the notes being made by the fingering of the right hand.

Hureaulite, a transparent, almost colourless mineral, found in granite measures at Limoges, near Hureau.

Hurricane, a tempest or violent storm, such as prevails with frequency in the China seas and the East and West Indies, often occasioning great havoc.

Hussars are represented in the British Army by twelve regiments. The distinguishing portion of the uniform consists of a fur busby with a cloth ornamentation hanging over the right side. They are armed with carbine and sabre.

Hussites, followers of John Huss, the Bohemian reformer, who was burned at the stake in 1415. After their leader's death, the Hussites became a formidable body, and took up arms on behalf of their faith, their religion being strongly imbued with political feeling. They were subdued in 1434, and later were absorbed by other Protestant sects.

Hyæna, a carnivorous quadruped of which there are three species: the striped, or laughing hyæna, common to North Africa, India, Syria, and Persia, and noted for the peculiar cry from which its name is derived; the brown hyæna, with long shaggy hair, a native of Southern Africa; and the spotted hyæna, also confined to Africa. They have all great jaw-power, live on carrion, and are of nocturnal habits.

Hyalograph, an instrument designed for tracing upon transparent surfaces.

Hybrid, an animal or plant produced by the union of two distinct species.

Hydra, a peculiar aquatic animal of simple structure, whose body is in the form of a cylindrical tube, with a disc-shaped base by which it attaches itself to any shifting substance. Its mouth is surrounded by tentacles by which it catches its food. The Hydra has the power of regenerating lost parts.

Hydrates, are compounds formed by the combination of metallic oxides with water, or the union of water with salts. The most ordinary forms of hydrates are caustic soda, caustic potash, and slaked lime.

Hydraulic Press, perfected by Joseph Bramah, the inventor, in 1796, is a useful apparatus, the pressing power of which is obtained by the action of water. Two plates, the upper one movable and attached to a large piston, the lower one fixed, are contained within two uprights. The movable piston works in a cylinder of water in connection with a small force-pump, and the pressure is applied by moving a lever which brings a well-known hydrostatic law into operation, and presses the material between the two plates to the required degree. The hydraulic press is largely used for compressing articles for packing, and for extracting purposes.

Hydraulic Ram, a form of automatic pump, used to raise water to a height by the action of its own falling velocity.

Hydraulics, the science of applied hydrodynamics, or water-machinery engineering, ranging from pumps to marine engines.

Hydrocarbons are compounds of carbon and hydrogen, forming one of the principal groups of compounds and with their derivatives, constituting the main concern and source of organic chemistry.

They are classed as gaseous, liquid, and solid, according to the proportions of hydrogen or carbon they contain.

Hydrochloric Acid, a colourless gas, consisting of hydrogen and chlorine, and resulting in considerable quantities as a bye-product of the soda-ash or salt-cake manufacture. Its solution forms the common hydrochloric or muriatic acid of commerce, and is largely utilised in dyeing, calico-printing, bleaching, and in the production of chlorine. It has a suffocating odour, and is one of the elements of digestion.

Hydrocyanic Acid, cyanide of hydrogen or prussic acid; very poisonous, and of the odour of bitter almonds. Discovered by Scheele in 1782.

Hydrodynamics, the science of the application of the laws of dynamics to fluids, and covering both fluids in rest and fluids in motion.

Hydrofluoric Acid is obtained from a distillation of fluorspar with sulphuric acid, and is a compound of fluorine and hydrogen. Its action is highly corrosive, it is a valuable agent in etching on glass, and is a rapid decomposer of animal matter.

Hydrogen, a colourless elementary matter and the lightest of all substances, on that account being accepted as the standard unit of the specific gravity of gases. It is 14½ times as light as air, and is found in a free state in volcanic regions, and in the emanations of oil wells. It can be obtained by the action of acids on metals, or metals on water, and when burned out the air combines with oxygen to form water. It is a necessary element of life.

Hydrography, the science of water measurement, as applied to seas, rivers, lakes, currents, rocks, reefs, etc., and embracing the whole art of navigation.

Hydrometer, an instrument for measuring the specific gravity of water and fluids generally, and especially for ascertaining the strength of spirituous liquors and solutions. It is usually in the form of a glass bulb, to the lower end of which a smaller bulb, containing mercury, is attached, which forces the instrument to sink into the liquid which it is to test. The larger bulb has a scale fixed to it and the indication on this scale of the sinking point shows the specific gravity. There are many varieties: Twaddell's—a pear-shaped bulb containing mercury; Beaumé's, of similar construction, but applicable to liquids both heavier and lighter than water; Sykes's largely employed for determining the strength of alcohol; and Nicholson's, used for taking the specific gravities of both solids and liquids.

Hydropathy, the science of water treatment of diseases, which has been practised more or less from the earliest times. In modern days this science has been greatly systematised, and hydropathic establishments of an extensive kind have been set up in many healthy resorts. As to the medical value of the cold-water cure there is little doubt that the general conditions brought about by hydropathic treatment—such as baths (sulphur, electric, mustard, medicated, etc.), packs, fomentations, etc., together with the accompanying advantages of pure air, exercise, and rigid dietary—have in most cases a salutary effect. In the later developments of hydropathy a prominent part has been played by Mr R. Metcalf, one of the very earliest and most successful of its professors, at the well-known "hydro" at Richmond, Surrey, where moderate charges and efficiency of treatment rule.

Hydrophilus, the largest genus of water beetles, including the giant water beetle, which is of a shiny black and measures 1½ inches in length, and is common in N. America. There is also a European species (*H. piceus*), which is not quite so large.

Hydrophobia, rabies resulting usually from the bite of a mad dog; a dreadful contagious disease the result of a specific poison, for which it is claimed Pasteur's method of inoculation is an antidote.

Hydrostatics, the science of the pressure and equilibrium of liquids that are non-elastic.

Hydroses are, zoologically, a low order of water animals of the *Coelenterata* sub-kingdom, and in structure similar to the hydra. There is a sac with a mouth at one end, and at the other a disc by which the animal fixes itself to some other body. The

body comprises an outer and inner membrane, with stomach cavity, and prehensile tentacles. **pit** is a widely distributed and endlessly varied genus.

Hydrus, a constellation of the southern celestial hemisphere introduced by Bayer, in the 16th century, comprising three stars of the third magnitude, and situated to the south of Eridanus; commonly called the Southern Snake.

Hygiene, the science of health in its broad significance, the study of sanitary conditions, and the application of the laws of health generally. The progress made in hygienic science during the last hundred years has been highly important, and has led to many legislative enactments and preventive measures which have resulted in a great improvement in the general standard of public health.

Hygrometer, an instrument for measuring the moisture of the atmosphere. That of Daniell is the best known, and consists of a bent glass tube, with two bulbous ends, one of which is enclosed in a muslin covering, while the other is of black glass, with a thermometer and a quantity of ether inside. By the dropping of ether on the muslin bulb a connecting evaporation is set up which enables the measurement to be taken. A very simple kind of hygrometer is composed of a wet and dry bulb each supported by a thermometer affixed to a frame on which a scale drawing appears. The two mercury columns act upon a movable index point which indicates the degree of humidity.

Hymanoptera, the order of insects of which bees, wasps, hornets, ants, and sand-flies are the most familiar examples. They are notable for having four wings, the hind pair smaller than the front pair, to which they are attached. They have mouths and tongues which enable them to bite and suck, and the females possess an ovipositor, used both for depositing eggs and stinging. Nearly a quarter of all known insects are of this order.

Hypopotamus, the name given by Sir Richard Owen to a genus of fossil animals of the hypopotamus order, remains of which have been found in England and other parts of Europe in the Tertiary strata.

Hyperbole, a rhetorical term implying extreme exaggeration for the sake of effect, and often indulged in by emotional orators, as well as in ordinary speech.

Hyperboreans, a fabled people which the ancients believed existed beyond the region of the north wind, and later the term has been applied to the actual people of remote Northern lands.

Hypersthene, a crystalline mineral of a grey-green colour, found foliated and massed in igneous and metamorphic rocks. It was at one time regarded as hornblende, and was called Labrador hornblende. It is a silicate of iron and magnesium, and has been met with in Cornwall, Northern Europe, the Tyrol, and North America.

Hypnotism, a somnambulistic condition of the body, induced by mesmeric influence, and involving temporary loss of taste, touch, sight, and feeling. The operator controls the will of the hypnotic subject to a large extent, but the power of producing the hypnotic state, as well as the peculiar nervous condition necessary to its being induced, is not common. Hypnotism, however, has been surrounded by so much exaggeration and imposture that it is still far from being accurately defined or understood. There have been instances of surgical operations performed while patients have been hypnotised, and many cases of hypnotic power being exercised for evil ends have been cited, but in these matters there is generally more mystery than reality.

Hypocaust, an arched fire vault or chamber through which heat is distributed to rooms above. Used in the baths of ancient Rome.

Hypostyle, an architectural term, designating a colonnade or pillared hall, such as in the famous hall of Karnak.

Hyposulphite, the "hypo" of the photographer, is a salt of hyposulphurous acid; hyposulphite of sodium is largely used in medicine.

Hypothec, a Scottish legal term implying a landlord's lien on his tenant's cattle, sheep, and produce

for rent. No right of hypothec has existed since 1880, where the land exceeds 5 acres.

Hypothenuse, the name given in geometry to that side of a right-angled triangle which is opposite to, or subtends, the right angle.

Hypothesis, an imaginary theory set forth in such a manner as to illustrate by parallel the force of some other theory which it is sought to demonstrate.

Hyrax, a peculiar animal of the Hyraccidae family possessing a cleft upper lip like the hare, molar teeth shaped similar to those of the rhinoceros, and in other respects showing ordinary rodent characteristics. It has a brown fur, and is confined to Africa, Syria, and Arabia.

Hyssop, a labiate plant, with blue flowers, growing wild in Southern Europe, and yielding a kind of camphor; at one time largely used medicinally as an anti-spasmodic and carminative.

I

Iambic Verse dates from the time of the classic poets, and has been a favourite form of verse of succeeding times and many countries. Its characteristic is alternate short and long syllables. It is the ordinary heroic measure when it rhymes in couplets, and unrhymed is blank verse; of a line must consist of five feet, a foot being a short and long syllable.

Ibex, a wild goat found in the mountain regions of Europe, Asia, and Africa. It is of a reddish-brown colour, and has exceedingly large curved ridged horns.

Ibis, an Egyptian bird found mostly in lakes and swamps. It has white and black curved plumage and a long curved beak. One species is the sacred Ibis of Egypt, which is held in great veneration by the people. There are 20 species in all.

Ibycter, a South American Gallinaceous eagle, mostly black in plumage, and belonging to the Falconidae family, genus Aquilinae. Its head is almost bare of feathers, and it has circular nostrils.

Ice is water frozen to a solid condition, but lighter than water. It is brittle and transparent, and has a specific gravity of nearly 0.92. Ordinarily ice is produced naturally in cold seasons, freezing beginning at 32 deg. F., but it is also obtained in enormous quantities artificially by means of ice machines for domestic and commercial purposes.

Icebergs are detached masses of a glacier which subside into the sea and float as wind or current may take them. The North Atlantic is the chief home of icebergs, which reach the ocean from the ice-clad plateaux of Greenland. Some of these floating masses of ice are of enormous proportions, and constitute in the spring and early summer seasons a great menace to the safety of ships, as was disastrously shown in the *Titanic* catastrophe of 1912.

Iceboat, a boat used either for breaking a passage through ice, in which case it is usually steam propelled; or a boat with masts and sails and mounted on runners for sailing on the surface of the ice.

Ice-breakers are heavy bow-poled boats used for breaking up ice on navigable waters, and, on the Baltic and on the St. Lawrence in Canada especially, have the effect of considerably shortening the ice-bound period each winter.

Ice-floe, a small ice-field or sheet of floating ice, liable to be frozen to other ice-floes, imprisoning any ship enveloped.

Iceland Dog, a kind of white shaggy dog which was in former times a great domestic favourite, but is now little seen in this country.

Icelandic Literature, the Old Norse, which includes numerous works of poetry, mythology, and history of considerable interest and importance.

Iceland Moss, a kind of lichen growing in great quantities in the mountain regions of Iceland and other Northern countries. It possesses certain nutritive qualities and is of some value in medicine.

Iceland Spar, a colourless form of calc spar, frequently found in association with metallic ores; it is called also double-refracting spar, and its prisms are used for the polarisation of light.

Icen, an ancient British race who in early times lived

in Norfolk and other parts of Eastern England. Their most famous ruler was Queen Boadicea, who led her people against the Romans.

Ice Plant, also called "dew plant" and "diamond plant," is a native of Greece, the Canaries and some parts of Africa. It derives its name from the fact that it is covered with watery pustules that look like ice.

Ice-sheet, a term designating an extended glacier, occupying large territories, such as the Antarctic Continent of Greenland. Ice-sheets are of immense power and in their onward course assume a mighty force. The term also refers to the geological glacial formation of a former period.

Ishabod, signifying "the glory is departed," was the name of the son of Phineas, born after the latter was killed in fighting against the Philistines.

Ichneumon, a carnivorous animal of the civet family, abounding in Egypt, where it is popularly known as "Pharaoh's Kat," and is of great use in checking the multiplication of reptiles. It is frequently domesticated, and performs useful service in keeping down pests.

Ichneumon Fly, a numerous order of hymenopterous insects abounding in many lands, and all having the one peculiarity of depositing their eggs in the bodies of other insects. It destroys swarms of caterpillars, who become the unwilling hosts of its progeny.

Ichthyography, the art of drawing plans of everything connected with the ground floor of a building or site.

Ichthyol, a liquid used for rubbing on the skin in certain diseases, and obtained by distillation of a mineral in which fossil fish is found.

Ichthyology, the department of zoological science which concerns itself with the structure and variation of fishes, their habits and distribution.

Ichthyornis, a fossil bird discovered in the cretaceous strata of Kansas, and supposed to afford evidence of the evolution of birds from vertebrates, having had teeth though otherwise of bird form.

Ichthyosaurus was a gigantic lizard of the mesozoic age. The fossils are mostly found in the lias formation. Some were not less than 30 feet in length, and are shown to have been amphibian.

Iconoclasts were originally an Eastern sect of the 8th and 9th centuries, whose object was to prevent the worship of, and to destroy, images used in religious rites. The term has been applied in modern times to enemies of religious beliefs; generally Charles Bradlaugh was for a long time known as "Iconoclast."

Idea, in its platonic significance, had reference to what a thing seemed rather than the actuality, but in later philosophies an idea is, as Locke expresses it, "whatsoever the mind perceives in itself."

Idealism is the theory, according to Kant and other philosophers, that "objects are not there till they are thought." Idealism, however, takes many shapes—the transcendental, as with Kant, the subjective, as with Fichte, and the absolute, as set forth by Hegel.

Idea were distinctive periods in the ancient Roman Calendar being the eighth day after the nones in each month.

Idioelectric, substances, which manifest electricity in their natural state.

Idiograph, a mark, signature, or flourish peculiar to any individual; a trade mark is an idiograph.

Idiom, an expression characteristic of a country, district, dialect or language, which usually gives strength and force to a phrase or sentence. The idioms of a language are its distinctive marks and the best writers are the most idiomatic.

Idiothalamum, a tribe of lichens, having shields first closed, then open, with the nucleus made up of gelatinous naked spores.

Idolatry, the worship of idols, images, inanimate objects, animals or symbols. A kind of idolatry existed in all primitive modes of existence, and instances are known in the earliest records. Idolatry, however, as we now understand the word, is mainly applied to the worship of idols among the Indian, Chinese and other races where ancient super-

stitions and practices survive. In their more symbolised form images have a considerable part in the rites of the Roman Catholic Church.

Idols are images or effigies which are made objects of worship and are usually of wood or stone, but sometimes of ivory or more precious materials, and attain their symbolic significance after being put in the places destined to receive them, when they are made objects of veneration by some religious dedication. It does not detract evidently from the superstitious potency of an idol that it may have been manufactured in Birmingham.

Idris, a famous giant belonging to the myths of Wales, commemorated by a chair of rock on the top of the Cader Idris mountain.

Idyll, a poem or story of a simple or pastoral character dealing with rural characters and events for the most part, but sometimes used in a broader sense, notably in Tennyson's "Idylls of the King," which are of a distinctly imaginative form.

Ignatian Epistles bear the name of St. Ignatius, and in their several forms exercised great influence in mediæval times, but fierce controversy raged around them in the 17th century, because of their strong support of episcopacy, and a good deal of doubt was thrown upon their genuineness.

Igneous Rocks are such as have been caused by the action of great heat, or volcanic disturbance, and include two main groups—volcanic or eruptive and plutonic or intrusive.

Ignis Fatuus, or "will-o'-the-wisp," a phosphorescent light which may often be seen on summer and autumn evenings hovering over marshy ground. Its nature is hardly understood, though it is generally believed to be the result of the spontaneous combustion of decomposed matter. In olden times when marshy grounds were more common than now, this "dancing light" was very frequently visible and was regarded with superstition.

Ignorantines, a Roman Catholic Order founded in 1575 by the Abbé de la Salle, Canon of Rheims, and intended for special ministrations among the children of the poor. The name "Ignorantine" was given to them because of their being prohibited from learning or teaching Latin.

Iguana, a large South American lizard of very peculiar structure, with a long tail, a scaly back and head, a thick fleshy tongue and a prominent dewlap in the throat. It averages from four to five feet in length, lives mostly in trees, and its flesh is good eating.

Iguanodon, an animal of the iguana family long extinct, whose fossils are found in the cretaceous rocks. It must have been an ungulate creature. A skeleton unearthed in Belgium stands 14 feet high and is 28 feet long. They are supposed to have walked on their hind legs.

Ilex, an evergreen oak that flourishes best in Italy, though thriving well in England and other countries.

Iliad, the great epic poem of ancient Greece, supposed to have been written by Homer, though, according to some modern critics, the poem represents the conjoint work of many authors. The story it deals with is that of the "Siege of Troy," which had its origin in the attempt to re-capture Helen, who had been carried off from Sparta by Paris. It is a wonderful gallery of portraits of heroes and warriors and gods and goddesses, and maintains the true epic level throughout.

Illuminated MSS. of great value and beauty of decoration exist in most public museums and in many private collections, some of them hung of great antiquity, especially those of ancient Egypt executed on papyrus. Greek and Latin specimens are also numerous, and the British Museum contains fine examples of all these kinds, and also an extensive collection of mediæval English MSS.

Illuminati, the name by which certain religionists of the 16th, 17th and 18th centuries were known. They claimed the possession of superlative knowledge in everything pertaining to religious doctrines, rites and ceremonies, but were not at any time a very numerous body. An Order of the Illuminati was formed at Ingolstadt which was a secret society, and professed to free religion and politics from super-

stitution and despotism. It had some similarity to Freemasonry.

Illusion may take the form of a mental image of something non-existent, or be produced by a juggler's handling of objects so as to deceive the eye.

"Illustrated London News," the first of the weekly pictorial papers to be published in England. It was originated by Mr. Herbert Ingram, a Boston printer and newsagent, in 1842, and was a pronounced success from its foundation. The idea occurred to Mr. Ingram after he had noticed what an immense "run" there had been on a few crude pictures which one of the ordinary weekly papers had given of incidents connected with the Gretna murder.

Ilvaite, a mineral substance found in the island of Elba and other places on the Mediterranean in black prismatic crystals, being a silicate of iron and calcium, sometimes called "heavite."

Ilyanthides, a family classed in zoology as *Zoantharia malacodermata*, having polypes single and free, with a rounded or tapering base, and destitute of corallum.

Ilybius, a water beetle of which there are many species in Europe and America. The peculiarity of this genus is a convex form of body and a labial palp whose penultimate joint equals the last joint in length.

Idols, in the form of carved, sculptured, or painted objects, have been regarded as aids to worship, not only by primitive races, but in various Christian churches from early times, but since the Reformation have been prohibited in the Church of England.

Imagination is the creative power and faculty enabling the mind to picture to itself scenes, events, and persons of which a person may hear or read, and in its more intense form constitutes the genius by which the poet, the novelist, the historian, the painter, and the musician attain their idealisations.

Imaum, a Mahometan religious title borne only by princes or leaders of the faith; the Sultan of Turkey, in his ecclesiastical capacity, bears this title, and by virtue thereof may conduct the service in the mosque.

Immaculate Conception, the dogma that the Virgin Mary was absolutely pure and sinless from the womb, after being a fierce subject of controversy for many centuries, was on December 8th, 1854, expressly proclaimed by Pope Pius IX. to be an established doctrine of the Roman Catholic Church. The 8th December is the festival day of the Immaculate Conception in the Roman Church, and the 9th December in the Greek Church.

Immolation, the act of sacrificing a living object or objects for the propitiation of the Almighty, or, in classic days, the gods.

Immortality, the theory of the eternal existence of the human soul.

Immortelles are wreaths, crosses, or other designs made from what are called everlasting flowers, which are obtained from certain plants of the Composite order, and retain their colour and compactness for a long time. Immortelles are largely used as emblems for decorating graves, especially in France.

Impact, the impingement of two bodies one against the other, a subject generally considered in relation to the resulting after-motion, which comes under the cognizance of Kinetics. Direct impact is the opposition of objects moving in the same direction, oblique impact is the collision of bodies moving in opposite directions.

Impeachment, a special arrangement, usually before Parliament or other high tribunal, of a person charged with some offence against the State. The custom in England is for the impeachment to be made in the House of Commons, and the trial to be before the House of Lords. Bacon, Warren Hastings, and Lord Melville are conspicuous instances of men impeached in this country.

Impennes, the scientific name of a family of swimming birds, of which the penguin is the leading representative. They are all short-winged and unable to fly. The divers and the auks belong to the tribe.

Imperial Federation was inaugurated as a public movement in 1884 by the formation of an Imperial Federation League under the presidency of the late

Right Hon. W. E. Forster, and after preparing a practical scheme for promoting its objects, dissolved itself at the end of 1893, leaving to other organisations the carrying forward of the idea. Among these are the United Empire Trade League, the British Empire League, and the Federal Union Committee, all having offices in London, with branches in the Colonies and the provinces.

Imperial Institute, founded in 1887 as a memorial of Queen Victoria's Jubilee, and formally opened by her Majesty in 1893. Its object is to bring together into one permanent exhibition the products of the various British Colonies and dependencies, and generally to collect material, statistics, and general information relating to the condition of the various places. Since 1902 it has been under the control of the Board of Trade. The University of London occupies part of the building.

Impluvium, a basin or tank in the hall or atrium of an ancient Roman house, serving the purpose of receiving the rain that dropped through the open space in the roof.

Impressionist, an artist or author who attempts in his work to convey by broad effects of colour or treatment the impressions which a subject has stamped on his own imagination, apart from detail or form. (See **Post Impressionism**.)

Impressment, the forced service of persons for service on board British war-ships, sanctioned by laws still unrepealed, but not resorted to in this country since the Napoleonic wars.

Imprimatur, originally an official licence to print, and an important formula in the early days of printing. The term is now used in the wider significance of authority, stamp, or endorsement.

Impromptu, a speech, writing, or musical composition produced on the spur of the moment, without study or preparation. The word covers a wide field, however, and especially in musical works includes much that is intricate and elaborate.

Impropration, a legal term signifying the surrender of a benefice and its revenues into the hands of a layman or lay corporation, carrying with it the obligation to provide for the continuance of the ecclesiastical duties.

Incandescent, glowing white with intense heat.

Incandescent Light is produced in electric lighting lamps by a thin metal filament, which, acted upon by the electric current, attains an intense white illuminating force; in gas-lighting the incandescent illumination is obtained by a cone-like "mantle," made of incombustible earthy substances, which is placed over the part where the flame plays.

Incarnation, in theology, designates the doctrine that the Divine Spirit, incarnated in human form in the person of Jesus Christ, has had actual existence on earth, subject to human limitations, yet without losing the Divine essence.

Incas, the title borne by the ancient rulers and princes of Peru.

Incense, an aromatic resinous substance which, under combustion, exhales a pungent odour, and is used, mixed with certain fragrant perfumes, in the celebration of Mass in Roman Catholic Churches. Olibanum or frankincense is ordinarily the leading ingredient. It is not permitted in the orthodox service of the English Church, and when used by the more pronounced Ritualists is in defiance of ecclesiastical law.

Incognito, the dropping of name, identity, or distinctive mark, so as to pass unknown. A term generally used in cases of persons of rank who conventionally take an assumed name or inferior title in order to escape ceremony and formality.

Increment, Unearned, the term applied to the increase which arises in the value of land or buildings from causes other than the efforts or exertions of the owners, and in the Lloyd George Budget of 1909 first brought within the range of taxation.

Incubation, ordinarily the artificial hatching of eggs by means of an apparatus called an incubator (see **Incubator** article in *Pears' Dictionary of Poultry and Cage Birds*); a term also applied to conditions of heating and feeding by which children

prematurely born or exceptionally feeble are nurtured and brought forward.

Index Expurgatorius is an index, prepared under the authority of the Roman Catholic Church, of such books as may not be read by the faithful at all, and such as can only be read in part; that is, with what are considered objectionable passages expunged. The first Expurgatorial List was issued by Pope Paul IV. in 1557, and all later lists have been under direct papal authority.

India Office Library (see **Library of the India Office**).

India Rubber, or Caoutchouc, is made from the juice extracted from certain tropical plants, and is the most elastic substance known. It is treated and undergoes coagulation in moulds, after which it is dried and sent to market. Its commercial utility is considerable, being presented in many different forms, as eboules or vulcanite, and for waterproofings. The use of rubber for motor tyres has greatly increased the demand for this article. The consumption has been increased more than tenfold within the last few years. The uses to which rubber is put is being extended year by year; meanwhile plantations of rubber-yielding trees are being started in all regions favourable to their growth. There are large rubber estates in Ceylon, Java, and the Straits Settlements, but the native forests of South America still yield the largest quantities of the raw material.

Indian Corn, the American name for maize (*Zea mays*).

Indian Cross, the genus *Tropeolum*, an ornamental climbing or creeping garden and greenhouse plant.

Indian File, marching forward in single formation, as Indians progress through the woods.

Indian Ink, a pigment made from lampblack and gum or glue, originally prepared in China and Japan. It is dried and is marketed in small sticks. It is used mainly by artists for shading and lettering.

Indian Mutiny. This turning-point in the history of modern India occurred in 1857-8. The ostensible cause was the serving out to the native troops of cartridges greased with animal fat, contact with which was forbidden both by the Hindu and by the Mohammedan faith; but underlying this a rebellious feeling had long been secretly developing, fanned by Nana Sahib and others, and when the Sepoys at Meerut, in May, 1857, not only refused to obey the English officers but overpowered and put them to death, the Mutiny spread like wildfire, the rebels took Delhi and Lucknow, and during a period of many months the most terrible massacres and atrocities were committed, men, women and children being slain in thousands. The English General heroes of the Mutiny were Sir Colin Campbell, Sir John Lawrence, and Sir Henry Havelock, but heroism was shown by British soldiers and civilians everywhere during that terrible time. Order was re-established in the autumn of 1858, when the governing power was transferred from the East India Company to the Crown.

Indictment, a formal document of accusation setting forth the criminal charge or charges upon which a person has to be tried before a proper tribunal. It represents the "indict" of the grand jury, and is framed on the "true bill" returned by that body.

Indigo, the substance obtained from certain plants of the *Indigofera* order, inhabitants of the tropical regions of Asia, Africa, and America, India being the chief producer of the country. The colouring matter is the result of the decomposition and fermentation of a glucoside contained in the plant. This is afterwards dried and becomes the caked indigo of commerce. There are numerous varieties of indigo formed by the admixture of other colouring substances. The discovery of *Indigotin*, obtained from coal tar, has in late years largely superseded the use of vegetable indigo in dyeing and is more uniform in strength.

Individualism, a principle of government diametrically opposed to Socialism, and favouring freedom of action on the part of individuals without the interference of the State.

Indium, a scarce lead-coloured metal found in zinc

blende in Saxony, and remarkable for presenting a blue line in the spectrum.

Indo-European, a term used to designate the Aryan family of languages, which embraces Indian, Iranian, Celtic, Greek, Italic, Slavonic, and Teutonic.

Indra, an ancient Hindu God, personifying the sky; the supreme object of worship in Vedic times.

Induction, in Logic, is an argumentative inference in regard to an entire class of facts, based on actual demonstration as to individual facts comprised in that class. In Natural Philosophy it is a term applied to the action or effect produced by an electrical or magnetic body upon a non-electrical substance near to it but not in actual contact.

Induction Coil, a machine for producing electric currents by induction. It consists of a soft iron cylinder, or a mass of straight iron wires, around which is wound a primary coil of silk-covered copper-wire, whose ends are attached to a galvanic cell, while around the primary coil, still another, the secondary coil, of finer copper wire and of considerably greater length, is coiled. One coil is carefully insulated from the other, and the different parts of the secondary coil are also insulated from each other. The current is generated in the secondary coil by induction every time the current starts or stops in the primary. A rapid series of alternating currents is thus set up of a very high tension. Sparks many inches long and of great brilliance are obtained by large induction coils.

Indulgence, a remission of penances or punishment for sins, formerly granted by the Pope in return for contributions in aid of religious purposes. The indiscriminate sale of Indulgences by Tetzel and other Papal agents in the 16th century was one of the grievances which led to the Reformation.

Indulgence, Declaration of, was the proclamation by which James II. suspended the penal laws against Roman Catholics and Dissenters. It was first issued in 1687 and again in 1688, but the clergy as a body refused to obey and the prosecution of the Seven Bishops followed, as did James's abdication.

Induline, a general name for a class of coal tar dyes used for various fabrics, all giving forth dark blue shades.

Industrialism, the pursuit and practice of the industrial arts and a devotion to them in their broader aspects, as a leading cause of progress.

Inertia, a matter, mass, or body which has not within itself the power of motion, or which moves only with uniform action in a rectilinear line. Force only can transform inertia into energy.

Inescutcheon, a small "cutcheon borne heraldically within the shield of ordinary dimensions.

Infallibility, the Roman Catholic doctrine that accords the Pope divine immunity from error, in the execution of all that pertains to his pontifical functions. It was first proclaimed as the dogma of the Church by the Vatican Council in 1870.

Infante, the title of any son but the eldest of the king or queen of Spain or Portugal. *Infanta* is similarly the title of any daughter except one that might be heiress to the throne.

Infantry, the portion of an army which consists of foot soldiers equipped with "small arms."

Infection, the change or deviation experienced by light as it moves over the edges of an opaque body, causing the scattering of coloured rays.

Influence, the arrangement of flowers upon a branch or stem; it may be terminal or axillary.

Infula, a sacred fillet, of woollen material, worn on the head by priests, and by magistrates and rulers on solemn occasions, also by persons fleeing for protection to sanctuary. The infula later became a pendant to the mitre of bishops.

Infusoria, a class of infinitesimal animalcule of aquatic habits, possessing a mouth and some sort of digestive organism, but for the most part only observable under the microscope. They are the most highly developed form of Protozoa.

Ingoldsby Legends, a series of ingenious fantastical stories, mostly in racy verse, written by the Rev. R. H. Barham, and first published in *Bentley's Miscellany* about the middle of the 19th century.

Ink, a liquid pigment ordinarily made from an infusion of nut-galls, coppers, and gum arabic. Spumac is substituted for nut-galls for inferior inks. An acid is sometimes added to prevent oxidation, and for the blue-black inks a small quantity of solution of indigo serves for colouring. Copying ink contains glycerine or sugar, which keeps the ink moist. Lampblack is the leading ingredient in printer's ink. Marking ink is composed of a solution of nitrate of silver, gum, ammonia, and carbonate of soda. For red, blue, and other coloured inks, colouring solutions are used.

Inlaying is the introduction of one class of substance into another in some artistic or other design, such as silver set into zinc, copper, or lead, and called *Bidri*; the insertion of gold and silver into iron or steel, which is *Damascening*; the mingling of brass with tortoiseshell—*Buhl work*; the inlaying of woods, *marquetry*; of stones—*pietra dura*; and of the arrangement of small pieces of stone, for floors, walls, etc.—*mosaic*.

Innocent's Day, a festival day in Roman, Greek, and Anglican churches in commemoration of the killing of the children of Bethlehem by Herod, December 28th.

Inns of Court, certain legal corporations in London enjoying the privilege of calling candidates to the bar after they have studied for a certain number of terms and passed certain examinations. The Inns are four in number—the Inner Temple, the Middle Temple, Lincoln's Inn, and Gray's Inn.

Inquisition, a Roman Catholic ecclesiastical court which became a formidable weapon of the Church in the 13th century under Pope Innocent III. in dealing with charges of heresy. It was effectively set up in the various Catholic countries of the Continent, obtaining its fullest and most sweeping organisation in Spain in the days of Ferdinand and Isabella, when Torquemada was made Grand Inquisitor, and used its powers with terrible severity. (See *Auto-da-fé*.) In the 18th century its influence began to wane, and although the Congregation of the Holy Office still exists at Rome, its jurisdiction is limited to the suppression of heretical literature. Not less than 30,000 persons are supposed to have suffered death in Spain alone in pursuance of the sentences of the Inquisition. The institution ceased to exist in France in 1772, in Portugal in 1820, and in Spain in 1834.

Insectivora are animals which live almost exclusively on insects and worms, and comprise hedgehogs, moles, shrews, etc.

Insectivorous Plants are of various orders, and are found in all parts of the world, the *Common Sundew* and the *Common Butterwort* being the best known British species. These plants are provided with a leaf (or flower) arrangement by which insects are attracted. A gummy secretion spreads over the surface, and when an insect gets entangled the glandular hairs close over the victim, and escape is difficult; whereupon the plants absorb the life-essence of the captured insects by a process of digestion.

Insects, a term applied to an extensive class of invertebrate creatures abounding in all parts of the world. Their bodies are usually segmented, they possess wings, and have commonly four or more legs, in addition to a pair of antennae and a pair of mandibles. Flies of all kinds, fleas, bugs, butterflies, moths, bees, wasps, grasshoppers, crickets, beetles, lice, and thousands of other species make up this wonderful order.

Insectores, a bird classification which included all perching and climbing birds, but which are now included in the *Passeres* and *Picarie* orders, comprising some two-thirds of all existing bird species.

Insignia, marks or badges of office or honour, such as stars, ribbons, crosses, medallions or other designating objects, worn by members of special Orders or holders of prominent offices.

Insolvency, the condition which marks a man's or a firm's inability to meet their full monetary obligations. When a person is in this strait, he can either call his creditors together and endeavour to come to some private arrangement with them, according to the nature of his assets, or he can place himself in the hands of the Bankruptcy Court, which will administer

the estate and distribute the assets for the benefit of the creditors.

Inspector General, a chief army officer who in the present British Army system fills the place formerly occupied by the Commander-in-Chief, a title abolished in 1904.

Inspiration, in *theology*, means the direct influence of the Supreme Being in the writing of the Scriptures, and, like all other matters of religion, has been subjected to many definitions. Thus, we find endless discussion regarding *verbal inspiration*; as to *plenary*, all in all, inspiration; the *moral inspiration*; the *dynamical* inspiration, meaning in its action on the natural faculties; and *mechanical*, which only regards human agency as an instrument.

Instinct, a mental quality possessed by all organised beings in a more or less degree, but more especially revealed in the lower animals, and consisting of an intuitive prompting which induces the adoption of certain actions which conduce both to individual and racial preservation.

Institute of France was formed in 1795, and after various modifications was in 1820 organised on its present basis. Its five divisions are—French Language and Literature, Belles Lettres, Science, Fine Arts, Ethics and Politics. It is restricted to 40 members.

Insulation, the condition in which an electrified body is prevented from communicating electricity to contiguous bodies, by the interposition of a non-conducting material. Glass, shellac, ebonite, and gutta serena are all non-conductors, and wires obtain insulation by wrappings of cotton or silk.

Insurance Act. The provisions of this Act are set forth in the *Office Compensum* section, see *see*.

Insurrection, a rising against constituted authority by a body of persons aiming at the removal of a grievance or the upsetting of Civil power. Less serious than a rebellion, it is more widespread than a mutiny and often develops into revolt or revolution.

Intaglio, engraving or carving on a sunken ground, a method frequently adopted in the ornamentation of stones and rings.

Interdict, a Roman Catholic ecclesiastical prohibition, directed either against a country, community or church, or against persons. It is a weapon that is now rarely used, but in former times was often exercised with great power and severity.

Interest, in its commercial sense, is payment made for the loan or use of money, and is calculated according to a specified rate. Interest is either *simple* or *compound*. When simple interest is paid the principal sum remains the same; in the case of compound interest, each year's interest is added to the principal, and succeeding interest calculations are on the increased amounts.

Interlude, any short stage piece, or brief musical composition, for performance between more important pieces. In the strict musical sense an interlude is an *instrumental* composition played between the acts.

Interval in Music indicates the distance between two sounds, and may be *unlike*, as when sounded successively, or *harmonic*, when sounded together.

Intensification, an ultra-republican party whose chief members were very active and aggressive in France, Italy, and Spain, thirty or forty years ago. Henri Rochefort was a leading representative.

Introit, the processional psalm or hymn formerly sung as the clergy entered the church to commence divine service.

Invention of the Cross, a Roman Catholic festival, held on May 2nd to celebrate the finding of the Cross at Jerusalem by Heraclius in 615. Also included in the Church of England calendar. (See *Holy Rood*.)

Inventions in Demand. Among the simple inventions that are awaiting evolution, and any one of which would bring a fortune to its inventor, the following may be considered worth noting:—A bottle which cannot be re-filled; a nut for bolts which will not shake loose; a substitute for indiarubber; a non-leaky tap; a smoke-consuming appliance; a cigarette lighter, usable in wind; a simple rangefinder; a non-explosive lamp for low-flash oil; a good pencil.

sharpener; artificial sponge; an efficient stopper or easy means of drawing corks; a means of driving away flies.

Invertebrata, the zoological term used to designate all such animals as are without backbone or other internal bony framework.

Investiture, the ceremony of conferring honour, office, or possession—the investment of the recipient with badge, token, or public recognition.

Invitation, a form of magic or witchcraft that prevailed in olden times, consisting of pricking a wax or clay image of a person whose death was desired, invoking simultaneously the aid of evil spirits, the belief being that the spell would have a fatal effect.

Iodine, a substance formerly exclusively obtained from the extracted ash of seaweed. After the salts have been removed by crystallisation, there is left in solution iodide and bromide of sodium, potassium, and magnesium, and these heated with chemical agents yield iodine. Nearly all iodine now in use is derived from Chili saltpetre (sodium nitrate). Many combinations are effected with iodine, some of which are of considerable commercial value and of use in medicine.

Ionio Order of architecture is one of the five classic orders, its leading characteristics being the volute of its capital, which has on each side distinctive curved or scrolled ends.

IOU, an informal written and signed acknowledgment of indebtedness, requiring no stamp, and, though not a promissory note, can be sued upon. The letters stand for "I owe you."

Ipeacuanha, a flowering plant of the Cinchonaceae order, a native of the Brazilian forests. Its root is of great utility in medicine.

Irade, a decree promulgated by the Sultan of Turkey.

Irestone, a general name for any hard rock.

Iridesence, a glittering, rapidly changing glow of colours, showing different hues in different lights, and having the constantly shifting sheen and lustre of shot silk. Glass, metals, and fabrics are rendered iridescent by chemical treatment.

Iridium, one of the heaviest known metals, found in alliance with platinum. It is silver-white in colour, is of considerable commercial value as an alloy, and is in general use for the making of standard weights on account of its durability.

Iris, the typical genus of the botanical order Iridaceae; an order of herbs or under-shrubs of the Endogene family, with tuberous or fibrous roots and flag-like leaves, many of the family having beautiful flowers.

Irish Elk, an extinct species of deer, of large size and enormous antlers, fossil remains of which have been found in the Irish bogs, also in the Isle of Man.

Irish Moss, a kind of seaweed found on certain parts of the Irish coast, and collected, dried, and bleached for use as cattle food or for making a nutritious jelly.

Irish Parliaments of a non-elective character existed in Tudor times and earlier, but they had no independent power until 1782, when Grattan succeeded in securing some measure of freedom from English parliamentary control. But no Roman Catholics were allowed to sit, the King refusing to assent to an Act for admitting them, and, finally, after the rebellion of 1798, and the winning over of the Irish members by money and otherwise, the Act of Union of 1801 abolished the Irish Parliament. It is to secure to repeal of this Act and obtain enlarged powers that the Home Rule agitation is directed.

Iron, the most abundant as well as the most important of the world's metals, but occurring in a free state only in meteorites and some lavitic lava found in Greenland. Iron is extracted by smelting from different ores, hematite, magnetic iron, and spathic iron, coal or coke being now universally used for smelting purposes. The kinds of iron produced are: cast iron, wrought iron, and steel. The total amount of pig iron produced throughout the world in 1911 amounted to about 65,000,000 tons, contributed chiefly by the United States, Germany, and Great Britain, about 8 per cent. of the total being the product of these three countries. (See **Steel**, **Furnace**, **Bessemer**, etc.).

Iron Age, the period when primitive man made and used weapons and implements made from iron. It came between the Bronze and the Stone Ages.

Ironclad, ships of war cased in iron or steel plates of sufficient thickness to resist projectiles. They were first introduced (1859) in the French Navy, and in 1860 the first British ironclad, the *Warrior*, was launched. (See **Navy**.)

Iron Crown, the crown of the ancient kings of Lombardy and emperors of Germany, and noted for its iron band, said to have been forged from one of the nails of Christ's cross. Napoleon I insisted on being crowned with this famous crown, which is now preserved in the cathedral of Monza.

Ironides were Cromwell's special troopers, so-called because of their solidity and firmness in battle.

Ironwood, the intensely hard and heavy timber of certain kinds of trees, natives of the warmer regions of Asia and Africa, and mostly of the Sapotaceae order.

Irony, a sarcastic form of speech or writing by which blame appears in the guise of praise, and generally where the real meaning is contradictory to the expression.

Iroquois, the name of one of the tribes of North American Indians formerly constituting the Five Nations.

Irridentists, a political party organised in Italy in 1876 with the object of bringing under one government the various islands and places racially and geographically connected with Italy.

Irrigation, an artificial method of providing water for the growth of plants on lands where the natural supply of water is deficient. The science has made immense progress during the last fifty years, and has been the means of bringing into profitable cultivation vast tracts of territory in India and Western America which had previously been arid and wastes. The systems are various and are utilised according to the special conditions of the land to be irrigated, but the success which has attended these experiments has been very gratifying. In fact, irrigated lands are often more productive than lands which receive a fair amount of moisture from the elements; the irrigation supply can be distributed and regulated exactly according to requirements.

Iringlass, a gelatinous substance manufactured from the stomachs or air bladders of certain fish, the best kinds coming from Russia and Brazil. Some of the coarser sorts of iringlass are made from hides.

Islam, the Mohammedan religion, the word signifying devotion to God.

Isoamylene, a colourless, mobile oil, of peculiar odour, obtained by distilling isoamyl alcohol with zinc chloride.

Isobaric Lines are the lines on maps which link together places of equal barometric pressure.

Isomerism, a chemical term indicating a similarity of elements with differing physical or chemical qualities, and arises from the difference of the molecular atoms.

Isothermal Lines are lines appearing on maps showing the points on the earth's surface possessing an equal mean temperature.

Isthmian Games were held in alternate years by the ancient Greeks on the Isthmus of Corinth, in honour of Neptune, and were of the same class as the Olympian Games. Wreaths were the only prizes.

Itale, a kind of fibre yielded by the *Bromelia ciliaris*, a Mexican tree that grows immense leaves, from which the fibrous material is obtained. For carpets, cordage, sacking, belting, nets, etc. this fibre is very extensively used.

Itaka-wood, often called tiger-wood because of its markings, is a hard and beautiful wood furnished by the *Alseodendron Schomburgkii* of British Guiana. For ornamental cabinet work it is highly prized.

Itch-Mite, a minute insect which burrows beneath the skin and produces the itch. It is covered with short hairs, and two pairs of its four pairs of legs are provided with suckers at the ends. It belongs to the spider family, and is named *Sarcoptes scabiei*.

Iulus, the name of a group of animals of the centipede family with cylindrical bodies and two pairs of legs to each segment, the latter being 40 to 50 in number.

In South America specimens 5 or 6 inches long are frequent, but those found in England are very small.

Ivory, the dentine substance of which the tusks of the elephant, hippopotamus, walrus, etc., are composed. The tusks of the African elephant sometimes weigh as much as 100 lb., and reach a length of 8 or 9 feet.

Ivory-Black, a species of bone-black, made by the calcination of ivory scraps and turnings, used as a pigment in the manufacture of printers' ink, paint, etc.

Ivory-Gull, a small, beautifully-shaped, entirely white gull confined exclusively to the Arctic regions.

Ivy, the well-known climbing shrub, chiefly evergreen; furnishing a sudorific, the berries having also emetic properties.

Ixia, a genus of Cape Iridaceæ, with beautiful flowers produced in considerable variety of colouration under culture.

Izaz, a fixed star in the constellation Bootes.

J

Jaal Goat, the Abyssinian ibex, found also in Upper Egypt and in parts of Persia.

Jabiru, a wading bird of the stork family, white of plumage, but having a black neck and head, with a red band round the bottom part of the neck. Is a native of the tropical regions of South America, and almost equals the adjutant, which it resembles, in size.

Jaborandi, a Brazilian plant, the leaves and bark of which yield a powerful sudorific drug, and an alkaloid called jaborine; the South American Indians make great use of a decoction of the leaves in fever cases.

Jabutí, a Brazilian plant (*Psidium album*), furnishing an excellent dessert fruit.

Jacamar, a South American bird with long bill and brilliant plumage, of arboreal habits and similar in its general characteristics to the kingfisher.

Jacana, a tropical bird (the water-hen of Brazil and the warner parts of America) of wide range, beautiful of plumage, with slim body and narrow wings, and long pointed beak. It feeds on seeds and insects, inhabits marshy lands, and is of the crane and coot family.

Jack, a small schooner-rigged vessel, used in the Newfoundland fisheries; a pike; an oscillating lever; an apparatus for roasting meat.

Jackal, a kind of wild dog or wolf, plentiful in warm countries, of nocturnal habits, a carrion feeder, and of strong odour. Jackals hunt in packs, and make the night hideous with their discordant yells.

Jackboot, a kind of leathern boot reaching above the knee; in common use during the 17th and 18th centuries, but in modern days surviving only as foot and leg gear for fishermen, ostlers, etc.

Jackdaw, a small, blue-black plumaged kind of crow, common in all parts of Europe, and nesting frequently in steeples, old ruins, and hollows of trees. It makes an amusing peep, can be taught to utter words, and is famed for its mischievous propensities.

Jack Ketch, a by-name for the common hangman, and said to have been the real name of the public executioner of the time of James II.

Jack-tree, a familiar tree of the Indian archipelago, yielding a fruit called jack-fruit, much larger than the bread-fruit, but coarser.

Jacobins, a French revolutionary club or party, formed in 1789, and accustomed to meet at a Jacobin convent, hence the name. It became a controlling force in the Revolution, especially in the movement which led to the Terror, Robespierre being its chief spokesman.

Jacobites, adherents of the Stuart cause after the abdication of James II. First James himself, then his son (the Old Pretender), and later his grandson (the Young Pretender) tried to fan the flame of rebellion, in Scotland and Ireland, but after the defeat at Culloden in 1746 the cause was lost.

Jaconet, a kind of muslin at one time much in vogue as dress material, light, pliant and soft textured.

Jacquerie, a band of French peasants who in 1358 rose against the tyranny of the French nobles. Much desperate fighting occurred before the insurrection was put down.

Jade, a hard, transparent mineral found in China, America, and New Zealand, and used for making vases, bracelets, and other ornamental articles. There are many varieties, and there is evidence that the stone was in common use in prehistoric times for weapons and utensils.

Jagernaut, or **Juggernaut**, the name of the great Indian idol at Puri, which once a year is brought forth from its temple, placed on an enormous car, and conveyed at the head of a mighty procession through the streets. Multitudes of pilgrims assemble on these occasions, and it used to be the practice for many fanatics to throw themselves beneath the wheels of the car and allow themselves to be crushed to death.

Jaguar, an American carnivorous animal of the leopard family, but much larger and more powerful. It is the most formidable beast of prey on the American continent, and haunts the shores of the large rivers and lakes of Central and South America.

Jail, or **Goal**, a place of confinement for persons charged with or convicted of criminal offences.

Jalap, a drug made from the roots of certain herbaceous plants of the Mexican Andes, growing at an elevation of from 6,000 to 8,000 feet. The drug is one of the swiftest of known purgatives.

Jalpaite, a cupiferous Mexican sulphide of silver, malacca, blackish-grey, with isometric cleavage.

Jam, the popular name for boiled, sweetened, and preserved fruit, in which during the last half-century there has sprung up an important industry in London and different parts of the country.

Jamb, the upright sides of a door, window, fire-place, or other aperture, supporting the lintel, entablature or mantel and shelf.

Jangada, a rude sort of boat or catamaran, carrying a large sail, used off the coasts of South America.

Janis, an Indian religious sect, dating from 700 B.C., who reject the Vedas and live in many points in accord with the Buddhists. They are fairly numerous body, and are as renowned for their austere morality as for their wealth.

Janissaries, a former band of Turkish foot soldiers who acted as the Sultan's body guard, and were noted for their turbulence and cruelty. They existed from the 14th century to 1826, when they were finally disbanded after the people had risen against them and massacred many thousands.

Jansenists were followers of Jansen, Bishop of Ypres, who denied "the freedom of the will and the possibility of resisting Divine grace." They did not exist as an organised body after 1740.

Janthina, the "Ocean snail," is common to the Atlantic, and of peculiar formation. It has a violet shell, and possesses a sort of foot which it uses for propulsion.

Jantu, a water-raising trough contrivance, balanced on a bar. It is of considerable antiquity, and used yet in India and the East in irrigation operations.

January, the first month of the year, named after Janus, the two-faced god of the Romans. It was the *Wolf month* and *After Yule* of the Saxons.

Japanese Art is one of the many characteristic developments of a wonderful people. It is original, distinctive, of marked decorative sense, and shows a freedom and delicacy of handling almost beyond praise. Although in certain technical details it falls short of the best European standards, it has in its general realisations had a decided influence upon the decorative art of the world at large.

Japanning, the process of coating metal, wood, and other surfaces, with the varnish called Japan, which produces a lacquered effect and is capable of receiving a high polish.

Jarrah Wood, the wood of the mahogany gum tree of Western Australia (*Eucalyptus rostrata*), one of the hardest of all woods.

Jasmine, a graceful climber, with odoriferous blossom, originally a Persian plant, but now acclimatised in many varieties in almost all parts of the world.

Jasper, a precious stone of the quartz variety, opaque, and coloured red, brown, yellow and sometimes green. It was greatly esteemed by the ancients, the Bible having numerous allusions to it.

Jaunting Car, a two-wheeled vehicle peculiar to Ireland, containing a lengthwise seat on each side and a seat in front for the driver.

Javelin, a kind of spear which was thrown by hand and was one of the common weapons of war from the days of ancient Rome to the Middle Ages. A rude form of javelin is still used by many savage tribes.

Jay, a well-known bird of the crow family, of many species, and having a wide distribution, ranging from Europe, where there are six species, to South and North America, where the varieties are numerous. The Common Jay is the only British species. The Blue Jay of North America is a much handsomer bird, though smaller.

Jasarine, an antique military or protective jacket, strengthened by small overlapping pieces of steel or other metal internally, worn generally by the Italian nobility and those of neighbouring nations during the Middle Ages.

"Jaumes," a name brought into familiar use by Thackeray in his "Yellowish Papers," and since largely adopted in referring to footmen and flunkys.

Jeau, a stout kind of twilled cotton cloth much worn in olden times, and resembling fustian. Among modern varieties of Jean there is a satin Jean of a shiny surface, also "jeannette" used for linings.

Jebusites, are often referred to in the Old Testament. They were a Canaanite nation, who held Mount Zion, and were in frequent conflict with the Israelites, until finally defeated by David.

Jehovah, one of the Hebrew names of the Deity, the etymology of which is obscure. The English translators of the Old Testament rendered it "the Lord." The Jews, however, regard the word as too sacred for speech, and use the equivalents *Adonai* or *Elohim* instead of it.

Jelly-fish, the common name for a wide variety of fishes of gelatinous structure, such as aculephs, sea-bubblers, medusae, etc.

Jemadar, a native Indian officer of the British Army, or head servant of a large house in the Orient.

Jenny, the name given by James Hargreaves to the spinning frame invented by him in 1769, which greatly improved and extended cotton spinning operations.

Jeofail, a law term referring to the correction of some error in legal process.

Jerboa, an interesting rodent known sometimes as the "leaping hare," and sometimes as the "jumping mouse." It has very long hind legs and a long tufted tail. It is a native of the desert regions of Africa and lives in communities in underground passages. Its jumping power is extraordinary.

Jered, a wooden javelin, used in Turkey and Persia in tournaments and marksmanship competitions. It is about five feet long, and great skill may be attained in flinging it at a moving object or fixed target.

Jeremiad, any utterance or writing in which sorrow or complaint is the chief characteristic, so named as recalling the style of the "Lamentations of Jeremiah," one of the Old Testament books.

Jerkin, a short upper garment or jacket, made of leather or cloth, in common wear by men in the 16th and 17th centuries.

Jersey, the name given to a close-fitting garment of fine woollen yarn worn by both men and women, and a common garment of athletes, cricketers, etc.

Jerusalem Chamber, a room in Westminster Abbey, deriving its name from the circumstance of its having originally been decorated with a view of Jerusalem. Henry IV died in this chamber, and the Committee for the Revision of the Bible met there in 1870 and later.

Jesuits, members of the famous Roman Catholic order founded by Ignatius Loyola in 1534, have borne an influential part in the working out of the religious policy with which they have been identified. They were long regarded as "the power behind the Papal Chair," and in spite of their piety, devotion, and learning, the suspicion has rested upon them of having put their religious aims before their religious practices. They have been described as having no scruples, and as employing every possible art, device, or deception to attain their objects. The members of the society are composed of two classes,

laymen and priests, and a long and vigorous course of study is prescribed before they are admitted into the privileges of full membership. They are required to take the vows of voluntary poverty, perfect chastity, perfect obedience, and complete submission to the Pope. For their supposed political intriguing they have been several times expelled from France, Spain, Russia, Holland, and other countries, but the order still survives in most countries, its being estimated that it has still over 10,000 devoted members.

Jet, a deep black fossil substance admitting of a high polish and much used for jewellery, ornaments, and trimming. The substance belongs to the Tertiary and Secondary rocks, the most important deposit being found near Whitby, where jet manufacture has been an established industry for a long period. In recent years, however, an imported imitation jet has somewhat interfered with the English jet trade.

Jetsam, a term in navigation law, signifying cargo thrown into the sea and sunk. Such goods belong to the Crown in default of other claimants. (See *Flotsam*.)

Jetton, a kind of metal counter formerly used in card-playing. Monarchs, nobles, and abbots had their distinctive jettons, which were often as carefully devised and inscribed as if they had been pieces of gold. Examples survive in many museums.

Jetty, a construction of wood, masonry, or ironwork, projecting into the sea, and serving as a wharf for shipping and merchandise, or as a mole for harbour protection.

Jeunesse dorée, gilded youth, a term applied to young men "about town" remarkable for their luxurious habits. The name was originally given to a fashionable political party of the French Revolution.

Jewish fish, a large fish of the Serranidae family, plentiful round the coast of America.

Jewish Calendar is supposed to date from the Creation which is reckoned to have been anterior to the Christian era by 3 760 years and 3 months. The Jewish year 5670 began on September 10th, 1909.

Jews, descendants of the ancient Hebrews or Israelites, exist to the number of considerably more than twelve millions in all parts of the world. There are about 750,000 in London alone, and in other parts of the United Kingdom upwards of 100,000 more. In Europe there are nearly 6,000,000, more than half the number living within the boundaries of the Russian Empire, despite recent persecutions and migrations. Austria-Hungary contains over 2,000,000; Germany has over half a million; Turkey, 1,050,000; Roumania, 215,000; Holland, 103,000; France, 101,000; Italy 44,000; Switzerland, 12,000. In the *Jewish Year Book* it is estimated that in North and South America there are some two million and a half Jews; in Asia, 450,745; in Africa, 354,500; and in Australia, 17,000. A movement is on foot for restoring poor Jews to Palestine, where to-day some 80,000 are living on the soil. The Zionist movement, which has for its object the founding of Jewish colonies in favourable countries, has also been warmly taken up. In this country the Jews have been practically freed from all disabilities, but in many lands they continue to be oppressed.

Jew's Ear, a fungus that grows in the shape of an ear and is common in England. At one time it was accounted of medicinal value, and in China is esteemed both as a medicine and as an article of diet.

Jew's Harp, a small musical instrument, the sound from which are produced by the vibrations of a metal tongue which extends through its centre. The harp is pressed against the teeth of the performer, who twangs the metallic tongue with his finger, simultaneously breathing the required vibrations of tone upon it. Handled by an expert player, it is capable of producing very pleasing music.

Jewstone, a pale grey egg-shaped fossil stone that was once highly prized.

Jhoom, the name of a method of cultivation adopted in the jungle parts of India, but only followed for a year or two after the forest growth has been cleared by burning.

Jib, the front triangular sail of a ship, resting on a stay, and in large vessels projecting from the end of the jib-boom. There is also a flying jib outside this.

Jig, a rapid dance for one or more persons, much indulged in in Ireland and the English and Scotch provinces, a survival of old English days.

Jigger, a kind of flea or mite common in the West Indies and some of the warmer parts of the United States. It pierces the skin like a mosquito and causes great irritation.

Jihad, a holy war, proclaimed by the Mussulmans against Christians. Fanatics attempted to set one on foot in India in 1877, and simultaneously another was proclaimed at Constantinople against the Russians, but it came to naught.

Jingal, the name of a swivel-musket largely used by the Chinese for shooting water fowl and other birds.

Jingos, an English political term which came into vogue in the "seventies" and "eighties," when Russia seemed to be threatening an advance on Constantinople. A music-hall song of the day, sung by Macdormott, the refrain of which was "We don't want to fight, but by *Jingo* if we do," etc., emphasised the feeling of the party and gave the cue for their being called "Jingos."

Jinn are supposed to be spirits of evil, assuming various shapes, human and animal, and exercising good or evil influence, according to their origin or mission. In the *Arabian Nights* and other Eastern literature jinns or genii are numerous.

Jinrikisha, a hooded, two-wheeled vehicle drawn by one or two men, and used in Japan, India, and other Eastern countries.

Joachimites were adherents of the Italian religionist, Joachim, who was abbot of Floris at the beginning of the 13th century, and maintained that three reigns would complete the history of the earth; the first was the reign of the Father, from the Creation to the birth of Christ; the second that of the Son, from the birth of Christ to 1260; and the third that of the Holy Spirit, from 1260 to the end of the world.

Joannites were followers of St. John Chrysostom, Archbishop of Constantinople, in the 4th and 5th centuries, and were noted for their austerity.

Jeckey Club, the governing body that, although possessing no legal status, frames rules and laws by which horse-racing and turf matters generally are regulated. The club-house is at Newmarket.

Johannes, a Portuguese gold coin of the 17th and 18th centuries, worth nearly 2s English.

Johannisberger, a famous white wine produced from grapes grown in the Rheingau district near Wiesbaden.

Johannite, a green mineral, scientifically described as "a hydrous sulphate of the protoxide of uranium."

John Bull, the typical figure of an Englishman, bluff, big, and burly. Arbuthnot's *History of John Bull* is supposed to have originated the character.

John Company, a familiar appellation of the East India Company, in the days before the Mutiny.

John Dory, a well-known sea-fish of which there are six species. It is of a golden yellow colour (*jaune doré*), has a high dorsal fin with long filaments projecting from the spines, and is much valued as a table fish. It is sometimes found in British waters, but the Mediterranean is its chief habitat.

John O'Groats's House, inhabited by a farmer of that name and his brothers in the 15th century, stood on Duncairn Head, the northernmost point of Scotland. The site is marked and an inn was erected near it in 1876.

Joiner, a workman whose occupation is to construct articles in house-building by joining woodwork with framings, glue, screws, nails, etc.; a specific branch of the craft of carpentry.

Joist, a horizontal timber employed in the support of floors and ceilings in house-building; latterly iron joists have also been called into requisition in the construction of many important edifices.

Jongleurs were originally minstrels and jesters who wandered from town to town singing songs and giving entertainments. In Norman days they were popular both in France and England and were

favoured by the kings. In latter times they degenerated into conjurers, and so gave rise to the term jugglers.

Jordanite, the name given to a native sulphide of arsenic and lead found in orthorhombic crystals in the dolomite of the Binnenthal, in Switzerland.

Joss, the popular name of a Chinese idol, the place where it is kept being called a joss-house.

Joug, an ancient Scottish instrument of punishment, in the form of an iron collar, which was fitted to the neck and held to the wall or to a tree by a chain; a variety of pillory of a barbarous character, employed in the repression of female recalcitrants at times.

Joule, the electrical unit adopted by Siemens and representing the work accomplished in one second, "in maintaining a current of one ampere against a resistance of one ohm." The name commemorates that of Prof. J. P. Joule, the eminent scientist.

Jousts were military tilings in which the contestants strove against each other on horseback with blunted lances, and were in the nature of tournaments. Jousts were the sport of nobles in feudal times.

Jove, a classical name for Jupiter, the chief of the Roman divinities.

Jovinianite, a sect founded in the 4th century by a Milanese monk named Jovinian, who contended for the equality of sins, rewards, and punishments, and denounced celibacy and other prevalent features of Church doctrine.

Jowler, a Cornish and West of England term for a fish-hawker who plies his trade on horseback.

Jube, in church architecture, the roof-loft over the entrance to the choir from the chancel.

Jubilee, fiftieth-year celebrations, first introduced by the Roman Catholic Church, when special indulgences were granted and there was much rejoicing. In recent times the word Jubilee has been applied to any kind of fiftieth-year celebration; the most prominent of these in England having been the two Jubilees of Queen Victoria—that of the fiftieth year of her reign in 1887, and her Diamond Jubilee in 1897.

Judge Advocate General, a Crown Minister, entrusted with the duty of advising on subjects connected with military law, and attached to the Privy Council. It is necessary he should be a member of the House of Commons.

Julian Calendar, named after Julius Caesar, who was the first to adopt the calculation of time by the solar year, the average length being fixed at 365 days. There was still an overplus of a few minutes every year, however, and this was rectified by the Gregorian Calendar, introduced in Italy in 1582 and adopted in England in 1752, from which date what is called the "New Style" begins.

Julianists, a sect of Gnosts who believed the body of Christ to be incorruptible, in contravention of the doctrine of the Severians.

Julio, an old Italian coin worth about 6d. English.

July, the seventh month of the year, named after Julius Caesar. It was the *Maed month* (moed-month) of the Saxons.

July Revolution, the French revolution of 1830 whereby Charles X was deposed and Louis Philippe made Citizen King, the latter being himself deprived of Kingship by the revolution of 1848.

Jumart, a fabulous monster which often cropped up in early English literature, supposed to be the offspring of a bull and a mare, or of a horse and a cow.

Jumpers, religious sects or bodies who make jumping or dancing a part of their ceremony of worship. Certain Methodists of Wales, some Irvingites, the Shakers of America, and a Russian sect have adopted the practice more or less.

Junco, the name given to a genus of snowbirds, confined to the American continent.

June, the sixth month of the year, containing 30 days and deriving its name from Juno. It was the *Sear* (Dry) month of the Saxons.

Juniper, the Indian name for a forest or dense tract of juniper.

Jungle-fowl, a gallinaceous bird of the pheasant family, having four varieties. It abounds in the forest regions of India, Ceylon, and Java; and there

is an Australian bird of the megapod order to which the term Jungle Fowl is applied. They are all birds of brilliant plumage.

Juniper, the Nova Scotian name of the American larch; also all the trees of the *Juniperus* genus from the unripe fruit of some species of which is distilled the stimulant and diuretic oil of juniper.

"Junius," the signature under which a remarkably able and vigorous series of political letters were published in 1769 in the *Public Advertiser*, and now generally attributed to Sir Philip Francis, though the evidence is by no means conclusive.

Junk, a flat-bottomed Chinese sea-going boat, carrying large masts, and employed on the coasts and seas of China and Japan.

Junkers, a German political party name, referring to a class of young nobles of military spirit, who, prior to the Franco-Prussian War, supported Bismarck.

Junket, a sort of sweetmeat, consisting sometimes (as in Devonshire) of curds and cream, sweetened and flavoured with will.

Junta, a Spanish word designating a legislative or other distinguished assembly entrusted with the passing of laws or the deciding of policy. A grand council of state.

Jupiter, the largest body of the planetary system except the sun, from which orb it is distant 48,000,000 miles. Its mass is over 300 times as heavy as the earth, while in bulk it is 1,300 times as large. It has five satellites. Also the supreme deity of the Romans, identified with the Greek Zeus.

Jurassic Formation, a series of rocks (the evidences of which are most marked in the Jura Mountains) coming between the Cretaceous and Triassic groups and including the Oolite and the Lias. It is a formation rich in fauna, and extends through a great part of Europe and to America.

Jury, a body of men chosen and sworn to hear and pass verdict upon evidence brought forward at a trial, inquest or inquiry. Its origin is obscure, but it was in existence in the 13th century. There are three classes of juries; the Grand Jury of 23 freeholders summoned for criminal courts; upon whom devolves the duty of deciding whether there is a *prima facie* case against a person accused; Common Jury, consisting of 12 members, who have to pronounce their verdict upon the evidence; and the Special Jury, which simply a jury of men of higher social standing or specific experience. There are also certain other juries called together for particular purposes, such as the *Coroner's Jury*, the *Jury of Matrons*, and so on.

Jurymast, a word of doubtful origin, the application of the term "jury" being difficult in this connection to define, but indicating an improvised mast put up in place of one lost or broken down.

Justices, is defined as "a written or prescribed law, to which one is bound to conform and make it the rule of one's decisions."

Jute, the name given to the fibre of a plant largely grown in India and used for the manufacture of coarse cloths, cordage, etc. Dundee is the chief centre of this industry.

Jutes, a Low German race who in the 5th century invaded the South-eastern part of England, establishing themselves in Kent and making Canterbury their capital.

Juvenalia, games of young people instituted in Rome's imperial days by Nero.

Jussak, a heavy description of rifle used by the Afghans.

K

Kaaba, the inner shrine of the Great Mosque at Mecca, only thrown open to the faithful three times a year. It contains in its south-eastern corner the famous sacred "black stone," said to have fallen from heaven with Adam.

Kaffirs, a native race of South Africans, which includes the Zulus and other of the more powerful tribes. They were originally called Kaffirs (meaning "infidels") because of their refusal to adopt the Mahomedan religion.

Kaganalkia, a genus of the Roseworts, confined naturally to Chili; a tall growing ornamental tree, white flowered, and propagated successfully under glass in this country.

Kago, a rude Japanese palanquin suspended from a pole borne on the shoulders of two carriers, the person carried resting in a sort of bamboo hammock.

Kagu, a grey crested bird, the only member of the *Rhinocetina* family, and an inhabitant of New Caledonia. In its general characteristics it has some resemblance to the heron, though it is, properly speaking, a crane.

Kaha, the Dyak name for the Proboscis monkey of Borneo (*Semnopithecus nasalis*).

"Kalligard School," a term—meaning "cabbage garden"—applied to a recent school of novelists who have in the main taken homely Scottish rural life for the subjects of their stories.

Kain, a tribute or duty, formerly taken—in kind, as poultry, etc.—by landlords in Scotland and elsewhere as part of the rents due to them from their tenants.

Kainite, a mineral found in the Stassfurt salt mines, Magdeburg, Prussia, forming a source of potassium compounds, and consisting of magnesium sulphate and potassium chloride.

Kaiser, the German form of the word *Cæsar*, emperor, borne at the present time by the sovereigns of Germany and Austria. Charlemagne was the first prince to assume the title of Kaiser.

Kakapo, the New Zealand owl-parrot, a peculiar and interesting species, possessing wings but not able to use them for flight, of brown mottled plumage, nocturnal in its habits, and nesting in burrows. The bird is rapidly becoming extinct.

Kalan, a local name for the sea-otter which is only found in the seas of Kamchatka and North-West America. It is larger than the beaver, and weighs from 70 to 80 lbs. Its proper zoological name is *Enhydra lutris*.

Kalanchoe, the genus of Crassulaceæ, the leaves of varieties of which are applied to medicinal uses in China, India, and South America.

Kale, strictly a kind of cabbage with curly leaves; but also applied to cabbages in general; also the name of a broth made from kale and other ingredients.

Kalidoscope, an optical instrument, the invention of Sir David Brewster, and consisting of a cylindrical tube containing two mirrors inclined to each other at an angle, which produce a symmetrical reflection of any transparent coloured substances placed between. An endless variety of beautiful patterns is obtained by turning the toy round.

Kalends. (See *Calends*.)

Kalmucks, a branch of the Tartar or Mongol race who, in the 17th century, were expelled from Tibet and China and settled on the banks of the Volga, but many of whom returned to China in 1911. Since then they have wandered over many lands. They are skilled in metal working and their religion is a modified Buddhism.

Kalpis, an ancient three-handled Grecian water vase of large size, decorated with classical figures in red on a dark ground.

Kalsomine, a mixture of Paris white, clear glue, and water, forming a serviceable whitewash.

Kami, a Japanese title applied to gods and celestials and their descendants, the emperor and members of the imperial family, and daimios and governors.

Kamila, a dye substance, giving a deep orange colour, obtained from the pods of the *Millettia Philippensis*, a tropical and sub-tropical tree.

Kamptuloon, a floor covering composed of a mixture of indiarubber gutta-percha, and cork. It was invented by Elijah Galloway in 1843, and though at first only made in grey shades, is now produced in a variety of bright coloured patterns.

Kangaroo, a large marsupial or pouch-bearing animal confined entirely to Australasia. Captain Cook was the first European to observe the animal in 1770. There are 55 species. A male kangaroo stands from 6 to 7 feet high; the female, which carries her young in her abdominal pouch, is considerably less. These animals can move at an

exceedingly rapid pace, progressing by tremendous leaps of from 10 to 20 feet.

Kantianism, the philosophical principles propounded by Immanuel Kant, the German metaphysician, which sought to restrict human knowledge to objects of possible experience, while admitting religious ideas as modifying influences.

Kao-lin, a fine clay much used in the manufacture of Oriental, Sèvres, and other high-class pottery. It results from the decomposition of felspar, and is found in China, Japan, Devon, Cornwall, at Limoges, and in certain parts of the United States.

Karaites, a Jewish sect founded in the 8th century by Ananias David, who adhered strictly to the Scriptural word and rejected the Rabbinical traditions and the Talmud. Remnants of the sect still exist in parts of Eastern Europe.

Karma, the Buddhist theory that a man's actions control his destiny after death, as the natural effect of a natural cause. The idea of successive existences is bound up with the doctrine, and forms an interesting subject of ethical speculation.

Katydid, a large green-winged insect of arboreal habits, common in the central and eastern portions of the United States, and noted for its shrill note, which sounds like its name, and is produced by stridulation.

Kauri Pine, the tree which yields Kauri gum so largely used in varnish making, and exclusive to New Zealand. It exists in a fossil found in the sites of ancient Kauri woods.

Keble College, an Oxford college founded and endowed in 1870 in memory of the Rev. John Keble, author of *The Christian Year*.

Keep, the central tower or chief stronghold of an ancient castle, sometimes called the donjon.

"Keepsake," Khe, a form of gift-book issued annually in the early part of the last century; much patronised by society for the sake of its contributions by titled and other personages, and for its pictures, but of small literary or artistic value.

Kelp, the ash of burned seaweed, which yields carbonate of soda and sulphates and chlorides of soda, as well as small proportions of iodine and bromine in conjunction with sodium and magnesium. Formerly used in the manufacture of soap and glass extensively, but superseded largely for such purposes by barilla and other substances.

Kelpie, a water-sprite of Scottish fairy-lore, whose appearance assumed various forms, and was supposed to forebode drowning to the person who saw it.

Kentish Fire, a noisy long-continued kind of cheering and clapping of hands which originated in Kent at the Protestant meetings held in 1828-9 to oppose the Roman Catholic Relief Bill.

Kentish Rag, a kind of fossiliferous clayey limestone of the Upper Neocomian formation found in Kent. Used largely in building, for rubble and other walls, generally dressed roughly, if at all.

Kermes, a crimson dyestuff, less brilliant than cochineal, but more lasting. It is made from the bodies of the females of a small oak-inhabiting insect (*Coccus*) found in immense numbers on the coasts of the Mediterranean. It was discovered before cochineal.

Kermesite, a somewhat scarce mineral, being a combination of oxide and sulphide of antimony, and of a red colour. Often called red antimony.

Kern-haby, an image dressed up with corn, and formerly carried before the reapers in the processions attendant upon the rustic festivities of "Harvest home."

Kerosene, an illuminating oil distilled from petroleum and shale, and practically the same as paraffin.

Kersanite, a micaceous description of dolomite found at Visembach in the Vosges, consisting mainly of oligoclase.

Kersey, a coarse kind of woollen cloth, originally made at Kersey, in Suffolk, and much used in the middle ages, for ordinary men's clothing.

Kerseymere, a fine twilled all-wool cloth greatly in vogue in the last century as a dress fabric. The word is a corruption of Cashmere.

Kestrel, a rather small kind of falcon of vari-coloured plumage, common in most parts of Europe, and also found in Africa and Asia. It feeds on mice, small birds, beetles, etc. The Common Kestrel is the most familiar of British hawks.

Ketch, a sailing vessel formerly in considerable vogue, with two tall masts fore and aft, and clear amidships.

Kew Gardens are amongst the most celebrated botanical gardens in the world. They were established in 1760 by order of George III., and it was here that the valuable collections of Captain Cook and Sir Joseph Banks were accommodated. Since 1840 the gardens have been open to the public, and form one of the most attractive resorts near London. The Kew Observatory stands at the south end of the gardens.

Kex, the old English name for hemlock; so-called because of the hollow stems of the plant.

Key, a musical term indicating the central dominating note that gives the melodic order in which the tones of a tune or composition are arranged. It is the starting point, and different starting points demand different scales. The Natural Key of C, for instance, requires no flats or sharps; all other keys require the use of sharps or flats to bring the notes of their scales into proper relation.

Keys, House of, is the Manx representative assembly—the local House of Commons—and consists of 24 members, elected by popular vote since 1866. Prior to that date the members elected each other. The Governor presides at their deliberations.

Keyser's Pill, a medicine of which the active principle is acetate of mercury.

Keystone, the stone which occupies the centre and highest point of an arch and is usually the last to be inserted.

Khal tree, a small prickly tree of the Acacia family, bearing white flower, on long axillary spikes, and common in Western India.

Khaki, a clay-coloured cloth largely adopted for uniforms in the British Army in the time of the war with the Boers. First used by Indian regiments.

Khan, a title formerly of importance in Eastern countries, and given to princes and governors of states, but now of too common use to be much more than a mere courtesy designation. Also the name of a caravan-serai.

Khedive, the title borne by the Viceroys of Egypt since 1879, after Ismail. Pasha's arrangements with the Sultan establishing hereditary succession in his family.

Khelat, a dress or robe conferred as a mark of distinction by the Hindoos and Arabs.

Khonds, a race of aboriginal East Indians occupying the jungles and lower regions of Orissa, and formerly noted for their frequent human sacrifices, which, however, have been prohibited since 1826.

Khyber, a light Khyber passenger vehicle, mounted on two wheels in summer, but used sledge-wise on long runners in snowy weather.

Kilderkin, once a common liquid measure in England, representing 18 gallons.

Kilt, a short plumed plaid skirt-like garment forming part of the Highland costume, and reaching from the waist to the knees. In olden times it was simply the lower part of the belted plaid.

Kilting, a dress-making term denoting an arrangement of flat single pleats, placed side by side.

Kimmeridge Shale, the name given to a peculiar geological formation most prominent at Kimmeridge in Dorsetshire, abounding in saurian fossils, and forming the base of the Portland oolite group. Much of the shale is bituminous and is burned as fuel, though very impure.

Kindergarten, a system of children's schools ("garden of children"), introduced by Friedrich Froebel about the middle of the last century, and intended to inculcate instruction by means of toys, games, and singing—things in which children take delight naturally. The system is now well established in nearly all countries, having been developed on very successful lines in connection with the primary schools of England.

Kindred Table was compiled in 1863, and is printed in the *Book of Common Prayer* of the Established Church.

Kinematics, the science of pure motion, admitting conceptions of velocity and time, but not of force. All the properties of a curve may be deduced from the kinematics of a point.

Kinematograph, an adaptation of the magic lantern, consisting of a rapid succession of photographs of a moving scene, which when thrown on to a screen exhibit a picture with all the figures in actual motion. The photographs are attached to a ribbon and as this unrolls panorama-like the scene is depicted in detailed movement. A later development of the idea is the kinemacolor, which shows natural colours. Edison

was the first inventor of this kinematograph principle.

King Crab, a remarkable crustacean inhabiting the sea coasts of America and the Moluccas, carrying a shield-shaped shell, and having a long pointed spine projecting from its posterior. The body comprises three separate sections articulated together. These crabs—in America known commonly as the horseshoe crab because of their shape—are from 18 inches to 2 feet in length.

Kingfisher, a well-known and widely distributed family of brilliant-plumaged birds, comprising 20 genera and some 120 species. The larger species are fish eaters, the smaller insect eaters. The British kingfisher, *Alcedo cyanea*, haunts the rivers and streams, and is one of the most beautiful of native birds. All kingfishers have long bills. In the Malay archipelago, New Guinea, the Moluccas, and Australia the varieties are very numerous, but Europe and North America have each only two species. The quaint *Laughing Jackass* of Australia is the largest of the kingfisher family.

King-of-Arms, the names of the chief officials of the Herald's College. There are several in England—the principal being those of the Garter, Norroy, and Clarenceux. (See *Herald's College*.)

King Solomon's Mines.—Mr. K. N. Hall, F.R.G.S., as the result of several years' excavations at Zimbabwe, in Rhodesia, came to the conclusion that here were the mines whence Solomon obtained gold for the Temple. The ancient monument of Rhodesia contain the oldest and most extensive gold mines known to the world, and from these, it is believed, gold to the value of some £75,000,000 sterling was extracted during the time covering the Ughur period of the Scriptures. The older portions of Zimbabwe ruins, it is assumed, represent the monuments of a colony of the ancient empire of Sheba in South Arabia. The discoveries of Zimbabwe are in two divisions, one a temple in the valley, and the other a fortress on the hill. The masonry throughout is of granite without mortar or cement, though cement was known to the builders, for there are large platforms and floors made of that material. The date has been fixed at about 1,200 B.C.

King's Speech is the speech prepared by the Premier or other responsible Ministers in consultation with the King, and delivered by his Majesty in person, or by the Lord Chancellor in his absence, at the opening or closing of a Parliamentary session. The first King's speech was delivered by Henry I. in 1107.

Kinkajou, a carnivorous animal of the raccoon family, having a brown fur. It is common in the forests of Central and South America, lives mostly in the trees, feeding on birds, fruit, insects, etc.

Kino, a gum extracted from several tropical trees, and of considerable value as a drug because of its astringent properties. It contains a large proportion of tannic acid. It is used for dyeing purposes in India, yielding the colour called nankeen.

Kiosk, a small open pavilion of light construction much used in Eastern countries as places of shade and rest. Similar structures are common in the streets of Paris as news and advertisement stands, and in London as telephone offices.

Kirkman, one of the two Japanese imperial crests, comprising the design of the flowers, leaves and stems of three pawlownia plants. The *Aikamon* is the other imperial crest.

Kirk, the Church of Scotland. Kirk-Session is a "court" of the Presbyterian churches, consisting of the ministers and elders.

Kirk's Lamb, a regiment commanded by Captain Kirk, and of ill repute for their cruelties in hunting down persons suspected of sympathy with Macdonald in the rebellion of 1685. The paschal lamb was the emblem borne on their flag.

Kirschwasser, a spirituous beverage distilled from the wild cherry, made chiefly in the Voges and Black Forest.

Kirtle, the name given in the 16th and 17th centuries to a woman's garment, but not always to the same kind of garment. At one time it was an undergarment or petticoat, at another a gown or a cloak, and sometimes referred to men's garments. More generally a kirtle was a woman's outer skirt.

Kirwanite, a hydrated silicate of alumina, protoxide of iron and lime, occurring in the basalt of County Antrim.

Kish, the impurities which float to the surface of molten lead in smelting.

Kismet, a word signifying fate, destiny, or doom, frequently employed (or its equivalent) in most Oriental countries, and also in considerable use in European literature and speech.

Kit-Cat Club, a famous club formed in the early part of the 18th century, and having among its members many notable people, including Addison and Steele. It derived its name from the pastry cook who served it with pies—Christopher Cat—and has had its existence commemorated in a special size of portrait called a "Kit-Cat," because of the fact that the portraits of the members of the club were all done (by Sir Godfrey Kneller) to this size—36 inches long, by 24 inches wide. Its summer meetings were held in the Upper Flask Inn, Hampstead.

Kitchen, an apartment mainly appropriated to culinary uses.

Kitchen Middens, the name designating certain geological evidences, consisting of large mounds, presumably the sites of prehistoric villages, distinctive features of which are stone-hearths. These mounds contain large quantities of fossil remains of edible molluscs, bones of birds, animals, and fishes, fragments of implements, etc. They exist in the largest numbers on the east coast of Britain, and here and there on the coasts of Scotland, Ireland, and England, and belong, it is supposed, to the early Neolithic Age.

Kite, a bird of prey once very common but now scarce in Britain. It is one of the *Falconidae* family, of a dark brown colour, and feeds on rabbits, frogs, moles, and fish. In Eastern countries where kites are numerous they are valuable scavengers. There are several known species in America.

Kittiwake, a beautiful white and pearl-blue gull inhabiting the rocky coasts of the North Atlantic. It has a yellow bill with a downward curved point.

"Kladderadatsch." the title of the leading German humorous journal—often called the German *Punch*—founded by Albert Hoffmann.

Kleptomania, a species of moral insanity, manifesting itself in an irresistible impulse to theft.

Klipspringer, a small South African antelope standing little more than two feet high. It has long bristly hair, and short slight horns. Its habitat is the rocky regions of the Cape.

Klappanite, a hydrated silicate of manganese and iron, compact and dull, dark-hued, and akin to rhodonite in an impure state.

Knapsack, a bag containing necessary articles which a soldier carries strapped to his shoulder. Formerly its contents consisted of food, but in recent times it has been utilized mainly as the receptacle of articles of clothing. Tourists' knapsacks are a convenient adaptation of the idea.

Knighthood is a degree of honour or title common in Europe since the Middle Ages, and was at first exclusively a military order. In Great Britain the four main orders of knighthood are those of the Garter, the Bath, the Thistle, and St. Patrick; in addition to which there are several other orders such as the Order of St. Michael and St. George, the

Star of India, etc. There are also Knights Bachelors, such as are not associated with any special order. The title is not hereditary, and therefore ranks below that of a baronet, though both are entitled to the prefix "Sir."

Knobstick, a term of opprobrium much in use among the working-classes in England in the middle part of the last century, and applied to workmen who dissociate themselves from the majority, and either accept work while others are on strike, or otherwise decline to abide by the rules of trades unions or associations.

Knot, a nautical mile equal to about $\frac{1}{2}$ of a statute mile, and measured by a log-line, which is divided by knots at equal distances— $\frac{1}{12}$ of a geographical mile. The number of knots travelled by the ship in half a minute correspond to the number of nautical miles it travels per hour.

Knout, a Russian instrument of punishment, consisting of a whip of many thongs, used upon Russian criminals since the 15th century, and so severe in its effect that a large number of its victims died from its infliction. A hundred and twenty strokes were considered equivalent to a sentence of death; half that number sufficing to kill in many instances. Czar Nicholas I. however, changed the form of the knout, which is now a much milder instrument.

"Know-nothing," a member of a secret political society in the United States of America, organised for the purpose of obtaining a repeal of the Nationalisation Law; it lasted for two or three years only from 1853 onward.

Knurr and Spell. See Pears' Dictionary of Sports and Pastimes.

Knuckle-duster, a formidable apparatus contrived for the purpose of protecting the knuckles and to add force to their use; frequently employed by gaudier and other lawless ruffians.

Koala, an Australian arboreal marsupial mammal, with ashy-grey fur, bushy ears, and rudimentary tail. It feeds on leaves and roots, and is not more than 2 ft. in length.

Koh-i-Noor (see Diamonds).

Kohl-rabi, the turnip-rooted cabbage, the edible protuberance upon the stem of which, just above the ground line, is its most esteemed part.

Kohel, a powder, scraped from antimony or burnt almond shells, and in common use by the women of the East for darkening the eyelids.

Kongsbergite, an amalgam of mercury and silver, occurring in crystals in the mines of Kongsberg, in Norway.

Koodoo, a beautiful African antelope, the males being noted for spiral horns which when full grown are 4 ft. long. The animal is about 5 ft. high at the shoulder, and its grey-brown coat is ornamented with white stripes. It affords good sport to the hunter, being one of the fleetest animals on the African continent.

Kopah, a Polynesian aroid, cultivated by the natives of the South Sea Islands for its large edible yam-like roots.

Koran, the Bible of the Mahomedans, written by Mahomed in the 7th century, and supposed to be a transcript of a series of messages delivered to the prophet by the Angel Gabriel during a period of 23 years. It constitutes the law of life, civil, military, religious, and legal, to Mahomedans. It recognises Christ and Moses as prophets of God, but gives the chief place to Mahomed. It was not until 1734 that an English translation of the Koran appeared, by George Sale.

Korashid, an ancient Arab tribe whose members kept guard over the sacred stone of Mecca before the rise of Mahomed. When he appeared on the scene they opposed his claim, but were ultimately defeated by him and his followers.

Kos, a Jewish measure of capacity, equivalent to about four cubic inches.

Koto, a musical instrument in general use in Japan, consisting of a series of 13 silken strings stretched across a curved wooden surface, and played with the fingers. Each string is 5 feet long, and has a separate bridge so fixed as to give the vibration necessary for

the note it has to produce. It is a sort of horizontal harp, and in the hands of an expert player is capable of giving forth excellent music.

Koutama, a beverage made from mare's milk fermented, and often served up with cooked grain; a common refreshment of the Arabs of Africa and some of the tribes of Asia, particularly the Tartars.

Kraal, a hut or collection of huts in an African village.

Kraken, a fabled Scandinavian sea monster, around which many legends and superstitions have been formed in Norway. It is generally described as a sort of sea-serpent, and was so large and weird of form as to be mistaken, so the tradition runs, by fishermen for an island.

Kremlin, a large fortified citadel in Moscow, containing the cathedral in which the Czars are crowned, an imperial palace, and important garrisons and arsenals. At the foot of the Ivan Tower rests, in a cracked condition, the famous great Ivan bell, weighing 200 tons.

Kreutzer, an ancient German, and a modern Austrian, coin, the hundredth part of a florin or something like the equivalent of our farthing. It derives its name from the cross stamped upon it.

Krishna, one of the Hindu deities, and a chief character in the Mahabharata epic.

Krone, a Scandinavian and Austrian silver coin (Krona in Sweden), the Scandinavian coin being of the value in English of 15. 1/4d, the Austrian about 10d. There are also gold coins of 10 and 20 kroner.

Krypton, an atmospheric gas belonging to the helium group and of a greater density than nitrogen. It was discovered by Prof. Ramsay in 1898, and exists only in very minute quantities.

Kusang, a peculiar tailless Javanese lemur, remarkable for its habitual inactivity, ungainly structure, and slow motion; better known as the Slow-paced lor.

Ku-Klux-Klan, the title of a secret American association whose members were sworn to continue active sympathy with the secession principle after the conclusion of the Civil War in 1865. The organisation was wholly confined to the Southern States, but gave rise to many cruel outrages on Southerners and others who had been supporters of the North.

Kullin, a Brahmin of high sacerdotal position, to whom the privilege of plurality of wives is permitted, with whom he gets liberal dowries, while each wife is maintained in the parental home.

Kummel, a Russian cordial, flavoured with cummin, caraway seeds, or fennel.

Kunkir-seed, the gum of the artichoke root, used by the Arabs as an emetic.

Kunzite is a recently discovered gem which is peach-pink in colour, highly dieloric in quality, and possessing wonderful fluorescence. Upon exposure to the action of the X-rays or radium bromide, the gem-stone becomes phosphorescent, and remains so for some appreciable time after removal. After exposure to the X-rays it will, if placed in the dark, photograph itself upon a piece of sensitive paper. In respect to this phenomenon of fluorescence, Kunzite is unique among gem-stones. It was discovered by Professor George F. Kunz, President of the New York Mineralogical Club, and has been given the name of its sponsor. So far it is found only in San Diego, California.

Kurds, a native race inhabiting Kurdistan, a wandering, predatory people professing the Mahomedan faith and speaking an Iranic dialect.

Kussler, a Turkish musical instrument consisting of five strings stretched over a sort of kettledrum.

Kusti, a woollen band of 72 threads—the number of the chapters of the Izashue—and two branches, each branch containing six knots, together standing for the 12 months of the year.

Kutch, the packet of vellum leaves in which gold is placed for the first beating; the gold-beaters' skin packet into which the leaf is placed for the second beating is known as the "shoder."

Kutia, a special Russian dish eaten after a funeral ceremony at a church or cemetery, and composed of boiled rice or other cereal mixed with honey and raisins, the ingredients being supposed to possess some symbolical significance.

Kuttar, a form of Indian dagger with a handle of parallel bars and cross-piece.

Kuwawaku, the title given to the Japanese court nobles, *kuge* and *daijins*.

Kwas, a common Russian fermented beverage made from an infusion of flour or meal or dough of rye, wheat or malt. A superior kind is made from fruits.

Kylix, the name given in ancient Greece to a graceful double-handled drinking cup, in general shape something like a modern champagne glass.

Kymograph, an instrument for measuring fluids, especially the blood in living beings, and consisting of a revolving cylinder containing a smoked paper on which the pressure is recorded.

Kyrie Eleison, "Lord have mercy," the name of a common form of prayer in the Roman Catholic and Greek Churches; also applied to the English church responses after the recital of the commandments.

Kyriolaxy, a term indicating the use of literal as contradistinguished from figurative expressions.

Kyrie Society, named after Pope's "Man of Ross," John Kyrie, founded by Miss Miranda and Miss Octavia Hill in 1875, and having for its object the decoration of workmen's clubs, hospitals, etc., and the promotion among the poor of a taste for literature, music, and out-door recreation.

Kyrosite, an impure form of marcasite, known to the Germans since 1725 as white copper ore.

Kyate, a chest or coffin for the burial of the dead.

L

Labadists were a sect of Christian communists instituted by Jean de Labadie in France in the 17th century. They did not distinguish Sunday from other days, holding that life is all Sabbath.

Labarum, the standard of Constantine the Great, adopted after his conversion to Christianity, marked with his seal, and represented upon the coinage.

Laboratory, a department or room, fitted with apparatus for prosecuting scientific investigations.

Labour Exchanges, established in 1900, collect and supply information as to employers wanting workpeople, and workpeople requiring employment. The country is divided into ten divisions, each with a divisional clearing-house and chief, and all co-ordinated with a central clearing-house in London. The number of exchanges open in Dec. 1912 was 414, at which time a daily average of over 3,000 vacancies were being filled through this agency.

Labourers' Statute of, was passed in 1350, and again in 1357, with the object of compelling labourers to accept a certain rate of wages and not leave their employers' service, the Plague having rendered labourers so scarce that they were in great demand and had been insisting on higher pay. These enactments were bitterly opposed and led to the "Peasants' Revolt," headed by Wat Tyler.

Labour Party, has a total membership of nearly 200,000. Affiliated with the party are 135 Trade Unions; 83 Trades Councils; 66 Local Labour parties; 26,000 of the Independent Labour party; and 2,327 members of the Fabian Society. In 1914 there were 39 members of the Labour party in Parliament, with J. Ramsay MacDonald as chairman. In the 1900 Parliament the party had only 6 members.

Labradorite, a mineral of a pearly lustre on cleavage, found in masses in igneous rocks, the best samples of which come from Labrador.

Labrax, a genus of fish, embracing the ancient Greek labrax and the ancient Roman lupus, and typically represented to-day by the common bass.

Labyrinth, or **maze**, a combination of roads and passages so constructed as to render it difficult for anyone ignorant of the clue to trace the way to the central part. The Egyptian labyrinth on Lake Meris had 3,000 rooms, half of them subterranean, and the remainder above ground. The Cretan labyrinth of the mythology was said to have been constructed by Daedalus. There was one at Lemnos, renowned for its stelaetic columns; and another at Clusium constructed by Porsenna, King of Etruria, about 520 B.C. The labyrinth in which Fair Rosamond was concealed was at Woodstock. Hampton Court maze dates from the 16th century.

Labyrinthodon, a gigantic fossil amphibian, which gets its name from the curious labyrinthine structure of its teeth. It occurs in the Red Sandstone formation, and remains have been found in Britain and other parts of Europe. Its head was several feet long, and its footprints by which it was discovered, closely resemble the prints of the human hand.

Lac, a resinous matter deposited on the branches of a number of tropical trees by the females of the lac-insect, the exudation including eggs and a viscous covering. At the gathering time the twigs are broken off and dried in the sun, when the insects die, and the lac that remains is termed *suck-lac*. From this, by the removal of extraneous accretions and dissolving, *seed-lac* is produced. *Shell-lac* is seed-lac after it has been melted and otherwise prepared, and this is the best known of the lacs, being used in the manufacture of varnishes, and sealing-wax, and for other commercial purposes.

Lao (or **Lakh**), a Sanscrit word, meaning a mark, used in India to indicate a lac (or 100,000) rupees.

Lace, a delicate fabric of linen, silk, or cotton threads, made by hand or machinery, and worked in various ornamental designs. The kinds of lace are many, deriving their distinctive names either from the method employed in production or from the place where any special variety was originally made. The best known makes are pillow or bobbin-lace, woven and plaited by hand; needle-point lace, worked by the needle over a traced design; and machine lace, which practically dates from Heathcote's invention of the early part of the 19th century. Some of the most famed laces are the following:—*Alençon*, a needle-point lace; *Brussels*, a very fine kind, with needle-point sprigs and flowers; *Chantilly*, a silk variety with flowers and openwork; *Cluny*, a net-lace with darned stitch; *Honiton*, a delicate kind with dainty sprigs and figures; *Mechlin*, generally made in one piece and very varied in design; and *Valenciennes*, or bobbin lace of great durability, the pattern and ground of which are made at the same time, being one of the best and most costly of laces, now manufactured mainly in Belgium.

Lacerta, the name of a group of long-tailed lizards inhabiting the warmer parts of Europe and Asia. Also the name of a constellation, lying south of Cepheus, its most important star being only of the fourth magnitude.

Lachesis, a genus of venomous snakes of the rattlesnake family, confined to tropical countries, and including the "dudley bushmaster," of Surinam, and several Crotalide pit-vipers of Guiana and Brazil.

Lacquer, a varnish made from shellac and certain colouring matters, and utilised for imparting lustre to various surfaces of metal or wood. In China and Japan the production of lacquer ware of a decorative character has long been an important industry, bringing into use gold, coral, vermilion, sprinkled, and other lacquers, with pleasing effect.

Lacrimoso, a musical term denoting a mournful method of playing; sadly, with feeling.

Lacrosse, a ball game largely played in Canada, but of Indian origin. See Pears' *Dictionary of Sports and Pastimes*.

Lacrmatory, tube-like vessels of glass found in graves of the ancients of the urn-burial period, and supposed by some to have been the receptacles of the consecrated tears of lamenting friends, but really used for holding ointments or perfumes.

Lacs-d'Amour, a cord of running knots worn on the arm at one time by widows and unmarried women to denote their condition.

Lactic Acid is revealed in its commonest form in sour milk, but is found also in the fermentation of certain vegetable juices and putrefying animal matters.

Lactic Ethers, three different ethers, containing the same monatomic radical derivable from lactic acid, viz. ethylic lactate, diethylic lactate, and monoethylic lactate.

Lactometer, a tube or instrument for ascertaining the proportion of cream in a quantity of milk. Called also a galactometer.

Lacustrine Deposits, a geological term referring to the strata deposits at the bottom of lakes which by the regularity of their occurrence afford favourable opportunities for scientific study.

Ladder, a framework of portable steps, made of wood or metal. There are innumerable varieties, according to their uses. Thus, the standing-ladder, the step-ladder, scaling ladder, companion ladder, collapsible ladder, etc.

Ladybird, the common name of a numerous class of beetles—the Coccinella. The insect is usually of a red or yellow colour with small black spots. It can fly easily, but as it crawls over leaves or walls its progress is but slow. Ladybirds are of good service to the gardener by reason of their destruction of plant lice, amongst which they lay their eggs; and as the larva come to life they feed on the lice.

Lady-Day, the day of the festival of the Annunciation of the Virgin Mary, March 25th. One of the four English quarter days.

Lagoon, a stretch of shallow water opening out upon the sea. The most familiar example is that of Venice, which is built on lagoons.

Lake Dwellings, the name given to certain prehistoric habitations originally built above the waters of lakes or rivers, evidences of which have been found in Switzerland, Britain, and other parts of the old and new world. They were erected on platforms supported by piles, the stumps of many of which still remain. The most valuable evidences in this connection, however, are the recovered fragments of pottery, bone, flint, bronze and iron implements, as well as some few human skeletons, affording interesting testimony to the primitive existence led by the lake dwellers.

Lakes are bodies of water collected in depressions of the earth's surface. The most notable lakes are the Great Lake series of North America, including Lakes Superior, Michigan, Huron, Erie, and Ontario, all discharging into the St. Lawrence River. Africa has an enormous area of lakes, including the Albert Nyanza and the Victoria Nyanza, forming the sources of the White Nile, lakes Tanganyika, Nyassa, Tchad, etc. Smaller lakes are numerous in other countries—Switzerland, Germany, Italy, England, Ireland, Scotland, all having their lake regions, where the scenery is invariably beautiful and romantic.

Lake School, the name given, at first in ridicule, to a distinguished trio of poets—Wordsworth, Coleridge and Southey—who made their homes in the English Lake District. The term means little, however, in point of literary classification, as there was little real affinity of thought between the three poets named.

Lalo, the leaves of the Kholab, dried and powdered; a favourite food of certain African tribes.

Lama, the high priest of the Tibetan Buddhists, usually styled the Grand Lama, and supposed to be the incarnation of Adibuddha, lives in a palace at Lhasa. A British mission, sent out to compel the removal of certain trade restrictions, took possession of Lhasa in 1904, from which the Lama had previously fled. The result was the election of a new Lama and the signing of a better trading treaty. In 1910, Chinese action compelled the Dalai Lama to seek refuge in India, when he was deposed by the Chinese government; but in 1912 he returned to Tibet, and, although he was still opposed by China, British intervention prevailed and he was allowed to remain.

Lamaleim, the form of Buddhism prevalent in Tibet, with a very exclusive sacerdotal organisation, of which the Grand Lama is the head.

Lamelibranchiata, a class of molluscs, apparently headless, with lamellicorn gills. The body is enclosed in a pair of lateral valves divided across the back and held together by a hinge.

Lamellicornia, a class of insects of the Coleoptera order, remarkable for their lamellicorn antennae with club-like terminations. They are herbivorous and number several thousand species, the best-known representatives being the stag-beetles and cockchafer.

Lamination, a geological term designating a class of rocks with thin cleavages, such as slate or shale.

Lammas Day is one of the oldest of the Church festivals, probably derived from the loaf-mass (Hilf-messe) of the Anglo-Saxons. It occurs on August 1. In the olden times it was the day when loaves were given in place of first-fruits offerings.

Lammerfleur, the bear's paw, a variety of Alpine regions, and the largest of European birds of prey. It has a white head with black tufts at the base of the bill, and its general plumage is dark brown, nearly black. It mainly inhabits the mountain ranges of Southern Europe and Northern Africa, and extends to China.

Lampblack, a carboniferous pigment obtained from flame-smoke, and now produced in specially constructed furnaces in which bodies rich in carbon, such as tar, resin, petroleum, etc., are burned. The smoke or soot resulting is collected from the sides of the furnace, and forms lampblack, which is largely used in ink and paint manufacture.

Lamprey, an eel-like fish found in the rivers and on the sea-coasts of Britain and other temperate regions. It has a circular suckorial mouth and teeth, and lives on other fishes. There are three British species, the River Lamprey, the Small Lamprey, and the Sea Lamprey, which attains a length of 3 feet. Some lampreys spawn in the higher reaches of rivers.

Lamps are vessels for holding an illuminating agent, and in modern times are of many kinds. In Anglo-Saxon times they were made of horn. The first public street lamps were oil lamps, London being lighted in this manner in 1681. Gas lamps were introduced in 1814. A great advance was made in domestic lamp illumination by Argand, a Frenchman, in 1789, a lamp invented by him having a circular burner or wick, and by the admission of a current of air oxygenised the flame. This procedure, together with the enclosing glass tube adopted, greatly increased the brilliancy of the light. Among the more distinctive lamps of later times are the various electric lamps, the incandescent gas lamps, the paraffin oil and naphtha spirit lamps, the kerosene lamp for burning under water, and the Davy safety lamp for colliery use.

Lance, a military weapon carried by cavalry regiments, and consisting of a long spear for hurling at or charging an enemy with. The war-lance of the Middle Ages was about 16 feet long, the present-day lance rarely exceeds 11 feet.

Lancelot, a sea-fish of slight development, without skull or brain and having for backbone a gelatinous rod devoid of ribs. It is not uncommon around the British coasts, living mostly in the sand.

Lancers, light cavalry soldiers armed with lances. Most European armies contain regiments of Lancers the Russian Cossacks, the German Uhlans, etc.,—but there were no regiments of Lancers in England before 1816.

"Lancet," the name of the chief English medical journal, established in 1843 by Dr. Wakley.

Lancewood, a hard, durable, and elastic kind of wood obtained from certain trees of the order of the *Anonaceae* order, and much used in coach-building; in Guiana, the wood is called Yari Yari.

Land is the earth's surface, or, more strictly, that portion of it which is unsubmerged. The total land area of Great Britain is 55,201,000 acres. In 1851 the land and houses of the United Kingdom yielded an aggregate rental of £395,000. In 1882 there were nearly a million land-owners in England and Wales (exclusive of the metropolis), 723,000 of whom owned less than one acre. It is estimated that more than half of the land of the kingdom is now possessed by about 7,000 persons.

Landauf, a kind of carriage, originally made at Landauf in Germany, its distinguishing feature being that the covered top is in two parts and can be let down or put up as required.

Land Crab, a family of crabs which live mainly on land, though as a rule migrate to the sea to deposit their eggs. When their offspring attain full development in the water, the old crabs return to their inland quarters, taking their young ones with them.

Land League, an association formed in 1879 by Parnell and others for compelling a reduction in the

rents of land in Ireland, and in case of non-compliance refusing to pay rent. For a time this League exercised great political influence and was an important aid to the Home Rule agitation.

Landrill, popularly known as the Comcrake, is a regular summer visitor to Britain, and is well known by its harsh and piercing note, so familiar in com-lands in the night-time.

Landslip, a breakage of a mass of soil or rock away from a mountain, hill, or cliff, due to a variety of natural causes, such as the saturation of the earth by water or the decay or slipping of portions of rock. Many serious landslips have occurred from time to time. In 1678, an earthfall happened at Plurs, on Lake Como, involving the destruction of many buildings and the loss of numerous lives. In 1806 a portion of Rossberg mountain in Switzerland slipped from its position, and falling into the valley below buried many villages and hamlets and over 8,000 people. A chalk cliff from 200 to 150 feet high and three-quarters of a mile long fell at Lyme Regis, in Dorsetshire, in 1830, doing terrible damage. Over 200 people were killed by a landslip in Nynee Tal, in India, in 1880; and at Quebec, in 1889, a rocky eminence called Cape Diamond gave way, many buildings being destroyed and lives lost.

Language, words by which thoughts are uttered or expressed, is divisible into many groups. There were thirteen principal European languages: Greek, Latin, German, Slavonian, Welsh, Breckan, Irish, Albanian, Tartarian, Illyrian, Jazygian, Chaucian, and Finnic. Italian, French, Spanish, and Portuguese are offshoots of the Latin tongue. The Teutonic is the foundation of the present German, Danish, Swedish, Norwegian and English languages. Turkish is a Tartarian dialect. There are 3,000 languages or dialects spoken throughout the world.

Langue d'Oc, an ancient French dialect—the language of the Troubadours—confined to the country south of the Loire. It derived its name from the fact that it used *oc* instead of *oui* for the affirmative.

Langue d'Oul, the old northern French dialect, distinguished by the use of *oui* for the affirmative, in contradiction to the *langue d'oc*, just noticed.

Languria, a beautiful kind of small arboreal beetles of metallic sheen, inhabiting moist parts of the world, and peculiar because of their short antennae. The *Langurina* sub-family includes the "Ladybirds."

Laniidae, constitute the hawk family of birds, of which there are about 200 widely distributed species.

Lanner, the name of a distinguished member of the falcon family, chiefly inhabiting the countries around the Mediterranean.

Lantern, a case for enclosing, holding, or carrying a light. In its earliest form it was made of horn, and called a lantern, but the name now covers a variety of forms, from the large stationary lantern of a light-house to a Chinese collapsible paper lantern. See **Magic Lantern**, etc.

Lantern Fly, the name of a class of insects of the *Psyllora* genus, with muzzle-shaped heads which are said to emit a light like that given forth by fireflies in the dark. They occur in China, Brazil, and other hot countries, but recent naturalists dispute the actual luminosity of the insect.

"**Lantern of England**."—Bath Abbey possesses so many windows that it is called sometimes the "Lantern of England." It was a "Popish service" held at Bath Abbey by James II, that induced Bishop Ken to sign the invitation to William of Orange, though he afterwards repented and became a Non-Juror. Among numerous interesting monuments Bath Abbey contains that of Malthus, whose *Essay on Population* gave the first inspiration to Darwin.

Lanthanum, a scarce metal discovered by Mosander in 1831, found in association with didymium in the oxide of cerium.

Lapidary, a cutter of, or dealer in, precious stones; also used in adjective form in regard to the working, engraving, or setting of stones.

Lapis Lazuli, an azure blue mineral found in limestone and granite, from which the ultramarine pigment is obtained. The best comes from China and Persia.

Lapwing, or Plover, is a familiar bird on the moors and marshy places of Britain. It is often called the "peewit," from its cry. Its back and wings show green, violet and purple tints, and the under parts are white. It carries a black crest. Plovers' eggs are a table luxury much esteemed.

Leeward, is the old nautical term indicating the left-hand side of a ship, now more commonly called the port side.

Larch, a family coniferous tree in the mountain region of northern Europe, and though not native to Britain, the Common Larch is successfully cultivated in various parts of the kingdom. It is one of the best of all turpentine yielding trees, and the bark is valued for tanning.

Larceny in its broad significance means the fraudulent taking away and appropriation of the personal goods of another. Larceny is of two kinds: *simple larceny* which is theft apart from accompanying aggravation; and *compound larceny*, that which is rendered more serious by being combined with assault, or forced entrance into an enclosed place, such as a house or shop.

Lard is the clarified fat of swine. Originally it was almost exclusively used in cooking, but now it is also utilised for a variety of commercial purposes, such as the making of lubricating oil, the manufacture of candles, etc.

Lares were tutelary deities of the ancient Romans, and of two classes, *Lares domestici*, the household gods, and *Lares publici*, the gods of public places. Both classes were represented by images or statues.

Laridae, a family of web-footed swimming gulls, white and pearly blue in colour, very widely distributed over the sea coasts of the world and feeding mainly on fish.

Lark, a family of birds (Alaudidae) of which there are about 100 species, some of which—notably the skylark—are famed for their marvellous singing and soaring qualities. They build their nests on the ground in the open country. Britain has six species, of which the skylark and the woodlark are the best known. Africa has the greatest number of larks; America has only one species, the horned lark, but it is not a true Alaudid.

Larkspur, the common name of the genus *Delphinium*, a favourite flower introduced into British gardens from Switzerland in 1573.

Larva, the undeveloped form of any animal which, before maturity, undergoes metamorphosis. The term was formerly used only to designate insects in the caterpillar stage, but now takes in the larval forms of the frog (the tadpole) and numerous other early stages of animal existence.

Lascar, commonly an East Indian sailor engaged in British or foreign service. The name is also given to East Indian camp followers and regimental servants.

Lastage, a shipping term referring to the lading of a ship, and also formerly a duty for the right of conveying goods by a ship.

Lattice, a triangular sail affixed to a tapering yard, much used on light cargo vessels of the Mediterranean.

Latent Heat is a term expressing a condition in which, when a solid is converted into a liquid, or a liquid into a gas, a certain amount of heat is absorbed, and, having no effect on the thermometer, is described as latent.

Lateran Councils were the eleven religious conventions held in the Lateran basilica at Rome for deciding important questions of Church doctrine. The first was held in 449 to deal with the Monothelites; three were held in the 12th century, one in the 13th, and the rest in the 16th. That of 1179 formulated the laws for the election of Popes; and that of 1215 pronounced in favour of the Crusade.

Laterite, a peculiar ferruginous kind of rock, extensive beds of which are found in India and Ceylon. Much of it belongs to the Tertiary period.

Lateral flexion, a scientific and pathological term signifying "a bending aside."

Latesa, a genus of fishes of the perch family. There are only three species, two of which are found in the Nile and in Queensland, while the third is confined

to Australian rivers only. It attains the length of from 2 to 3 feet.

Latitude is the extent of the earth or the heavens reckoned from the equator to the pole, and was first determined by Hipparchus, of Nice, about 162 B.C.

Latitudinarians, a body of theologians whose object was to enlarge the scope of the Anglican Church so as to bring the Nonconformists within its fold, and included such eminent 17th century divines as Burnet, Tillotson, Hales, and Chillingworth. At the present day the term is applied generally to such as are opposed to doctrines and forms of any kind.

Laughing Gas is nitrous oxide, and received its name from the fact that on being inhaled its first effect was to produce exultation. It was one of the earliest anæsthetics, and is much used in dentistry and for minor surgical operations.

Laughing Jackass. (See **Kingfisher**.)

Laughing-stock, a butt for ridicule, a person or an object provoking scornful hilarity.

Laughter, a convulsive action of the respiratory muscles, accompanied by a succession of short vocal sounds, induced by sudden joy or mirth.

Launce, a family of eel-like sea fishes found in large numbers on the coasts of North America and Europe. There are two species common to British waters. These fishes are of a bright silvery hue, and live much in the sand underneath the water. They are much prized as bait.

Laundry, any room or building in which the work of washing and ironing of clothes is carried on. Steam laundries have become common in recent times, and in many ways—the introduction of improved washing soaps, and of labour-saving contrivances generally—laundry operations have been greatly simplified.

Laureate. (See **Poet Laureate**.)

Laurentian System refers to a group of rocks in the region of the Upper Lakes of Canada, representing at some points a thickness of 30,000 feet. No fossils are found in this group, and the inference is that it is the most ancient known.

Laurel Seed, a monobasic acid obtained from the oleaginous principle of pichunum beans, and from butter, coconut oil, etc.

Lava, the molten fluid rock which is ejected from a volcano while in eruption.

Laver, the popular name of certain varieties of seaweed, *Paphys*, which attach themselves to rocks and are used as food or condiment.

Lawn, very fine sun-bleached linen, in olden times called "cloth of Rheims."

Lead, a soft malleable metal, occurring in numerous ores, which are easily smelted. It is found in its native form in small quantities in Sweden. Lead is largely used in the making of service pipes on account of its pliability; and as an alloy element it combines in the formation of type metal, stereo metal, shot metal, pewter, and many other compounds. Lead mining is carried on in several of the northern counties of England and in Wales. Our chief imports are from Spain. The lead output of the world now averages over 1,000,000 tons per annum, of which about one-fourth is raised within the British Empire, Australia being the chief British lead-producing region.

Leaf-insect, a peculiar class of insect which in colour and form so closely resembles a leaf that it is difficult to distinguish the one from the other. The genus is entomologically styled *Phyllium*, and one variety is familiarly known as the "walking leaf."

Leagues, or combinations of kings, countries, or communities, have been frequent since the kings of Canaan united against the Israelites. Among the most famous leagues may be mentioned the Holy League which prevented the accession of Henry IV of France until he became a Roman Catholic; the Solemn League and Covenant of Scotland in 1638; and the League of Augsburg against France in 1686.

Leap Year (or **Bissextile**) was fixed by Julius Cæsar, 45 B.C. as an addition of one day in every four years bringing the measure of the calendar year even with the astronomical year, with three minutes per year over; this again is levelled up by dropping leap

year at stated intervals. Thus 1700, 1800, and 1900 were not leap years, but it will be some centuries now before another rectification will be required.

Leather was made in ancient Egypt, Greece, and Rome, and has through succeeding centuries played an important part in the service of man. It consists of the dressed hides or skins of animals, after the process of tanning has been gone through. Untanned skins are known as pelts. Leather is classed either according to the skins from which it is made or the system of preparation employed. The best-known kinds are morocco, kid, Russia, chamois, Cordovan, grained, patent, russet, tan, calf, Hungarian, etc.

Leaven, a mixture of flour and sour milk, formerly used in fermenting large quantities of fresh dough, a preparation now superseded by yeast.

Leech, an aquatic blood-sucking worm, mostly found in fresh-water ponds. Each end of the body is provided with a sucker, but that at the head end has jaws and teeth. The medicinal leech has three jaws. The leech attaches itself with avidity to animal bodies and sucks until glutted. This medicinal leech is common in the South of Europe; the dark-hued Horse Leech is the most common species in Britain.

Leeward, a nautical term, meaning in the direction of the wind.

Legal Tender of Gold is good in this country to any amount; of Bank of England notes for any sum above £5, except in certain circumstances by the bank itself; silver is legal tender up to 40s., bronze up to 1s., farthings up to 6d.

Legend, a story in which the marvellous, supernatural or mythical is a leading feature. The earliest forms of legends were the stories of the lives of the saints.

Legerdemain, sleight of hand, conjuring, juggling, a kind of performance in which trick and dexterity of hand deceive the eye and give the impression of feats that are naturally impossible.

Legion, a body of Roman troops, varying in numbers at different periods. Under Marius a legion consisted of 6,000 soldiers, besides 700 horse. Augustus, when a army was composed of 45 legions, with the addition of 25,000 horse and 37,000 light armed troops. A legion was divided into 10 cohorts, and every cohort into three companies, each containing two centurions. Three legions composed the Roman army of occupation in Britain.

Legion of Honour, the French order for distinguished services, military or civil, was instituted by Napoleon I. in 1802, and confirmed and modified under later rulers. There are five grades—Grands Croix, Grands Officiers, Commandeurs, Officiers, and Chevaliers.

Legitimists, supporters of the claim; of the elder branch of the Bourbon family to the throne of France. The death of the Comte de Chambord in 1883 childless transferred the right of claim to the Comte de Paris, head of the younger Bourbon branch.

Legumin, a nitrogenous proteid substance obtained from peas, beans, and similar plants. It is also called "vegetable casein."

Leipsoa, a kind of pleasant native to Australia, nesting in mounds. It has a crested head and dark plumage.

Lema, the North American potato beetle, a voracious little insect, with yellow head and body marked with three longitudinal deep black stripes. The famous Colorado potato beetle belongs to the *Phytophaga* tribe, as does also the "Turnip-jack," the larvæ of which are the plague of the British farmer.

Leemming, a small light brown rodent with dark spots, abounding in Scandinavian countries and in Siberia. There is an American species found in the Hudson Bay region. The leemming is about 5 inches long, with a short stump of a tail.

Lemur, a group of mammals nearly allied to monkeys, noted for having strong plant toes enabling them to use their feet as hands, and also well-developed thumbs on the hands. They have long squirrel-like tails and fox-shaped heads, and are distributed over the tropical parts of the old world.

Lenses are, broadly speaking, either *convex*, having the thickest part in the centre and magnifying objects, or *concave*, with the thinnest part in the centre and reducing the objects. Each kind has

several varieties, peculiar from their proportions, arrangement, and specific effects.

Lent, the 40 days period of fasting that precedes Easter.

Leo, one of the 12 signs of the Zodiac, bounded on the west by Cancer, and on the east by the Virgin. The constellation consists of 75 stars, one of which is Regulus.

Leopard, a well-known carnivorous spotted mammal, an inhabitant of Africa and Asia. Its skin has a light tawny ground, which is covered with dark brown spots.

Lepidodendron, a fossil plant of gigantic height (nearly 100 feet) bearing a cone-like fruit, frequently met with in the coal strata.

Lepidoganoidea, the second sub-order of the ganoid fishes in Owen's classification, their bodies being covered with scales of moderate size.

Lepidoptera, an order of insects embracing the various species of butterflies and moths.

Lepidostreus, a genus of ganoid fishes, whose sole surviving representative is the Mud-fish, confined almost exclusively to the Amazon.

Leporidae, the scientific name of all animals of the hare and rabbit family.

Lepus, the constellation of the Hare, situated under the Orion group, and one of the constellations with which the ancients were familiar.

Lerrama, a parasitic crustacean which is more fully developed in its young than in its adult existence. After entering upon its parasitic stage it has no use for external organs and loses them. Its presence is believed injuriously to affect the vision of the fishes upon which it is parasitic.

Lettres de Cachet, sealed letters which the kings of France issued to their agents to secure the imprisonment of distrusted or disliked persons without trial. Abolished in 1789.

Leucellin, a crystalline, pulverulent substance produced by the decomposition of nitrogenous matter, otherwise known as amido-caproic acid, and called leucine because of its whiteness.

Leuciscus, a genus of fishes of the Carp family, distributed over the waters of all temperate regions, and comprising some 90 species. The roach, chub, and dace are of this family, also the white mullet and the minnow.

Lèveé, a State reception by the king attended only by gentlemen.

Lewellers, an English military-political party prominent about 1649 in the Parliamentary army, and advocated the levelling of social distinctions.

Lever, a rod-like bar of metal or wood used for raising heavy bodies, and worked by means of a support called the fulcrum placed at a given distance underneath the lever.

Lewis, a contrivance of stone-lifting, the principle of which was known to the ancient Romans; it consists of two dovetail tenons of iron or other metal, expanded by an intervening key in a dovetail-shaped mortice in the stone, and slackened by a ringed bolt to the hoisting chain.

Leyden Jar, an apparatus for accumulating electricity, invented by Cuneus of Leyden in 1746, and consisting of a jar coated inside and out with tinfoil for about two-thirds of its height, and having its inner coating connected with the top by a brass knob and chain. Thus an electric charge is set up, and a number of jars will constitute a battery.

Li, a Chinese distance measure, about the third of an English mile. Also a Chinese weight, the thousandth part of an ounce, or liang.

Lias, a geological term referring to the lower section of the Jurassic group, and mainly comprising shales and limestones.

Libel, any writing, printed matter, picture or illustration put forth with malicious intent for the purpose of bringing a person into public ridicule and contempt. An aggrieved person may proceed either by civil action or criminal indictment. A good defence is that the words complained of are true and to the public advantage to be made known. Since 1861 no newspaper proprietor can be criminally prosecuted for libel without the fiat of the Public Prosecutor. A spoken libel is *slander*.

Libra, the Scales, one of the twelve Signs of the Zodiac, lying east of the Scorpion.

Liberals, a political party name that came into vogue about 1828 to designate the advanced Reformers.

Liberal Unionists, the portion of the Liberal party which separated from Mr. Gladstone on the Home Rule question in 1886, and afterwards became allied with the Conservatives. On the introduction of Mr. Chamberlain's Tariff Reform policy many Liberal Unionists withdrew from the alliance, and continued to support Free Trade. Apart from this, Liberal Unionists have acted with the Conservatives, and now the term Unionists covers all sections of the Conservative party.

Libraries, before the invention of printing, were few and only got together at enormous cost. A Nineteenth century library, consisting of tablets of baked clay, have been discovered. A public library existed in Athens in 540 B.C. The library at Alexandria, destroyed when Julius Caesar set fire to the city, 47 B.C., contained 400,000 valuable MS. books. Among the great libraries of later times may be mentioned the Vatican Library at Rome, founded in 1588; the Royal Library at Paris (1790), now containing over 2,000,000 vols.; the Astor Library, New York; and in England, the Bodleian Library, Oxford, and the invaluable British Museum Library at Bloomsbury, the latter containing over 2,000,000 vols. Since 1859, Free Libraries have been established in all the chief cities and towns of the kingdom, and Mr. Andrew Carnegie has devoted several millions sterling to the building and endowment of such institutions in America and the United Kingdom.

Library of the India Office. This interesting library contains some 12,000 manuscripts, including over a thousand volumes of Arabic documents in a general collection, and nearly 3,000 taken from the Mogul archives upon the fall of Delhi, when some 2,600 Persian manuscripts were also taken. There are 3,000 Persian manuscripts in a general collection. The library also comprises Pali, Burmese, Singhalese, Malay, and Javanese paper and palm-leaf writings, and 336 volumes of Tibetan and 921 volumes of Chinese block prints, besides many miscellaneous documents collected by Hodson and Wilson, and some 880 volumes of English and European manuscripts of historical value, severally collected by Orme, Mackenzie, Elliott, Buchanan-Hamilton, Wilks and others. The other department of the library—that of printed books—has two divisions, the "Red" or Oriental side, comprising some 14,000 volumes in Eastern languages or translations therefrom, and the "Blue" or European side, which contains no fewer than 42,000 volumes. Every facility is given to reputable literary workers to refer to or take away on loan any books or manuscripts.

Libration, an astronomical term referring to an apparent irregularity in the moon's course, which may be due to irregularity in longitude or diurnal, and due to a variety of causes.

Libyan, a group of languages spoken by tribes inhabiting the mountain districts of Barbary.

License, special permission to do or sell certain specified things, usually such as are liable to excise duty. Licenses are required for keeping carriages, dogs, for shooting game, for hawking and peddling, for selling beer, ale, wines and spirits, tobacco, patent medicines, etc. Excise duties in the United Kingdom produce over thirty millions sterling.

Lictor, a public functionary of ancient Rome whose duty was to carry out the orders of the magistrates, punish offenders, and attend upon his superiors on all public occasions.

Lien, the right by which a person holding personal property of another can retain possession of it until some claim that he has against the owner is satisfied.

Lieutenant, a title implying the holding of an office under or for a superior. Thus, a Lieutenant-General is next under the full General, and takes his place in his absence, and so also with regard to Lieutenant-Colonels. When the title is held alone it ranks in the army next to the Captain, and in the navy next to a Commander.

Life-Boat was invented in 1785 by Lionel Lukin, and in 1790 a greatly improved boat was introduced by Henry Greathed, who received a parliamentary grant of £1,200 for his invention. Later boats are a great advance upon Greathed's. The Royal National Lifeboat Institution, founded in 1824, has the lifeboat service of the United Kingdom under its control. Over 47,000 lives have since been saved by the lifeboat service and considerably over a quarter of a million sterling has been paid in pecuniary rewards. Two hundred and eighty-three lifeboats are maintained at the expense of the institution.

Life-Guards (see **Guards**).

Light has a velocity of 186,000 miles a second, eight minutes suffering for light to travel from the sun to the earth, a distance of 99,790,000 miles.

Lighthouses to warn ships of dangerous places and indicate coasts, points, harbours, etc., have existed since the building of the first Pharos at Alexandria, 85 B.C. In early lighthouses the lights were simple fires. A coal fire light was shown at Tynemouth Castle Lighthouse in 1638. There was no great advance made in lighthouse building until the first Eddystone erection was put up in 1759-60 (see **Eddystone**). The whole problem of lighthouse building and lighting, invested though it has been with tremendous difficulties, may be said to have been mastered within the last century; not only are the present structures impregnable to storm and tempest but the light that they are supplied with is a thousand times more brilliant than under the older systems. The introduction of parabolic mirrors was a great improvement, providing a reflecting medium that carried to a great distance. Further improvements were made by Fresnel, Stevenson, and others, and now the electric light has been adopted to a large extent with ample success. The whole of the lighthouses of England are under the control of Trinity House; Commissioners of Northern Lighthouses control those of Scotland; and the Irish lighthouses are controlled by the Dublin Ballast Board.

Lightning is an electric discharge from the clouds, and is usually *forked or sheet*. The former is the more dangerous.

Lightning Conductor, a metal rod, the upper part of which is of copper with a conical point, the lower portion being iron, which extends into the earth. Its effect is to gather to itself the surrounding electricity and discharge it into the earth, thus preventing its falling upon the protected building. In ships, lightning conductors are fixed to the masts and carried down through the ship's keel-sheathing.

Lignin, a substance found in the cell walls of plants, and present in all woody fibres.

Lignite, an intermediate substance between peat and coal; it is, in fact, undeveloped coal, and known as brown coal.

Liliputian Armies.—The smallest army in the world is that of Monaco, with 25 guards, 25 carabineers, and 20 framen. Next comes that of Luxembourg, with 135 gendarmes, 170 volunteers, and 60 musicians. In case of war, says the law, "the number of volunteers may be temporarily raised to 250." In the Republic of San Marino they have universal compulsory service, with the result that they can put in the field nine companies, comprising 950 men and 38 officers, commanded by a marshal. This, however, is the war strength of the forces. On a peace footing the Republic can only put one company of 50 men on the parade-ground. In the case of the Republic of Liberia, the most striking feature is the proportion of officers to privates. There are 800 of the former and only 700 of the latter. None the less, the Republic issues proclamations of neutrality when wars break out between the great Powers of Europe.

Limburger, a specially strong kind of cheese made at Limburg, a province partly in Holland and partly in Belgium.

Lime, an alkaline earth obtained from kiln-heated limestone, and used in making mortars and cements, also as manure for difficult soils, and in tanning.

Limelight is produced by directing an oxy-hydrogen flame upon a piece of quick-lime, which reflects a brilliant white light. This stream of light gathered

in a lantern is used for illuminating objects—on the theatre stage, for instance—with an intense brilliancy, and for signalling and other purposes.

Limestone is carbonate of calcium. It is found in every geological formation, and is highly fossiliferous. Marble is limestone of a specially hard kind.

Limpet, a well-known marine mollusc with a single-valved shell, generally found sticking close to seawashed rocks.

Linen, a textile fabric manufactured from flax fibre, known to the ancient Egyptians, and first manufactured in England under Henry III by Flemish weavers. The chief seat of the manufacture is the North of Ireland, with Belfast as the centre. Dundee and Leeds are also large linen-producing towns.

Ling, a sea-fish common on the coasts of Britain, and abounding in more northern waters. It averages from 3 to 4 feet in length, and is a voracious feeder, living chiefly on small fish.

Linsed, the seed of the flax plant, containing, apart from its fibrous substance, certain oil and nitrogenous matter of considerable commercial value. This yields linseed oil, and what is left is converted into cattle food.

Lion, the chief representative of the Felidae and Carnivora, now chiefly found on the African continent, though at one time it must have roamed over Europe, fossil lions having been discovered in Britain. Its large square head, its flowing mane (in the males only), and its tufted tail distinguish it from other animals.

Lion and Unicorn, the supporting figures of the royal arms of Great Britain, date from the union of Scotland with England at the accession of James I (James VI of Scotland), the lion representing England, and the unicorn Scotland.

Liqueurs are essences combined with alcoholic liquid, and are of many kinds, named according to their flavourings or place of production, and include Maraschino, Chartreuse, Curacao, Benedictine, Noyau, Kummel, etc.

Liquid, the name popularly given to any flowing substance. The line of demarcation between the most flexible solid and the thickest liquid is almost imperceptible. All liquids are composed of molecules or particles.

Liquorice, a juicy substance obtained from the root of the *Glycyrrhiza glabra*, and used in the making of sweetmeats, and as a throat remedy. Pontefract is the chief seat of the trade in England, what are called Pontefract (or Pouffret) cakes being made from liquorice.

Lira, an Italian silver coin, equal to 100 *centesimi*, and worth in exchange about 83d. English.

Litanies were first used in church processions in the 5th century. The first English litany was commanded to be recited in the Reformed churches by Henry VIII in 1534.

Lithium, obtained from an alkaline substance named lithia, was discovered in 1817 by a Swede, Mr. Arfwedson, and is the lightest metal known. It resembles potassium in its chemical composition.

Lithography, the art of writing on stone and printing therefrom, was discovered by Alois Senefelder about 1799, and was introduced into England a few years later. Many improvements in the art have been made in recent years, especially in chromo-lithography.

Lithoscope, an instrument invented by Sir David Brewster in 1864 for distinguishing precious stones.

Litmus, a special kind of colouring matter produced from certain lichens by fermentation and ammoniacal treatment. The resulting colour is violet, which can be converted into various blues and reds. It is turned red by acids and blue by alkalis.

Litre, a French measure both for liquids and dry articles. In the former measure it is equal to 1.76 imperial pints; in the latter to a cubic decimetre.

Liturgy, the name given to the Church ritual, though strictly applying only to the portion used in the celebration of the Eucharist. The present English liturgy dates from 1547-8, when it received the approval of Parliament.

Livre, an old French coin, the equivalent of the present franc. Not current since the 17th century.

Lizard, the name given to a diversified family or reptiles, of which there are about 2,600 species. (See the different class names.)

Llama, a South American ruminant animal nearly allied to the alpaca, and of the same structure as the camel, except for the hump. It is domesticated and utilised as a beast of burden, as well as for its wool, though the latter is not so long as that of the alpaca.

Loach, a fresh-water fish, a common habitant of British rivers and streams. It has several barbels around its mouth, and is of a darkish-green colour on the back, with darker stripes and spots.

Lodestone, an oxide of iron, is found chiefly in Sweden and Norway. Its scientific name is magnetite. It has the power of attracting pieces of iron and possesses polarity.

Loom, soil composed of clay and sand in such proportions as to keep the ground porous.

Lobsters are marine crustacean animals existing in enormous numbers in the northern seas of Europe and America, and in fair proportion on some parts of the British coasts, especially in the neighbourhood of the Channel Islands. A lobster would seem to be overburdened with legs, claws, and other appendages, having no fewer than 30 pairs altogether, but with a use for them all.

Local Government Board, a department instituted by Act of Parliament in 1871 to supervise local authorities and safeguard the public health.

Local Option, a proposal which has several times been before Parliament, but has always been rejected, for giving a majority—usually placed at two-thirds—of the ratepayers of a parish power to prohibit the sale of intoxicants in that parish. The principle is in force in some parts of the United States.

Locust, an insect of the grasshopper family, but much more powerful. They are inhabitants of hot countries, and often make their appearance in untold millions, like clouds, devastating all the vegetation that comes within their course. Some species exist in Britain, but they are small and not very troublesome. The locust-tree (*Ceratonia siligua*) is supposed to have furnished food to St. John the Baptist in the wilderness, and its "beans" have accordingly been styled "St. John's Bread."

Log, a line used for reckoning the speed at which a ship is travelling. It was first used in the 16th century. The line is divided into spaces of 50 feet marked off by knots and measured by a half-minute sand glass, bearing the same proportion to an hour as 50 feet bear to a mile.

Logarithms, a system of calculation invented by Baron Napier in 1614, and developed by Henry Briggs a few years later. It may be briefly described as "the indexes of the ratio of numbers one to another," and represents a great saving of time.

Logic, the science of reasoning, setting forth the principles on which argument can be most effectively conducted and forming conclusions deduced. Aristotle, Bacon, Locke, Whately, Sir William Hamilton, John Stuart Mill, and Herbert Spencer have all been expounders of logic; Earl Stanhope invented a logical machine in the latter part of the 18th century.

Logogram, a phonogram or sign, briefly representing a syllable, word, or phrase; logographic printing was introduced in 1783 by Henry Johnson and Mr. Walker of *The Times*.

Logwood, a family dye-wood, obtained from a tree abundant in the West Indies and some parts of South America. It is red in colour, and is used for producing a variety of shades, from red to black.

Lollards were a body of Reformers who, under the leadership of Wyclif, were subjected to cruel persecution in the reign of Richard II. Sir John Oldcastle was a prominent Lollard, and was burned at the stake.

Lombards, the name given to a community of Italian merchants who settled in England in the 13th century and first became prominent as money-lenders and later as bankers. Lombard Street derives its name from them.

Lombardy Poplar, the common name of the graceful *Populus fastigiata*.

London Clay, a peculiar formation which crops up in various parts of London, notably at Highgate, and is rich in fossils of many kinds—birds, quadrupeds, reptiles, fruits, and fish, indicating a much warmer climate when they flourished than exists to-day.

Londonerry Siege, of by James II's army, began on the 20th April, 1689, and lasted until the 30th July. The garrison and inhabitants were driven to famine, but held on until the siege was raised, and James retired with the loss of 9,000 men.

London Land Values. The price of land in London has increased by leaps and bounds of late years. In the suburbs in recent times land in Fitzjohn's Avenue, Hampstead, realised £9,600 an acre, the agricultural value of which would probably not exceed £50 an acre, the balance of £9,550 representing the unearned increment. The highest prices for the freehold of sites are in the centre of the City, in the neighbourhood of the Bank of England, a price at the rate of over £3,250,000 an acre being attained; that is, £75 per square foot, or more than 10s. per square inch. From the centre the price diminishes, rising again in the Strand to from £12 to £20 a square foot, or from £50,000 to £80,000 per acre. In Bond Street £35 per square foot, or more than £1,500,000 per acre has been reached.

London Museum, estab. at Kensington Palace in 1872 for the conservation of antiquities and other objects relating to London. Transferred to Stafford House (now Lancaster House), the lease of which was presented to the nation by Sir W. H. Lever. The museum was opened by the King in 1914.

Longicornia, a family of large horned beetles found only in warm countries, remarkable for their wood-boring capacity when in the larval state.

Longitude, the distance of any place east or west of the first meridian, which in English maps passes through Greenwich. In French maps the first meridian passes through Paris, in German maps Berlin, in American maps Washington.

Looshals, a nomadic East Indian tribe which still lingers around the tea plantations east of Calcutta, and was guilty of many serious outrages until a punitive expedition was sent out in 1871.

Lord, a title of honour held by such as are peers of the realm, and bestowed on persons who have achieved distinction, or inherited by descent. It is also borne as a courtesy title by the eldest sons of dukes, marquises, and earls, and by the younger sons of dukes and marquises.

Lords, House of, comprises the Lords Spiritual and Temporal, that is, the Archbishops and Bishops, and all the adult Temporal peers from the rank of baron upwards, of Great Britain, as also the Scottish and Irish representative peers.

Loris, a genus of small Lemurs found only in Ceylon, Madras, and Malabar, and comprising now but one surviving species.

Lory, a handsome family of parrots with deep scarlet plumage, green wings, rufous nape, head, and yellow breast line. They belong to the Malay Archipelago and live mainly on fruit juices.

Louis d'Or, a French gold coin of the value of 24 francs, first issued by Louis XIII. in 1640, but superseded by the Napoleon, or 25-franc piece.

Louse, a parasitic wingless insect of the Anoplura order, genus *Pediculus*, exceedingly prolific, and constituting a distressing pest to mammals and birds infested by them. Plant lice are aptids.

Louvre, one of the old royal palaces of Paris, was built in its present form partly by Francis I. and added to by later monarchs, Louis XIV. completing the edifice. Napoleon I. turned it into a museum and enriched it with the plunder of many foreign art galleries. Much injury was done to the building by the Communists in 1871. The great extension to the Louvre building begun by Napoleon I. was completed under Napoleon III. in 1877. "La Gioconda," Leonardo da Vinci's masterpiece, disappeared from the Louvre Gallery in Aug., 1911.

Love Birds are small parrots, mainly of a delicate green plumage with pink, red, and black markings at the neck, belonging to the genus *Agapornis*, and indigenous to Melanesia and the Australian provinces.

Loyalty Loans were emergency loans raised by direct appeal to public patriotism. In 1906 such a loan was asked for by the British Government, and within 12 hours £28,000,000 was subscribed.

Lucifer Matches—that is, matches tipped with an explosive substance that bursts into flame on being struck—were first used about 1834. Many improvements have been made in matches since then, the most important of which was the invention of the safety match, striking on the box only.

Luddites, a secret association of working people formed in 1811, at a period of great distress, with the object of destroying the new textile machinery then being largely adopted, which they regarded as the cause of their troubles. Their first outbreak was at Nottingham, and was stated to have been started by an imbecile named Ned Ludd. Afterwards, serious Luddite riots occurred in various parts of the country, especially in the West Riding of Yorkshire, where many people were killed, mills were destroyed, and numbers of rioters were tried and executed. Charlotte Brontë in her novel, *Shirley*, makes effective use of this period.

Ludlow Formation, a geological term designating the upper division of the Silurian group, which consists of sandstone, grit, limestone and shale, deriving its name from the fact that Ludlow is built on these beds.

Lugworm, a species of worm living on the sea-shores and burrowing in tunnels which it makes in the sand. It is much used for bait by fishermen.

Lumpfish, a carnivorous sea-fish which attaches itself to rocks and other firm substances, and lives on small fish and marine worms. It is mainly an inhabitant of northern seas, and has three species, one of which is found on our own coasts.

Lunar Caustic, or nitrate of silver, is obtained by dissolving silver in diluted nitric acid.

Lunar Month, the period in which the moon makes its revolution around the earth—about 29½ days.

Lupericalia, yearly festivals held in ancient Rome in honour of Pan.

Lupinus, a genus of papilionaceous plants, common in the north temperate zone of both hemispheres, and so-called because the roots penetrate the soil with wolfish eagerness and exhausting effect.

Lupus, the constellation of the Wolf in the southern heavens, at the east side of the Centaur. It contains no star of more than the third magnitude. Lupus in pathology designates a spreading tuberculous inflammation of the skin, to the alleviation of which the "light cure" has latterly been directed.

Lurcher, a domestic dog formed by interbreeding between the greyhound, the sheep-dog, and the spaniel, and a silent pursuer of hares and rabbits.

Lusitad, a famous Portuguese epic poem by Camoens, celebrating the establishment of Portuguese sway in India; first published in 1571.

Lustrum, a sacrificial celebration occurring every five years in ancient Rome after the taking of the census. From this each period of five years was called a lustrum.

Lute, an ancient stringed instrument, introduced into Europe in the 6th century, and at one time popular, but now superseded by more elaborate instruments.

Lusonite, a massive mineral, black, brittle, and metallic of lustre, largely composed of copper and sulphur, and closely related to enargite; found near Luzon in the Philippines.

Lydian Stone, a dark coloured rock composed of quartz mixed with oxide of iron and clay, and often used as a touchstone for testing gold alloys.

Lye, the chemical term for a solution of an alkali, used in making soaps and for various other purposes.

Lynch Law is the dealing out of summary punishment on offenders by private individuals without appeal to the law. It gets its name from one Charles Lynch, a Virginian planter, who in the latter part of the 18th century was accustomed to take into his own hands the punishment of offenders. Instances of lynch-law are still frequent in the United States, and generally result in the carrying out of a rough and ready death sentence, negroes being mostly the victims.

Lynx, a carnivorous mammal of sturdy build, with tufted ears and spotted fur, inhabiting many parts of the world, including Northern and Central Europe. It commits serious ravages among sheep and goats, and is very fierce.

Lyon King of Arms, the President of the Scottish Lyon Court, and head of the heraldic organisation for Scotland.

Lyra, the constellation of the Harp, situated between Hercules and Cygnus, comprising twenty visible stars, the principal of which is Vega, one of the most brilliant of all the stars.

Lyre, an upright stringed instrument held in the hand, and famous in ancient Greece and Rome.

Lyre-Bird, a remarkable genus of Australian birds, the males of which possess a beautiful lyre-shaped tail. The bird is not more than 15 inches long, but its tail, which it carries erect, is 23 inches in length.

Lytta, a genus of beetles, found in Southern Europe and Asia, of the sub-tribe *Trachetia*; the most familiar example is *L. vesicatoria* commonly called the "Blister-fly."

M

Macao, Buffon's name for the Ring-tailed, or cat-like lemur, indigenous to Madagascar.

Macadamising, the system of road-making invented by John Macadam in 1819. The road bed is laid with hard broken stones, of a nearly uniform size, which by the weight of the traffic alone soon assume firmness. Nearly all the main country roads are macadamised.

Macaque Monkey, a long-tailed, large-shouldered, olive-brown, black-spotted genus of the Catarrhine monkey, common in the Malay Archipelago.

Maaroni, a name applied to a class of society fops whose extravagant dress and manners were much ridiculed in the 18th century.

Macaw, a genus of large parrots with brilliant scarlet and sky-blue plumage, with interminglings of green. Native to South America and Cuba.

Maccabees, a patriotic Jewish family whose achievements in early history were very notable. The revolt of the Maccabees in the 2nd century B.C., in which Judas captured Jerusalem and purified the Temple, is the most famous exploit connected with this historic name.

Mace, an ensign of authority borne before officers of state and other dignitaries. The more particular maces of the present day are those of the Lord Chancellor, the Speaker of the House of Commons, the Lord Mayor of London, and other mayors. In ancient times there was a cavalry weapon consisting of a spike-club which was called a mace. The mace is still retained amongst the Turkish irregular cavalry. The mace-bearer is the functionary who carries on ceremonious occasions the symbol of authority before judges and civic or state officials.

Macedonians, a sect formed by Macedonius, bishop of Constantinople, in the 4th century, who denied the existence of the Holy Ghost. The Papal Council expelled the bishop and his followers from the Church in 350.

Machine Organs, defined in the 10th book of *Vitruvius* as "contrivances for the concentration and application of force," and known by the names of instruments, engines, and machines.

Machine Guns are modern weapons of war of a quick-firing and highly destructive capacity. They are of two classes—those firing small-arm ammunition, and those firing shot and shell. Some of these guns have a firing power of over 1,000 shots a minute. The best-known guns of this class are the Maxim, the Gatling, the Gardner, the Hotchkiss, the Nordenfeldt, the Krupp, and the Ehrhardt.

Mackerel, a familiar sea fish existing in large numbers in the northern waters of both hemispheres. In May and June immense shoals are to be found round the British coasts. It is a popular food fish, with beautiful markings.

Macræ, a genus of molluscs of extensive distribution, found in considerable numbers in British

waters, especially in Scotland. The shell valves are of equal size and triangular shape.

Madder, until a few years ago one of the most important of dye-stuffs, largely used in producing Turkey-red dyes, but now superseded by artificially prepared alizarin. Natural madder is the root of the *Rubia tinctorum*.

Mad Parliament, held in 1258 at Oxford when the barons compelled Henry III to appoint a council pledged to carry out certain reforms.

Madrepore, a white coral-like substance consisting of carbonate of lime, formed by the gradual growth of polyp deposits, and abounding in tropical seas.

Madrier, a term in military engineering denoting beam laid in a ditch to support a wall, or in a mine to hold up the sides or roof; also an armoured plank affording protection against hostile fire, or fitted to receive the mouth of a petard in attacks upon obstacles.

Madrigal, a style of unaccompanied musical composition for three or more voices, originally introduced in the Netherlands, and developed in Italy, in the 13th century. Many old English composers achieved great success as madrigal writers, and numerous Madrigal Societies are still in existence.

Madwort, a common name of the botanical genus *plavum*.

Maelstrom, a great whirlpool. The most famous is 'off the coast of Norway, between the islands of Moskenes and Mosken, of the Loloten group, the power of which has been much exaggerated, it being only dangerous at certain seasons.

Maastricht Beds, a dense calcareous formation in the upper division of the *cretaceous* group of rocks existing in the Mastricht region of Holland; containing fossils furnishing the connecting link between the Secondary and Tertiary systems.

Mafia, a secret Sicilian society formed for purposes of vengeance, private and public, prominent about 1860, and responsible for many crimes.

Magenta, an aniline dye discovered in 1859 by Sir V. H. Perkin, and named after the great battle of that year between the French and Austrians.

Maggot, the larva of an insect, a term usually applied to that of the common fly, which feeds upon putrid matters, animal and vegetable.

Magi, priests of the Persian fire-worshippers, who exercised great influence in early times in the East. Their sacred fires blazed in the open air, and around them they performed their mystic rites. Zoroaster, their great reformer, flourished about 550 B.C. In the following century their religion was superseded by Mahomedanism, and the only representatives of the old worship now left are the Parsees of India.

Magio, a term applied to the pretended art of influencing supernatural things. Such an art was seriously believed in by the people of medieval times, and still obtains among certain uncivilised races. Professors of magic in olden times worked their wonders according to certain elaborate systems, and, by the air of mystery with which they surrounded themselves and their operations, contrived to impress the credulous. Magic took various forms—the cure of disease, predictions, and the gratification of personal desires. Thus, there was *black magic*, which communed with evil spirits; *white magic*, dealing with good spirits; and *natural magic*, the science of the occult; while *astrology* and *alchemy* were the advanced outcome of these superstitions. In more recent times there have been many professors of magical powers, but since the days of Cagliostro these things have been classed with charlatanism and legerdemain, and even the palmist finds himself under the ban of the law to-day.

Magic Lantern, an apparatus for throwing pictures or images on a screen, invented by Kircher in the 17th century, and consisting of a lantern, behind the light of which is a reflector, while in front is a tube carrying a condensing lens, this being supplemented by a double convex lens which enlarges the object to be shown. Many improvements in magic lanterns have been made in recent years, by which dissolving

views can be shown and photographs reproduced. The kine-matograph (otherwise cinematograph or bioscope) is perhaps the most marvellous use to which the magic lantern has been put.

Magilus, a gastropod which has a spiral shell when young, but gradually develops from the shell a tube of bent form with an opening at the bottom, older portions of the shell cavity becoming filled with a coral growth as the tube expands. Found on the coasts of the Red Sea, Java, and Mauritius.

Magistrate, a word describing a high executive officer, and of wide application. The first magistrate of a kingdom is the king, of a republic the president. In the more general meaning, a magistrate is a justice of the peace for a county or borough. Stipendiary magistrates exist in the various metropolitan districts and in the chief boroughs who are barristers of standing and devote their entire attention to the arduous duties of their position.

Magna Charta was sealed by King John at Runnymede on the 15th June, 1215, in obedience to the insistent demands of the barons, and has since been confirmed over 30 times by later monarchs. Its main provisions were that no free man should be imprisoned or proceeded against except by the judgment of his peers in accordance with the law of the land; that there should be one system of weight, and measure, throughout the kingdom; that foreign merchants should have freedom of commerce; that no scutage or aid should be imposed except by consent of the council; and that ancient liberties generally should be preserved. The original Charter is lost, but a manuscript copy exists at Lincoln.

Magna Græcia were independent States established by Greek colonists in South Italy between 704 and 774 B.C. They included Syracuse, Leontini, and Thurium. They allied themselves with Hannibal when he invaded Italy, and B.C., and his defeat involved their collapse as free States.

Magnesia came into use as a medicine early in the 18th century. It is the oxide of the metal magnesium, and is in the form of a white powder.

Magnesium, a metallic element first found at Magnesia in Asia Minor, and as a constituent of dolomite and other mineral substances has a very wide distribution. It is obtained by heating, and gives forth a brilliant white flame when heated to the proper point. The magnesium light is so rich in chemical rays that it is frequently used in photographing objects by night, or in caverns or other dark places where photography would otherwise be unpracticable. Magnesium lamps have been utilised for lighting up tunnels during construction.

Magnetism, the quality of attraction possessed by the lodestone or magnet-stone, was known to the ancient Greeks, Chinese, and Arabians. Roger Bacon knew of its attraction to the north, and it was this property that led to the invention of the magnetic needle, and of the mariner's compass.

Magnets are usually magnetised bars of steel. One of a single bar is called a simple magnet; several bars fastened together furnish a compound magnet. Electro magnets are wonderfully powerful, some being capable of sustaining weights of over a ton.

Magnificat, the hymn of the Virgin Mary, given in Luke i. 46, beginning in the Vulgate with the words "Magnificat anima mea Dominum" (My soul doth magnify the Lord), and used in the services of all Christian Churches.

Magnolia, the type of the botanical tribe *Magnoliceæ*, comprising many beautiful trees and shrubs with large and fragrant flowers, and chiefly native to North America and Asia.

Magpie, a well-known bird of the crow family, of glossy black and white plumage, famed for its mischievous propensities.

Magyars, the dominant Hungarian race, of the Mongolian stock, settled in Hungary from the 10th century.

Mahdi, an Arab leader of great influence, invested with powers akin to those of a Messiah in the Mahometan religion. Several individuals, claiming to be the Mahdi, have given trouble in the Sudan, but British military organisation has proved too much for them in the end.

Mahogany, a fine hard wood susceptible of a very high polish, and distinguished for the beauty of its colour and markings. The tree which produces this wood (the *Swietenia mahogany*) is a native of the West Indies and tropical America. Mahogany is said to have been first brought to England by Raleigh in 1595.

Mahomedanism, the religion set forth by Mahomet and embodied in the Koran (q.v.). Briefly, the doctrine includes the unity of God, the immortality of the soul, predestination, a last judgment, and a sensual paradise. The faithful are enjoined to practise circumcision, prayer, alms and fasting, great latitude being given, however, as to the marriage bond, polygamy and concubinage receiving sanction. There are over 150,000,000 Mahomedans in Europe, Asia and Africa.

Mahrattas, a warlike people strongly opposed to the East India Company in the 18th and early part of the 19th centuries, but finally subdued in 1818.

Maid of Honour.—Queen Victoria had eight Maids of Honour, who succeeded each other in pairs with unvarying regularity. Their duties were to read the newspapers aloud to the Queen, drive out of an afternoon, and play to her in the evenings. The salary attached to the office was £300 a year, of which was required for her toilet and for Her Majesty, although she encouraged simplicity of attire in her ladies, had a curious objection to their appearing often in the same dress. Each received a dowry of £1,000 on her marriage. The departing Maid also carried away her badge of office, a brooch consisting of a miniature of her Royal mistress set in diamonds. During the sixty-three years of Queen Victoria's reign only thirty-nine Maids of Honour were appointed. Of these, nineteen married while in office. Queen Alexandra was much less exacting than Queen Victoria was in regard to the attendance of Maids of Honour.

Malgre, a sea fish of the Scianidae genus, mostly inhabiting the Mediterranean, though occasionally met with in British waters. It is a large fish, and makes a buzzing sound as it swims.

Mail-Coaches, which are usually regarded as things of a very distant past, did not come into existence till 1784, when Mr. John Palmer, of Bath, put the first mail-coach on the road between Bath and Bristol. They were soon afterwards adopted in other parts of the kingdom, and were employed in carrying the mails, until superseded, in great part, by railways.

Maintenance, a legal term signifying the interference in a suit by some one having no direct interest in it, and constituting a punishable offence.

Malze, an important cereal largely grown in South-eastern Europe and America, commonly known as Indian corn in the latter country.

Majolica, a kind of pottery carrying a highly coloured glass or enamel, supposed to have been introduced into Europe by the Moors from Majorca in the 15th century, and brought to a high degree of artistic beauty in those days, Raphael and other great artists having made designs for the ware. After the 18th century majolica production practically ceased, though in recent times some clever imitations of the old ware have been manufactured.

Major, in the British Army, ranks next below a Lieutenant-Colonel. A Major-General ranks beneath a Lieutenant-General.

Malachite, a green variety of copper ore, abounding in Australia, Russia, and South America, and, in its finer examples, can be worked up as a gem.

Malays, a race of people with oblique eyes, high cheek bones, and brown skin, whose native countries are the Malay Archipelago, Polynesia, the Philippines, and Madagascar.

Malic Acid, a substance obtained from unripe fruit, and present in the largest quantities in rhubarb and mountain-ash berries; it is used with bases for producing the salts called *malates*.

Malmesbury derives its name from having been inhabited in the 17th century by the Norman brigand Odon, and afterwards, according to the tradition, by evil spirits, exorcised by the monks of St. Denis. Little was known of it, however, until its purchase,

for 160,000 fr., by the Empress Josephine, who died there in 1814 as the result of a chill caught while showing the Russian Emperor round the grounds. After the Second Restoration, Prince Eugene sold Malmesbury, removing its gallery of pictures to Munich. In later years it has for some time the residence of ex-Queen Christina of Spain. It is now converted into a museum.

Malmsey, a favourite wine originally made at the Greek port of Malvasia, but now made chiefly in Madeira, Sardinia, and Sicily.

Malt is barley grain which has gone through a steeping and preparing process to render it suitable for brewing purposes. It was for a couple of centuries subjected to a fluctuating duty, producing in 1853 a sum of £5,773,727. The tax was abolished in 1880.

Malta, Order of, was founded in the time of the Crusades, and the chief function of its members was to protect the Christians in the East against the Infidels. Their seat was originally at Jerusalem, whence they retired successively to Saint Jean D'Acre, to Rhodes, and to Cyprus, pursued everywhere by the rising tide of Mahomedanism. Finally they settled at Malta, which the Emperor, King Charles V., ceded to them; and there they continued for three centuries until Napoleon, on his way to Egypt, dispersed them. The Emperor Paul of Russia then protected them; but the office of Grand Master was in abeyance until 1870. The Austrian Baron Hardegg succeeded to that office in 1905.

Maltese Dog, one of the smallest of dogs, with long, silky white hair and pendulous ears; much appreciated as a drawing-room pet.

Manelukes were originally—in the 13th century—a bodyguard of Turkish and Circassian slaves in the service of the Sultan of Egypt, and attained such influence that in 1390 they were strong enough to appoint one of their own body to the throne of Egypt. After that a succession of Maneluke Sultans reigned down to 1517. Then the Turks annexed Egypt, and the Manelukes were taken into the service of the Boys. They again came to the front after Napoleon's conquest of Egypt, and for a time resumed governmental sway; but in 1817 they were decoyed into the citadel of Cairo and massacred by order of Mehemet Ali.

Mammalia, a zoological term covering all that portion of the animal kingdom the females of which are provided with mammary glands, for suckling their young. A further characteristic is the double articulation of the skull with the vertebral column.

Mammoth, an extinct species of elephant of gigantic size. In 1799 an entire skeleton of the animal was found in Siberia in a block of ice. It was evidently an inhabitant of Britain and other parts of Europe as well as of Asia and America.

Mammoth Cave of Kentucky, about 10 miles long, is one of a series of spacious caverns formed in the limestone rock formation, and is from 40 to 300 feet wide and at one point 300 feet high. Stalactites and stalagmites abound. See "Caves."

Mammoth Tree of California, the giant of the famous coniferous grove at Calaveras, 377 feet high by 90 feet in circumference, and believed to be from 3,000 to 4,000 years old.

Manatee, an aquatic mammal of the *Manatus* genus, averaging length, when full grown from 10 to 12 feet in length, with shovel-shaped tail, and four limbs and nails which almost give the appearance of arms and hands. In spite of their ungainly aspect, these creatures are believed to have given rise to the idea of mermaids in the olden time.

Manchus, the original nomadic race inhabiting Manchuria; of the Mongolian stock, and chiefly engaged in cattle rearing. The ruling family of China are of Manchurian descent.

Mandamus, a writ of command from a superior to an inferior court, enjoining the performance of a particular act.

Mandarin, the name given to a powerful Chinese official, civil or military, whose rank is shown by the wearing of a button. In Chinese the name is Kwan.

Mandible, the inferior maxilla (in the lower jaw) in human anatomy; the upper and lower rostra of the beak in birds; and the upper and outer pair of jaws in insects.

Mandilion, a form of upper garment worn by soldiers and servants in the 17th century, confined mostly to France.

Mandoline, an Italian fretted guitar, so called from its almost conformation.

Manes, the ancient Roman name for the shades of the dead, who were regarded as tutelary divinities, and worshipped.

Manganese, formerly included among the ores of iron. Its distinctive character was established in the 18th century. It is hard and brittle, and oxidises rapidly when exposed to the air. It is found in combination in many minerals. As a commercial product, in its numerous oxides, it is of great value.

Manicheans, a sect founded by the philosopher Manes in Persia about 201 A.D., and spreading into Egypt and Arabia. Manes called himself "the Envoy of Christ," rejecting the Old Testament, and propounding a system of his own based partly on Christianity and partly on the dogmas of the ancient fire-worshippers.

Manikin, a dwarf or pigmy; an artificial figure employed in anatomical demonstrations, made sometimes of papier-mâché.

Manna, a tree of the ash genus growing in the South of Europe and in the East, and exuding a sweet substance which is gathered by nitties, cleaned, boiled, and eaten.

Manors, which were established in Anglo-Saxon times, were estates originally granted as rewards for knight service, and included the privilege of a special court with jurisdiction, criminal and civil, within the lord's territory. In recent times the ancient privileges of the manorial system have almost passed out of existence. Such copyhold property as is yet unincorporated is generally set forth as being held by the tenant "at the will of the lord according to the custom of the manor."

Mansfield College, Oxford, for the education of students for the Nonconformist ministry, was established in 1846, and opened in 1849.

Mansion House, the official residence of the Lord Mayor of London, stands on the site of the ancient Stocks market, and was erected in 1739-53 from the designs of George Dance.

Manlaughter is the unlawful killing of another without malice or premeditation, and is classed as voluntary, as when done under a sudden provocation, or involuntary, when it is the result of some unlawful act. Culpable homicide also comes within the term of manslaughter.

Manures are natural or chemical substances put upon land in order to aid cultivation. Natural manures comprise what is generally known as farmyard manure, sewage, leaves, &c., and chemical manures include bones, nitrate of sodium, guano, soap, lime, and other kindred matters.

Manx, the original Celtic inhabitants of the Isle of Man, where a Celtic dialect still lingers.

Maoris, one of the native races of New Zealand, but not in the strict sense of the word Aborigines, having migrated to the island originally from one of the Polynesian group. They number about 50,000, and are adapting themselves with considerable success to the conditions of civilised life. Until 1870 they were frequently in arms against the Government, but since then have accepted their position with loyalty.

Maple, a tree that is native to the northern hemisphere, and has at least fifty species. The sycamore and plane tree are the best known British varieties. The sugar maple abounds in Canada and the eastern parts of the United States. The maple-leaf is the Canadian national emblem.

Marabouts, a class of Berbers adopting a religious life, and regarded with much reverence by the people of North Africa.

Maraschino, a liqueur distilled from cherries, and mainly produced in Dalmatia and Corsica.

Marble is limestone in its hardest and most crystalline form. There are many varieties—33 were used in the building of the Paris Opera House—but white is

the purest and rarest. From about 500 B.C., white marble was used by the Grecian sculptors for their statues. Rome was rich in marble buildings and monuments, and Palmyra was mainly built of white marble. Devonshire and Derbyshire yield the best English marbles, and several localities in Ireland furnish particular kinds. Vermont, Massachusetts, and Tennessee are the chief marble-producing States of America. The American marbles are mostly light grey. The Marble Arch, at the northern entrance to Hyde Park, was originally built for the front of Buckingham Palace.

March, the third month of the year, and the first of the old Roman calendar. It was named after the god Mars, and was the *Hyd (storm) month* of the Anglo-Saxons.

Marché Gras, the last day of the Carnival in France, Shrove Tuesday.

Margarine, a butter substitute made from beef suet, vegetable oils, butter and milk.

Mariner's Compass. (See **Magnetism**.)

Marines, soldiers for sea service, were established in 1661, when 1,200 men were enlisted as the first marine regiment. By 1741 there were 10 marine regiments, of 1,000 men each. Over 3,000 British marines were engaged in the French wars of the early part of the 19th century. The present strength of the Royal Marines is about 6,000.

Mariolatry, a term applied by non-Catholics to the honour or worship (hyperdulia) of the Virgin Mary, begun in the 4th century, and still a prominent part of Roman Catholic religious observances.

Marionettes are puppets moved by strings and made to go through a fantaisie performance. They originated in the *Fantaria* of the 15th century, which had such vogue in Italy, and are still popular, being adopted in Germany and England later. The famous *Punch and Judy* is a native version of the Italian *Pinocchio*.

Mark, a modern silver German coin, about equal in value to an English shilling, and in former times the name of a variety of coins, including the Scotch coin of Charles II's time, worth 13s. 4d.

Marl, a rock composed partly of clay and partly of carbonate of lime. The upper division of the kauper formation is known as the Red Marl series. Marl is used for building, mortars, cements, and brick-making.

Marlin-spike, a small iron instrument used in rope spinning for separating the strands.

Marmonet, a very small kind of monkey confined to the New World. Very squirrel-like in appearance, with long bushy tail and thick woolly fur, they are pretty little animals and the smallest of all monkeys.

Maronites, a sect founded by a monk named John Maro in the 7th century, in Syria, and still existing in the Lebanon region. They differ from the Roman Catholics (to whose church they are allied and report themselves) in certain points of doctrine concerning Christ. In 1826 they suffered severe persecution at the hands of the Druses, some 1,300 being massacred and 100,000 driven from their homes.

Maroons, the name applied to a body of fugitive slaves which in the 18th century took up arms against the whites of Jamaica. For eight years they kept up a troublesome warfare, but surrendered in 1730, being permitted to retain their free settlements. There are also maroons in Dutch Guiana.

Mar-Frelate Tracts, seditious pamphlets written with great malice against about 1860, and intended to discredit the episcopacy, caused a great sensation in their time, and led to the execution of their supposed author, John Penny.

Marquetry, a kind of inlaying in which thin layers of coloured woods are wrought into a design, and mainly used in ornamental floors.

Marquis, the title next in precedence below that of a duke. The first English marquis was Robert de Vere, Earl of Oxford, who had the honour conferred upon him by Richard II in 1385.

Mars, the planet lying next after the earth in the order of distance from the sun, Mercury being first and Venus second. It is the planet that has been most closely studied because of its comparative nearness. It has two satellites.

Marseillaise, the French national hymn, written and composed by Rouget de L'Isle, a French engineer officer, who was inspired to write it in 1792 to encourage the Strasburg conscripts. It immediately became popular, and received its name from the fact that it was sung by the Marseillaise troops while marching into Paris.

Marshalsea Prison, a once well-known house of detention in Southwark. It stood near St. George's Church, and was originally a prison for royal servants convicted of offences, but from 1849 was for many years a debtors' prison. The description of it in Dickens's *Little Dorrit* is now its chief claim to remembrance.

Marsh Tortoise, an amphibious animal of the order Chelonida, spread over many countries and inhabiting ponds and small rivers. There are 42 species, and they are all carnivorous.

Marton Moor, near York, was the scene of the famous battle between Prince Rupert and his forces against Cromwell and his troops on July 2nd, 1645, resulting in a complete victory for Cromwell.

Marsupialia, animals—mainly Australasian—having a marsupium or pouch; the young are born of comparatively small size and imperfectly developed, but are transferred to the maternal pouch, which is usually furnished with a long lacteal nipple.

Martello Towers, circular forts erected on the coasts of England early in the 19th century as defences against foreign attacks, but now abandoned as insufficient in the changed conditions of modern warfare. The derivation of the name is uncertain.

Marten, a carnivorous animal of the weasel family, a variety of which was once common in Britain, but now seldom met with. It feeds on birds and small mammals, and is clothed with a handsome dark brown fur which is much valued.

Martial Law, which is sometimes instituted in a time of outbreak or rebellion, is often confounded with military law. The Duke of Wellington said that "martial law means no law at all, but the will of the general till the ordinary law can be either established or restored." Sir David Dundas described it as "the substitute for a civil jurisdiction for the moment during which the functions of the latter are paralysed." The district in which martial law is proclaimed comes entirely under the control of the military power both in civil and criminal matters.

Martin, a well-known bird-visitor to Britain. It belongs to the swallow family, and the two species that spend their summer here are the house-martin, which makes its nest of mud under the eaves of houses, and the sand-martin, which builds in sandy banks.

Martingale, a long strap or thong of leather, one end of which is fastened to the girth of a horse, between the fore legs, and the other to the bit, or to a thin mouthpiece of its own.

Martmas, or St. Martin's Day, falls on November 11th, and is one of the Scottish quarter days. St. Martin was a popular Saint with our ancestors, and Martmas was a busy time for the Mediaeval housewife. It was the date when "Martmas Beef" was dried in the chimney, and enough bacon and mutton cured to last until the spring, because, owing to the scarcity of winter fodder, fresh meat could seldom be obtained. This diet of dried meat without vegetables caused scurvy, King's evil, leprosy, and other unpleasant maladies. Originally the goose belonged to Martmas, not to Michaelmas, the legend being that when Martin was elected Bishop of Tours he hid himself, but was betrayed by the cackling of geese. He died in the 4th century.

Martyrs, in the Christian Church have been many. Stephen was the first Christian martyr in 30. The first English martyr was St. Alban, 286, and in Tudor times very many eminent churchmen went to the stake at West Smithfield, in London, and at Oxford, where now exists the "Martyrs' Memorial." There is also a Martyrs' Memorial Church in St. John St. Clerkenwell, but far away from the scene of the Smithfield fires.

Mason and Dixon's Line is the boundary line separating the old Slave States of America from the

Free State of Pennsylvania. It was drawn by two English surveyors, Charles Mason and Jeremiah Dixon, between 1763 and 1767.

Maquerades are balls or dances at which those who take part appear masked or in character. They were in vogue in the 17th century, and attained their height during the reign of Charles II. In 1724 they were abolished, but not for long, being renewed towards the end of the century at the various public gardens, with increased show, becoming again very fashionable. They have had a more continued popularity in France and Italy. Fancy dress balls have in recent years been given at the present Royal Opera, Covent Garden. The former building on this site was burned down after a masked ball given on March 5, 1866.

Maques were light dramatic compositions set to music and performed on special occasions. One of the best known examples is Milton's "Comus," which was given at Ludlow Castle in 1634.

Mass, the portion of service in the Roman Church consisting of the consecration and elevation of the Host. It is high or low, i.e., performed with full choral service, or merely by the rehearsal of prayers without singing. Mass was first celebrated in Latin in the 4th century, and was introduced into England in the 7th century.

Massorah, a collection of criticisms on the Hebrew text of the Scriptures, and rules for its correct interpretation.

Mast, a tall, round piece of timber, steel or iron, elevated vertically from the keel of a ship, and to which are attached the various parts constituting the rigging. The lower part of a mast, however, in the case of the larger ships, is only called the mast, the next higher section being the top-mast, while above that come the top-gallant-mast and the royal mast. There are also fore-masts, mizzen masts, and try-sail or spanker-masts, and jigger-masts.

Master of the Revels, was an important court officer in ancient times, for upon him devolved the arrangement of Court festivities. The last man to fill the office in England was Solomon Dayrolle.

Master of the Rolls, one of the English judges, formerly a judge of chancery, but since 1881 a judge of the Court of Appeal only. In addition to his judgeship he is the nominal custodian of the rolls or records preserved in the Record Office.

Mastic, a resinous substance obtained principally from the bark of a tree which flourishes in the Greek Archipelago, *Pistacia lentiscus*, and is mainly used in the manufacture of varnish.

Mastiff, a domestic dog said to be an original British breed. It is a large massive animal with pendulous ears, and makes a capital watch dog.

Mastodon, an extinct order of quadruped closely resembling the elephant in structure, but much larger. Their remains have been found mostly in America.

Matohes. (See **Lucifer Watches**.)

Materialism, the doctrine that man's soul is not a spiritual substance, but results from the organisation of matter in the body. To the materialist everything that exists is either matter or energy.

Materia Medica treats upon the different substances used in the practice of medicine, giving details of their constituents and effect.

Mathematics is the science of computation and measurement, and is defined as "pure" when treating of quantity in the abstract, and "mixed" when dealing with material bodies and facts.

Matins, an early morning church service. The service includes, in the Roman communion, the Lord's Prayer, the Angelic Salutation, the Creed, and certain Psalms. The name was also given to the early morning massacres (a) of St. Bartholomew, August 24th, 1572, called the "French Matins," and (b) the massacre of Prince Demetrius and his Polish adherents, May 27th, 1606, the "Matins of Moscow."

Matrilineage, an ancient theory that the mother was the source of authority and not the father, and that in the "golden age" women exercised supreme control.

Maundy Thursday, the day before Good Friday.

was, in olden times, a day of almsgiving, upon which the sovereigns of England, through their almoners, gave money, food, and clothing to as many poor persons as the kings were years old. The custom is still observed with some ceremony.

Mausoleum, a special place of sepulture, generally for the reception of the remains of members of a royal or other family of distinction. The name is derived from the tomb of King Mausolus at Halicarnassus, erected about 350 B.C., and forming one of the seven wonders of the world. The royal mausoleum at Frogmore was founded by Queen Victoria, and bore her late Majesty, Prince Albert, and others of the present royal house are buried.

Mauve, a colouring matter produced from lichens by Dr. Stenhouse in 1856, but in 1856 obtained from aniline by Perkins, and forming the first of the aniline dyes to be prepared on a large scale. The term *mauve*, however, was used to designate a purple shade of colour in the thirteenth century in France.

May, the fifth month of the year, but the third of the ancient Roman calendar. Supposed to be named after Maia the Mother of Mercury, to whom sacrifices were offered on the first of this month. In England in former days May Day was made the occasion of many festivities, including the crowning of the May Queen, dancing round the Maypole, &c.

May Flower, the name of the ship which in 1565 conveyed the Pilgrim Fathers, 102 in number, from England to America.

Maynooth College, near Dublin, was founded by Parliament in 1795, and possesses a large permanent endowment. It accommodates 500 students, who are trained for the Roman Catholic priesthood.

Mayors were appointed by Henry II. The first Mayor of London was Henry Fitz-lwyn, who was appointed in 1189 and held the office for 24 years. In those days the Mayors were chosen for life. In recent times, however, the Mayor is the Chief Officer of a Municipal Council, and is elected annually either from the members of the Council or from outside. The chief Magistrates of London and York have long been dignified by the title of Lord Mayor, a distinction which has of late years been extended to several other great English cities including Birmingham, Sheffield, Leeds, Bradford, Bristol, Cardiff, Liverpool, Manchester, Norwich, and Newcastle-upon-Tyne. In Scotland the chief magistrates are Provosts.

Mayors of the Palace, were functionaries of great influence under the later Merovingian kings; indeed, they exercised so much power that they may be said to have ruled while the kings themselves were mere puppets.

Mazarine Bible, an edition of the Latin Vulgate discovered in the library of Cardinal Mazarin: from which Gutenberg between 1450 and 1455 printed the first book for which cut metal types were used.

Mazdaism, pertaining to the religion of the ancient Persians, another name for Zoroastrianism.

Meal Tub Plot was a pretended conspiracy in 1679 against the Duke of York, afterwards James II., concocted by an informer named Dangerfield who sought to incriminate the Earls of Halifax, Essex and Shaftesbury. Evidence of the fictitious nature of the plot was subsequently discovered in a meal-tub belonging to a woman with whom he had lived, and he was publicly whipped and put in the pillory. A man named Francis struck him a blow which caused his death, for which the assassin was hanged.

Meal-Worm is the larva of a beetle—the *Tenebrio molitor*—and is found in corn mills, granaries and bakeries, where it does considerable damage.

Measurements of Celestial Bodies.—The accurate measurement of the distances and sizes of all the heavenly bodies depends on the measurement of the sun's distance from the earth, and observations on certain of the minor planets afford the surest means yet obtained for calculating this unit. Eros, a minor planet discovered in 1868, under certain conditions is nearer the earth than any other heavenly body, the moon excepted; and at its opposition, in 1900, observations were made to ascertain its parallax at forty observatories all over the world. Since then the work of measuring the many photographs taken

and reducing and comparing the results of the observations have occupied the astronomers concerned, and the Paris Observatory has issued a bulky volume of 400 pages giving some of the results. When all are published, some devoted mathematician will have to deduce from them the final result. The results so far are almost in complete accordance with the present accepted mean distance of the sun, 92,900,000 miles.

Mechanics, the general name for the science which includes Kinematics and Dynamics, and deals with force and its influence upon matter.

Mechanics' Institutes for providing education, libraries, reading rooms, lectures, &c., for the working classes were founded by Dr. Birkbeck in London in 1823, the Birkbeck Institute still remaining to commemorate the foundation. Similar institutions were formed in all parts of the country, and have achieved, and are still achieving, a great work in the education of the people. In the manufacturing districts of the north, the west, and the Midlands, Mechanics' Institutes during the Victorian reign accomplished incalculable good.

Medals, as decorations for military service, were first issued in this country by Charles I., who ordered medals for gallantry to be distributed to certain soldiers in 1643. Medals were also issued to officers and men who were victorious against the Dutch fleet in 1653. After Lord Howe's victory in 1794 a Naval medal was instituted. Medals were also struck for the victory of Waterloo, and since that time special medals have been issued in connection with all our wars. The Victoria Cross, a special reward for personal gallantry in the Army and Navy, was instituted in 1856.

Mearschaum, a white or yellow-white earthy mineral, found in beds in Asia Minor, Greece, and other places, is a silicate of magnesium allied with water. Its chief use is in making pipe-bowls, though in Spain it is used for building purposes.

Megalothys, an extinct fish, fossil remains of which have been found in the Devonian and Carboniferous formations.

Megalosaurus, an extinct reptile of enormous proportions, having a length of from 30 to 40 feet. Fossil remains of this monster have been found in Oolitic Slate and Weald Clay.

Megaphone, a conical tube for propelling the sound of the voice to a distance.

Megatherium, an extinct animal of the sloth order which attained a height of 5 feet, and measured 18 feet in length, including the tail. The post-Tertiary deposits of South America have yielded several specimens of this animal.

Mellite, a crystalline solid explosive of tremendous power, whose chief ingredient is picric acid.

Melon, a well-known tropical fruit, of which there are numerous varieties, nearly all being used as food.

Mendicant Friars, certain religious orders which spread over Europe in the 13th century, and comprised the Franciscans, Dominicans, Augustines and Carmelites. Originally they depended entirely on alms.

Mendicity Society, established in London in 1828 for the suppression of systematic begging. It has done much to protect the public against impostors.

Mennonites, so called from having adopted the doctrines of Menno Simons, a priest of the 16th century, who led the Baptists, not Anabaptists. There are several communities still existing.

Mercator's Projection, a method of indicating meridians of parallels of latitudes on maps, introduced by Mercator in the 16th century, and still universally used in navigators' charts.

Mercers' Company, the wealthiest and one of the oldest of the London Livery Companies, with a present income of £117,000.

Merchant Adventurers' Company, first established in England in 1406 by Henry IV., and specially chartered by Edward III. It continued trading, and did much colonising down to the time of Charles I.

Merolless Parliament, the name given to the parliament of 1588 summoned by Richard II., which decreed the execution of several of the king's ministers and the outlawry of the Duke of Suffolk.

Mercury, one of the smaller planets and the nearest to the sun, though 355 million miles distant. It has no satellite. The transit of the planet over the sun's disc occurs only at wide intervals. The last time was in 1858.

Mercury, or Quicksilver, is one of the oldest known metals, whose chief use is the sulphide cinnabar, found in certain parts of Spain, China, Japan, Mexico, and South America. It is the only metal which is liquid at ordinary temperature, and does not alter by exposure to air when pure. It is largely used in the construction of barometers and thermometers, and is an adaptable alloy. It is also of great value in medicine.

Meridian, an imaginary circle extending through the North and South Poles and any given place. When the sun is at its mid-day height at any place it is on the meridian; hence the terms ante-meridian (a.m.) and post-meridian (p.m.).

Merino Sheep were imported into England from Spain in 1788, and had great influence in improving native breeds, especially in regard to the quality of the wool. It has been supposed that these sheep were descended from the English sheep sent to Spain in 1390 as part of the dowry of John of Gaunt's daughter Katherine, but this statement is of more than doubtful authenticity.

Met. Order of, constituted 26th June, 1902, for persons signally distinguished in the service of the State. The original members included Lord Roberts, Lord Wolseley, Lord Kitchener, Lord Fisher, Lord Rayleigh, Lord Kelvin, Lord Ister, Sir William Puggins, Lord Morley, Sir Lawrence Alma-Tadema, Mr. G. F. Watts, Mr. Holman Hunt, Earl Cromer, and Mr. George Meredith. Among the more recent additions to this roll of honour are the names of Thomas Hardy, Sir Edward Elgar, Viscount Bryce, Sir G. Otto Trevelyan, Hart, Sir Joseph J. Thomson, Professor Henry Jackson, and Sir William Crookes. The three eminent Japanese, Marquis Yamagata, Marquis Oyama, and Admiral Togo, also had this special honour conferred upon them.

Merlin, a bird of the falcon family, and the smallest of the hawk species. It is not infrequent on British grouse-moors, and in the hawking days of the old time was the bird most favoured by the ladies.

Mermals, the reputed woman-fish of the ancients, and doubtless originating in the manatee occasionally sent by sailors. The manatee suckles its young.

Merovingians, the first race of French Kings, beginning with Clovis, 467, and ending with Chilperic, 753.

Merry-Andrew, the name given to performing clowns in olden times, derived from Andrew Borde, a facetious physician of the reign of Henry VIII.

Mesmerism, the so-called science of animal magnetism first introduced by Dr. Mesmer, in 1766, but since exposed as a fallacy. See **Hypnotism**.

Messageries Maritimes, the principal French steamship company, whose chief port is Marseilles. Trades mainly with South America and the East.

Messuage, the old legal term for a dwelling-house and its immediate out-buildings and adjoining land.

Metallurgy, the science of obtaining metals from their ores and applying them to the uses of man. (See the different Metals.)

Metamorphic Rocks, are such geological deposits as have undergone alterations of structure and composition which serve to place them apart from what must have been their original stratification. The most active agents in producing these metamorphic changes are heat, water, and pressure.

Metaphor, an analogous substitution of word or meaning for poetic effect, differing from a simile in that it is a figurative expression and not one of mere similarity.

Metaphysics, Aristotle's term for defining the philosophy of supernatural science.

Metayer System, a land cultivation method prevalent in Italy and France, whereby the landlord provides the land and materials and the tenant the labour, the produce being evenly divided between them.

Metempsychosis, the Pythagorean theory of the transmigration of the soul from one body to another.

Meteorites are solid bodies, or metallic masses which fall from the sky to the earth. Iron is the preponderant element, in association with nickel. Meteoric stones, in addition to iron, contain siliceous substances, as well as gaseous mixtures. At L'Algie, France, in 1803 from 1,000 to 2,000 meteoric stones fell; the largest meteoric stone actually known to have fallen to earth is one which descended in Emmott county, Iowa, in 1879, weighing 437 pounds.

Meteorology, the science which treats of the various atmospheric phenomena included in the term weather, and studied with highly beneficial results in recent times. The Meteorological Department of the Board of Trade was started in 1855. The system of storm-warnings was established in 1861. Weather bureaux are in operation in many chief cities, and at prominent points of observation, all over the world, and weather forecasts form a portion of every day's newspaper intelligence.

Meteors are luminous bodies moving through celestial space, such as shooting stars.

Meter, an instrument or apparatus for measuring anything, as gas or water.

Methodists, a term designating the religious organisation founded by John Wesley in 1739, after a long course of successful preaching by him in all parts of the kingdom, as well as in America. Wesley had said of him that his genius for government was not inferior to that of Richelieu, and the constitution of the Wesleyan Methodists, as their founder formulated it, showed a remarkable genius for administration. Wesley's two leading doctrines were those of instantaneousness of conversion and Christian perfection, or deliverance from sin. The itinerant system of the Conference is a prominent feature of his organisation. There are in the United Kingdom alone between 2,000 and 3,000 Wesleyan Methodist ministers, about 30,000 lay preachers, 500,000 church members, over a million Sunday school teachers and scholars, and from 8,000 to 9,000 chapels. Among the other Methodist organisations, offshoots of the Wesleyans, there are the Methodist New Connexion, the United Methodist Free Church, and the Primitive Methodists. In the United States the Methodists have a membership of over three millions, and throughout the world 18 million persons receive Methodist instruction. The Wesleyans raise nearly £200,000 a year for their extensive missionary operations, and in 1907 the body got together a Twentieth Century Fund of one million guineas for evangelistic, educational, and philanthropic work. The Wesleyan Central Hall at Westminster was opened in Oct. 1912.

Methuen Treaty, a treaty of commerce between Great Britain and Portugal, concluded by Paul Methuen, the British Ambassador at Lisbon, in 1903. It provided for the importation of port wine at reduced rates, and led to the popularising of the beverage in this country.

Methyl, a colourless and odourless gas; a compound of hydrogen and carbon, obtained in the free state by the chemists Frankin and Kolbe, independently of each other, in 1849.

Methylated Spirit, a combination of pure alcohol with 10 per cent. of pure wood spirit, largely used as a solvent, and obtaining its name from methyl-alcohol, which is the chief element of wood spirit.

Metre, the standard French measure of length, equivalent to 39.37043 English inches, and computed to represent two-thirtieth part of the distance from the equator to the North Pole.

Metric System is the decimal method of calculation. It came into force in France in 1793, and has since been adopted in most of the continental countries and by the United States and Canada. There have been many attempts to get the system adopted in this country, but without success. (See **Metric and English Measures in Office Compendium Section**.)

Microchrome, an instrument for the measurement of colour, consisting of three hollow wedges of glass of identical capacity and shape, and so arranged between two screens that any portion of their tapering sides may be presented at will to an aperture through which a ray of light may be thrown.

- Metronome**, an instrument for beating time during the performance of a musical composition. It comprises a double pendulum, and may be wound up like a clock.
- Metropolitan Water Board**, a body constituted by special Act in 1902, consisting of 66 members, and controlling the water supply of London. £4,000,000 was paid as compensation to the water companies absorbed.
- Metz, Siege of**, lasted from August 8th to October 27th, 1870, when Marshal Bazaine surrendered to the Germans, his army consisting of 173,000 men, 400 pieces of artillery, and over 6,000 officers. Bazaine was tried and condemned to death for this surrender in 1874, a sentence which was commuted to 20 years' imprisonment, but subsequently he escaped.
- Messing**
- Messing**, an engraving from copper or steel produced by instruments which burish and scrape away portions of the surface, and yield an impression effectually graded in light and shade.
- Mica**, a nearly transparent mineral, which has great heat-resisting power, and can be split into thin plates.
- Michael, St., and George, St.**, an order of knighthood originally founded for the Ionian Isles and Malta in 1818, and reorganised in 1869, so as to admit Crown servants connected with the Colonies. The Earl of Derby, Earl Russell, and Earl Grey were the first of the new knights.
- Michaelmas Day**, the festival day of St. Michael and All Angels, September 29, one of the English quarter days.
- Microbe**, a term proposed by Sédillot in 1878 (and since very generally adopted) to denote any minute organism, vegetable or animal, or found on the borderland between the two great natural kingdoms.
- Microscope**, an instrument for measuring minute distances. It is usually attached to the eye-pieces of a microscope or telescope, and consists of two very fine hair or wires stretched across the field of view, one fixed the other moveable. It was invented by William Gascoigne in the 17th century and was greatly improved by later inventors. Sir Joseph Whitworth made one in 1851 to measure the millionth of an inch.
- Microphone**, an instrument invented by Prof. Hughes, in 1878, for giving audibility to sounds which are otherwise imperceptible to the ear. By this apparatus, which establishes an electric current between two sensitised conducting bodies, and aided by the telephone, the sound of the tread of a fly may be magnified to seem as loud as the tramp of a horse.
- Microscope**, invented about 1590 by Jansen, and improved by Galileo, Fontana, and others, is an instrument which by a combination of lenses magnifies minute objects, making visible animalcule and other living substances which cannot be seen by the naked eye. Microscopes are simple, compound, and binocular. The more powerful instruments have a magnifying capacity of as much as 10,000 diameters.
- Middle Ages**, a period of about 1,000 years, during which Europe was under the grasp of feudalism. Italian reckoning takes the period from the invasion of France by Clovis in 486 to 1495 when Charles VIII. occupied Naples.
- Midge**, the common name of a small two-winged fly or gnat (*Culex pipiens*), clouds of which appear on summer nights in country places.
- Midrash**, the explanation of the Jewish Scriptures, dating from the time of the destruction of the 2nd Temple after the Captivity and continued by later Rabbis.
- Midshipman**, junior officers in the Royal Navy, who must have been through four years' training at the Royal Naval College, and have passed a certain examination. After three years' service as midshipmen they are promoted to the rank of sub-lieutenant if their examinations are satisfactory.
- Mikado**, the hereditary male ruler of Japan. Since 1868 the real sovereign of the country; previously, the Mikado was only the nominal spiritual head, the Tycoon (or Shogun) possessing the governing responsibility.
- Milan Decree**, the proclamation issued by Napoleon in 1807 from Milan, prohibiting continental nations from trading with England.
- Milky Way (Galaxy)**, the name of a long track of small stars which almost encircles the heavens. The ancients regarded it as a luminous streak, and the name commemorates the mythological legend that Juno when suckling Mercury or Hercules scattered milk across the sky.
- Millenarians**, a sect that interprets the Millennium period referred to in Revelations as beginning from the close of the seven thousandth year from the Creation.
- Millenary Petition**, was presented to James I. in 1603 on behalf of nearly 1,000 Puritan Ministers against certain of the rites and ceremonies of the Church of England. The Hampton Court Conference was the outcome of this petition.
- Miller's Thumb**, a small fresh-water fish deriving its name from its supposed similarity of head to the thumb of a miller, which assumes a compressed shape by frequent sampling of meal. The fish is the Eagle-ray, *Milobatis aquila*.
- Millat**, a nutritious cereal cultivated in nearly all warm climates; native to the East Indies.
- Millimetre**, a French linear measure, equivalent to a thousandth of a metre, or 0.00097 of an English inch.
- Millstone-grit**, a bed of rock of the Carboniferous group underlying the Coal-measures, and attaining in England a thickness in parts of 5,000 feet. It is from this rock that millstones have been made from time immemorial.
- Mineralogy**, a scientific term designating the power of many forms of animal and insect life, so to adapt themselves in colour and shape to their surroundings as to escape detection by their enemies.
- Mineralogy**, the science of minerals. The British Mineralogical Society was established in 1800.
- Minie Rifle**, invented by Capt. Minie, a Frenchman, in 1833, and for a time considered to be the best rifle in Europe. It was adopted by the French, and in a modified form by the British in 1851, but has long been superseded.
- Minim**, a musical term denoting a note equal to two crotchets, or half the value of the semi-breve.
- Minimisers**, the name applied to certain writers who, in the latter half of the 19th century, advocated the limitation of life and property. The writers included John Stuart Mill, Herbert Spencer, and W. von Humboldt.
- Minnesingers** were minstrel poets of Germany who, during the 12th and 13th centuries, composed and sang love ballads to amuse the knights and barons of the time. They were mostly of gentle birth. A collection of their songs was compiled in the 14th century, after the rise of their successors, the Meistersingers.
- Minnow**, a small fresh-water fish of the carp family abounding in all the waters of Europe; it has a mottled back and silvery belly, and forms a popular bait for trout.
- Minor**, a musical term referring to intervals and scales; thus, a minor interval is a semi-tone less than the corresponding major interval.
- Minstrels** were originally specially appointed instrumentalists and singers—pipers, harpers, and gleemen—engaged by barons and manorial lords to amuse their tenants. John of Gaunt had a court of minstrels at Tutbury in 1381. Later, minstrels assumed nonadamic habits, made their way into the houses of the great, and were generally welcome. By Elizabeth's time, however, they were too thick on the ground, and were classed as "rogues and vagabonds," along with actors.
- Miracle Plays** were a rude kind of sacred drama constructed by the monks in feudal times, and mostly representing certain miraculous incidents of the Bible.
- Mirage**, an optical illusion often observed in desert regions when the objects on the surface of the earth appear as if reflected in a surface of water. Mirage is due to the unequal heating of the different parts of the atmosphere, which bends the light rays, and so produces distorted images.
- Mirrors** were made of burnished metal in ancient times, brass usually. Silver mirrors were introduced by Praxiteles, 368 B.C. The Venetians made the first mirrors of glass, in the 14th century, but they were not made in England until the 17th century.

Mishna, the first part of the Talmud, setting forth the "Oral Law" of the Jews.

Misprision, a legal term, signifying an offence which may border on a capital charge. Misprision of treason indicates a knowledge of treason without participation in the treasonable act.

Missal, the name of the mass-book of the Roman Church compiled 492-6 by Pope Gelasius I., and revised by Gregory I., 590-604. The present Roman Missal was sanctioned by the Council of Trent 1545-63. In the Anglican Church the Book of Common Prayer superseded the Missal in 1549.

Missal-Thrush receives its name from its partiality to the mistletoe-berry. A common bird in England and larger than the song-thrush.

Mistletoe, a parasitic plant found growing on many trees, particularly the apple-tree. The Druids made it an object of reverence, and it is especially associated with Christmas as a decoration.

Mistral, a cold, dry wind peculiar to the French coast of the Mediterranean.

Mitrailleuse, a breech-loading machine gun adopted by the French army previous to the Franco-German war of 1870.

Mitre, an ecclesiastical head-covering worn by the twelve high prelates adopted by the Christian Church and worn by Cardinals (before 1245) and also by Bishops, etc. The Bishops of the Church of England wore mitres down to the reign of George III. The Council of Lyons enjoined the wearing of the "Red Hat" upon Cardinals from the middle of the 13th century.

Mnemonics, a method of developing the memory, which has been practised more or less since 477 B.C., when Simonides the younger invented the first known system. Among the more eminent professors of this art may be mentioned Peisaghe, Aime Paris, Willis, and Grey. Numerous teachers of the art advertise their systems at the present time.

Moa, a now extinct genus of birds of the ostrich family, wingless and standing 12 to 14 feet high, natives of New Zealand and Australia.

Moabites, a race of Judaea, descendants of Lot. They were often in conflict with the Israelites, but were finally subdued by Jehoshaphat, 853 B.C.

Moabite Stone, a stone of the 9th century B.C. containing the earliest known inscription in Phœnician characters and discovered in the land of Moab in 1868. Important as confirmatory evidence of the Moabite being mentioned in the Old Testament.

Mocking Bird, an American bird of the thrush family, widely distributed over the north and south of the Western Hemisphere. Its gift of imitation is wonderful—a gift which is exercised chiefly in imitating the voices and cries of animals.

Modoc Indians were a warlike tribe occupying American lands south of Oregon. They were allotted other lands by the United States Government, but being dissatisfied with their new quarters, returned to Oregon and defied the troops sent to expel them. Severe fighting followed, but after a few months the Modocs surrendered in 1873.

Moguls. (See **Mongols**.)

Mohair is the wool of the Angora goat and used very largely in the worsted trade for the manufacture of dress fabrics.

Mohocks, a lawless band which infested London in the early part of the 18th century, committing many outrages upon men and women under cover of the night. The word is a corruption of Mohawk, the name of a tribe of Red Indians.

Moiré, or watered silk, so-called because of the finishing process it undergoes, the "water" marks being produced by wetting and extreme pressing.

Molasses, sugar-cane juice in its uncrystallised form after boiling. The crystallised part is the raw sugar.

Mole, a small burrowing animal about the size of a small rat, with short legs and fore feet armed with strong claws for digging in the earth. Their subterranean dwellings are of curious and ingenious construction, and they do not often leave them except to make raids on mice, frogs, snails, &c. The earth-worm, however, is the mole's chief item of food.

Molecule, the minutest particle into which any substance can be subdivided. There are millions of molecules in a cubic inch of gas.

Mollusca designates the soft-bodied invertebrate animals, most of which are protected by a shell. These shells are univalve—that is, of one piece—as in the case of snails; bivalve as the oyster; or multivalve, though this kind is seldom met with. The shell is wanting in some classes of mollusca, such as the polyzoa.

"Molly Maguires", the name of a secret society organised in Ireland in 1843 for revolutionary purposes; also of an American association formed in Pennsylvania about 1876 against mine-owners and their agents. The members of these bands were women's clothes.

Molybdenum, a metal found in combination with sulphur, and forming an acid which combines with metals producing salts called molybdates. It is found in granite and is very similar to graphite in appearance though totally different in its properties.

Mongols were in ancient times known as Scythians. They were a nomadic race until about the 13th century, when they conquered large portions of Asia, including China, Persia, and India. They founded the Mogul dynasty in India in 1526, and ruled up to the end of the 18th century, when their empire came under British control.

Mongoose, an Indian species of ichneumon, feeding on vermin and reptiles, and a deadly foe to the snake.

Monitor, a genus of water-lizards noted for their great size, their long beards, long tails, and scaly covering. They are supposed to signal the approach of the crocodile to their neighbours by a curious hissing sound. There are 18 species, inhabiting Southern Asia, Australia, New Guinea, and Africa.

Monkey, a quadrumanous mammal of the order Primates, and including all members of that order excepting man and the lemurs. Monkeys with short tails are usually called apes; those with long dog-like faces baboons, small bushy-tailed monkeys marmosets. (See the various class names.)

Monmouth's Rebellion was headed by James, Duke of Monmouth, a natural son of Charles II. (b. 1650, d. 1685). He was sent to Scotland to quell the Covenanters in 1679, and succeeded in winning the Battle of Bothwell Bridge; but was banished for aspiring to the throne to the exclusion of the Duke of York, afterwards James II. In 1685 he landed at Lyme Regis, and assumed the title of King, but was defeated at Sedgemoor, and executed on Tower Hill. Judge Jeffreys stamped out the remnant of the Rebellion in the "Bloody Assize."

Monolith, a column or shaft comprising a single stone. "Cleopatra's Needle," now on the Thames Embankment in London, is an example.

Monophysites, an ancient sect who held that Christ was of one nature only, a blending of the divine and human.

Monism, the doctrine that there exists but one God. The chief monothestic religion is Christianity.

Monotremata, the name of the order or sub-class of mammalia comprising the duck-billed animals, of which only three species exist, restricted to Australasia. The Echidna, or Porcupine Ant-eater, belongs to the order.

Monroe Doctrine refers to a formal declaration made by President James Monroe that no European Power should be permitted to interfere with the concerns of government of any of the Independent States of North or South America. It also set forth that the American States would not interfere in European affairs.

Monsoons are certain winds which at regular seasons sweep over warm latitudes, especially India, where they prevail more or less from April to October.

Monstrance, an ornamental receptacle in which sacred relics of the Roman Catholic Church are held up for inspection.

Montanism, a sect founded in the 2nd century by Montanus, who expounded the doctrine of the continuation of the miraculous influence of the Holy Spirit. They are also called Phrygians, because of their leader being a Phrygian.

Month, the 12th part of the calendar year. A lunar month is the period of one revolution of the moon; mean length, 29 days, 12 hours, 44 minutes, 57 seconds. A sidereal month represents the time of the moon's revolution from a given star back to the same again, 29 days, 7 hours, 43 minutes, 12 seconds. A solar month covers the time the sun passes through one sign of the Zodiac, 30 days, 20 hours, 59 minutes, 41 seconds.

Monton, a heap of ore, varying in quantity in different mining districts, but representing technically a batch under amalgamation.

Monte-de-Piété, Government institutions for advancing money for goods left in pledge, were first established in Italy in 1462. Similar institutions in France in 1777 were suppressed by the Revolution, but restored by Napoleon, and have since been expressly regulated by law.

Monument of London, erected in 1671-7 by Wren in commemoration of the Great Fire, is 200 feet high, and cost £14,500. The original inscription upon it ascribed the fire to "the treachery and malice of the popish faction," which stood down to 1831, when the words were erased as objectionable. The black marble staircase consists of 345 steps.

Moon, the earth's satellite, is distant from us about 238,000 miles. It is a globe, 2,160 miles in diameter, and the period from one full moon to another is 29 days, 12 hours, and 44 minutes.

Moor-hen, a bird of the crane family familiar on the borders of British ponds, rivers, and lakes. It is of dark grey plumage, with olive-brown wings edged with white.

Moors, the name applied in modern times to the natives of Morocco. They were as a race at one time very powerful, and from 1237 to 1492 held possession of the kingdom of Granada. They were expelled from Spain in the 17th century and established themselves in Northern Africa.

Moose. (See Elk.)

Moplahs, a race of Mahomedan fanatics, settled principally in Malabar, and descended from Arabs. They showed for a time a rebellious spirit against the British, and were guilty of serious outbreaks. They were, however, subdued in 1873, since which time they have given no further trouble.

Moravians, a sect that sprang from the Hussites of the 15th century. In 1722 they had a community of 500 persons, settled on the estate of Count Zinzendorf. The Count was a zealous preacher, and established Moravianism in England in 1738. The Moravians have at present a membership of about 220,000 on the Continent of Europe, and own some 60 chapels and preaching places in England, with about 3,000 church members in all. They have been specially successful in mission work, and have considerable settlements in America.

Mordants are substances used for making colouring matters "bite" or adhere firmly to articles they are dyed. They are mostly of a metallic nature, and combine with the dye-liquid in which the fabrics are dipped. In addition to the metallic mordants there are some vegetable mordants, the chief of which are argol, sumac, nut-galls, etc., but these are not regarded as true mordants.

Morganatic Marriages are unions between males of royal or noble rank with women of inferior rank. In such marriages the left hand is given instead of the right, and it is stipulated that the children of the marriage are not to enjoy the rank or inherit the possessions of the husband, though such children are legitimate. Many morganatic marriages have occurred in our own royal family.

Morgue, a repository for dead bodies awaiting identification, the best known morgue being that of Paris which until recently was open to the general public. Others exist in the chief French towns.

Mormons, or Latter Day Saints, a religious sect founded by Joseph Smith, who, in 1827, gave it forth that he had discovered the *Book of Mormon* written on gold plates in Egyptian characters. This book, it afterwards was discovered, was written as a religious romance by a clergyman. A pretended English translation was published in America in

1830, and in England in 1841. Smith made it serve as the foundation of his new faith, and he began to preach Mormonism and to organise churches. He was shot in an attack by the mob at Nauvoo, in Illinois, in 1844, when Brigham Young was chosen prophet in his place. The Mormons settled at Great Salt Lake in 1847, and from that time considerable success attended their settlement, their material prosperity bringing in fresh converts.

Morning Post, established as a London daily newspaper on the 2nd November, 1772, in support of the Whig political cause. It became a Conservative organ in 1874, and in 1881 its price was reduced from 3d. to 1d.

Morphology, the science which deals with the form, structure, and position of the different parts of animals and plants, and their developments.

Morpunkes, an Indian pleasure-boat, long and narrow, of considerable capacity, with a high peacock shape decoration at the stern.

Morris Dance, an old English country dance of the reel order.

Morse Alphabet, a system of dots and dashes, intended to be used in combination with the indicator in telegraphy; but usually read by sound, the receiving operator writing down the words in the system as transmitted. Professor Morse, of Massachusetts, was the inventor.

Mortars are short guns with a large bore and close chamber for throwing bombs. They are said to have been first used in the 15th century at Naples, but were not introduced into England until a century later. The mortars made at the present time are so powerful that they can throw shells of nearly 2,000 lb. weight a distance of over five miles. They are mostly used in siege work.

Mosaic, a joining together of small pieces of coloured glass, marble, or other materials in designs to imitate painting. The ancient Greeks and Romans acquired great proficiency in this art, which was revived in Italy in the Middle Ages with considerable success, many eminent painters designing subjects for mosaic. It is an art that still flourishes, and notable examples occur in some of the principal modern buildings.

Moscow, the Retreat from, was one of the most disastrous events in the career of Napoleon I. He entered Moscow on the 14th September, 1812, and the next day the Russians set fire to the city, practically burning it down. The French were forced to evacuate, and in making their retreat to France Napoleon lost the greater part of his army.

Moslems, the general European term applied to Mahomedans.

Mosque, a Mahomedan church, the greatest being that of St. Sophia at Constantinople.

Mosquito, a species of gnât which is most highly developed in hot climates, and is provided with a suctorial apparatus and a skin-piercing proboscis. Mosquitoes eagerly attack human beings for the purpose of sucking blood. Within the last few years many mosquitoes have found their way to this country, presumably with the fruit transported from tropical climes, and in Essex and other marshy districts of the South have become a serious annoyance.

Moss, the name of numerous flowerless, close-growing plants, common to moist hilly lands.

Moss-agate, a kind of agate characterized by minute grains of oxide of iron or chlorite, forming a moss-like pattern which is very ornamental.

Moss-troopers were bands of Scottish marauders who used the mossy regions of the Scotch and English borders as hiding places, and thence made frequent plundering expeditions, keeping that part of the country in constant unrest. It was not until the 18th century that they were finally put down.

Motets, short choral compositions, of which many fine examples survive. They were mostly written in the 15th century, and are generally settings of sacred writings or paraphrases.

Moths, a division of insects of the butterfly family, but differing from the latter in having antennæ tapering to a point. They are of nocturnal habit, and comprise a wonderful variety, some of those of tropical countries being of extraordinary brilliancy.

Motor Vehicles are being produced in ever increasing numbers year by year, the record of the last few years showing a remarkable expansion in every direction. The tendency has been greatly to strengthen the motor industry in the United Kingdom, with an accompanying improvement in the class of vehicles manufactured and a general cheapening of price. The placing of large numbers of motor omnibuses in service has had the effect of dislocating street traffic somewhat, and some exploitations have come to grief from various causes; but with a better type of vehicle this kind of service has become successful. The London General Omnibus Company's services are now wholly operated by motor vehicles. The loss of life resulting from motor traffic is very serious. During 1912, 182 persons were killed in London alone by motor buses. A Select Committee inquired into and reported on this matter in 1913, when important new traffic regulations were recommended. Motor cabs have proved a great boon. There has also been a remarkable increase in the number of motor vehicles used for industrial business, and military purposes, while the electric railways and tramways, above ground and underground, have multiplied to an enormous extent.

Mouse, a species of small rodent abounding in all countries, and forming, in conjunction with rats, a most extensive genus. The British species include the common house mouse, the harvest mouse, and the long-tailed field mouse.

Muggletonians, a curious sect founded by a tailor named Ludwic Muggleton—son of a London farrier—in the 17th century. Muggleton and his associate—also a tailor—John Reeve, proclaimed themselves the last witnesses of God to appear before the end of the world, as mentioned in Revelation, xi. 3.

Mule, the name of the spinning machine invented by Crompton in 1779, and so called from its combining the principle of Hargreave's spinning jenny with the machine invented by Arkwright.

Mullet, a species of well-known fishes, including the red, grey and striped mullets. The latter is best known in England, frequenting the Southern coasts.

Mullions are projecting windows with vertical divisions—or, more properly, such vertical divisions of mullioned windows—forming a highly decorative feature in Gothic architecture. The horizontal stones forming the crossing divisions between the lights of this class of window of the Elizabethan or Tudor period of Gothic are styled *transoms*.

Mummies are embalmed bodies, found mostly in Egypt; supposed to be those of distinguished people who lived thousands of years ago. Mummies have also been found in Peru, Mexico, and Persia. The embalming process which has enabled the bodies to be preserved can only be conjectured, though it is known that various aromatic substances were used after the viscera and other vital organs had been removed, the cavities being filled with absorbent dust, chippings, and cedar wood.

Murder is the term applied to the unlawful killing of a human being, "with malice aforethought." During the Heptarchy the crime was punished by fine only, and to Henry VIII's time could frequently be compounded for. Then followed a period of severe enactments, and down to 1830 murderers were executed on the next day but one after conviction. In nearly all civilised countries at the present time murder is punished with death, and can only be reduced by the "prerogative of mercy," never exerted unless mitigating circumstances exist.

Murain, a general term applied to infectious diseases in cattle.

Musk Deer, a small and interesting ruminant, which inhabits the mountain regions of Central Asia. It is grey in colour, slightly brindled, and carries a small pouch in the abdominal region, containing what is commercially known as musk, an article which is of great value in the manufacture of various perfumes.

Musk Ox, an animal partaking of the characteristics of both the sheep and the ox, and having a musk odour. It is a native of Northern Canada.

Muslin, a fine cotton fabric first made at Mosul, in Mesopotamia, and introduced into England about

the middle of the 17th century. In recent times muslins have been largely manufactured in England.

Naseel, a well-known bivalve found in great abundance on the rocks of the sea-shores. There is also a fresh-water species plentiful in streams and ponds.

Nestang, the American wild horse, descended from the stock first introduced by the Spaniards.

Mute, an old legal term signifying that a prisoner on being asked to plead remains mute, that is, makes no answer to the charge, or some answer that is irrelevant. Up to 1741 prisoners who "stood mute" were put to the torture. Since 1829, when a prisoner declines to plead, the court directs a plea of "Not Guilty" to be entered, and the trial proceeds.

Mutiny Act, which provides for the discipline, regulation, and payment of the Army, was passed in 1689, and has since been re-enacted annually.

Myriapoda, the class of invertebrate animals including centipedes, millipedes, and many others. They are widely distributed, but the largest species are found in the Tropics.

Myrrh, a resinous substance obtained from a tree of the natural order Amyridaceæ, growing plentifully in Abyssinia and Arabia. Its use for embalming, medical and aromatic purposes may be traced back to the most remote times.

Mysteries were theatrical performances given by ecclesiastics in the Middle Ages, with the object of conveying moral lessons and presenting Scripture stories in more or less realistic form. The Ober-Ammergau Passion play is a survival of one of these ancient mysteries.

Mythology, the name given to any collection of traditions and fables concerning imaginary gods and goddesses, especially applied to the ancient Grecian collection of myths.

N

Nabob, a term usually applied nowadays to a wealthy East Indian, though formerly given only to Governors, commanders, and other dignified persons who had resided in the Orient and returned to England with competence and an irascibility of disposition.

Nadir, the point in the heavens which is at the opposite pole from the place on which a person stands.

Nagadite, a rare mineral, found, usually in crystals, in Transylvania or the United States of America; it is a sulpho-telluride of lead and gold, with occasional traces of copper and antimony.

Nahum Festival, in commemoration of Nahum, the 7th of the 12 minor Hebrew prophets. It is held on December 24th. Nahum flourished about 713 B.C., during the reign of Hezekiah, and wrote his prophecies a short time after Sennacherib's invasion.

Naiad, a water-nymph of classic mythology, beautiful and mystic; celebrated by Virgil, Ovid, Homer, and other ancient writers.

Names of Places not only introduce us to many of the striking local characters of hygienic ages, but from them it is often possible to locate the earthworks and other primitive fortifications of our early progenitors, and also to ascertain which of the great races have peopled a particular district. The effect of local tendencies is seen all over England. The North retains *burgh*, as in Banburgh or Edinburgh; in the Danish district it has become *stang*, as in Gainsborough, Scarborough, and Peterborough; while in the Saxon South we have *bury*, as in Banbury and Canterbury. So also the Anglo-Saxon *ceaster*, formerly used to designate any Roman town, now has a special significance, based upon the way in which it has been adapted. In the old Mercian Kingdom it takes the form of *cester*, as in Worcester, Gloucester, Leicester, etc.; in the Scandinavian districts it becomes *caster*, as Lancaster, Doncaster, etc.; while the *chester* of such names as Manchester, Chesterfield, etc., indicates Saxon settlements. **Nankeen**, a kind of yellow cotton fabric originally made at Nankin in China, but now mainly manufactured in England, which actually exports the cloth to China.

Nantes, Edict of, was a decree promulgated by Henry IV. of France in 1598, giving full freedom of worship to the Protestants of the country. It was the revocation of this famous Edict in 1685 by Louis XIV. that drove hundreds of thousands of French Huguenots to this country.

Naphtha, a well-known liquid combustible believed to have been one of the ingredients of "Greek fire," and called by the Greeks "oil of Media." Mineral naphtha consists chiefly of mixtures of the hydrocarbons paraffin and olefine. Other kinds are obtained from coal tar and from wood by distillation.

Naphthalene is procured from coal tar, and its derivatives are much used in the manufacture of colours for dyers and printers.

Narcotics are substances which induce languor, and if taken in large doses produce insensibility or death. The best-known narcotics are opium, alcohol, coca, tobacco, hops, etc.

Narcotine, an alkaloid obtained from opium, and in its action less powerful than morphine.

Nardus, a coarse genus of grasses, growing on bleak upland heaths and hill slopes. *Nardus stricta*, commonly called "mat-weed," is a British species.

Narghile, an oriental tobacco pipe so constructed that the smoke passes through water and up a long flexible tube before reaching the bowl of the smoker.

Narwhal, a kind of dolphin, remarkable because the male possesses a spiral rod of ivory projecting from its head several feet in length. The animal itself is some 16 feet long and of whale-like form, with spotted skin. Found only in Northern seas.

Nasalis, a peculiar type of monkey, with a long prominent nose. The leading example is the "Proboscis monkey" of Borneo.

Naseby, Battle of, was fought on June 14th, 1645, between the Royalists, under the command of Prince Rupert and the king, and the Parliamentarians under Fairfax and Cromwell. It resulted in a complete defeat for Charles.

National Anthem ("God Save the King") has been the national hymn of England since about the middle of the 18th century. There is some doubt as to its origin, but Dr. John Bull is generally believed to have been its composer. The tune has been adopted for one of the National Anthems of the United States, "My Country, 'tis of Thee."

National Assembly of France was constituted on June 17th, 1789. Three days later the king ordered it to be closed, but the movement had got too firm a hold to be summarily put down, and the Assembly afterwards met at the Church of St. Louis and proceeded to perform acts of legislation. In 1792 it became "The National Convention."

National Convention of France was formed on September 21st, 1792, constituting the government of the first French Republic.

National Covenant, an oath and declaration subscribed to by the Scottish Presbyterians in 1580, to maintain their religion in all circumstances, and effectively brought to bear in opposition to Charles I.'s Episcopalianising designs in 1648.

National Debt of this country was started in 1604, when £1,000,000 was raised by William III. on the security of certain branches of the public revenue. Four years later the debt had increased to over £15,000,000. After Waterloo, in 1815, it stood at £88,500,000. The low-water mark of £28,993,653 was reached in 1899-1900, but the Boer War sent it up again to £745,015,000 in 1902-3. In 1903-4 it was £770,778,762, from which date another decrease set in, the figures for the year ending 1913-14 being £661,473,705.

National Gallery, established in 1824 in Pall Mall, London, with the Angerstein collection of 38 pictures, purchased for £57,000 as a nucleus. The existing building in Trafalgar Square was opened in 1838.

National Guard of France, a body of citizen soldiers first instituted on the day before the destruction of the Bastille in 1789, by the Committee of Public Safety. As the Revolution developed, the Guard did not command much sympathy, and ceased altogether under the Consulate and Empire. The National Guard was revived later, and proved some-

times very powerful in keeping order in the capital; but in 1871 its inefficiency had been made so manifest that its abolition was decreed. It was under municipal control, despite its sounding national name.

National Portrait Gallery, established in 1855, and now located in a building in St. Martin's Lane adjoining the National Gallery. Contains portraits of eminent people in history, literature, art, etc., and a valuable collection of medals and autographs.

National Rifle Association, founded in 1860 for the improvement of rifle shooting. The annual meetings formerly held at Wimbledon, but now at Bisley, attract large numbers of competitors, amongst whom valuable prizes are distributed.

National Service League, established in 1902 for promoting the movement for compulsory military service in Great Britain.

Nativity.—There are three Nativity Festivals in the Christian Churches, those of the Nativity of Christ, on December 25th, of the Virgin Mary, on 8th Sept., and of John the Baptist, 28th Aug. The first is the only one specially observed by Protestants.

Natrix, a water-snake, the typical genus of the Colubrine sub-family, widely distributed.

Natron, the old scientific name for native carbonate of sodium or mineral alkali, obtained from the ashes of marine plants.

Natterjack, a curious, warty, prominent-eyed, brown toad (*Bufo calamita*), having a bright yellow line down the middle of its back. It utters a muttering sort of croak, hence its name. It is not very common in Britain, but is plentiful in some parts of the European Continent and in Tibet, and is sometimes called the "Rush toad."

Natural, a musical term signifying the production of sound without flut or sharp. A composition is in the "natural" key when in the normal scale of C.

Naturalisation is the act admitting an alien or foreigner to the privileges of citizenship in his adopted country. As early as 1347 a Naturalisation Act was passed in England. Before a certificate of naturalisation is granted, the applicant must have resided in the United Kingdom for not less than five years, or have been in the service of the State for that period.

Naturalism in art and literature is an attempt to depict the actual, as opposed to the ideal. In philosophy it takes cognisance only of natural forces and ignores the supernatural.

Natural Selection, the term employed by Darwin to describe that development of species which resulted in the survival of the fittest, and the gradual extinction of the feeblest.

Nautech Girl, a native East Indian dancing girl of the professional class.

"Nautical Almanac", published under the authority of the Admiralty, is always issued four years in advance, and contains information specially prepared for the use of navigators and astronomers. It first appeared in 1767.

Nautilus, a term now applied only to the Pearly-shelled nautilus, the sole surviving example of the four-gilled section of the Cephalopoda, remarkable for its peculiar compartmented shell, and its power of instant sinking. It is only found in the open seas.

Naval Reserve (The) comprises the Royal Naval Reserve, established in 1859; the Royal Fleet Reserve, organised in 1901; and the Royal Naval Volunteer Reserve, dating from 1902, the latter including landsmen with a taste for sea life. The total personnel for 1912-13 was, Royal Naval Reserve, 21,534; Royal Fleet Reserve, 26,297; Royal Naval Volunteers, 4,100; grand total, 51,851.

Nave, is the body or main open portion of a cathedral or church, and extends from the chief entrance to the choir, or chancel, and is usually flanked by aisles. A nave, in mechanics, indicates the "hub" or central part of a wheel.

Navigation Laws, for the protection and encouragement of native shipping, have been frequently passed in England. The first English navigation law of any note was enacted in the reign of Richard II., its leading provision being that mer-

chandise should not be imported into or exported from England, except in English ships. This law fell into desuetude, and in 1751 fresh Navigation Acts were passed in favour of English ships, the carrying trade having fallen into the hands of the Dutch. The old navigation laws, however, were totally repealed in 1849.

NAVY, a country's fleet of vessels of war, in England called the Royal Navy. From the time of Alfred the Great, ships were maintained for war service, but the establishing of the Cinque Ports in the reign of the Conqueror coincided with the first comprehensive attempt to constitute a reliable fleet. Edward III., Henry V., and Henry VIII. all devoted considerable attention to the Navy. The *Henry Grace de Dieu* of the last-named King, 1,200 tons, was the largest vessel that up to that time had been built. In the reign of George III., when Great Britain had so much sea-fighting on hand, the Navy was put on a very extensive footing. In Nelson's time the British fleet comprised about 900 ships of the "wooden walls" type; and in 1814 the numbers were 177 ships of the line, 621 smaller armed vessels, and 150 employed on home and foreign service. The screw propeller was introduced into the Navy in 1840, which a decade later comprised 161 steam vessels and 339 sailing ships. In 1865 it possessed 258 steam vessels, carrying 6,682 guns, 271 sailing ships carrying 9,594 guns, 155 gunboats, and 111 vessels on harbour service. When hostilities broke out in Aug. 1914, Great Britain possessed a margin over Germany of 60 per cent. in ships, and 100 per cent. in men. Comparing the total of war vessels, built and building, of the contending nations, and omitting battleships and cruisers over ten years old, we get the following figures: Britain, 679; France, 382; Russia, 249; Japan, 161—a total of 1,471, of which 235 were being built; while on the other side the figures are: Germany, 359; Austria-Hungary, 157; Turkey, 22—a total of 538, of which over 80 were in course of construction. Of these, Britain had 34 ships of the Dreadnought class as against 21 owned by Germany; 74 of the pre-Dreadnought class as against Germany's 29; 83 cruisers to Germany's 43, and in other classes the preponderance was in like proportion. In naval personnel Britain stood at 226,000 on Aug. 3, 1914, and on Feb. 8, 1915, 35,000 men were being brought the total up to 248,000. The personnel of the German navy numbers 121,000. Up to May, 1915, the main German battle-fleet has been hidden away beyond strong coast fortifications and protected by a vast barrier of mines. In the meantime German cruisers were to prey upon British ships on all the oceans, and for a time these attacks were attended by considerable success; but to-day not one of these cruisers remains. In the handling of submarines Germany has achieved more success than in other naval operations. The various naval incidents of 1914-15 are recorded in the *Chronicle of the War*, pp. 717-725.

NASARENES, a sect of Jewish Christians who accepted the divinity of Christ and flourished in the 1st century.

NASARITES, persons who, as prescribed in Numbers vi, consecrated themselves for a limited period to sacred observances.

NAROTIC Region comprises the whole of North America and Greenland up to a latitude averaging about the tropic of Cancer.

NEBULA, luminous celestial masses of gaseous matter, which are either spiral or chaotic in form, the latter being the earlier stage of the former. They are visible through the telescope beyond the limits of the solar system.

NEBULAR THEORY (or *Hypothesis*), was originated by Kant, developed by Sir William Herschel, La Place, and others, and is now generally accepted by astronomers. It supposes that the solar system is built up by the condensation and cohesion of nebulae.

NECROMANCY, "the black art" was in olden times much believed in, and was supposed to be an occult power by which its practitioners could converse with the spirits of the dead in regard to the future.

Needle Gun—the ignition of the charge of which is

produced by a fine steel rod or needle being pressed through the cartridge—was invented in 1807, and in 1836 was adopted to the breech-loading principle. It was used with great effect by the Prussians in their wars against Denmark and Austria in 1864 and 1866, but has since been superseded by weapons of greater efficiency.

Needles, according to Stow, were first made in England in the reign of Elizabeth, and in Mary's time "there was a negro made fine Spanish needles in Cheapside, but would never teach his art to any." In modern times the manufacture of this useful article has been greatly improved and immense numbers are made now at Redditch.

Negrees, are the black-skinned, woolly-headed Negro races, natives of tropical Africa, or descendants from such natives. The people of the Soudan, Senegambia, and of the great lake regions are the truest types, though it is customary to call Kaffirs, Zulus, and other blacks negrees. There are nearly 10,000,000 negrees in the United States.

Negus, the name given to any mixture of wine and water, and said to have been named after Colonel Francis Negus about 1714. The sovereign of Abyssinia was styled the Negus.

Nelson's Monument, in Trafalgar Square, London, is a handsome column 145 feet high, with the figure of Nelson on the top, erected in 1843 at a cost of £15,000, the four bronze lions at the corners of the base being contributed some years later by Landseer. There are four bronze reliefs representing respectively the battles of the Nile, St. Vincent, Copenhagen, and Trafalgar.

Nematæus, a genus of insects of the willow-fly family, widely distributed and springing from larva, which reside in small protuberances on the leaves of the food-tree.

NEMES GAMES were instituted at Nemes in honour of Archemorus, and revived in 1226 B.C. They were celebrated every third year, and were finally given up in A.D. 306. The conqueror in contests of strength and agility was rewarded first with a crown of olives, and later with wreathed chaplets of parsley leaves.

Neogene, a geological term referring to the later Tertiary formation in contradistinction to the older Eocene strata.

Neophron, a genus of culture, the leading representative of which is the Egyptian vulture. It has a white-plumage with black primæ, a bare head, and is about two feet long. Other members of the family are the Scavenger vulture of India and the Africa Pileated vulture.

Neoplatonism, a philosophical system originated in the 3rd century, and considerably developed in succeeding centuries by Plotinus, Proclus, Hypatia, and others, the first named being its most active exponent. At first it was pure paganism decked out in philosophical trappings, but in its later phases was largely influenced by Christianity. The Neoplatonists contended that by concentrating the mind exclusively on higher speculations it was possible to achieve a condition of ecstasy in which the Infinite would be revealed. They were suppressed in the 6th century under Justinian.

Neotoma, the scientific name of the wood-rats of North America; they are of large size, have thick fur and include many species. *Neotoma cinerea* has a squirrel-like brush; the rest are rat-tailed.

Nepotism, a term indicating a bestowal of office or patronage amongst relations, and having its origin in the custom of certain Popes to enrich their family out of the offices of the Church.

Neptune, the most distant of the planets, estimated to be about 2,780 millions of miles from the sun, and taking about 160 years to make a revolution round that luminary.

Nesokia, a genus of Asiatic rodent of the bandicoot family, possessing a nearly naked tail. *Nesokia bandicota*, the "pig-rat," often exceeds a foot long.

Nesotragus, a sub-family of small but exceedingly graceful antelopes found only in Zanzibar and Mozambique.

Nestorians were at one time a very numerous body. They were followers of Nestorius, who was a patriarch of Constantinople in the 5th century. He taught that Christ was both human and divine, receiving His divinity from God and His human nature from Mary. There are still some Nestorian communities scattered about the world, principally in the Levant, though some few exist—more or less isolated—in America and even in London.

Nests are, strictly, habitations formed by birds for the reception of their eggs and the hatching and rearing of their young. They are of the most varied character, some being mere resting-places on the ground, while others display a remarkable skill in construction. Thus, the bower-bird and other species show very distinctive peculiarities. The most usual materials for bird-nest building are leaves, twigs, moss, wool, feathers, mud, clay, etc. Some birds burrow in sand-hills. A few mammals and certain fishes also build nest-like structures for breeding in.

Nethinim, an order of hereditary attendants upon the Levites in the services of the second Hebrew Temple at Jerusalem.

Neuroptera, an order of insects which includes dragon-flies, caddis-flies, may-flies, and other four-winged species. The larvae have six-jointed legs.

Never-Never Land is a name that is now frequently given to the seemingly impenetrable plains of Northern Australia. Who coined the phrase is not known, but it was first uttered on a London stage by Sir H. Beerboom Tree in the character of "Captain Swift," the gentlemanly Australian bushranger. The late Wilson Barrett used it as a title for both a play and a novel. It is also prominently used in Mr. J. M. Barrie's Christmas play, "Peter Pan." In the early "eighties" of last century Messrs. Sampson Low and Co. published a book with the title of *The Never-Never Land: A Ride through Northern Queensland*.

Newgate Prison, now pulled down and replaced by the handsome Sessions House opened in 1867, was situated near the point where once stood one of the old London city gates. There is record of a prison upon this spot in the 13th century. Later a new one was built by the executors of Sir Richard Whittington, but this was destroyed by the Great Fire in 1666. Still another new prison on this site was erected between 1778 and 1781. In the Gordon Riots of the latter year it was destroyed by fire and re-erected. It was disused as a prison after 1881.

New Lanark, in Scotland, was the place where Robert Owen established his socialistic factories and settlement in the early part of the 19th century. At first the scheme seemed to promise great success, but after a few years it had to be abandoned.

News Letters were an early form of newspaper, popular in the time of Charles II. They consisted of items of news and gossip collected at the various coffee-houses and places of public resort. They often included blank pages on which readers could write their private letters.

Newspapers did not come into existence before the early part of the 16th century, when, in Italy and Germany, one or two crude attempts at news-sheets were made. In 1622 and 1643 certain publications giving news were issued, but the *Publick Intelligencer*, established in 1633 by Sir Roger L'Estrange, was the first real English newspaper. It lasted three years, and was succeeded by the *Gazette*. The *Morning Post* is the oldest of existing English newspapers, having been started in 1775. The *Times*, under its first title of the *London Daily Universal Register*, was begun in 1785 and has been called by its present title since 1788. The first London evening paper was the *Globe*, begun in 1803. There are now over 5,000 newspapers, magazines, and periodicals published in the United Kingdom.

New Style, of calendar reckoning, was adopted in Great Britain in 1752. (See *Calendar*.)

Newt, the name of a small British amphibian of lizard shape and mottled markings. The largest species, the *Triton cristatus*, often attains a length of 6 inches.

New Testament. (See *Bible*.)

New Year's Day, the opening day of January. The first New Year's festival of which we have records is that constituted by Numa 713 B.C., and dedicated to Janus.

Nexum, an ancient Roman term indicating a ceremony of legal transfer by which a debtor unable to satisfy a debt became the creditor's bondman.

Nibelungen-Lied, the German epic of the 12th century comprising numerous mythical poems or sagas of which several English translations exist. These poems have been utilised with great effect as foundations for Wagner's famous series of operas comprised under the general title of "The Ring of the Nibelungen."

Nicene Creed, a summary of the principles of Christian faith, was first issued in 325 after being drawn up by the Council of Nice, and was meant to thwart the Arians, and assert the godhead of Christ.

Niche, a recess or nook constructed for the reception of a statue or other special ornament. Such niches are numerous in the older ecclesiastical buildings, and usually contain the figures of saints or historic personages.

Nickel, a white ductile metal forming one of our most useful alloys, being largely used in the manufacture of German silver, and also for coinage in America and France.

Nicolaitanes were a religious sect supposed to have originated with Nicholas, one of the first seven deacons of the Christian Church, and are mentioned in the second chapter of the Revelation. They denied the divinity of Christ.

Niccolò, a large brass reed instrument, common in the 17th century, but superseded by the bassoon, often alternately called an "oncollo."

Nicotine, an alkaloid substance contained in the tobacco plant. It is a clear, colourless oil and highly poisonous, paralysing the nerves. In the act of smoking tobacco, however, only an infinitesimal quantity is absorbed in the smoke.

Niello Work was in considerable vogue in the Middle Ages, and is said to have suggested the idea of engraving upon copper. It was produced by rubbing a mixture of silver, lead, copper, sulphur, and borax into engravings on silver, and some highly decorative results were obtained. The process is still largely practised in Russia.

Night-raven, sometimes called the night-raven, is a variety of heron of which only one species is known in Europe. It is an occasional visitor to Britain. It has a long white crest. In spite of its name its habits are not specially nocturnal.

Nightingale, a familiar singing bird which visits the southern counties of England every summer, and is sometimes found as far north as Yorkshire. It is a shy bird, not often seen, but the song of the male, usually heard in the late evening or at early morn, is of remarkable sweetness and variety. After its winged period is over its power ceases.

Night-jar, the popular name of the goatsucker bird. (See *Goatsucker*.)

Nihilism, in metaphysics the doctrine which rejects all belief that is unsupported by physical evidence. "Of positive or dogmatic nihilism there is in modern philosophy no example," Hamilton avers.

Nihilists, members of a political organisation which finds its most numerous supporters in Russia. They carry on their work in secret and appear to have representatives in all classes of society. They have been regarded as the moving spirits in many of the conspiracies and assassinations which have been so frequent in Russia during the last quarter of a century, their activity being greater than ever during the troubles subsequent to the Russo-Japanese war. How far the Nihilists were responsible for the assassination of Czar Alexander II. in 1881, and the numerous more recent assassinations of authoritative persons (including that of the Grand Duke Sergius) will probably never be fully known. The Nihilists will presumably remain a powerful obstructive force to autocracy so long as it exists on its present basis, for repressive measures appear impotent to crush them out of existence, and known Nihilists reside in every European capital.

Nile, Battle of the, fought in 1798 between the English and French fleets in Aboukir Bay, and lasted from sunset of the 1st of August to the next morning. Nelson captured or destroyed the entire fleet of the enemy but two ships.

Nilgau, or Nyilgau, an Indian Antelope of a blue-grey colour and a slightly humped shoulder. It is the largest of the few true antelopes indigenous to our Eastern Empire.

Nimbus, a cirelet of light depicted round the heads of saints or divine personages in ancient art.

"Nineteenth Century," a monthly magazine started in 1879 by Sir James Knowles; noted for the high quality of its contents, and the celebrity of many of its contributors. Now known as "The Nineteenth Century and After."

Niobium, an uncommon metal found in Colmaite and first called columbium by its discoverer Hatchett in 1801. Its present name was given to it by H. Rose in 1846, on re-discovering it.

Nirvana, in Buddhism, is the condition of supreme attainment, and involves the extinction of every form of desire, ambition, or unrest. It is the holy state.

Nitre, or saltpetre, is now mostly manufactured by the double decomposition of sodium nitrate and potassium chloride, and forms the explosive ingredient in gunpowder, lucifer matches and certain detonating powders. It has been manufactured in England since 1625. As found, in certain parts, of South America on the soil, it forms a valuable chemical manure.

Nitric Acid, or Aquafortis, is a compound of nitrogen, hydrogen, and oxygen, and was first separated by Raynold Lully, the alchemist, in the 13th century. It was not, however, until towards the end of the 18th century that Cavendish demonstrated its real nature. It is a ready solvent of many metals.

Nitrate of Ammonia is obtained by the action of nitrous acid on alcohol, and forms an effective remedy in ailments of the respiratory organs.

Nitrogen, a non-combustible gas devoid of taste or smell, and constituting nearly four-fifths of the atmospheric air. In the 18th century Scheele separated the oxygen of the air from the nitrogen.

Nitro-Glycerine, an explosive yellow fluid produced by mixing small quantities of glycerine with a combination of one part of nitric acid and two parts of sulphuric acid. It was first employed as an explosive agent by Alfred Nobel in 1864. It is the main constituent of dynamite.

Nitrous Oxide, a compound of mild anæsthetic power, combining nitrogen and oxygen. Discovered by Priestley in 1772.

Nizam, the title by which the old rulers of Hyderabad were known. The first Nizam was Asaf Jah.

Nobel Prizes. These prizes, founded by the will of Dr. Alfred H. Nobel (d. 1896), are five, each worth about £5,000, and are awarded each year for the most important discoveries or improvements in (1) physics, (2) chemistry, (3) physiology or medicine, (4) the most distinguished literary work of an ideal tendency (5) the best effort towards the promotion of peace. Among the British prize-winners are: for physics, Lord Rayleigh and Prof. J. J. Thomson; chemistry, Sir W. Ramsay, Prof. Rutherford; medicine or physiology, Sir R. Ross; literature, Rudyard Kipling and Rabindranath Tagore (Indian); peace, Sir W. K. Cromer. Among eminent foreign prize-holders are Prof. Röntgen, M. and Mme. Curie, Marconi, Maeterlinck, and Roosevelt.

Nobility are people enjoying titles of rank. At first the right of peerage was only territorial, but gradually men who achieved great deeds were similarly honoured. (See Different Titles.)

Noble, an old English gold coin current in the 14th century, and of the value of 6s. 8d.

"Noctes Ambrosianæ," a series of papers contributed by John Wilson ("Christopher North") to *Blackwood's Magazine* in the "forties" of the last century.

Nocturne, a name invented by John Field to indicate a certain kind of musical composition suggestive of night. Chopin used the term for his nocturnes for the pianoforte; and Whistler for some of his famous night effects.

Noddy, a kind of tern or sea-swallow common on the coasts of tropical countries along the warmer parts of the Atlantic borders. It is said to be of a dull nature, hardly making any attempt to avoid capture, hence its name of "noddy" or simpleton. *Anous stolidus* is the ornithological description of this bird.

Noeggerathia, the name of a genus of fossil plants found occasionally in European coal-measures; referred to the *Cycadeæ* by some palæontologists, but by others placed among the ferns.

Nominalists, a sect founded by Jean Roscellinus, Canon of Compiègne, in the 11th century, who maintained the doctrine that general ideas only exist by the names we give them, in opposition to the "Realists," who contended that general ideas are real things with positive existence.

Nomogeny, a term invented by Owen to express the life which has a natural origin, as opposed to *theismatology*, or miraculously produced life; the theory of spontaneous generation.

Nonage, an ancient term in ecclesiastical law signifying the ninth part of a deceased person's movable goods, which could be claimed by the clergy for devotion to pious purposes.

Nonconformists, or Dissenters, is the name given to all such religions as do not conform to the doctrine of the Church of England. Up to the passing of the Act of Uniformity in 1534 they were called "Puritans." At various times the Nonconformists have been rigorously persecuted, but in later times the utmost toleration has been granted to them. The oldest bodies of Nonconformists are the Presbyterians, Baptists and Independents. The Methodists date from 1739. Throughout the world there is a membership of Methodists of 30,000,000, Baptists 7,000,000, Presbyterians 5,000,000, Congregationalists over a million and a quarter, and Friends over 100,000, not counting the various smaller Nonconformist bodies.

Nonen were dates of the Roman calendar, which fell on the 6th of each month, excepting March, May, July and October, when they fell on the 7th.

Nonjurors were an ecclesiastical party who refused to swear allegiance to William III. In 1669, contending that James II. had been unjustly deposed, Sancroft, Ken, and several other Bishops were among them. Although they were deprived of their benefices and subjected to double taxation they adhered to their opinions for the most part.

Non Nobis, Domine! ("Not unto us, O Lord"), a musical canon, sung as a graceful public feast, an old setting (by Birde, 1618) of part of Psalm cxv.

No Popery Riots, headed by Lord George Gordon in 1780, assumed a very serious character for a time. The movement had its origin in the strong objection on the part of many people to the Act not long before passed granting certain indulgences to the Roman Catholics. For a few days the mob raged in London, burnt down a Newgate, liberating the prisoners from that and other jails, and committing great damage in many parts of the town. The military were called out, and in the various conflicts that ensued nearly 300 rioters were killed, and the loss of property was estimated at £180,000.

Norfolk Islanders are descendants of the mutineers of the "Bounty" who established themselves on Pitcairn Island in 1780. The Pitcairn families in the course of the next half century became so numerous that the island was unable to support them all, so in 1855 the British Government removed them to Norfolk Island, which was stocked with sheep, cattle and horses for their benefit. The Norfolk Islanders now number about 800, two-thirds of whom are descendants of the original mutineers.

"North Briton" was the title of John Wilkes's famous London political newspaper, in which from week to week he published scathing indictments of the King and the Government. His most bitter onslaught was in "Number 45," which charged the King with uttering falsehoods. In his speech, the King was several times prosecuted and imprisoned, but his paper had a wide influence for many years.

Northmen were the early inhabitants of Scandinavia, famous as sea adventurers, and pirates. Their attacks on Britain and other parts of northern

Europe prior to the 17th century were often successful, and they established settlements in the islands off the Scottish coasts, and in the north of France, where they founded the duchy of Normandy, from which the Normans who conquered England in the 11th century were descended.

North-West Passage, from the Atlantic to the Pacific through the Arctic seas, has been the dream of navigators for centuries, and many have been the expeditions which have gone forth in the hope of making its discovery, at great sacrifice of life and money. From 1743 to 1818 the British Parliament offered a reward of £30,000 for such discovery, and in 1818 the offer was altered so as to provide for a payment of £5,000 to anyone who passed either 110°, 120°, or 130° W long. Sir E. Parry was the first to win one of these payments. Sir John Franklin's ill-fated expedition in the ships "Erebus" and "Terror" set out in 1845, and though there is little doubt Sir John effected the discovery, he and all his associates perished. Sir Robert McClure achieved the passage in 1850-4. Numerous later expeditions have been undertaken, including those of McClintock, Young, Markham, etc. Sir G. S. Nares took command of a new expedition in 1875, in the "Alert" and "Discovery," for which Parliament voted £30,620. Dr. Nansen in the "Fram" (1893-6) reached a point nearer to the Pole than had ever before been attained. Expeditions under Greeley, Capt. Jackson, Lieut. Peary, the Duke of Abruzzi (see "Arctic Exploration"), and others, have also been more or less successful, and the North Pole and the North-West Passage will doubtless continue to attract fresh adventurers, in spite of the fact that the ice presents an impenetrable barrier to any sea passage in that region being of practical use.

"Notes and Queries," described as "a medium of intercommunication for literary men and general readers," was founded by the late Mr. W. J. Thomas in 1849, and was afterwards for many years under the editorship of the late Mr. Joseph Knight.

"Not Proven," a verdict peculiar to Scottish law under which, in criminal cases where the evidence not being sufficient to fully demonstrate the charge made, a prisoner is given the benefit of the doubt and set free, and cannot be retried even if later evidence of his guilt be discovered.

Notre Dame, the famous Paris cathedral, was founded in 1163, and is one of the finest specimens of Gothic architecture in Europe. The best descriptions of the building are to be found in Victor Hugo's "Hunchback of Notre Dame."

Novargent, a substance consisting of chalk moistened with a solution of oxide of silver and cyanide of potassium, and used for re-silvering plated articles.

Novatians were a sect founded by Novatus, a Stoic philosopher first and then a priest of Rome in the 3rd century, who differed from the heads of the church in regard to the mystical and ascetic doctrine. The Novatians did not stand out long, however, and most of them were taken back into the church.

November, the 9th month of the year originally, but from 713 B.C., when Numa added January and February, it took its present position as the 11th month.

"Novum Organum," Bacon's famous work, published in 1620, in which the main part of his system of inductive philosophy was set forth.

Noyade, a mode of execution by drowning practised during the Reign of Terror in France at Nantes. The victims were set afloat in a boat with a movable bottom, and when the vessel reached deep water the bottom opened and let the prisoners into the water.

Numismatics, the science of coins and medals, has proved a fascinating study to many, and has resulted in the discovery of valuable historic evidence at various times. The difference between a coin and a medal is that the former is a piece of money, while the latter commemorates some person or event. Numerous books have been written on both subjects, and there are many numismatic societies in existence.

Nummulites are fossil foraminifera, coin-shaped, varying in size from one-eighth of an inch to an inch, and belonging to the Eocene formation. Nummulite

limestone is the commonest of all the Tertiary rocks in Europe, Asia, and Northern Africa.

Nun-Bird, a South American harrier of sombre colour, with white patches and markings on the head and wings.

Nunc Dimittis, a familiar hymn ("Now lettest thou thy servant depart in peace"), forming part of the Evening Service in the various Christian churches.

Nuncio, the title given to a Papal Envoy to any Catholic State. In former times Nuncios acted as judges of appeal.

Nunneries, convents for the exclusive residence of women who have taken the vows, are common in Roman Catholic countries, and there are still a few in Britain. The first English nunnery was founded at Colchester in 690, and up to the dissolution of the monasteries such institutions were to be found in all parts of the country.

Nut-Hatch, a tree-creeping bird, common in various parts of the New and Old worlds, but represented in England by only one species. It has long, curved claws that fit it for climbing, and it feeds mainly on nuts.

Nutmeg, the kernel of the stone of a tropical fruit, used as a spice and highly aromatic.

Nyctea, a kind of snow-owl of large size and white plumage found in the Arctic and Sub-Arctic latitudes of Europe, America and Asia.

Nymphaea, the white water lily, dedicated by the Greeks to the water nymphs. *N. lotus*, an Indian species, is employed as a specific in cholera.

Nyssa, the black gum, or pepper-ridge tree of America, possessing a tough, almost unpalatable wood. The sub-acid fruit of one variety, *N. ravidissima*, is sometimes called the "Ogechee Lime," and used as a substitute for ordinary limes or lemons.

O

Oak, the most valuable of European timbers, remarkable for its strength and durability. Was used for building the ships of the British fleet from the days of Charles II. to its supersession by iron. Has always been extensively used in furniture construction and cabinet work.

Oak Boys, an insurrectionary Irish party which had a brief prominence in 1763, and having for their object resistance to an Act which compelled householders to labour on the roads for a time. They wore oak sprays as a badge.

"Oaks," the name of a famous race for three-year-old fillies run at Epsom two days after the "Derby."

Oakum, the name given to loose hemp and untwisted ropes, in the preparation of which prison labour is largely used in England.

Oasis, the name given to any fertile spot in a desert region. Such spots are fairly numerous on the Sahara and Libyan deserts, and some of them are extensively peopled and successfully cultivated.

Oates Plot. (See *Oates*, *Titus*, "Prominent People Section" of *Pears' Cyclopaedia*.)

Oaths were introduced into English judicial trials in the 7th century, and are referred to in the Old Testament (Gen. xxi., 24; Exod. xxii., 11). The oath of supremacy dates from 1535. Quakers were permitted to substitute affirmations for oaths from 1665. Braulugh's Oaths Bill, passed in 1868, allowed affirmations in place of oaths whenever required. Since Jan. 1, 1910, oaths administered in English courts have been by way of declaration and affirmation, the custom of kissing the New Testament having been dispensed with.

Oats, a well-known cereal product, probably native to Asia, but cultivated with considerable success for many centuries in Scotland and England. The United States also produces large quantities. Cakes and porridge of oatmeal are common articles of food in many countries, especially in Scotland.

Ochelak was regarded by the ancient Egyptians as the symbol of God, and as a monumental object was largely used by the Pharaohs. Twelve were transported from Egypt to Rome and set up at various

times; there is one in the Place de la Concorde, Paris; and one in London, on the Thames Embankment. The British Museum has two. What we call "Cleopatra's Needle" was originally erected at Heliopolis by Thothmes III., about 1200 B.C.

Oberammergau, the Bavarian village where a kind of miracle play is acted in which the different episodes in the Passion of Christ are depicted. These performances take place every ten years, and attract a crowd of visitors from all parts of the world.

Obi, the Japanese name for a coloured sash commonly worn by Japanese women, and tied with a large bow at the back of the waist.

Obit, the date or the anniversary of a person's demise; the term is used also in reference to a service of a religious character celebrated on such an occasion.

Oblation, a gift offered in worship, referring especially to the bread and wine given by the laity for the Eucharist.

Oblivion, Act of, was the act of "free pardon and oblivion" in respect of "all treasons and state-offences" committed between 1637 and 1660 (the Civil War and Commonwealth period), excepting from it the "regicides" and certain priests.

Oboe, a well-known musical reed instrument, and a leading feature in symphonies and concertos. It was introduced into England about 1720.

Obolite Grit, a green-grained grit of Lower Silurian age and calcareous character, containing the obolus mollusc fossils, found in Russia.

Obolus, a silver coin of ancient Athens worth about a penny farthing in English. The name was also adopted for small coins in different parts of Europe in the 14th and 15th centuries; besides being applied to a small weight, equivalent to the sixth part of an Attic drachme. In paleontology an obolus is a fossil *Lingulide* of the Silurian period.

Obscurantists, a term applied to persons who are adverse to the extension of knowledge and view with distrust all measures of reform and the opening up of new lines of thought.

Observants were certain members of the Franciscan order who in the 15th century adopted a milder policy than that of the monastic order, and ultimately were approved by the papal authorities.

Observatories existed in ancient Babylon and Egypt. They were erected on tombs and temples. The most famous observatory of Egypt was that of Alexandria, erected by Ptolemy Soter, 300 B.C. It was not until the 16th century, however, that an observatory adequately equipped for astronomical investigations was built. This was at Cassel. Tycho Brahe's observatory at Uraniburg was erected in 1576. The Royal Observatory at Greenwich was completed in 1675. In recent times such institutions, public and private, on a large scale, have been erected. At his observatory at Parsonstown, in Ireland, Lord Rosse erected a telescope the error of which was 6 feet in diameter, and cost £50,000. At the Lick Observatory, California, the telescope has a 36 inch refractor, but the largest hitherto is that at the Yerkes Observatory, Chicago, which has a tube 75 feet long and an object glass 40 inches in diameter.

Obsidian, a form of volcanic rock of vitreous structure, and usually a silicate of aluminium, lime, magnesium, etc.

Ocarina, a simple kind of musical instrument usually made of terra cotta with a whistle mouth-piece and finger holes. It has a rather liquid sound, and played by an expert is pleasant to listen to.

Occultation, in astronomy, refers to the concealment of a celestial body by the passing before it of some other heavenly body. The most frequent occultation is that of a fixed star by the moon.

Occultism, originally the practice or study of the occult sciences, including alchemy, astrology, magic, necromancy, etc.; but in recent times referring only to theosophy, spiritualism, palmistry and so forth.

Ocean comprises the great body of water which covers five-sixths of the surface of the earth, and has an average depth of two miles.

Ocean Currents are well defined streams running over certain portions of the ocean and caused in various ways. Usually the currents run in the direc-

tion of the poles from the equator, and by a natural counteraction currents are set up in the opposite direction. The ocean current with which Europeans are most familiar is the Gulf Stream.

Ocean Monarch, the name of an emigrant ship which left Liverpool for Boston on 24th August 1848, with 400 persons on board. She took fire off Great Orme's Head and 178 people lost their lives.

Ocelot, usually called the leopard cat, is common in the more Southern parts of the United States, in Mexico and Brazil. It is about 4 feet in length, including tail, and of a grey or tawny colour, and spotted. It is very destructive to weaker animals, but does not devour them, contenting itself with sucking their blood.

Ochres, the name of a number of natural earths impregnated with mineral colorings, chiefly silica and alumina. They include iron ochre, yellow ochre, and plumbic ochre, being respectively oxides of iron and lead. Ochres are largely used in the making of paints.

Octagon, in geometry, is a plane of eight angles and eight sides, and is a regular octagon when all the sides and angles are equal.

Octahedron, in geometry, consists of a solid figure bounded by eight triangular faces.

Octarchy, the name given to the kings of the English heptarchy, Hengist (455) being the first, and Egbert (800) the last.

Octastyle, in architecture, is a term applied to an eight-columned portico such as that of the Parthenon of Rome.

Octatauch, meaning a collection of eight books, is a term generally applied to the first eight books of the Old Testament.

Octave, in music, is the interval between one note and the eighth note from giving a perfect concord.

October, the 10th month, but the 8th in the old Roman calendar. It was held sacred to Mars.

Octopus, an invertebrate fish of the *Cephalopoda* group, sometimes called "the devil fish," has eight arms covered with suckers, and a head with horny jaws and large globular eyes. It is very common in the Mediterranean.

Odstols are special taxes levied on articles of food before entering a city. They have been established in France since 1817, and still exist, though at various periods they have been suspended.

Ocuba Wax, a vegetable wax used in Brazil in the manufacture of candles, and obtained from the fruit of *Myristica ocuba*.

Oddfellows, the name of a prominent friendly society whose headquarters are at Manchester. It existed in the 18th century as a social club, but was reorganised on its present basis in 1814. It has now nearly 5,000 lodges, and a membership (including the juvenile branch) of close upon a million, with a capital exceeding twelve million pounds sterling.

Odes were originally extempore compositions sung in honour of the gods by the ancient Greeks and Romans. They were divided into three sections: strophe, antistrophe, and epode. All the most famous ancient odes—of Anacreon, Pindar, Horace—were composed before the Christian era. Among the best known English odes are those of Milton, Dryden, Collins, Gray, Wordsworth and Keats.

Odeum, a small theatre for the recitation of musical compositions, generally contiguous to a larger public theatre; thus the odeum of Athens in classic days adjoined the theatre of Bacchus.

Odometer, an instrument for measuring distances travelled by wheeled vehicles. Such apparatus have been known since the 17th century, but have been greatly improved in recent years, as instance the taximeter.

Odontograph, a term in mechanics signifying an ingenious instrument enabling engineers to design and lay off infinitely the teeth of gear-wheels.

Odontography, a description of the teeth and the natural phenomena of dentition.

Odontology, the science of the teeth, is but of comparatively recent growth and includes odontography and the study of dentition.

Odour of Sanctity, a phrase which originally

expressed the belief that the corpse of a holy person emitted a sweet odour, while that of an unbaptised person gave forth an evil odour; the term is now employed figuratively of the reputation.

Odryse were a Thracian race who maintained their independence of the Persians for a long period, until Philip II. of Macedonia subdued them about 345 B.C. They ultimately became absorbed in the Roman Empire under Vespasian.

Odyli, Baron von Reichenbach's name for a supposed magnetic force developed by the material universe in general, and variously termed odic force, odylic force, etc. It has not met with scientific acceptance.

Odysey, the famous epic poem setting forth the incidents of the wanderings of Ulysses on his way back to Ithaca after the Siege of Troy.

Oecumenical Council, one of the general councils of the Eastern Church, the first of the character of historic importance being that of Chalcedon in the 5th century.

Oeil-de-Bœuf, a term in architecture denoting openings, usually round or oval, in friezes, roofs, or domes of buildings, designed for the admission of light.

Ogham, an ancient style of Irish or Celtic writing consisting of characters formed on either side of a straight line drawn on wood or stone, not used later than the 6th or 7th century.

Ogulnian Law, the passing of which was secured by the two Tribunes Ogulnius, B.C. 300, had the effect of increasing the number of the Pontiffs and Augurs, and conceded eligibility for those offices to Plebeians.

Ogyges Deluge, occurred in 1764 B.C., inundating Attica to such an extent that the country lay waste for nearly 200 years afterwards. It takes its name from King Ogyges, who reigned at the time.

Ohm's Law, was propounded by Dr. G. S. Ohm, and determines the quantity of the electro-motive force of the Voltaic battery. It is in accord with the discovery that the earth can be utilised as a conductor, and obviates the employment of a return wire in electric telegraphy. An ohm is the unit of resistance in electro-magnetics.

Odium, the botanical name for a fungus, a variety of which is found on the grape-vine, causing what is known as the "vine disease." Another variety, *Odium lactis*, generates on the surface of sour milk; while yet a further form, *Odium adhaes*, develops, in certain unhealthy conditions, aphthae in the human mouth.

Oil Cake has in recent years come into great favour as food for cattle. It is made from linseed, rape, and cotton seed, after the oils have been extracted, and is very fattening.

Oil Gas, a combustible gas obtained by the decomposition of oil, yielding a brilliant light, and largely employed for illuminating purposes.

Oils are of three classes, fatty or fixed oils, volatile or essential oils, and mineral oils. Fatty oils are obtained from animal and vegetable matters; fixed oils are used in the manufacture of soap, for lubricating purposes and for illumination. Volatile or essential oils are obtained by distillation and are used mainly for essences and colouring mediums; mineral oils are mostly used for producing artificial light, and are being largely utilised as oil fuel. Oil was used in lamps in the time of Abraham, and the references to it in the Old Testament show that the Jews used special oil for anointing kings, priests, and other high personages. Numerous experiments have been made with oil for calming turbulent waves, and a certain success has attended these experiments. (See *Petrol*, *Petroleum*.)

Ojibway Indians are a renowned tribe inhabiting the great lake districts of Canada. At one time they were very warlike and gave much trouble to the Government, but in recent years they have become largely civilised and live in prosperous settlements.

Oibers' Comet was discovered in 1815 by Oibers the German astronomer. Oibers also discovered the asteroids Pallas and Vesta, the former in 1802 and the latter five years later.

Old Bailey, the name generally given to the Sessions Court, adjoining Newgate Prison, for the

trial of criminals in the City of London and throughout the county of Middlesex. There are eight sessions held during each year at what is still styled the "Old Bailey." The judges appointed to try cases are the Recorder and the Common Serjeant, one or more judges of the High Court, the Lord Mayor and such aldermen as have passed the Chair. The Court House has recently been entirely rebuilt on a handsome and substantial scale.

Old Believers, a term applied to a Russian sect which separated from the Greek Church in 1654 in opposition to the Patriarch Nikon. They are said now to number over twelve millions.

Old Catholics are the German Catholics who declined to accept the dogma of papal infallibility, and now form an independent sect. Professor Dollinger of Munich was their first leader, and Père Hyacinthe (Charles Loyson) has been the principal exponent of the party in England and Switzerland.

Old Red Sandstone is a geological term for the group of rocks lying below the Carboniferous formation. It has three series: the Upper, Lower, and Middle Devonian, all rich in fossils. Another name for this group is the Devonian formation.

Olefant Gas, or ethylene, is obtained by acting on ethyl alcohol with concentrated sulphuric acid, or phosphoric acid. It is present in coal gas to the extent of about 6 per cent. It is a hydrocarbon and burns with a luminous flame.

Olefines, a series of hydrocarbons, in which the hydrogen atoms are double the number of those of carbon. The first member of the series is olefant gas. Olefines differ from paraffins in that they combine directly with the halogens and the haloid acids, which paraffin will not do.

Olive Acid, a prominent element of numerous fats and oils abounding in those obtained from the olive almond, and similar fruits. It is styled an organic acid and contains oxygen, carbon and hydrogen, and is much used in the manufacture of certain soaps.

Olein, a colourless oil obtained from animal and vegetable fatty oils, and very widely distributed. It is not found in a pure state, and is soluble in alcohol and ether, but not in water.

Oliographs, the name given to reproductions of paintings in oils, the colours of the original being more or less faithfully copied. The process is one that closely resembles chromo-lithography.

Oleo-Margarine, a solid fat of a yellowish colour, obtained from the leaf-fat of cattle. This fat is submitted to certain patented processes and put on the market as margarine, a substitute for butter, which it closely resembles in appearance and to some extent in flavour.

Oleometer, an instrument for ascertaining the specific gravity of oil. (See *Hydrometer*.)

Oleron Laws are supposed to have been passed by Richard I. while on the island of Oleron, off the coast of France, in 1194, and have reference to the commerce of the seas.

Olibanum, a resinous gum obtained from the trees of the *Boswellia* genus, grown in Somaliland and India. It is of an aromatic order, and used as incense.

Olivinite, a mineral of an olive-green colour, occurring in crystals lying near copper ore. Scientifically it is an arsenate of copper.

Olives are the fruit of the olive tree which grows so abundantly in Italy, and which in recent years has been cultivated with considerable success in Southern California and Australia. A stone fruit; in its unripe condition it is largely used for pickling purposes. Olive oil is obtained from the pulp of the fruit, and is the lightest of all fixed oils.

Olivine, a chrysolite, is a mineral of a pale green colour, found in volcanic rocks and meteorites. It is essentially a double silicate of iron and magnesium.

Olla Podrida, a sort of Spanish 'haggis,' combining in a stew a number of meats and vegetables.

Olympiads were periods of four years, the era of the Greeks and originated in 776 B.C., this method of computation lasting until A.D. 440, when the 350th Olympiad ended.

Olympic Games, instituted in honour of Jupiter by the Greeks, were held every 5th year at Olympia in

the Peloponnesus. These ancient festivals continued, with intervals, from 1543 B.C. to A.D. 394. **6**

Olympieum was the name of the famous Temple of Jupiter erected near Peloponnesus by Libon, after the conquest of the country by the Eleans. A colossal statue of Jupiter in gold and ivory was executed for this Temple by Phidias.

Omacontha, a genus of beetles, of the sub-family *Laminiæ*, one very large species of which is the *Omacontha gigas* of the Gold Coast.

Ombrometer, an instrument for gauging the depth of rainfall.

Omega, the last letter of the Greek alphabet, and widely adopted in literature in its figurative sense as indicating the end of anything.

Omens are auguries or presentiments of some coming event, usually something evil. In olden times omens, portents, and signs were seriously regarded, and among the Greeks and Romans emanated chiefly from the priests or augurs who were supposed to be the recipients of the warnings of the gods.

Ommiades, the name of a dynasty of Mahomedan caliphs, fourteen of whom reigned in Arabia 661-751, and eighteen at Cordova in Spain 755-1031.

Omnibus, a public four-wheeled vehicle for conveying passengers along certain routes at specified fares. A few instances of this kind were seen towards the end of the 17th century in Paris, but did not become popular until revived in that city in 1808. In the following year the first English omnibus was started in London, its running being between Paddington and the Bank of England. The idea quickly extended, and in the course of a few years, general services were in operation. The London General Omnibus Company was established in 1856, and the London Road Car Company began operations in 1883. Motor omnibuses are now a prominent feature of town transit everywhere, the old horse omnibus having almost entirely disappeared from the streets of London.

Ommimeter, an invention for superseding chain measuring and combining the theodolite and level. It was introduced in 1869, and is the invention of a German engineer named Eckhold.

Omnipotent Act, the name given to an English law passed in 1664, which provided that judgments and executions in Civil cases should not be stayed except upon certificate. It received its name from granting the Courts such extensive powers.

Omnivora, the scientific name of the hog tribe of non-ruminants, ranging from pigs to hippopotami.

Onager, the wild ass inhabiting themountain districts of Central Asia, and valued as food by the Persians.

One Pound Notes were issued by the Bank of England in 1797 and remained in circulation until 1823, when they were withdrawn. A further issue took place in 1825 but lasted only a short time.

Onus Probandi, a legal term signifying that the onus of proof rests on the party or side indicated. This obligation of proof generally devolves upon the supporters of an affirmative.

Onyx, a kind of agate or quartz having its colours arranged in parallel layers. Onyx cuts and polishes well, and is much used for cameos.

Oolitic Formation, a geological term indicating beds of secondary rocks lying immediately below the Neocomian formation, and existing through a long stretch of country extending from Yorkshire to Dorsetshire. It abounds in fossils of molluscs and reptiles. Portland is a typical stone of oolite or rock-stone formation.

Oolitic Structure occurs in limestones, and comprises very small rounded grains, suggesting the roe of a fish, or the spherical seeds of certain plants; each grain containing a minute central nucleus, round which the component carbonate of calcium has been deposited.

Opah, a kind of deep-sea fish remarkable for its delicate colouring. It has scarlet fins, and starry silver spots, with blue and rose-coloured interminglings. It is an inhabitant of the Atlantic and averages from three to four feet in length, sometimes being called the "Kingfish."

Opals are mineral substances, consisting of silica-like

quartz, and are of numerous varieties and colours, ranging from white to brown and green. Some have a vitreous lustre and transparency which constitute what is called "opalinescence." Opals are in great favour for jewellery; the best come from Hungary.

Operas are stage pieces in which music is the dominating feature, and have been one of the leading forms of amusement in modern times. There is a record of French opera performed as far back as 1230. The Italian opera came into being towards the end of the 18th century, and in 1600 an opera on the subject of Euridyce was given at Florence on the marriage of Marie de Medicis and Henry IV. of France. Louis the XIVth set up an opera in Paris in 1672. Scarlatti was the most prolific producer of operas of the 17th century. About 1584 a species of opera was being performed in London under the management of Sir William Davenant. In 1711 Handel's "Rinaldo" was produced at the Haymarket; Gay's "Beggar's Opera" was first given in 1727, and ran for 63 nights; the operas of Mozart had a marked influence upon the development of operatic music at the latter part of the 18th century. The leading opera composers of the 19th century were Beethoven, Rossini, Weber, Donizetti, Auber, Verdi, Meyerbeer, Gounod, and the last-named composer being the one who most marked development that has hitherto occurred in the history of opera. Among the composers of light operas the names of Offenbach in France and Sir Arthur Sullivan in England rank high.

Opera Singers of Title. Malibran became by marriage Countess de Merlin; Alboni, Countess de Pepolo; Pauline Lucca, Baroness von Wallhofen; Christine Nilsson, Countess Casa Miranda; Adeline Fatti, Marquise de Caux by her first marriage, and subsequently Baroness Colerstrout; Ella Russell, Countess de Rhigny; Mme. Belska, Countess Brochocki; and Pauline Jordan, Baroness de Busch.

Opheleide, a brass musical instrument in the nature of a keyed bassoon, was invented by a Frenchman named Fricliot early in the 19th century, and it has since played a useful part in brass bands.

Ophidia, a zoological term designating the order of reptilia embracing snakes and serpents.

Ophthalmoscope, an instrument invented in 1821 by Helmholtz for examining the interior of the eye.

Ophiozooida, a genus of birsen with only one existing representative, the ophiocoonus of South America, remarkable for its curious crest and long and delicately-coloured tail.

Opium was known to the ancients, and used by them as a medicine. It is obtained from the white poppy, the unripe "head" or seed capsule of that flower yielding a juice which when dried becomes the opium of commerce. The poppy is largely cultivated in India, Egypt, Persia, and Asia Minor, for the sake of this juice, which yields various alkaloids, such as morphine, narcotine, thebaine, etc. Laudanum is a tincture of opium. The Chinese are great smokers of opium, and the habit is one difficult to relinquish when once acquired. In 1906 the Chinese Government proposed to the British Government an arrangement by which the importation of Indian opium into China should cease within ten years, and at the same time measures were adopted for closing opium dens in China.

Opium War, so called because it followed on the destruction in 1840 of a number of British vessels carrying opium into Chinese ports. The result was the establishing of the "Treaty Ports" of China and the cession of Hong Kong to England.

Opossum, a familiar marsupial mammal found in the more southerly of the United States, South America, and Australia. It has a long prehensile tail and is not much larger in size than a cat. The females possess a pouch, in which they keep their young. It is of nocturnal habits, and a good scavenger.

Oppositionists, a term which first came into use politically in France after the Franco-German war, and referred to a section of the Republican party of which Gambetta was the leader, who held that the true political policy was not to force opinions upon

the people, but to wait until circumstances favoured their advocacy.

O. P. Riots, at Covent Garden Theatre in London, lasted, off and on, from the 18th September to the 16th December 1800. They were caused by the increased prices of admission which T. P. Kemble endeavoured to institute. The public declined to pay the increase, and clamoured for the old prices. Much damage was done to the theatre during this time, and the audience made it impossible for the performers to be heard. The riots were only ended by the restoration of the old prices.

Optics, the science which investigates the nature and properties of light and the phenomena of colour. Ptolemy wrote a treatise on optics 120 B.C., and burning lenses were known to the ancient Greeks. Spectacles were invented in the 13th century, and the camera obscura in the 16th century. Telescopes were not known until about 1570, and the microscope not before 1600. Among the most eminent writers on optics of modern times was Prof. Tyndall.

Optimism, the theory that everything happens for the best, has been propounded by many fathers of the church and philosophers, from Plato to Rousseau. It is the opposite of pessimism.

Oracles were in ancient times supposed to be words spoken by the gods, and it was the custom on important occasions to consult these oracles as to the future. The Croak and the Oracles of Zeus at Dodona, and Apollo at Delphi, while the Romans consulted the Oracles of Mars, Fortune, and others.

Orange, a fruit growing in most sub-tropical climates and in universal demand. It is grown on an evergreen tree that attains a height of about 20 feet at maturity.

Orangemen are Irish Protestants, who derive their name from having originally supported William III., Prince of Orange. They exist in greatest numbers in Ulster, where the Protestant religion dominates.

Orang Outang, one of the largest of the anthropoid apes, found only in Borneo and Sumatra. When full grown it stands over four feet in height, and has very long arms. It lives mostly in trees, and exists on fruits, buds, etc.

Oratorians were originally an order of priests founded by St. Philip Neri, about 1564, and received their name from the Oratory of St. Jerome, where they worshipped. They also established themselves in France in the 17th century, and in England in recent times the Oratory at Brompton, where Father Faber and others have ministered, serves in a measure to commemorate the earlier order.

Oratorio, a sacred musical drama, performed without scenic aid, originated with St. Philip Neri, and from about 1550 to the early part of the 18th century this class of composition was not known out of Italy. In 1738 Handel's Oratorio "Israel in Egypt" was performed, and the "Messiah" in 1741. Other great oratorios have been Haydn's "Creation," Beethoven's "Mount of Olives," Spohr's "Last Judgment," Mendelssohn's "Elijah," and Costa's "Eli."

Orbit indicates the course of a planet round the sun. All the planetary orbits are elliptical.

Orchestra, a band of instrumental performers, either attached to a theatre or opera, and occupying a position close to the stage, or a separate band of orchestral performers engaged to interpret musical compositions apart from vocal illustration. A properly organised orchestra comprises stringed, wood, brass, wind, and percussion instruments.

Orcin, a colouring matter obtained from lichens. It assumes a deep blood-red colour when dissolved in ammonia, and in this form it is called "orcin."

Ordeals, or trials by ordeal, were known in England in the time of the Saxons, and existed down to 1218, when they were abolished. The ordeals were usually of fire, water, or poison. The accused would be set to handle red-hot iron, be cast into water, or made to partake of poison, and unless he could withstand these tests he was condemned as guilty.

Ordens. (See **Knighthood**.)

Ordens, Holy, in the Roman Catholic church are of seven kinds, extending from door-keepers,

exorcists, readers, and acolytes, in the minor class, to deacons, priests and bishops of major rank; while in the Protestant churches there are only three—deacons, priests, and bishops.

Orders in Council are such as are issued by the Sovereign as a result of the deliberations of the Privy Council.

Ordination, the ceremony of installing ministers or clergymen in clerical offices, has existed from the earliest times. In the Anglican and Roman Catholic Churches the rites of Ordination are performed by Bishops; among Nonconformists the power of ordination rests with the governing bodies of the different churches.

Ordinance Office was an old Government department entrusted with the supply of weapons and materials of war from the time of the archers to the days of guns and explosives. After the Crimean campaign, when the administration of the Ordinance Board was shown to be very defective, the office was abolished, and its duties vested in the War Minister.

Ordinance Survey, an authorised survey of Great Britain, entrusted to a special body of Royal Engineers and civilian experts, by whom maps and charts are from time to time produced, showing the full details of the geographical, geological and industrial condition of the country. The scale adopted for counties is 6 inches to 1 mile, and 1 inch to 1 mile for the general map of the kingdom. In 1870 the Ordinance Survey was placed under the direction of the Board of Works.

Ordonnances were special laws enacted by the French kings prior to 1789. They were issued in the name of the king, and had the effect of Acts of Parliament. It was the revival of ordinances by Charles X. that led to the Revolution of 1830.

Ores are metalliferous deposits of rock from which, under the process of smelting, the metallic elements are separated from the useless material. Ores are found in layers or beds, and are classed as oxides, which contain iron, tin and copper; and carbonates, such as iron, copper, zinc, and lead.

Organs are said to have been invented about 250 B.C., and form a highly scientific adaptation of the primitive pandean pipes. The instrument began to be used in churches in the 7th century, from which time it became the most prominent musical feature of Church services. Among the largest organs in the world are the following:—that of Haarlem, which has 60 stops and 8,000 pipes; the Albert Hall organ, 125 stops; the St. George's Hall (Liverpool) organ, 110 stops; one at St. Louis, America, 150 stops; and one in the Sydney Town Hall, 120 stops.

Orgies were originally secret celebrations in honour of Bacchus, and noted for the wild license displayed by the celebrants.

Orguette, a musical instrument composed of reeds which are played upon by a bellows. A strip of paper passes over the holes of the reeds, moved by a crank, and the paper is cut into holes, to represent the required sounds. As the rollers turn the bellows the melody is "ground out."

Oriel College, Oxford, derives its name from a building called "l'Oriole" which stood on its site; was founded by Archdeacon Adam de Brome in 1326.

Oriel Window is a window projected from the front of a building, and may be rectangular, triangular, or pentagonal. The ordinary bay window and bow window are varieties of Oriel. When an Oriel window is cut into holes, to represent the required sounds. As the rollers turn the bellows the melody is "ground out."

Orientalists, an association of Oriental scholars, who from time to time hold meetings in congresses in different European cities. The first international congress of Orientalists was held in Paris in 1873. Others have since been held in London, Berlin, Vienna and other cities.

Oriflamme, the name of the original banner of the abbey of St. Denis, and adopted by Louis VI., as his standard, and remained the national emblem of France for three centuries. The flag was of red silk, the outer edge being cut in the form of flames.

Originists, a sect of religionists who were followers of Origen who lived in the 3rd century. They

- believed that men's souls were created before their bodies, that the celestial bodies had souls, and that Christ was the Son of God only by adoption and grace. The Council of Constantinople in 553 condemned Origen's doctrine.
- "Origin of Species,"** the title of Darwin's famous work—by many considered to be the most important book of the 19th century—which was first published on November 24th, 1859.
- Oriole,** a beautiful family of birds of the *Passeres* order, including the Golden Oriole, which is familiar in Central Europe in the summer, and sometimes gets as far as England. The male is of a bright yellow plumage, with black wings and tail. There are several varieties of oriole in America, all of them showing the same distinctive colorations.
- Orion,** a famous constellation of the heavens, comprising nearly a hundred stars, all visible to the naked eye. It contains three stars of the second magnitude in a line, and these are called "Orion's Belt."
- "Orlando Furioso,"** the title of Ariosto's famous epic poem, describing the doughty deeds of Orlando and other knights of the Charlemagne period. It was written in the 16th century.
- Orleanists,** members and supporters of the House of Orleans, of which King Louis Philippe was a member. The present chief representative of the family is the Duc d'Orleans, who resides chiefly in Brussels.
- Ormolu,** a specially treated form of brass which assumes a gold colour and is largely used for decorative purposes, metal mountings and furnishings.
- Ormulum,** a version of the gospels and acts made by Orm, an ecclesiastic of the 12th century. It is metrical and exists in manuscript in the Bodleian Library.
- Ormuzd,** the spirit of good according to the Zoroastrian religion, represented as eternally warring against evil and personating purity of life.
- Ornithology,** the branch of Zoology which treats of the structure and habits of birds.
- Ornithorhynchus,** an aquatic bird, curiously mammalian in general structure, but oviparous, of which but one species is known, the Duck-bill or Water-mole of Australia and Tasmania.
- Orphrey,** the name of an ornamental border of gold and silver embroidered on ecclesiastical vestments.
- Orpiment,** a compound of arsenic and sulphur yielding the colour known as "king's yellow."
- Orreery,** an instrument by which the motions of the heavenly bodies are indicated. It consists of a globe encircled by a brass meridian line, and was the invention of Charles Boyle, the 3rd Earl of Orrery. Many improved developments of this machine have been made in recent times.
- Orris Root,** the dried root or stem of a species of iris common in Southern Europe. It has medicinal uses, and is esteemed for its perfume and its utility in tooth-powder composition.
- Orthotomus,** a dainty little bird of the warbler kind including the tailor-bird. They inhabit Java, Sumatra, and Borneo, and have a dozen species.
- Ortolan,** a graceful bird of the bunting family, native to Southern Europe, and an occasional visitor to England. It is greatly esteemed as an edible delicacy.
- Osborne House,** near Cowes, in the Isle of Wight, Queen Victoria's favourite winter residence, and where she died, is now used as a convalescent home for naval and military officials, having been presented to the nation by King Edward VII.
- Ossella,** the name given to a medal yearly struck and distributed by the Doges of Venice from early in the 15th century to the close of the Republic. It was of gold or silver, and was inscribed with the name of the Doge, the year of issue, and generally bore some symbolic design.
- Osier,** a species of willow growing in damp soils and yielding branches utilised in basket-making.
- Osmium,** a metal of the platinum order and one of the heaviest of known metals. It is obtained from the platina of South America, California, Australia and Russia, and has not hitherto been fused. The chief commercial purpose to which it is put is that of providing the tip for gold pens.
- Ossprey,** a bird of prey widely distributed over all northern latitudes and a common visitor to the lakes of Scotland, where it used to build and breed. It is commonly known as the fish-hawk, and feeds almost entirely on fish.
- Ostracism,** a method of proscription adopted by the ancient Greeks, whereby sentences of banishment for ten years were voted. The names of objectionable persons were written on small shells by the people, and these were collected in an urn and presented to the Senate, when a scrutiny took place, and the one whose name oftenest appeared was sentenced; but no one could be ostracised unless at least 6,000 votes were recorded against him. Ostracism ceased about 338 B.C.
- Ostrich,** a large African bird which inhabits the sandy plains, and is highly valued for the rich feathers grown on its wings and tail. The neck and legs are naked. The wings are useless in flight, but the birds have a fleetness of foot exceeding that of the swiftest horse. An ostrich's egg weighs 3 lbs.
- Ostrogoths,** the Eastern Goths who flourished in the 4th and 5th centuries. Under their famous leader, Theodoric, they founded a monarchy in Italy in 493, but were overthrown in 553.
- Otary,** the name of a kind of seal remarkable for its external ears. It inhabits the sea-coast and islands of America, especially those of the North Pacific. The sea-bear and sea-lion are included in the family.
- Otheoscope,** an apparatus invented in 1877 by Sir W. Crookes, for showing molecular motion, the effects of radiation.
- Otter,** an aquatic carnivorous mammal widely distributed over Europe, and at one time very common in England and Wales. Otter hunting, indeed, is still a country sport in some districts, and a breed of dogs called otter-hounds is kept for the purpose. The otter averages about a foot in length, exclusive of tail, has web-feet, and is a very expert swimmer.
- Obliette,** the name given in the Middle Ages to a secret dungeon which formed part of the equipment of the old baronial castles.
- Ounce,** a carnivorous member of the cat family, spotted like a leopard and having a long bushy tail. It is only found at high altitudes on the Himalayas, and is often called the "snow leopard."
- Outlaw,** one who has been placed beyond the pale of law and is not entitled to its protection. Previous to the reign of Edward III. it was permissible for anyone to kill an outlaw. In modern times, however, outlawry applies only to property.
- Ouzel,** a bird of the thrush family, comprising the ring-ouzel and the dipper, both familiar in Britain.
- Ovation** was a triumph which the Romans accorded to their generals on their return after achieving victory, and did not amount to such a distinctive honour as a "triumph."
- Oviparous,** a zoological term referring to such mammals, birds, reptiles, and fishes as bring forth eggs to be hatched outside the body of the parent.
- Ovis,** the zoological name for the typical genus of sheep, including both the domestic sheep and their wild originals.
- Ovoviviparous,** a zoological term applied to such animals as produce eggs which are hatched in the body of the parent; the viper, the scorpion, and the earthworm are examples.
- Owens College,** Manchester, now incorporated with Victoria University, was founded in 1846 by means of a bequest of £100,000 by John Owens, a Manchester merchant. Various other valuable bequests have been made to the institution, and a handsome college building was opened in 1873.
- Owl,** the common name for a rapacious nocturnal bird distributed over the greater part of the world. Eleven species exist in Britain, including the barn-owl, the tawny owl, the long-eared owl, and the short-eared owl. Owls are remarkable for their large heads and round piercing eyes, embedded in rings of feathers. They are voracious feeders and live on the smaller mammals, birds, insects, and fish.
- Ox,** the popular name of the mammals included in the genus *Bos*. They are hollow-horned ruminants and hoofed quadrupeds, and include the various classes of domestic cattle as well as the different wild species.

The adult male is called a bull, the female a cow, and the young a calf. The best-known breeds of domesticated cattle are the Durham, or shorthorn, the Angus, the Jersey, Yorkshire, Suffolk and Hereford.

Oxalic Acid, an organic acid obtained from numerous plants, such as sorrel and rhubarb, and produced artificially for commercial purposes from sawdust, treated with caustic potash or caustic soda. It combines with metals to form oxalates.

Oxford Clay, a geological formation consisting of a bed of clay hundreds of feet thick, and forming the lower portion of the Middle Oolite series.

Oxford University was founded in the reign of Henry III. on the site of certain schools which were said to have been built by King Alfred. Merton College was founded in 1267. Queen Elizabeth granted the University a Charter of Incorporation in 1570. The University has been greatly extended in modern times and has to-day in residence between 3,000 and 4,000 undergraduates. It comprises the following colleges:—University, Balliol, Merton, Exeter, Oriel, Queen's, New, Lincoln, All Souls, Magdalen, Brasenose, Corpus Christi, Christ Church, St. John's, Trinity, Jesus, Wadham, Pembroke, Worcester, and Hertford.

Ox Gall, the fluid secreted from the gall-bladder of the ox, and used, after clarifying, for fixing colours.

Oxybaphon, an ancient Greek vase with a wide mouth and a handle on each side. The side spaces are usually filled in with figures in low relief.

Oxygen is the most abundant of all substances, a gas that forms one-third of the solid earth, one-fifth of the atmosphere, and eight-ninths by weight of all water. Dr. Priestley in 1774 was the first to separate it from red oxide of mercury. It is colourless, tasteless, and odourless, and forms the chief life-supporting element of animal and vegetable life.

"Oyer and Terminer," a legal term designating a commission directed to the judges of the Supreme Courts, empowering them to hear and determine charges of treasons, felonies and misdemeanours, in the counties to which they are proceeding. Courts of Assize are known as Courts of Oyer and Terminer.

Oyez! a phrase used by the Ushers of Courts of Justice to proclaim silence. It is the Norman-French word "Oyez" meaning ye.

Oyster, a bivalve mollusc, of the genus *Ostrea*, having a very numerous species, and abounding in nearly all seas. The shell is rough and irregular, and the body shows a very simple organisation. Oysters are exceedingly prolific, spawning in May and June. In England and Scotland deep sea oysters are not allowed to be sold between 15th June and 4th August, and other kinds between 15th May and 4th August. In Ireland, no oysters may be taken between May 1st and September 1st, except in certain waters. The British supply is so greatly below the demand that large quantities are imported from America, Holland, and Portugal.

Oyster Catcher, a wading bird of considerable size found in most parts of the world and remarkable for its habits of feeding on small oysters and other molluscs.

Ozokerite, a mineral hydrocarbon found in Moldavia and Wallachia. From it is obtained a substance from which a special class of candle is made.

Ozone, is an active modification of oxygen and contains three atoms to the molecule, while oxygen contains only two. It is only present in extremely small quantities, sea-air containing the most, and large towns none at all.

Ozonometry, the determination of the presence and properties of ozone in the atmosphere.

Paca, a genus of burrowing rodents of the Dasyproctidae family, found only in S. America, and in size and shape resembling the guinea-pig. It is of nocturnal habits, has streaked and spotted fur, and lives on fruits and plants.

Pacific Ocean, the most extensive body of water on the earth's surface, covering nearly one-third of

the entire extent of the globe. It is bounded on the south by the Antarctic Ocean, and on the north by the Arctic Ocean, on the east by the Western coast of America, and on the west by Asia and Australia. Its total length is about 9,000 miles, its greatest breadth 12,000 miles, and its entire area over 68,000,000 sq. miles. It has only been known to Europeans since 1513, and the first English navigator to cross the Pacific was Drake in 1577. In certain parts it is more than five miles in depth, and scattered here and there over its surface are innumerable islands.

Pæan, the song of praise or triumph sung by the Greeks on the occasion of great celebration.

Pæon, a foot, in ancient prosody, consisting of one long syllable and three short; the positions of the long syllable being variable.

Pagans are heathens or idolaters, people who do not worship God. The Roman Senate renounced paganism in 385, but it was not finally put an end to until 501.

Pagoda, the name given in China, India, and other Asiatic countries to a pyramidal tower, usually, but not necessarily, connected with a temple.

Paleontology, the science which is devoted to the investigation of fossil evidences, animal, vegetable, and mineral. The achievements attained in this science by the many distinguished men who have followed it have been of the most valuable kind, establishing with astonishing accuracy the orders of animal existence belonging to the various prehistoric periods. Some 50,000 species of animals and plants have been made known through the researches of paleontology.

Paleotherium, a genus of extinct tapir-like animals of large size, discovered in the Paris basin and other places, and belonging to the Upper Eocene Age.

Paleozoic, a geological term indicating the most ancient division of the strata formation of the earth's crust, and comprising two main groups, the newer and the older.

Palanquin, an East Indian covered vehicle fastened to a pole and carried on the shoulders of four or six natives, now falling into disuse because of improved methods of conveyance.

Palatinate, a term formerly applied to two German electorates or provinces, the Upper and Lower Palatinates, Amberg in Upper Bavaria being the capital of the former, the latter being the Rhineland Palatinate. They were apportioned amongst Bavaria, Baden, Hesse, and Prussia in 1806.

Pale, the name given to the part of Ireland colonised by the English and comprising portions of the counties of Louth, Dublin, Meath, and Kildare. The Anglo-Saxon rulers were styled "Lords of the Pale."

Palimpsests are ancient MSS. or parchments which have been partly effaced and used for fresh writings. Many valuable MSS. were thus lost, but in numerous cases the second writing has been washed out, enabling the original writings to be deciphered. Among the treasures thus restored are a dialogue of Cicero's, a portion of a book of Livy, and others.

Palium, a vestimental ornamentation of white wool presented by the Pope to archbishops on their appointment, and the sign of Papal confirmation.

Pail Mall, the name of a celebrated West London thoroughfare, called after a French ball game played thereabout in the early part of the 17th century. See *Pears' Dictionary of Sports and Pastimes*.

Palm, a large straight-trunked plant or tree common to tropical countries, and usually fruit-yielding, such as dates, cocoa-nuts, etc. Many commodities useful to man are obtained from them.

Palmsbury, the pretended art of reading a person's destiny by the lines of the palm of the hand.

Palmitic Acid is obtained either from palm oil or solid fats, and forms a white tasteless and odourless substance. In combination with glycerine it forms "palmitin."

Palm Sunday, the Sunday before Easter, upon which occasion it is customary to carry palms to the churches in some countries, in commemoration of

Christ's entry into Jerusalem for the Feast of the Passover, when the people went forth to greet him with palm branches.

Pampas Cat, the wild cat of the Pampas of South America. It is of a yellow grey colour with striped sides and exists in very large numbers.

Pampas Deer, a small but graceful deer that inhabits the South American Pampas. The males possess large antlers. There are only two species.

Panpillon, a funny kind of cloth much used in olden times as garment trimming.

Panama Canal, over which Lesseps came to grief, is now nearing completion, and is to be officially opened on January 1st, 1915, although shipping passed through experimentally on September 25th, 1913, the date of the 40th anniversary of the discovery of the Pacific by Vasco de Balboa. Its advantage to the United States—which up to now has had to rest content with a sea route of 12,000 or 14,000 miles separating her Eastern from her Western seaboard—will be enormous, for now a canal 49 miles long will connect the two oceans. America started with an expenditure of £10,000,000, and an engagement to pay, after ten years, an annual rent of £50,000. In exchange for this she gets the virtual ownership of the canal zone, the Panama railway, the results of the canal company's excavation and construction work, and their plant. For M. de Lesseps' original scheme a lock canal has been substituted, with its upper level at the middle of three alternative elevations; that is, at 90 feet above sea-level. The work is estimated to entail an expenditure, beyond that of payment to previous companies, of over £50,000,000. There was friction between the U.S. and British Governments in regard to certain treaty concessions to England, but a more friendly disposition has now developed.

Panda, a Himalayan wild cat of a bright red colour with large ears and a low bushy tail. It is also found in Tibet.

Pandean Pipes, supposed to have been invented or played upon by the god Pan, consist of seven reeds tuned to scale and blown into by breath from the lips of the performer.

Pandex or Pandects, a summary of the Roman civil law, prepared by order of the Emperor Justinian, 529. A copy was burned at Amalfi in 1537.

Pangenesis, Darwin's hypothesis by which he explained the phenomena of organic reproduction. As Darwin stated it, it implied that every separate part of the organisation reproduces itself.

Pangolin, the scientific name of the "scaly anteater," a member of the armadillo family, found in Africa and Southern Asia. It has an extensive tongue, covered with glutinous matter, which it uses in catching ants, its chief food. When once caught on the tongue, the insect cannot escape. When attacked, the pangolin rolls itself into a ball, and its scales assume the form of sharp spikes.

Panorama, a name given to almost any series of continuous scene pictures exhibited, but strictly pertaining to such scenes when arranged round the inner walls of a circular building and viewed from the centre. Mr. Robert Barker, an Edinburgh artist, was the first to give a panoramic exhibition, in 1788, and its success induced him in the following year to show a panorama in London. Great improvements have been made in such "shows" in later times.

Panславизм, a movement to combine the different Slavonic peoples into one nationality.

Pantagruel, the leading character in one of the satires of Rabelais. A hero of gigantic proportions and marvellous exploits.

Pantheism, the doctrine taught by Xenophanes in the 5th century B.C., and having for its motto: "Everything is God, and God is everything." A kind of Pantheism has found its way into most religious and philosophical systems; Buddhism and Hinduism partake of this doctrine.

Pantheon, the famous temple in Rome, built about 5 B.C. by Agrippa and consecrated to the gods, its splendid dome and portico constituting it one of the most interesting architectural monuments of ancient days. Since the 7th century it has been used as a

Christian church. The Pantheon at Paris, built in 1764, is modelled upon it.

Panther, a large carnivorous quadruped, akin to the leopard, native to India and other parts of Asia, and found also in Africa.

Pantomimes were originally stage representations in which speech was not permitted, all the action being carried on by gesture and movement. The ancient Greeks and Romans favoured them. Later on pantomime became popular throughout Europe, and in the 18th century, with clown, harlequin, and columbine imported into it, was adopted as a form of theatrical Christmas entertainment in England, and still meets with acceptance, although in recent years the fun and frolic have been for the most part replaced by spectacle. The most famous English pantomime clown of the early period was Joseph Grimaldi.

Papal Infallibility, a dogma stoutly maintained by one party in the Roman Catholic Church, rejected utterly by another, and tolerated by a third, was finally adopted and promulgated by the general council at Rome on July 18th, 1870, a great many bishops having withdrawn by way of protest against the decree. Professor Dollinger was excommunicated at Munich for rejecting this dogma in 1871. See "Old Catholics."

Papaver, the typical genus of the well-known botanical order *Papaveraceae*, or poppies, found upon every continent of the globe in some form or other.

Paper has been known in one form or another from very early times. The papyrus reeds of the Nile swamps served the ancient Egyptians for sheets upon which to inscribe their records. The Chinese and Japanese, centuries later, were using something more akin to modern paper in substance, an Asiatic paper-mulberry, yielding a smooth fibrous material, being utilised. With the spread of learning in Western Europe the necessity for a readier medium made itself felt, and paper began to be manufactured from pulped rags and other substances, though as to the precise period when this was accomplished, or by what country, there is no definite information. Paper was made in England in the reign of Elizabeth from linen and cotton rags, and down to a comparatively recent period these materials have constituted the chief component of paper. Other paper-making staples have been introduced in recent years, such as surat, a kind of bark brought from India, waste jute, esparto grass, and wood pulp. In modern mills logs are dissolved with sulphur and other solvents, and become pulp in three or four days. Then this is ground to finer consistency in a series of formidable machines, and is ultimately run off through heated rollers in continuous sheets, sometimes miles in length. Sizing is introduced generally at the pulp stage. Blotting and filtering papers are unsized, and are rendered additionally absorbent by the use of wool. The machinery for cutting the paper into sheets as required is of very ingenious construction. "Hand-made paper" is formed exclusively of prepared rags. The United Kingdom, apart from its own very large resources in this respect, imports nearly 4 millions pounds sterling worth of material for paper-making annually. Great quantities of paper for British newspaper use is now being made at Newfoundland paper-mills from native timber.

Paper Hangings were first manufactured in the East and entered Europe by way of Holland in the 16th century. In the 17th century they were adopted in England, and in recent years the improvements of this class of article have been great.

Papier-mâché, a composition of paper pulp and other substances, to which, when moulded into the desired form, coatings of japan, with gilt and coloured inlayings, are added. Many elegant and decorative objects are made of papier-mâché. There is also a ceramic papier-mâché, which is much more durable.

Papyrus, the earliest known form of paper, made in Egypt at a very remote period, from a large species of reed.

Parachute, an apparatus in the shape of an umbrella, intended mainly for use by aeronauts in

times when their balloon is in danger. In recent years many descents from balloons have been made by means of parachutes for the amusement of the public, and some fatalities have attended these exhibitions.

Paralele (the Holy Ghost, or Comforter), the name used in the English translations of St. John's Gospel, and adopted by Abelard to designate the convent in Champagne founded by him, and of which Heloise became the abbess.

Paradise, a Persian word used by the translators of the Old Testament to designate the Garden of Eden, and since incorporated into the language in regard to any place of happiness.

Paraffin was first obtained by distillation of coal, the process being discovered about 1830. About 1848, Mr. James Young procured it from mineral oil, and Irish peat also yielded it. The main source of paraffin supply to-day is crude petroleum. It is largely used in the manufacture of candles, for water-proofing, and numerous other purposes.

Parcel Post was established in England in 1883 for inland parcels up to 7 lb. in weight, the maximum being raised to 11 lb. in 1886. The system has since been extended to India, Egypt, and other countries. The British Postal authorities carry over a hundred millions parcels annually now, the postage on which exceeds two millions sterling.

Parchment, made chiefly from the skins of animals (those of the sheep and goat being mostly utilised), was employed in olden times, before printing was invented, for writing books upon. Latterly it has been mainly used for legal documents. A vegetable parchment was invented by W. E. Gaine in 1857, and though not equal in strength and durability to skin parchment, has been largely employed. Velum is parchment made from the skins of young calves or lambs.

Pardons are remissions of penalties or punishments, a power that is usually vested (at least nominally) in the king or other heads of the state of a country. The term implies complete, not partial, remission.

Parhelia is the term applied to the very peculiar phenomena known as "mock-suns" seen sometimes in the higher Arctic regions. At these times the sun is attended by a number of halos crossing each other in various geometrical forms, and said to be due to the refraction of light caused by crystals of ice floating in the air.

Pariah, a very low caste of Hindû, outside the pale of regular castes, and avoided as something unclean. They are the lowest class of labourers, but are often employed as servants to European families.

Paris University is said to have been founded by Charlemaigne, but as known to modern times was established in the 14th century, and is one of the greatest educational institutions of Europe.

Parliament, as a British institution, derives its origin from the Saxon general assemblies, or Wittenagemot. The representatives of the people later formed a House of Commons, which was settled by statute in 1258 and gradually acquired its present transcendent and absolute power and jurisdiction, and sovereign and uncontrollable legislative authority. The name comes from the French word *parlement* or discourse.

Parquetry, the name of a style of flooring consisting of small rectangular wooden blocks laid down according to geometrical pattern.

Parrot, the popular name of a widely distributed family of tropical birds, including the African grey parrot, the green parrot of South America—both familiar cage pets in this country—and the various parakeets, cockatoos, macaws, lorics, etc. Nearly the whole of these birds possess a remarkable gift of imitating sounds, especially that of the human voice.

Parsons, descendants of the Zoroastrians, or Fire-worshippers of Persia, are now more numerous in India than in the land of the Shah. They are born traders, and many of them not only possess great wealth but are renowned for their charities.

Parthenon, the famous Temple of Minerva at Athens, erected about 442 B.C., under the superintendence of Phidias, who therein placed his

renowned statue of the Greek goddess. The Parthenon was 227 feet long by 101 feet broad, and was in the pure Doric style. The ruins still existing are of considerable extent.

Passionariats, a German political party-name applied to such members of the smaller states as in 1871-2 opposed absorption into the empire.

Partridge, a well-known British game bird, the shooting of which forms a considerable attraction to sportsmen in the season, which opens on September 1st. There exist only three species, two of which are native to this country.

Passquinades, short satirical poems such as Pasquin, the Roman cobbler poet, used to amuse the public with by reciting from his stall.

Passionists, a priestly order founded in the 16th century in Italy by St. Paul of the Cross. In 1842 some Passionists established themselves in England, and the order has now several houses in this country, the leading one being at Highgate; the late Cardinal Manning solemnly blessed this monastery at its institution in 1876.

Passover, the chief Jewish festival, commemorating the departure from Egypt, and the incident of the Angel of Death passing over the houses of the Israelites.

Passports were at one time a necessary voucher for travellers, and consisted of a licence signed by a ruler, or proper State official, authorising the person named to pass through a country, or from one country to another. Passports to British subjects are granted by the Foreign Office. They may be considered as practically abolished, however, except in war time; though their employment in certain Continental countries sometimes still facilitates travel.

Pastel, a painting material mostly used for portraits, composed mainly of paper and colouring matter.

Paston Letters, a series of letters that passed between members of the Paston family, of Norfolk, in the 15th century, and affording much detailed information concerning the social condition, manners, and customs of the period.

Paten, the dish used for holding the consecrated bread in the Eucharistic service.

Pathology, the science of diseases, in their full physiological and anatomical bearings; investigating their predisposing causes, characteristic symptoms, and progress from inception to climax and conclusion.

Patricians, the aristocracy of ancient Rome, comprising Senators, or their descendants.

Paul's Cathedral, St., stands on the site of an ancient Pagan temple that existed in London in the 3rd century. The present noble building is the third that has been erected on this ground. The second—a fine Gothic structure which possessed what was then the highest spire in the world—was totally destroyed in the Great Fire of 1666, and in 1674 the first stone of Wren's great church was laid. The edifice was completed in 1710 and cost £51,200. Its total length from the main portico to the east end is 550 feet, its breadth 282 feet, and its height to the top of the cross 103 feet.

Pheasant, a bird of large size and beautiful plumage, its characteristic features being a tail of brilliant "eyed" feathers, which it has the power of erecting and spreading out, the males possessing resplendent feathering to a much greater extent than the females. The bird has been semi-domesticated in Europe from early times. It is a native of India and Java, and is said to have been first brought to Europe by Alexander the Great.

Pean, a term in heraldry indicating one of the furs borne in coat armour, the ground of which is black, with ermine spots of gold.

Pearl is produced by certain shelled molluscs, chiefly the oyster. The inner surface of the shells of the pearl oyster yield "mother-of-pearl," and distinct pearls are believed to be morbid secretions, caused by some external irritation. Many fine pearls are found in the actual body of the oyster. Madagascar, Ceylon, the north-west coast of Western Australia and the Gulf of Mexico are among the most productive pearl-fishing grounds. In ancient times Britain was renowned for its pearl fisheries,

the pearls being obtained from a species of fresh water mussel. The Shah of Persia gave £180,000 for a pearl, and Cleopatra is said to have given £30,000 for another. Western Australia has produced the largest pearl, the finest the world has seen. The largest pearl ever found was the "Beresford Hope Pearl," which weighed 1,800 grains, over six times as much as the oyster that produced it. The ex-Empress Eugénie had a necklace of pearls which were found in the Fiji Islands, and valued at several thousand pounds. But her most famous necklace was one of matchless black pearls. Philip II. of Spain had a large pearl valued at £10,000. Louis XIV. gave a pearl to Madame de Maintenon which weighed 111 grains. Baroness de Forest's pearls are said to be worth £50,000, while Lady Denman possesses a rope of pearls, 400 in number, valued at £60,000, each pearl being worth £150 on the average. A pearl necklace, valued at over £100,000, was stolen during transit through the post between Paris and London, in the early part of 1913, and the capture of the thieves, followed by the discovery of the pearls in the roadway at Highbury, formed one of the sensations of the year.

Penal Law was a serious rebellion which spread over Southern Germany in 1924, the result of a strong religious movement. It awakened a terrible conflict, in which cruel atrocities were committed, and was not suppressed until it had run a course of violence for about a year. The members of one revolting band were called the "Bundschuh," from the large shoes they wore.

Peat, decayed vegetable matter found mostly in marshy positions, and common in Ireland and Scotland. Peat is coal in its first stage of development. It is burnt for fuel in many cottage homes.

Pecary, an animal of the Ungulata order, found in large numbers in South America. They are shaped like a boar and are of pig-like habits. They are dark-coloured, covered with bristles and provided with tusks, which form powerful weapons of attack.

Peculiar People, a religious sect—founded in London about 1830—who held the theory that it was sinful to call in medical aid when people were sick, prayer being all-sufficing. Numerous charges of manslaughter were brought against these people from time to time because of neglect of medical aid, and some were imprisoned. Occasionally "Peculiar People" still figure in the police courts.

Pedometer, an instrument for recording distances walked, but only capable of registering the number of steps taken.

Peel Tower, the name applied to the numerous fortified towers or strongholds which are to be found along the Scottish Border. They serve both as dwelling-houses and places of defence, and belong to the period when lawlessness had to be reckoned with more seriously than nowadays.

Peep o' Day Boys were members of a secret insurrectionary society of Irishmen who in 1784 and later caused a good deal of trouble to the authorities. It was their custom to visit the houses of the "Defenders" at daybreak and carry off their arms.

Pelagians were a sect of the 5th century, founded by a Briton named Pelagius, who was preaching in Rome circa 400. A bitter controversy was aroused over the Pelagian doctrine, which maintained, among other things, that the consequences of Adam's sin did not go beyond himself, and that the general resurrection of the dead was not due to the resurrection of Christ. Pelagianism was condemned by the councils of Jerusalem and Carthage.

Pelican, a genus of bird with long depressed bills, and a sort of pouch suspended beneath, enabling the bird to hold a number of fish in reserve for future consumption. They have intense wings and webbed feet. Two species inhabit Eastern Europe, and seven other species occur in tropical climates.

Pemmican, venison or other meat that has been sliced, dried, pounded and made into cakes, for use by explorers and others who are likely to be out of reach of fresh meat for a considerable time.

Penal Laws are such enactments as impose a penalty for certain acts of omission or commission by

persons of a different faith from that which is established. Penal Laws were originally directed against Roman Catholics, and under Elizabeth, James I., and William III. were repeatedly enforced with great injustice. At one period Roman Catholics were deprived of many important civil rights, and it was not until 1829 that their emancipation from these Laws was fully carried out.

Penance, a punishment prescribed or voluntarily accepted as atonement for a sin or offence. Public penance was largely exacted in olden times, and in the Roman Catholic Church to-day penance appointed to the sin is imposed at confession.

Penguin, a genus of large birds with small wings and webbed feet, existing in enormous numbers in the Southern Ocean and Antarctic Sea. They breed on the rocky coast, and in the season are to be seen in vast numbers standing erect over their eggs. They are facile swimmers, and live on fish.

Peninsular War lasted from 1808 to 1814. Wellington defeated the French at Fuentes D'Onoro, Albuera, Ciudad Rodrigo, Badajoz, Vittoria, Salamanca, and entered France with the Allies in 1814.

Penitentiaries are special prisons where convicts are sentenced and put through a course of training intended to reform and make useful citizens of them. The term is now used to designate places where criminals serve sentences of penal servitude.

Penitents were a conventual order established in 1522 by Bernard of Marseilles, and consisted mostly of repentant courtiers. They were called Penitents of St. Magdalen. Similar orders were established at Paris and Orvieto at later periods.

Pentateuch, the first five books of the Old Testament, Genesis, Exodus, Leviticus, Numbers, and Deuteronomy.

Pentecost, in the Christian Church, the Whitsuntide festival in commemoration of the descent of the Holy Ghost upon the apostles during the feast of the Pentecost; to the Jews it is a time of solemn celebration—"the feast of weeks," celebrated on the 50th day, or seven weeks after the Passover.

Peppin, the leading constituent of the gastric juice, which may be obtained by digesting parts of the mammiferous membrane of the stomach of suitable mammiferous animals in water. It is used as a remedy for indigestion, and other medical purposes.

"Pepps' Diary," written by Samuel Pepys, Secretary to the Admiralty under Charles II., was first published in 1825. The original MS. is deposited at Magdalene College, Cambridge. The "Diary" gives a graphic picture of the social life of the period.

Perch, a well-known family of sea and fresh-water fishes, with dark striped sides. The common perch of British rivers and lakes falls an easy prey to the angler because of its voracity.

Perfumes are essences or odours obtained from floral and other substances. The chief flower perfumes are those obtained from rose, jasmine, orange flower, violet, and acacia. Heliotrope perfume is largely obtained from vanilla and almonds. Among the aromatic herbs which yield attractive perfumes are the rosemary, thyme, geranium, lavender, etc., while orange peel, citron peel, musk, sandal wood, patchouli, and other vegetable products are largely drawn upon. In recent times chemistry has been called into play in aid of the perfumer, and many of the popular perfumes of to-day are chemically prepared in simulation of the scents of the flowers or other natural substances the names of which they bear.

Peripatetics were followers of Aristotle, the name arising from the philosopher's habit of walking up and down while he expounded his theories.

Periwig. (See *Peruke*.)

Perjury, the offence of giving false evidence has been from the earliest times severely punished. The ancient Romans threw the perjurer from the Tarpeian Rock, and after the Empire was Christianized, those who swore falsely upon the Gospel had their tongues cut out. The usual punishment in England from the 16th to the 19th century was the pillory, fine, and imprisonment. It is now punishable by imprisonment.

Pennsylvanian Formation, a group of rocks lying between the Trias and the Carboniferous strata. It has three subdivisions, Upper, Middle and Lower Pennsylvanian, all of which are rich in fossil deposits.

Perpetual Motion is a problem that has engaged the ingenuity of many inventors, known and obscure, including George Sturgeson and Arkwright, both of whom struggled with the idea until convinced of its impracticability. There are even yet people who imagine that a machine that will possess within itself the power of supplying its own motion is among the inventive possibilities.

Peruke, the name given to the wig worn by men in the 17th and 18th centuries, and up to the end of the first decade of the 19th century. Perukes did not make their appearance in England until about 1600, and during the Restoration period were of great length, falling upon the shoulders. They gradually diminished in size until they disappeared altogether.

Peruvian Bark. (See *Cinchona*.)

Peseta, a Spanish silver coin worth about 9d.

Pessimism, the theory, as taught by Schopenhauer, that this is the worst of all worlds, and that it is better to sleep than to wake, and to die than to sleep. The term is also generally used to express a tendency to look upon the dark side of things.

Pestalozzi's System concerns itself with the education of poor children in reading, writing, and practical industrial employment, and was founded by Johann Pestalozzi in 1775. Although it was not successful in Pestalozzi's time, it has been improved and developed on prosperous lines since the philanthropic Switzer's demise.

Petard, an instrument of war, invented in the 15th century, consisting of a metal cylinder which was filled with gunpowder, and fired at gates or barriers to blow them up. It is now obsolete.

Peterloo Massacre, a result of a conflict between the military and a large concourse of people assembled at a Parliamentary Reform meeting held on August 10th, 1819, on St. Peter's Field, Manchester, involving the loss of many lives.

Peter's Pence, an annual tribute paid in former times to the Pope, said to have been at first a voluntary offering by the king to the West Saxons, and amounting to a penny a year levied on all families owning land of the annual value of 3s. The tax was continued down to the reign of Henry VIII., by whom it was abolished. It is still customary to call contributions sent to the Pope "Peter's Pence," but nowhere are such payments enforced to-day.

Peter's, St., at Rome, as it at present exists, was built in the 16th and 17th centuries, the first stone being laid by Pope Julius II. in 1506, and completed and consecrated in November, 1626. The dome was designed by Michael Angelo, and Raphael was employed for a time in decorating the building. The length of the Cathedral is 669 feet; it has a breadth of 442 feet at its widest point, and its highest point is 432 feet from the ground.

Petito Principii, a line of argument which assumes the conclusion aimed at as a proved fact.

Petition of Rights, passed in the reign of Charles I., June 7th, 1628, contained the important proclamation that no freeman should be compelled to pay taxes except by and down by Act of Parliament; that none should be illegally imprisoned; that soldiers and sailors should not be billeted on private persons; and that commissions should no more be issued for punishing by Martial Law.

Petrel, an ocean bird of great power of wing, common in the Southern Ocean, and, as regards some of its species, a visitor to the northern parts of the British Isles. The Stormy Petrel, Fulmar, or "Mother Carey's chicken," breeds in Britain. The birds pass most of their time far out at sea.

Petroleum, a hydrocarbon occurring in petroleum; petroleum, so largely employed in motor propulsion nowadays, is a mixture of mineral oils, specially prepared, and is found naturally, in one form, as the liquid constituent of asphalt.

Petroleum, the most abundant of inflammable mineral oils; during the last fifty years produced in

enormous quantities in North America and Mexico, and in various parts of Europe and Asia. Previous to 1850, when a system of refining was discovered that enabled it to be utilised as an illuminant, it was not of much commercial value. The adoption of oil for railway and shipping purposes—and especially for ships of war—is exercising a great influence upon the oil industry. In 1912 the world's petroleum production was 53,000,000 metric tons, the United States contributing over 30,000,000 tons, Russia, 9,200,000 tons, and Mexico, 2,226,666 tons, the last-named country showing an increase of upwards of 300 per cent.

Pfennig, a German copper coin, worth $\frac{1}{4}$ of a penny, $\frac{1}{100}$ part of a mark.

Phalanx, a name applied by the ancient Greeks to a body of troops drawn up in close array, with overlapping spears, and eight, ten, or more rows deep. The Macedonians stood sixteen deep. A Greek phalanx consisted of 8,000 men.

Petty Officers in the navy correspond with non-commissioned officers in the army.

Pewter, an alloy of tin and lead, and sometimes, as in Britannia metal, of tin, copper, and antimony.

Pharmacopoeia, the authorized book of formulae for the preparation of medicines, published by the General Council of Medical Education and Registration of the United Kingdom. Each country publishes a similar book.

Pharos, the name of the first lighthouse, built by Ptolemy I., 283 B.C., on the Isle of Pharos, at the entrance to the harbour of Alexandria. It was 460 feet high, and one of the "seven wonders."

Pheasant, a familiar bird of the Galline order allied to the jungle fowl and turkeys, and comprising some 15 species. Pheasants came from Western Asia, and of beautiful plumage, and bred for game.

Phenyl, an organic radical, found in carbolic acid (phenol), benzole, and aniline.

Philippics, the orations delivered by Demosthenes, 350-341 B.C., against Philip of Macedon—remarkable for their acrimonious invective—since when similar discourses have been styled philippic.

Phillipsite, a mineral found chiefly in old igneous rocks, and formed of silicate of aluminium, calcium, and potassium.

Philology, the study of the literary memorials of different nations. Comparative Philology is more strictly the science of language, in its various forms; origins, laws, and alliances.

Philosopher's Stone. (See *Alchemy*.)

Philosophy, as defined by Sir William Hamilton, is "the science of things divine and human and the causes in which they are contained; the science of effects and their causes; the science of sufficient reasons; the science of things possible . . . the science of science; the science of the absolute." The greatest minds of all ages have engaged in philosophical speculations, and many systems and theories have been evolved. (See the various subject and name headings.)

Phlogiston, a term invented by Stahl to describe "the inflammable principle" as distinguished from fire in action. Stahl's theories placed the phenomena of combustion on an adequate basis.

Phoenix, a fabled bird of great beauty, which, after an existence of five or six hundred years in the wilderness, was said to have made its own funeral pyre, set it aflame with the fanning of its wings, perished, and afterwards sprung into new life and youth from its own ashes.

Phoenix Clubs, for the spread of rebellious propaganda, were established in various parts of Ireland in 1858-9, and many arrests were made. Of the persons brought to trial, however, only one received punishment, Daniel Sullivan, who was sentenced to 10 years' penal servitude.

Phoenix Park, the great public park of Dublin, 1,800 acres in extent and containing the Vice-Royal Lodge. It was in this park that Lord Frederick Cavendish was assassinated in 1882.

Phonograph, an instrument for reproducing sounds, and consisting of a wax cylinder, rotated by clock-work or by a handle, and having a mouthpiece into which a person speaks. As the voice reaches the

cylinder the vibrations are recorded on the wax, from which what has been spoken into the mouth-piece can be afterwards reproduced as required.

Phonography, a system of shorthand introduced by the late Sir Isaac Pitman in 1837, and since greatly developed.

Phosphorus was discovered by Brandt in urine in 1669. It is found, more or less, in most animal and vegetable tissues, and in most minerals. It is an essential element of all plants and of the bones of animals, and is now chiefly obtained from bones. In combination with various metals it forms different phosphates, which are largely utilised as manures. The chief commercial use of phosphorus, however, is in the preparation of lucifer matches.

Photography has been known in regard to its general principles since the days of the alchemists, who discovered that chloride of silver turns black on exposure to light. Wedgwood had some success in chloride of silver experiments, but it was not until 1826, upon the discovery of Daguerre which introduced the photographic camera, that any great practical results were obtained. This discovery produced the daguerreotype. A few years later Talbot patented the calotype, by which photographs were obtained on paper treated with a solution of silver iodide in potassium iodide, and the negative was arrived at. Since then the development of photography has proceeded with remarkable success, improvement on improvement having been introduced. Colour photography is a subject that engages the attention of many experimenters, and some promising results have been obtained. (See *Pears' Dictionary of Photography*, pp. 925-946 of this volume.)

Photometer, an instrument, of which there are various forms, for measuring the intensity of light. The photometers of Bunsen and Rumford are in most general use.

Phrenology, the so-called science of the skull and brain propounded by Dr. Gall, along with Spurzheim, in 1800-12. It has still many adherents, but few scientists of established reputation have accepted it as based on adequate principles.

Phrynosoma, a genus of horned lizards, allied to the molochs and to the toads or frogs, averaging some five inches in length and abundant in Texas and the southern parts of the United States. The peculiar feature of these animals is that they have numerous hard spines on their heads. They are frequently kept as pets.

Phylactery, an amulet or charm worn about the person and supposed to have a protective influence over the wearer.

Phylloxera, a kind of plant lice which attack the grape vine, and in some years cause great devastation in the vineyards.

Physicians, Royal College of, was constituted in London, in 1582, Dr. Linacre, physician to Henry VIII. and the projector of the College, being its first President. The present College in Trafalgar Square was erected about 1825 from designs by Sir R. Smirke.

Physiognomy, a so-called science which claims to interpret the temperament and disposition of people from the features of the face. Aristotle and Cicero studied the subject, and from the 16th century to recent times it has had many expounders, the chief of whom was Lavater, whose investigations, as set forth in his "Fragment," published in 1776, were of extreme interest. Physiognomy cannot, however, be classed with accepted sciences; though most people believe in it to a certain extent.

Physiology, the science of the structure and functions of animal and plant life.

Pianoforte is claimed as an invention for a French instrument maker named Marius, a German organist named Schroeter, and an Italian named Cristofaeli, working independently of each other, in the 18th century. It proved to be much superior to the harpsichord, which it superseded, inasmuch as the strings of the latter were struck by quills, while those of the pianoforte were struck by small hammers. Pianofortes were introduced into England about 1760, and a German named Zumpt was making

them in London in 1766. The most eminent English makers have been Broadwood, Collard, Kirkman, Brinsmead, etc., and among the leading makers of France and Germany are Erard, Pleyel, Bechstein, etc. Upright pianos were introduced about 1800, and "cottage" pianos about 1820. The other kinds are the Grand, the Semi-Grand, and the Square pianofortes, all, however, worked on the same principle.

Plastre, once a common Spanish silver coin worth 4s. 3d. English. The name of plastre only applies to-day to certain coins of low denomination in Turkey and Egypt.

Ploquet, a card game invented by Joquemin for the diversion of Charles VI. of France when in ill-health about 1390.

Picts, inhabitants of Scotland in pre-Roman times, are held by some historians to be a branch of the old Celtic race, by others to have been of Scythian origin. They occupied the Lowland portion of Scotland, and were subdued by the Scots in the 9th century, Kenneth II. becoming king of the whole of Scotland.

Pictures of Great Price. The costliest picture in the British National Collection is Holbein's portrait of the Duchess of Milan, which has been exhibited there on loan from the Duke of Norfolk for nearly 30 years, and became the nation's property for £72,000 in 1909. The next costliest is the "Ansdai Madonna" of Raphael, bought in 1885 from the Duke of Marlborough for £70,000—equal to upwards of £14 per square inch. Ruskin spoke of it as "quite the loveliest Raphael in the world." It has been valued by the Director of the National Gallery at £115,500, and Mr. Gladstone was wont to find satisfaction in having saved the taxpayers £45,500 in this purchase. The Rokeby Venus (Venus and Cupid) was bought for the National collection in 1908, for £40,000. Titian's portrait of Anosto was acquired for the National Gallery in 1904 from Sir George Donaldson for £30,000. Other costly acquisitions include Van Dyck's "Charles the First" (£17,500), Holbein's "Ambassadors," Velasquez's "Admiral Pulido-Pareja," and Moroni's "Italian Nobleman" from Longford Castle, which together cost £55,000—£30,000 of which was derived from private gifts. Prices at the regular and private picture sales have attained extraordinary figures at many recent sales. The Duveen paid £11,370 for Romney's portrait of Lady de la Pole, for which, with a companion picture of her husband, the artist received only 100 guineas. Raeburn's portraits have also realised extraordinarily high figures in recent years.

Pier, a projecting embankment, wall, wharf, quay, or landing place, now to be found at most sea-coast towns. One at Southend, Essex, is over a mile in length, and the Southport Pier on the west coast is almost as long. Their use is to break the force of the wind in 1862 to facilitate the formation, management and maintenance of piers and harbours in Great Britain and Ireland.

Pietists were a body of religious reformers, who, under the leadership of Spener, a Leipzig professor, spread themselves over Germany in the 17th and 18th centuries. Although guilty of some extravagances, they were zealous in their aims, and did good work in promoting the practical side of religion.

Pig, the popular name for a hog or swine, applied to both sexes, though, when making distinctions, the mature male is styled a boar and the female a sow.

Pike, a familiar fresh-water fish abundant in the temperate regions of both hemispheres. It forms good sport for the angler in our rivers and lakes, and sometimes attains a weight of from 20 lb. to 30 lb. It is extremely voracious, is covered with small scales, and has a ferocious-looking head.

Pilchard, a fish of the herring family, but with smaller scales and more rounded body. It appears off the Cornish coast in vast shoals every summer.

Pilgrimages, the undertaking of a journey to a distant place or shrine, to satisfy a religious vow or secure spiritual benefit, were resorted to in early Christian times. The first recorded pilgrimage is

that of the Empress Helena to Jerusalem in 326. In the Middle Ages they became common, and were undertaken by monks and people of rank in all Christian countries. The Mahomedans have been making pilgrimages to Mecca since the death of the Prophet, such duty being enjoined by the Koran. In recent years Roman Catholic pilgrimages to Lourdes, La Salette, and other places have drawn large numbers of the devout.

Pilgrim Fathers, the 74 men and 28 women, all English Puritans, who, after living some years in exile in Holland, to escape persecution in their own country, set sail from Southampton on August 15th, 1620, for America landing at Plymouth Rock on December 25th of that year. They founded the settlement of Plymouth, and are regarded as the pioneers of American colonisation, although 12 years earlier a small Virginian colony had been established.

"Pilgrim's Progress," Bunyan's famous allegory, written in Bedford gaol. The first part was issued in 1678. It is the greatest work of its kind, and has gone through hundreds of editions.

Pillory, a wooden instrument of punishment in use in England until 1837. It consisted of a pair of flat boards with holes through which the culprit's head and hands were put, and was usually erected on a scaffold. While a person was undergoing this punishment the mob generally pelted him with stones and rubbish, sometimes to his serious injury. People convicted of forgery, perjury, or libel were often condemned to the pillory, but from 1815 to 1837, when the pillory was abolished, the only offence for which it could be inflicted was perjury.

Pinchbeck, an alloy (25 per cent. zinc, 75 copper) introduced by a London toy-seller named Pinchbeck in the 18th century, and largely used for the making of watch cases and other articles where cheapness was desired. It was intended to imitate gold.

Pine, a coniferous tree that flourishes in most northern latitudes, and including many species, all of which afford valuable timber, and yield turpentine and tar. The "Scotch fir" is the only species native to Britain.

Pinnacle, a pointed, spire-shaped structure rising above the roof of a building, serving mainly as ornament, but also of use in giving firmness to the part it rests on. Pinnacles are found in nearly all styles of architecture.

Pins were in existence, no doubt, in prehistoric times, and have been unearthed in British barrows. Brass pins were introduced into England from France about 1540, and were being made in this country three years later. They were manufactured by machinery in England in 1824.

Pipa, a species of toad inhabiting Guiana, and not found elsewhere. It is of considerable size, and is remarkable for the fact that the female carries on its back the eggs of its young until they are hatched, herself depositing them in that position. Generally known as the "Surinam toad."

Pipe-fish, an eel-like fish with an elongated snout resembling a pipe. It is common in British waters, and there is an American species. In many places it is called the "sea horse."

Pistole, the name originally given to a Spanish gold coin, worth about 26s. sterling. Other countries—France, Italy, Germany—also adopted the name, and altered the value.

Pistols, small firearms, were invented at Pistoia in Italy, and were adopted by the English cavalry in 1544. At the present day pistols are mostly of the revolver pattern.

Pitcairn Islanders were originally the mutineers of the *Bounty*. They took possession of the island in 1790, and it was not until 1814 that their whereabouts was ascertained, accidentally, by a passing ship. The mutineers, under their leader, Adams, had settled down to a sort of communal existence, married black women from a neighbouring island, and increased so in numbers that in the course of years there were too many for the island to support, and in 1836 they were removed by the British Government to Norfolk Island. (See **Norfolk Islanders**.)

Pitch-blende, a very scarce mineral, which has been much talked about recently because of its being

the source of radium. Scientifically, it is an oxide of uranium, and is of black or brown colour. It occurs in masses with ores of lead, silver and tin, in the latter connection being found in Cornwall, Saxony, Bohemia, and Hungary also yield it in lead and silver veins, while small quantities have been found in some parts of the North American continent.

Plack, an old Scotch coin of the 15th and 16th centuries, and of variant value.

Plague, the name given to a terribly fatal epidemic which spread over Europe and devastated England at different periods between the 10th and the 19th centuries. The most serious of these visitations were those of 1471, 1478, 1485, 1506, 1507, 1528, 1551 and 1664 (the Great Plague of London).

Plaice, a familiar British sea-fish, of the flounder family, largely used as food and of fair quality, though not reckoned equal to soles.

Plaid, a comprehensive garment or tartan of woollen material checked and coloured in distinctive markings for different Scottish clans, and worn by women as well as men.

Plain-Song, a style of musical composition sung in unison, familiar in the churches of the West from very early times, and still largely used, especially in the Roman Catholic services.

Planets, the name given to such celestial bodies as revolve round the sun in elliptical orbits. The name was first used by the Greeks to indicate their difference from the fixed stars. There are nine primary planets, Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and the Asteroids.

Plan of Campaign, the name given to the agitation, at its height in Ireland about 1887, the object of which was to compel landlords to reduce their rents. These proceedings were adopted in connection with the National Land League and gave rise to much disturbance. The Pope condemned the "Plan of Campaign" in 1888.

Plantagenets began to reign in England with Henry II., in 1154, and extended to Richard III., who was killed at the Battle of Bosworth Field in 1485. There were in all 14 Plantagenet Kings.

Plantigrade, the scientific name for such *Carnivora* as walk with the sole of the foot flat to the ground, such as the bear, badger, racoon, etc.

Planchy, Battle of, was fought between the British, under Clive, and the Indians under Suraja Dowla on June 23, 1757. The British had a force of only a few thousand men, but gained a decisive victory over an army of 68,000.

Plate, the term applied to gold, silver, or plated-ware, such as spoons, knives, forks, dishes, cups, etc. (See **Goldsmiths' Company**.) In recent times it has been the custom to include under the term articles of the base metal, covered with a thin coating of silver, and differentiated as "electro-plate."

Platinum, a scarce white metal generally alloyed with iridium, osmium, ruthenium, and palladium. It can only be melted in an oxyhydrogen or electric furnace, but can be rolled out into a film-like sheet, or drawn out to the finest wire.

Plebeians were the ordinary citizens of Rome as distinguished from the Patricians. Inter-marriage between the two classes was prohibited.

Pleiades, the name applied to the Seven Stars of the Taurus constellation, and really comprising, when viewed through a powerful telescope, many thousands of stars.

Plough Monday, the day on which in olden times the rustic population returned to their regular labours after the Christmas festivities. It falls on the first Monday after the Epiphany.

Plover, a well-known wading bird, widely distributed over the marshy places of Europe, and a familiar object in many parts of Britain.

"Plug" Riots were frequent in the manufacturing districts of the North of England about 1844, when there was great distress among factory workers. The rioters attacked mills and by drawing the plugs from the boilers, stopped the machinery.

Plume, strictly a feather, but often worn as a military head adornment consisting of a tuft of

- feathers.** Any ornamentation of this description is now styled a plume.
- Pluralism,** a term in Ecclesiastical Law denoting the holding of more than one benefice by one person at the same time. This was much indulged in formerly, but is now expressly prohibited.
- Plymouth Brethren,** a Nonconformist sect founded about 1830 by Mr. Darby. They are not at great variance with other Protestant churches, recognise no order of ministers, and receive into communion all who acknowledge Christ. They possess over 100 chapels in England and Wales.
- Pneumatic Despatch,** a method of parcel forwarding, by means of compressed air, through a tube or along an enclosed railroad. The experiments hitherto made in this direction have not been particularly successful on a very extensive scale, but it seems probable that pneumatic despatch will be ultimately widely adopted. Already the system is satisfactorily at work in connection with the short-distance transit of letters, packets, etc.
- Poet Laureate** is an office that dates from a very early period. There was a Versificator Regis in the time of Henry III. Chaucer held the office in the reign of Richard II. Skelton was Poet Laureate under Henry VIII.; Spenser held the post in Queen Elizabeth's time; Ben Jonson also held it. Dryden was Laureate from 1690 to 1700. In the 19th century the Poet Laureates were Southey, Wordsworth and Tennyson. Mr. Alfred Austin was Poet Laureate from 1896 to his death in 1933, when Mr. Robert Bridges succeeded to the office.
- Poitiers, Battle of,** was fought on September 29th, 1356, when Edward the Black Prince gained a complete victory over John, King of France, who was taken prisoner and brought to London.
- Pointer,** a well-known sporting dog of Spanish origin known in this country from about 1688. The remarkable feature about this dog is that when it sees game it stands still and points with its up-lifted foot in its direction.
- Polar Medal,** for service in the Polar regions, was first granted to the officers and crew of the *Discovery*, in recognition of the success of their enterprise in the South Polar regions.
- Pole-cat,** an animal of a dark-brown colour, averaging about 18 inches in length, exclusive of tail. It is carnivorous and belongs to the weasel family. Like the skunk, it has the power of emitting a most offensive odour.
- Pole-star** is of the second magnitude, and the last in the tail of the Little Bear constellation. Being near the North pole of the heavens, it always remains visible in the Northern hemisphere; hence its use as a guide to seamen.
- Police** of one kind or another have existed from the earliest times. There was a London watch in the 13th century, and its members were increased and its jurisdiction extended from time to time until the early part of the 19th century, when an improved police system was established. This system was introduced by Sir Robert Peel (then Mr. Peel), and in 1839 it was extended to other parts of the country. London has about 23,000 police, with 344 horses, and the total number in England and Wales is about 33,436, exclusive of City of London and Metropolitan Police; Scotland has 5,831; and Ireland, 11,871. The Metropolitan and City of London Police cost about £3,000,000 a year, and the cost of the county and borough police in England, Wales, and Scotland outside of the metropolis, is over £2,000,000 annually.
- Political Geography** deals with the subjects of political power and its distribution among nations, having regard to population, productive capacity, social features and methods of government.
- Polka,** a dance that was introduced into England from Bohemia in 1843, and won great popularity. See *Pears' Dictionary of Sport and Pastimes*.
- Poll Tax,** a tax levied on every adult—every head or poll—was first imposed in England in 1380, and led to the "Peasants' Revolt," headed by Wat Tyler. It was re-imposed in 1520, and again by Charles II., but abolished by William III. in 1689.
- Polo,** an interesting game which has been well styled "hockey on horseback," and seems to have existed in the East for a long period. See *Pears' Dictionary of Sport and Pastimes*.
- Polyandry,** a kind of domestic existence which allows a woman a plurality of husbands. It only prevails in a few remote communities, in some parts of India, Ceylon, and Tibet, and among certain savage tribes.
- Polythalamism,** the doctrine of plurality of Godheads.
- Polyzoa,** the name given to a class of molluscs living in aggregated masses, and having the appearance of moss. They are diverse in form, of very primitive structure, and the reproductive organs of both sexes are present in the same individual.
- Pomace,** the name given first to the pulp of apples and other fruit after pressing—as in cider-making; and later to fish refuse after the oil has been compressed from it. The latter is then exposed to the sun and in its dried form constitutes fish guano.
- Pomander,** the name given to a small ball or box which was formerly carried suspended from the neck or girdle, and contained perfumes and spices which were supposed to be a protection against infection.
- Pomology,** the science of fruits, treating of the cultivation and properties of fruit trees and fruit-bearing shrubs.
- Ponard,** a stabling weapon somewhat larger than a dagger; very commonly carried about the person by Spaniards and Italians of the 16th and 17th centuries, but never much in vogue in England.
- Pontifex,** the title assigned in ancient Rome to members of the chief College of Priests, whose duties were of a general kind. The "pontifex maximus" was the chief religious officer of the State.
- Pontoon,** any temporary floating structure that forms part of a bridge across a river. Pontons are in various forms, mostly cylindrical and hollow, others take the shape of deck-boats locked together. Pontoon bridges capable of supporting railways are a feature of modern military equipment.
- Poodle,** a well-known variety of domestic dog, having a thick curly coat which in France it is the custom to cut close on the lower part of the body. It is an exceptionally intelligent animal, capable of being taught many tricks.
- Pope (The),** the head of the Roman Catholic Church; his "Infallibility" is an article of faith; he is elected by the body of Cardinals; since 1871, when the King of Italy deposed the holder of the office from temporal power, no Pope has left the Vatican between appointment and death.
- Pope Joan,** a favourite card game of the 18th century. See *Pears' Dictionary of Sport and Pastimes*.
- Poplin,** a favourite fabric composed of silk and worsted, and now chiefly manufactured in Dublin. The industry was first introduced into this country from France by Huguenot refugees in 1693.
- Poppy Oil,** a fixed oil obtained from the seeds of the opium-poppy, and used as a food, for illumination, and in a certain class of soap-making.
- Population of the British Empire**—The British Empire—according to the most recent returns, number—417,148,000 persons, 45,370,530 of whom are resident within the United Kingdom—England and Wales, 36,070,492; Scotland, 4,760,904; Ireland, 4,300,219; Islands, 148,915. The population of the principal Dominions and Colonies is as follows—
- | | |
|-------------------------|-------------|
| India | 315,132,537 |
| Australian Commonwealth | 4,805,805 |
| New Zealand | 1,070,910 |
| Canada | 7,506,849 |
| Natal | 1,194,043 |
| Cape Colony | 2,564,905 |
| Transvaal | 1,686,012 |
| Orange Free State | 528,174 |
| Rhodesia | 1,600,000 |
| Uganda | 2,993 |
| Northern Nigeria | 6,000,000 |
| Southern Nigeria | 8,000,000 |
- Porcupine,** a peculiarly constructed rodent whose back is covered with long, sharp, black and white spikes, which form a powerful means of defence. There are two species—the Common Porcupine.

which is found in Southern Europe and Northern Africa; and the Tree Porcupine, which is restricted to the American continent.

Porphyry, a form of crystalline rock of many varieties that in ancient Egypt was quarried and used for the decorative portions of buildings. The term is now applied generally to the eruptive rocks of the porphyritic class.

Porpoise, a marine fish of the dolphin family, and a common inhabitant of northern seas. Porpoises travel in shoals, their progression being marked by constant leaping and plungings. Their average length is from four to five feet.

Port, a special kind of red Portuguese wine, taking its name from Oporto. It was little known in England until the Methuen Treaty of 1703, when it was permitted to be imported at a low duty.

Portcullis, a strong, movable timber or iron grating let into the wall of the gateway to a feudal castle, and capable of being lowered or raised at will. It formed an effective protection against attack in days anterior to firearms.

Porter received its name from the fact that it was first drunk by porters in London. (See **Beer**.)

Portland Cement is a mixture of about 20 parts of clay with 80 parts of chalk, specially prepared in kilns, and forming a substance which, after admixture with water, will harden and solid.

Portland Vase, one of the most renowned specimens of Greek Art, long in the possession of the Portland family. In 1800 it was placed on loan in the British Museum, and in 1845 was smashed to pieces with a stone by a man named Lloyd; but, having been cleverly restored, it is now exhibited in the Jewel room. It was discovered in the 16th century near Rome in a marble sarcophagus, and is supposed to have been the cinerary urn of some Imperial personage. It was purchased from the Barberini family in 1790 by the Duchess of Portland. The vase stands about 10 inches high, and is ornamented with figures in white enamel on a dark blue ground.

Portreeve in olden times was an official appointed to superintend a port or harbour, and before the name of mayor was used the chief magistrate of London was styled the Portreeve.

Porzana, the name given a bird of the rail family. In England it is commonly called the crane.

Positivum, a system of philosophy propounded by Auguste Comte, rejecting all metaphysical conceptions; a species of utilitarianism.

Posse Comitatus, an old legal term designating all available people in a county, between the ages of 15 and 70, liable to be called upon to aid the sheriff in asserting the power of the law.

Post Impressionism, Cubism, and Futurism embrace three latter-day art movements which, to some extent, represent the barbaric in artistic expression. The Post Impressionists regard drawing as secondary to beauty of paint, and leave the artist to scatter his colours as may best convey his impression. The Cubists and Futurists go still farther, and aim at realising, by a series of chaotically-placed colours, the pictorial idea in the mind of the artist. While to the lay onlooker all three movements signify little that is understandable, to their devotees they indicate a healthy desire to break away from old conventions.

Post-obit is a bond given for a loan undertaking to repay the lender the sum borrowed, with interest, after the decease of another person from whom he expects to receive money.

Post Office. A post office system of a kind has existed for centuries, but after the introduction of railways postal administration assumed special magnitude. With the penny postage system, inaugurated by Sir Rowland Hill in 1840, the modern post office era may be said to have commenced. In 1836 the Post Office began to handle money for the public by establishing the Money Order Department. The Post Office Savings Bank followed in 1861, and Postal Orders were introduced in 1886. Since 1870 the telegraph has been owned by the State, and the Post Office Telephone system was established in 1894, although the National Telephone Co.'s system was not fully combined with the Post

Office Telephone service until January 1, 1922. With a largely augmented business and increased facilities there has been a lowering of rates, the 6d. telegram dating from 1880, and 1d. per 4-oz. inland letter postage rate from 1897. The Parcel Post was inaugurated in 1881. Post Office work is always increasing. Some five thousand three hundred million postal packets (letters, postcards, newspapers, parcels, etc.) are delivered in the United Kingdom in the course of a year; and in the same period are issued about 20,625,000 inland money orders, representing over £40,000,000; about 4,000,000 foreign and colonial orders of the value of nearly eleven millions sterling; while postal orders are issued to the number of 132,366,000, and the value of over £30,000,000. There is nearly £170,000,000 invested in the Post Office Savings Bank. Nearly 100,000 telegrams are sent in a year. There are over 24,000 post offices in the United Kingdom, employing nearly 212,814 persons of whom 45,741 are women. A new General Post Office has been built on the old Christ's Hospital site in Newgate Street, at a cost of £320,000. (See **Telegraph, Telephone**.)

Potassium, a metal discovered by Sir Humphry Davy in 1807, and now generally obtained by the ignition of a mixture of charcoal and potassium carbonate. It is one of the most potent of reducing agents. It is a common constituent of numerous rocks, and its compounds are found in many soils and vegetable and animal tissues. Among its chief compounds are nitrate or nitre, caustic potash, etc.

Potoroo, a marsupial animal so like the kangaroo in shape and movements as to be called the kangaroo rat. They live on roots, and are found only in West Australia and Tasmania.

Potstones, large pear-shaped flints discovered from time to time in the chalk formation, and supposed to be the fossils of large sponges.

Pottery was made in prehistoric times, as the numerous fossil evidences testify. Under the ancient Egyptians, great skill was attained in this art, and all the early civilised peoples devoted themselves with success to pottery production. In the Middle Ages the Italians, Germans, Flemings and Dutch made great progress in pottery developments, bringing into use enamels and glazes. Delft, in Holland, introduced a class of earthenware in imitation of porcelain, which was in great vogue throughout Europe for a considerable time. In France, Bernard Palissy produced the famous enamelled ware which bore his name, and a little later the English Staffordshire potteries came into prominence, and attained great prosperity and high artistic realisation under Wedgwood. Among the other great centres of pottery and porcelain production may be mentioned Dresden and Sévres. In England, in addition to the Staffordshire potteries, successful manufactories have been established at Chelsea, Derby, Worcester, Coalport, and Colebrook Dale; while in the Far East the Japanese and Chinese have always been famed for their productions of beautiful ware.

Pot-Walloper, the name applied to certain electors who, prior to the Reform Act of 1832, were permitted to receive the franchise on producing proof that they had, as the phrase went, "boiled their own pot" in the constituency during the six months preceding an election.

Poullet Peers's Claim was the claim of William Thomas Poullet to the Poullet earldom. The claimant used to wheel a street organ about bearing a placard with the inscription "I am Viscount Hinton, son of Earl Poullet." The House of Lords pronounced against him, and he died in a workhouse in 1909.

Poultry Computer was one of the old London City prisons, and stood in what is now called the Poultry. The Poultry Chapel was built on the site of the Old Computer in 1819.

Prado Gallery, the great public picture collection at Madrid, containing a superb collection of paintings by Velázquez, Murillo, Raphael, Titian, Dürer, Van Dyck, Rubens, Holbein, etc.

Presumptive, a legal term applied to any offences calculated to interfere with, or cast contempt upon

the prerogative of the Crown. The law against this, at first intended to prevent the encroachments of papal power in England, was passed in 1306.

Prætorian Guard, a permanent bodyguard established by the Emperor Augustus, and employed down to the time of Constantine.

Prairie Dogs are common rodents in Western America, and very like the marmot in general structure. They live in communities in burrows.

Prawns, crustacean animals allied to lobsters, shrimps, and cray fishes. There are several species, but the best known is the edible prawn.

Prebendary, a clergyman who receives a prebend or stipend because of his special connection with a Cathedral or Cathedral Church.

Preceptors, College of, founded 1846 for middle-class teachers. Diplomas are granted for Associates, Licentiates, and Fellows. Professorship of the Science of Education since 1873.

Predestination, the Calvinistic doctrine that God from and to all eternity predestined everything to happen as it does, and must happen, even to the fixing of the souls to be rewarded and punished.

Præfæct, chief magistrates in Ancient Rome, and in the absence of the Chief of the State performed the functions of Government. In modern times the title is applied to the Chiefs of Administration of the Departments of France.

Prehnite, a translucent mineral of a pale green colour and crystalline in structure. It is a double silicate of aluminium and calcium, and is mostly found in old igneous rock formations.

Pre-Raphaelites, a school of artists formed about 1850, and including among its exponents Millais, Rossetti, Holman Hunt and others, whose ideal was absolute fidelity to Nature. For a time the school kept well together, but later modified their ideals, and exercised much influence upon art developments.

Presbyterian Churches. Foremost of these is the Church of Scotland, constituted at the Reformation, and to-day has over 800 ministers and licentiates, 1,446 parish churches and about 715,849 communicants. Its chief official is the Moderator, chosen annually, who ranks next after the Lord Chancellor; the Sovereign himself being represented by a Lord High Commissioner. The church organisation is controlled by Kirk Sessions, Presbyteries, Synods, and the General Assembly.—Among the other Presbyterian Churches are the United Free Church of Scotland (formed by a merging of the Free Church of Scotland and the United Presbyterian Church, effected in 1900), which has 1,779 ministers, 1,541 churches, and over 500,000 communicants; the Free Church of Scotland, representing such as were opposed to union with the United Presbyterian Church, and has 89 ministers and 280 congregations; the United Original Secession Church ("Auld Lights"), dating from 1733, and having 28 churches; and the Presbyterian Churches of England and Ireland. The two leading Scottish churches are very active in the foreign mission field, and commissioners and chaplains are selected from these bodies for ministrations to Presbyterian troops.

Press-Gang, a body of sailors employed to impress men into naval service, frequently resorted to in former times in England, especially during the war with France in the early 19th century, but not since.

Prester John, the name of a Christian ruler or priest of the Middle Ages. He was supposed to live in the interior of Africa.

Primer, the name given to a book of devotions, put forth by the Roman Catholic Church as the first book for children to read in schools.

Primogeniture, the right of the first-born male child to inherit the real estate of his father, in the absence of direction by will or deed to the contrary.

Primrose League, founded in 1883 to commemorate Lord Beaconsfield's political services and to promote the principles he advocated. The primrose is the Beaconsfield floral emblem, and each anniversary of his death, April 19th, is called Primrose Day.

Prinos, the evergreen oak, or Winterberry, a bush the leaves of which are sometimes used in America as a substitute for tea.

Printing by movable types was first practically utilised by John Gutenberg, at Mayence, about the middle of the fifteenth century, Fust and Schoeffer being associated with him. The invention is claimed for Gutenberg, and also for Laurence Coster of Haarlem. It was introduced into England by Caxton, who set up a printing press in Westminster in 1475. Gothic characters were first used, being superseded by Roman letters in 1518. The mechanism of the printing press was crude up to 1801, when the first iron press was invented by the third Earl of Stanhope. Steam printing dates from 1814, Mr. John Walter, of the *Times* newspaper, being the first to use the steam press invented by a German named König. This press printed 1,200 sheets per hour. Improvements were subsequently introduced by Applegarth and Cowper, and great strides were made in 1828 when the Hoe machine, which turned out 30,000 impressions an hour, was put on the market. Then came the Walter press which printed on continuous rolls of paper from curved stereotyped plates. In connection with printing the Linotype invention has been of great utility, and another and somewhat analogous machine contrivance is the Monotype.

Priories existed in this country from the 8th century, and were dependent upon the Abbeys. They were dissolved in England in 1534.

Privateers were ships of private individuals licensed in time of war to seize and plunder the ships of the enemy. In 1856, however, privateering was abolished.

Privy Council, of advisers to the Sovereign, has existed in England from early times. It comprises a large number of members selected from the most distinguished men in the Realm, and includes the Royal Princes and Archbishops, the principal Officers of State and of the Royal Household, and has a Lord President, who is appointed by Letters Patent. It grants Charters of Incorporation; but, generally speaking, its power is small in comparison with what it was in former times.

Protectionists, as a political party, derived their name from a society for the protection of agriculture established in 1814 in opposition to the Anti-Corn League, which had for its leader Lord George Bentinck from 1846 up to the time of his death in 1848. The society was dissolved in 1853. Notwithstanding this, Protection as a political policy has not ceased to have its adherents, and in recent years there has been a strong revival of the Protectionist idea in England, and the fiscal policy known as Tariff Reform, on the lines advocated by Mr. Chamberlain, has been adopted by the Unionist party, and proposes to bring into effect certain measures which, at all events to a retaliatory extent, would re-establish the Protectionist principle.

Protestant, as a denominational term, was first applied to the Lutherans, who, in 1559, protested against the encroaching power of papacy.

Proteus, a peculiar genus of amphibian newt found only in the subterranean caverns and lakes of Central Europe. It averages about a foot in length, and has a flesh colour; it is said that its blood coagulates in 15 times longer than those in human blood.

Protocol, a diplomatic term denoting the first draft of any important document to be used for political purposes.

Protogline, an Alpine variety of granite, some variations of which contain talc or chlorite.

Protoplasm, meaning the first creation of a thing, is a term applied to describe the substance which, under the right conditions, develops into organic life. Scientifically, protoplasm is defined as consisting of hydrogen, carbon, oxygen, and nitrogen in intricate combination.

Provost, a Scottish official similar in rank to an English mayor. The Provosts of Edinburgh, Glasgow, Aberdeen, Perth, and Dundee are styled Lord Provosts. The title of provost is also given to the heads of various English colleges.

Prosymite, a term used in the 17th century to indicate such as used leavened bread in the Eucharist.

Prud'hommes (Prudent Men), Councils of, were French trade tribunals, of masters and workmen, formed to decide on disputes. Such tribunals existed

in the Middle Ages at Marseilles and Lyons, and were formally revived in the latter city in 1806. Similar bodies exist in other parts of France.

Prunella, a kind of material once largely used for gowns of peasant women, and later utilised for the linings of women's shoes.

Prussic acid is a compound of nitrogen, carbon and hydrogen, and obtained by distillation of cyanide of potassium. It is probably the most poisonous of known compounds.

Psalms, *Book of*, believed to have been mainly written by King David; this part of the Holy Scriptures contains 150 separate compositions.

Psychical Research concerns itself with the investigation of such phenomena as are included in the terms mesmerism, psychology, and spiritualism. The Society for Psychical Research was founded in 1882, and has now about a thousand members.

Psittacine, a family of birds of the grouse class, mostly inhabiting the mountains of Scotland and other northern countries. It lives on Alpine and similar plants, and in the winter assumes a white plumage. The psittacine of our game shops are mostly of Norwegian species.

Psaroniæ, the name of a remarkable group of extinct flying reptiles, the fossil remains of which have been found in the rocks of the Lower Liass, the chalk of the Mesozoic epoch, and other strata.

Pomarine, a term applied to decaying animal or vegetable matter, usually of a poisonous nature.

Publicans, under the Roman Empire, were people who farmed the public taxes. It is this class of officials that is alluded to in the "publicans and sinners" phrase in the New Testament.

Public Schools in England include the following:—Bedford Grammar School (founded 1556); Birmingham, King Edward School (1552); Brighton College (1847); Charterhouse School, Godalming (1611); Cheltenham College (1841); Christ's Hospital, West Hove (1552); City of London School (1834); Clifton College, Bristol (1822); Dulwich College (1619); Eton College (1449); Eisted School (1554); Haileybury College (1829); Harrow School (1571); Malvern College (1895); Manchester Grammar School (1575); Marlborough College (1843); Merchant Taylors' School (1561); Mill Hill School (1897); Repton School, Derbyshire (1557); Rugby School (1567); St. Paul's School (1599); Sherborne School (1550); Shrewsbury School (1557); Stonyhurst College (1592); Tonbridge School (1553); Uppingham School (1584); Wellington College (1859); Westminster School (1560); and Winchester College (1382).

Puma, a carnivorous quadruped of South America, where it is called the "American lion," though much less in size than the king of beasts, seldom attaining a greater length than 40 inches, exclusive of tail, and a height of two feet.

Pumice, a light stone of variable substance, containing innumerable cavities which enable it to be utilised for cleaning purposes, for polishing, and for smoothing surfaces and edges of pasteboard and surfaces of wood, metal, and other material. It is imported from the Lipari Isles.

"Punch", the leading English humorous publication, was established in 1841, and has had among its editors Mark Lemon, Shirley Brooks, Tom Taylor, Sir F. Burnand, and now Mr Owen Seaman. Among its contributors it has numbered Thackeray, Douglas Jerrold, Tom Hood, Gilbert a Beckett, and its artists have included Richard Doyle, John Leech, Sir John Tenniel, Charles Keene, George du Maurier, Phil May, Linley Sambourne and Bernard Partridge. It adopted a party colour and cover in 1912.

Punt, a small, flat-bottomed boat, used for fishing and ferrying, propelled by pushing a long pole against the bed of a stream.

Purgatory, the place where, according to the Roman Catholic doctrine, the souls of the dead find temporary habitation while undergoing purification.

Puritans, the name originally given to the followers of Calvin in England in the time of Elizabeth, and afterwards applied to dissenting bodies generally, who took sides against the Stuarts and High Church party when Parliament was in civil conflict.

Pylon, the name given to the huge monumental gateways erected in front of ancient Egyptian temples or other public buildings.

Pyramids of Egypt, near Cairo, on the left bank of the Nile, are vast masses of brick or stone with inner chambers and subterranean entrances, dating from about 3500 B.C. The largest was built by Cheops, the Egyptian king, for his tomb, and there he was buried, 100,000 men being employed for 30 years upon it. This is called the Great Pyramid, and has a height of 480 feet, and in base is 764 feet square. It is supposed to have been originally enclosed in a marble casing. The brother and successor of Cheops erected the second pyramid, and the third was built by Mycerinus, a son of Cheops. The second and third Pyramids are considerably inferior in size to the Great Pyramid, though even they are of vast proportions. Much has been written about the Pyramids, one of the most informing books upon the subject being that of Richard A. Proctor, entitled *The Great Pyramids: Observatory, Tomb and Temple*.

Pyrenee, (See *Angles*).

Pythian Games were one of the four great Greek festivals in honour of Apollo and Diana, when contests of many kinds were indulged in and palms of Laurel branches were distributed as prizes. These games took place every fourth year near the temple of Delphi.

Python, one of the largest kind of snake, non-poisonous, and destroying its prey by crushing it. Some species average 30 feet in length, and prey upon deer and other small mammals. It is found only in the Old World.

Quack is one who pretends to possess medical skill for the purpose of making money. Although not so numerous now as in former times, quacks are still to be found in all countries and draw their victims from every class. There is nothing to prevent a man offering a remedy or a person taking that remedy in the ordinary course; but if fraud can be proved, or a quack does injury by what he persuades people to buy, he is liable to prosecution.

"Quad," the quadrangle, as of a college or gaol; hence the slang name quad (or "quod") for a prison.

Quadra is the name given to a square border enclosing a bas-relief, also a fillet or band in an Ionic base moulding, enclosing the scotia or hollow; also the plinth or lower member of the podium, in the Ionic style.

Quadragesima Sunday is the first Sunday in Lent, the fortieth day before Easter.

Quadrans-Muralis, a small northern constellation, with no large stars.

Quadrant, an astronomical instrument for measuring altitudes, superseded in modern times by the sextant. It consists of a brass arc of a circle 90 degrees in length properly graduated. There are numerous quadrants used in navigation.

Quadrille, adapted from an old French country dance, became fashionable in France and England in the early part of the 18th century. See *Pear's Dictionary of Sports and Pastimes*.

Quadron, the offspring of a white person and a half-breed or mulatto, representing three-fourths white to one-fourth black.

Quadrumanus, an order of mammals deriving the name from the fact of their being "four-handed"—that is, being able to use the hind feet as well as the fore feet as hands. To this order belong apes, monkeys, and lemurs. The term is not much used now. *Primates*, in later classifications, embracing the quadrumanous animals and also man.

Quadruped, the term applied to four-footed animals generally, irrespective of class or species.

Quadruple Alliance denotes the combination for defence or attack of four powers. The most noted have been those of England, France, Austria and Holland in 1718, to maintain the Treaty of Utrecht; and that of 1814, under which England, Austria, Prussia and Russia combined against Napoleon.

Quadruple Treaty, signed in London on the 22nd April, 1834, by the representatives of Great Britain, France, Spain and Portugal, for securing the Spanish throne to Isabella II.

Quarantor, an official appointed to guard the public treasure in ancient Rome. At first two Quarantors sufficed; then the number was increased to eight; and under Julius Cæsar there were 40.

Quagga, an African quadruped of the horse species, striped like a zebra on the neck and head, but not on other parts. It is now extremely scarce.

Quahog, a bivalve of the clam order, with large round shell, highly valued as a food. It is chiefly confined to the Atlantic coasts of North America.

Quail, a bird of the partridge family, of which only one species, the Common Quail, is found in England. It is not more than 8 inches long, and is an esteemed table bird. It is common in most of the warmer regions of the Old World, and there is a species in America to which the name is applied, but this bird does not strictly belong to the quail family. The peculiar dactylic call of the extremely pugnacious male bird of the Common Quail species has given rise to its popular rustic name "Wet-my-lips, Wet-my-feet," from a fancied similarity of sound.

Quale, an old name for a pamphlet, or little book.

Quakers, the popular name for members of the Society of Friends, a religious sect founded by George Fox about the middle of the 17th century. In matters of belief they do not differ materially from other Protestant bodies; the chief difference is in worship, Quakers having no prescribed formulas. They assemble in what they call their Meeting Houses, and any one in the congregation exhorts the assembly as he or she may be individually prompted. They duly speak, as the saying is, "as the Spirit moves them." Silent meetings are not infrequent. The ordinances of baptism and the Lord's Supper they reject. They object to swear upon oath, and up to 1833 were punishable by law for this refusal; since then they have been permitted to affirm. Until recent times they adopted great simplicity of attire, and in addressing people used the second person singular, but gradually have conformed more to common usage. Many Friends have attained distinction both in public life and in business, and as a body they are highly respected for their honourable dealings. William Penn was one of the most prominent of the early Quakers, and introduced the religion into America. The term Quaker was first applied to the sect because of the founder's frequent use of the word "Tremble" in his exhortations. The number of members of the Society of Friends in England and Wales is over 18,000, and in Ireland about 2,500.

Quære Impedit ("Why he hinders"), the title of a writ calling upon any person interfering with the rights of the owner of a presentation to a benefice to show cause why he impedes.

Quarrel, the old name for a dart or bolt, shot from a crossbow or catapult in war, before the employment of firearms.

Quart, a measure of capacity, a quarter of a gallon, two pints.

Quarter, a fourth part—as, a quarter in avoirdupois weight, that is 25 lb., a quarter of a hundredweight; eight bushels.

Quarter-Days in England are Lady Day (March 25th), Midsummer Day (June 24th), Michaelmas Day (September 29th), and Christmas Day (December 25th). In Scotland the legal terms are Whitsun (May 25th), Martinmas (November 11th); the conventional terms Candlemas (February 2nd) and Lammas (August 1st) make up the quarter-days.

Quartering, in heraldry, is the disposition of various escutcheons or coats of arms in their proper "quarters" of the family shield, in such order as indicates the alliances with other families.

"Quarterly Review," the great Tory quarterly, was started in 1809, in opposition to the *Edinburgh*, the Whig organ, established seven years earlier. Gifford was its first editor.

Quartermaster, a military officer charged with the provisioning and superintendence of soldiers in camp

or barracks, and holding the equivalent rank to a lieutenant. The Quartermaster-General is an officer who presides over the provisioning department of the whole army. A Quartermaster in the Navy is an officer charged with the steering equipment.

Quarter-sessions, a quarterly criminal court held by justices of the peace in counties and by Recorders in boroughs, having jurisdiction in minor offences, highway and Poor Law administration, etc. In Ireland quarter-sessions are held by county court judges. In Scotland a court of quarter-sessions is held in the county towns by the justices, who have power to revise sentences passed at special and petty sessions.

Quarter-staff, an old English weapon, consisting of a stout pole some 6½ feet long, which was grasped in the middle and could be swung with telling force in defence or attack. Combats with quarter-staves were frequent in Norman times and later.

Quartet, a musical composition in four parts, vocal or instrumental. String quartets, consisting of first and second violin, a viola, and a violoncello were most in vogue in the 18th century, and some of the finest instrumental music we possess was composed for these instruments.

Quarto, sheet of paper folded to make four leaves, or eight pages; usually abbreviated to "4to."

Quartodecimani, an early Christian community who celebrated the Paschal festival on the 14th day of the month, when the Jews celebrated their Passover. In consequence of the confusion caused, the practice of the Quartodecimani was condemned by the Council of Nice in 325.

Quartz is a common and usually colourless mineral, abundantly diffused, and occurring crystallised and massive. In the first form it is in hexagonal prisms, terminating in pyramids. When pure its specific gravity is 2.65. It is one of the constituents of granite, gneiss, etc. Among the quartz varieties are *rock crystal* (colourless), *smoky quartz* (tinged, as *yellow topaz*, *amethyst*, and *sapphire*), ordinary or false, *milky quartz*, and *rose quartz*. Quartz veins in metamorphic rocks often yield rich deposits of gold. Mining for gold in the rock is termed quartz-mining.

Quasi, a Latin term implying a somewhat false resemblance, and used as a prefix to other words.

Quassia, a genus of plants, of the Simarubaceæ order, with five-lobed calyx. There are two species, the most commonly known being a native of tropical America, the other of Africa. It yields a drug called bitterwood, much valued as a medicine. The negroes use it as a fever remedy. In commerce the product of the bitter-ash and other allied trees is generally substituted for quassia.

Quaternary Deposits, or Post-Tertiary, are the latest stratified rocks of the earth's crust, and include the Glacial, post-Glacial, and Keokuk systems.

Quaternions, a mathematical method invented by Sir William Rowan Hamilton, based upon mental transference or motion by vectors, four numbers being involved; hence the name. The system, though intricate, is of great use in the solving of problems in solid geometry.

Quatre Bras, Battle of, was fought in the Belgian village of that name two days before the battle of Waterloo (June 15, 1815). It resulted in the defeat of Ney's army by the British and their allies.

Quatrefoil, in architecture an ornament, piercing, or panel, resembling the four petals of a cruciform flower, largely used in the English Perpendicular style, and less frequently in the Decorated.

Quattrino, an Italian coin of about the value of an English farthing.

Quaver, a note of music, equal to one-eighth of a crotchete, or one-fourth of a minim.

Queen, a female sovereign. The first queen of which there is historical record is said to have been Sebekneferura, of the 12th Theban dynasty, who reigned about 1650 B.C. The queens of England have been Mary I., who reigned 4 years; Elizabeth (43 years); Mary II. (jointly with William III.) (6 years); Anne (23 years); Victoria (63 years).

Queen Anne's Bounty, a fund established in the reign of Anne (1704) for augmenting small church livings and aiding in rebuilding parsonages, etc. Its income is derived from tithes, Parliamentary grants, and private gifts, the latter in 1911 amounting to £50,590, in respect of 159 livings, and the benefactions received to £18,987. The governors of the Bounty hold securities to the value of £7,380,000.

Queen Anne's Farthings are supposed to fetch very high prices, but ordinarily they are not worth more than $\frac{1}{4}$ each. Those with the emblematic design of "Peace in a Car" engraved on them, which are extremely rare, realise 45s or more.

Queer Strikes. Not long ago the school children of Colsterworth, near Grantham, went out on strike against one of their masters. Other queer strikes may be recalled. The executioners of Canton went out on strike once, complaining that unless they got more than 300 cash (a shilling) a head they would starve; the female prisoners in Wormwood Scrubs Prison struck against an order requiring them to carry coals to the laundry fires, work which had previously been the prerogative of "gentleman" convicts; the beer-drinkers of Bamber Bridge, near Preston, struck as one man against an increase in the price of their favourite beverage; the baristers of St. Amand struck as a protest against the "tyrannical attitude" of the presiding judge; and among other bodies who have adopted this form of protest against grievances within recent years are paupers, choir-boys, ministers (who considered a pound a day "little better than insult"), commercial travellers, and undertakers' men.

Qualea, a name given to the crimson-beaked weaver bird of Africa.

Quercifrons, the bark of a species of American oak from which a yellow colouring matter is obtained. It is also used in tanning.

Quern, a form of stone handmill for grinding corn, in use in early times. It consisted of two flat stones, the upper revolving on a pin inserted in the lower.

Quicksilver. (See *Mercury*.)

Quilisma, a doctrine expounded by a Spaniard, Miguel Molinos, in the 17th century, and serving for the foundation of a sect in France which was joined by many distinguished people. It dispensed with rites and ceremonies, and claimed that the mercies of God and the merits of Christ were sufficient for a man's religious needs. Madame Guyon was a devoted Quietist of the 17th century.

Quills for writing with were first used in the 6th century, and superseded by steel pens in the 19th.

Quince, a well-known hardy orchard tree of the pear family, bearing fragrant, yellow, pear-shaped fruit, largely used for preserves. A mullage is made from the seeds, which also possess medicinal virtues.

Quintecemvir, one of the fifteen ancient Roman magistrates appointed to keep charge of the Sibylline books, and called priests of Apollo.

Quinine, a vegetable alkali obtained from the bark of several trees of the *Cinchona* genus. It is extremely bitter and colourless. The drug, sulphate of quinine, is one of the most valuable medicines, forming a powerful tonic. It is antiperiodic, antipyretic, and antineuralgic. In cases of malaria it is the most efficacious simple remedy known.

Quintain, a tilting post, from the top of which a board was suspended horizontally for the tilters to strike at with their lances.

Quintal Métrique, a French weight of 100 kilogrammes, or 220 lbs. avoirdupois.

Quintet, a musical composition of five parts, for voices or strings.

Quintilliana, the name given to certain heretics of the 2nd century, who used bread and cheese for the Eucharist and permitted women to be priests. Their leader was a Roman woman named Quintilla.

Quirinal, one of the seven hills upon which Rome was built.

Quiscalus, a class of birds of black plumage belonging to *Passerina* order, popularly known as Boat-tails, because of the feathers of the tail being turned up. They are confined to the Southern States of North America and Central and South America.

Quiver, a receptacle for arrows. In olden times, when archers were the main portion of an army, quivers were of leather, and deep enough almost to cover the arrows.

Quorum, a term indicating the number of members of any body or company necessary to be present at any meeting or consultation before business can be transacted. Forty members constitute a quorum in the House of Commons.

Quo Warranto ("By what Authority"), a form of writ which has existed in England since 1240, and is a direction to the proper authorities to inquire into the circumstances under which any office or franchise is held. The proceedings in such cases at the present day are by "information."

R

Rabbi, a Jewish term applied to specially ordained officials who pronounce upon questions of legal form and ritual, and also generally accorded to any Jewish scholar of eminence.

Rabbit, a rodent burrowing mammal, a native of Europe but now common in other countries where it has been introduced and multiplied enormously, especially in Australia. In its wild state it has a brownish fur, while in its domesticated varieties it is of many colours—grey, white, black, and pied. Wild rabbits have erect ears, but in some domestic breeds the ears are long and droop, hence the term lop-eared. They breed rapidly, rearing several litters a year. The fur is utilised for hats and other purposes, and the flesh is a popular article of food.

Racahout, a substance made from the acorn of the belote or Barbary oak, and much used as a food and medicament by Arabs. An admixture of the same name, with various added ingredients, is sold in France.

Raceme, a botanical term indicating flowers of a clustering and pendant form, the individual blossoms being borne on simple stalks arranged round a single common axis.

Rack, an ancient instrument of torture, consisting of a platform fitted with bars, one of which was movable. The feet of the victim were fastened to one bar and the hands to the other; then by means of the movable bar the limbs were stretched to great tension—sometimes to the point of dislocation—and the torture was continued either until the tortured one "confessed" or became senseless.

Rack-rent, rent of the full yearly value of the property held. A term generally used to denote excessive rent.

Rack-work, a piece of mechanism in which a rack is used; a rack-and-pinion arrangement or the like. A rack in this sense is a toothed-bar, adapted to work into the wheel teeth.

Racoon, a plantigrade carnivorous mammal, common to the American continent. It is about a foot long, with a bushy ringed tail, and sharp snout. Its skin is valuable. The racoon has the peculiar habit of dipping its food in water before eating it.

Radcliffe Library, Oxford, was founded under the will of Dr. John Radcliffe, who died in 1742, leaving £40,000 for that purpose. The Library was opened in 1749.

Radicals, a classification of the animal kingdom adopted by Cuvier, and including the Protozoa, Polyzoa, etc. This classification, however, is not now followed, the members of it being arranged in separate groups.

Radicals, as the name of a political party, dates from about 1846, when the Reform movement began to assume prominence, and "Radical Reform" was vigorously agitated for; ordinarily the term means proceeding from or pertaining to the root of any matter or body.

Radiometer, an instrument invented by Sir William Crookes in 1874, for transforming radiant energy into mechanic force. It consists of four horizontal arms of fine glass, poised so as to revolve easily on a point, and is enclosed in a glass or metal tube almost exhausted of air. The arms move under the influence of light and heat, according to the strength of the rays.

Radium, a remarkable element discovered by Madame Curie in infinitesimal quantities in pitchblende, and possessing an astonishing degree of radioactivity, giving off heat and light with an intensity not approached by any other substance. It is about 268 times as heavy as hydrogen, and according to Sir Oliver Lodge 100,000 electrons of radium could lie in the diameter of an atom. It is assumed that radium is present in the sun, and some scientists hold that in this element we have probably what may solve the problem of the material universe. As yet, however, it is impossible to foreshadow the extent to which radium can be practically utilised. The Radium Institute, founded and equipped by Lord Iveagh and Sir Ernest Cassel, was opened on August, 1917, for the treatment of patients and the prosecution of researches into the effect of radium on the human system.

Radius, in geometry, is the measurement of a straight line marked from the centre to the circumference of a circle or curve.

Ragged Schools were established in this country in 1844 by a number of philanthropists headed by the Earl of Shaftesbury, with the object of educating and protecting very poor children. There are now hundreds of such institutions in the United Kingdom.

Ragstone, the popular name of a kind of sandstone which shows a ragged fracture on breakage. Kent rag is a familiar example.

Rail, a well-known genus of the *Rallida* family—one species of which—the Water Rail—is common in various parts of Continental Europe, and also in the fen districts of England.

Railway Classes. Some thirteen hundred million passengers are carried by the railways of the United Kingdom. Of these (exclusive of season-ticket holders) about 30,000,000 travel first-class, 32,000,000 second-class, and over 1,248,000,000 third-class. From November 1st, 1844, every railway company was compelled to run one train a day each way between all its stations, and to convey passengers at a penny a mile. This was the work of Mr. Gladstone while President of the Board of Trade, from 1843-45. In 1872 the Midland announced that third-class carriages would be run by all its trains. Third-class traffic has increased except in 1909, while the other classes have decreased.

Railways of the world. There is invested in the world's railways over £2,250,000,000, Europe accounting for about half the total capital, and the United Kingdom for over £1,300,000,000. The railways of Europe represent an investment of £2,250 a mile, while those of the rest of the world average £11,402. Great Britain's railways represent the highest cost per mile, the figures being £51,368, while those of Belgium come next with £30,048. The total railway mileage of the world is about 670,000 miles; the United States adding with 250,000 miles; Russia has 46,000; Germany 39,000; Austria-Hungary, 31,000; Australia, 28,000; Austria-Hungary, 26,000; the United Kingdom, 24,171; Canada, 20,750; Argentina, 20,000; Mexico, 10,000; Brazil, 14,000; Italy, 11,000; Spain, 10,000; Japan, 5,500; Switzerland, 3,000.

Rain is water discharged from clouds in drops, and formed of the aqueous vapour of the atmosphere, derived from the evaporation of water both from sea and land. Before it reaches the earth it is the purest form of water known. The heaviest rains occur in equatorial regions, and the smallest in the deserts.

Rain Gauge, an instrument consisting of a deep metal funnel whose stem dips into a graduated glass jar and measures the rainfall dropped in it.

Rajah, the title of a Hindoo prince, once equivalent to that of king, but now only implying chieftainship in the native states of our Indian Empire.

Ramadan, the time of the Mahomedan Lent, the 9th month of the Moslem year, a movable period fixed according to lunar calculation. It lasts for thirty days, and all good Mahomedan fast in Ramadan from sunrise to sunset each day, during the interval from sunset to sunrise being at liberty to eat, drink, and make merry.

* **"Rambler (The),"** published by Dr. Johnson twice a week while it lasted.

Rambouillet was a royal French château some 25 miles from Paris, and served as a royal residence for nearly three centuries. Francis I. died, and Charles X. abdicated, there.

Ramie, or China grass, a plant largely grown in China, Japan, and other parts of Asia. From its fibre many beautiful lustrous textiles are manufactured in China and Japan, and more or less successful attempts have been made to establish the industry in England.

Ramillies, Battle of, was fought on May 23, 1706, between the English and German forces and the French and Bavarians, when the latter were signally defeated. For his great achievement on this day the Duke of Marlborough was accorded high reward and honours.

Ramism, the logical doctrine propounded by Pierre de la Ramée, opposed to that of Aristotle, and the subject of some controversy in the 17th century. Milton wrote upon it, and for a time it was in favour at Cambridge University.

Rampant, in heraldry, is a term applied to the figure of an animal with forelegs elevated, the dexter uppermost. When the animal is shown side-faced it is rampant *displayed*, when full-face, *rampant guardant*; when looking back, *rampant regardant*; and when in sitting position, *rampant sejant*.

Rampion, the common name for plants of the bell-flower family.

Rampur Chudder, a kind of fine woollen shawl made at Rampur in India.

Ranelagh Gardens was a fashionable public garden at Chelsea for concerts and dancing in the 18th century, and existed down to 1804.

"Ranters," a name applied at one time to the Primitive Methodists, a body who separated themselves from the Wesleyan Methodists in 1830, and by their more demonstrative practices, such as street preaching, camp meetings, processions, etc., attracted much popular attention.

Ranz des Vaches (pronounced "Rauntz Day Vache") a Swiss herdsman's melody, played on the alpenhorn, as a call to the cows. As played in the open air, with the mountain echoes answering, it is very effective.

Rape, a cruciferous plant yielding coleseed or rape-seed, extensively grown in all parts of Europe and India. Rape oil or colza is made from the seeds, and the leaves and refuse are used for sheep-food. Rape oil is a yellow, thick oil, of considerable commercial importance as a lubricant and for other purposes. It was at one time much used as an illuminant.

Raphides, crystals of calcium oxalate, found mostly in cells of plants of the palm and lily order.

Raptures, an order of birds of prey, of which there are upwards of 500 species, divisible into two main sections, *Falconidae* and *Strigidae*, including in the first eagles, vultures, hawks, falcons, etc., and in the second owls and other nocturnal birds of prey.

Rastadt Treaty of Peace, between the French and Germans, was signed on the 6th March, 1714, and closed the War of the Spanish Succession.

Rat, a well-known order of rodent embracing many species. The *brown rat* appeared in Europe early in the 18th century, coming from the East and entering by way of Russia; now it is widespread and met with in Britain and all parts of the Continent. The *black rat*, which was the common rat before the arrival of the brown species, is a smaller animal and now comparatively scarce. There are numerous other kinds, all of them gross feeders, and existing in such numbers in many places as to constitute a pest. Very active measures of extermination have lately been adopted.

Ratel, a carnivorous animal of the badger family, having the lower part of the body black, and the upper part a light grey. It is found in India and at the Cape, and is often styled the "honey-badger" because of its honey-eating propensities.

Rationalism claims to decide matters of belief and doctrine by the test of reason. It recognises only what is demonstrable by science, rejects supernatural authority and revelation, but does not entirely deny

the existence of a God or the immortality of the soul. A sect calling themselves Rational Christians first obtained registered places of worship in this country in 1876; they claim that their methods of investigating religious matters are more rational than those of Christians attached to other recognised denominations.

Rattite, a bird classification which includes ostriches, cassowaries, emus, and other flightless, flat-breasted birds.

Rattening, a term applied to the act of concealing or taking away workmen's tools to prevent them being used during trade disputes. The word came into use at Sheffield and thereabout during the great labour disputes of 1867.

Rattlesnake, a genus of venomous snakes which obtain their name from the possession of a rattle in the end of their tail, consisting of horny pieces so arranged that when vibrated they make a rattling sound. They are only found in North and South America.

Ravelin, a form of detached fortification of triangular shape, with two embankments constituting a projecting angle.

Raven, a black-plumaged bird of the crow family, with raucous voiced and massive bill. Occurs in many parts of Europe, Asia and America. Ravens are easily domesticated and form interesting pets. Dickens had one which he turned to good account as the companion of "Barnaby Rudge."

Ray, a kind of fish with a very flat body and broad and fleshy pectoral fins. There are about 140 species. In Britain they are generally called *skate*.

Razor Bill, a sea-bird of the auk family, having a high, furrowed bill, and dark plumage. It inhabits rocky cliffs during the breeding season and at other times is mostly out on the open sea. It lives exclusively on fish, which it catches by sudden diving.

Readers, a class of ministrants introduced in the Church of England in 1866 and still continued. Their duties are to read certain portions of the Service and otherwise to assist in church work, though they are not ordained or entitled to be styled "reverend."

Real, a silver coin current in Spain, Mexico, and South America, and worth about 24d. English.

Realgar, a mineral of a reddish colour formed in crystals and also granular, in China, Mexico, and some parts of Central Europe, and is a compound of arsenic and sulphur.

Reaping Machine, in its present practical form, is an American invention which cuts down standing grain and binds it in sheaves ready for carting. The leading machine of this kind is the invention of McCormick. Several reaping machines were previously devised in this country, but they were crude efforts in comparison with the present effective harvester and binder.

Rebecca's daughters were a secret Welsh organisation, existing in 1849, whose object was to destroy toll-gates, which were so numerous as to be a burden to the people. They dressed in women's clothes, and called themselves "Rebecca's daughters," with particular reference to the passage, "And they blessed Rebecca, and said unto her, Let thy seed possess the gate of those which hate them." They went abroad in the night-time and did much destruction. A general relief from highway tolls followed after a commission of inquiry.

Rebus, a kind of word-puzzle in which pictures of things are given in place of words and letters. For instance *Rainsgate* might be represented by a couple of rains and a gate. These picture puzzles afforded much amusement to the leisured class of the Middle Ages. The name of Aldershot is a perpetuated rebus, the arms of the town including representations of an alder tree and pyramidal heaps of shot.

Recent Formations, in geology, are the newest strata or beds, and represent a period later than the Pleistocene. The fossil deposits of these formations are mainly similar to existing species.

Rechabites, members of a society of total abstainers from intoxicating drinks. Rechab, father of Jonadab, refused to drink wine, build or live in houses, sow seeds or plant or own vineyards. The

modern Rechabites do not carry their abstinence further than refraining from intoxicants.

Recitative, a style of singing only slightly removed from ordinary speaking, and utilised for narrative portions of operas, oratorios, etc.

Recluse, one who withdraws from the world to devote himself in solitude to religious meditations.

Recorder, a judge of a city or borough having a court of quarter-sessions. The Recorder of the City of London is elected by the Lord Mayor and Aldermen, but other recorders are barristers of eminence appointed by the Crown.

Record Office, in Chancery Lane, London, the place where the Public Records of England are now preserved, including Domesday Book, the various Rolls of Charters, and important historical documents from a remote period.

Recreative Religionists was the name given to a body of gentlemen who sought to popularise natural religion by courses of scientific lectures. These lectures were delivered by such eminent men as Huxley, Carpenter, and others, and from 1866 onward for some years were very popular, and led to the formation of the Sunday Lecture Society.

Rector, a clergyman having charge of an ecclesiastical parish, and entitled to receive all the tithes. The same title is borne by the head officers of some of the Universities and Colleges.

Recusants was the name given to such people as refused to attend the Anglican Church or to acknowledge the ecclesiastical supremacy of the Crown in the days of Elizabeth. Severe penalties were incurred by these persons, who were mostly Roman Catholics, and the Act continued in force for a considerable period. Though dissenters were "relieved" from 1689, the Act was not fully repealed till 1844.

Redan, a style of fortification consisting of two parapets or mounds of earth in angle form, the apex pointing outward.

Red Crag, the name given to a strata of incoherent gravel or sand, containing certain fossil mollusc deposits, found on the Suffolk and Essex coast, and largely used in manure manufacture.

Red Cross. (See *Geneva Convention*.)

Rede Lecture, at Cambridge University, was instituted and endowed in 1524 by Sir Robert Rede, chief Justice of Common Pleas. These lectures were superseded in 1859 by an annual oration, which is usually given by an eminent scientist.

Red Letter Day, a church festival day indicated in the Prayer Book by red letters. It has come to be used in speech and writing to indicate any day of special significance.

Redoubt, a term applied to enclosed fortified works generally, but more especially to a small area temporarily fortified as a place of retreat for a defending force.

Redpoll, a family of birds noted for bright crimson foreheads and crowns. They inhabit some parts of Southern Europe and of North America, are abundant in Western Asia, and are also represented by some British species, including the linnet and the common redpoll, both of which are admirable songsters.

Red Sand Stone, the general name for red sand stone geological formations, chiefly produced by the disintegration of ordinary crystalline or metamorphic schists, oxide of iron forming the colouring factor.

Redstart, the sub-family of the *Saxatilis* order of birds, confined to the Old World, and nearly allied to the Redbreasts. They have red feathers in their tails. The two species found in Britain are the common Redbreast and the Black Redstart, the former a winter and the latter a summer visitant.

Redwing, a bird of the thrush family, which finds its way to this country for the winter. It is not so large as the common thrush, but it is very similar in its general colouring and structure.

Redwood, a great timber tree found in California, growing from 200 to 300 feet high and from 8 to 12 feet in diameter, with a bark from 6 to 12 inches thick. The wood is largely used for building purposes. There are several other species of red

wood in the East and West Indies, and the Scotch pine is locally known by the same name.

Reed Instrument, any wind instrument of the oboe or clarinet class, the sound of which is produced through a tongue or plate of reed, wood, or metal in the mouthpiece, which when blown through emits a musical sound, by the vibrations induced.

Refectory, the name given to the eating room, chamber or other apartment of a monastery, or other place where meals are regularly eaten.

Referendar, the name given in Germany to a candidate for judicial office who has only passed a portion of his examinations, and is filling a minor position without pay.

Referendum, a term applied to a clause introduced into the Swiss Constitution in 1874, providing that certain laws passed by the Legislature should not be put into force until referred to, or ratified by, the people generally. Also used to signify a note by an ambassador to his government on a point respecting which he is without specific instructions.

Reformation, the great religious movement of the 16th century, which resulted in the establishment of Protestantism. In the previous century Wycliffe, Huss and others had sounded the warning note, and when later on Luther took up the cause in Germany, and Zwingli in Switzerland, adherents soon became numerous. The wholesale vending of indulgences by the Papal agents had incensed the people, and when Luther denounced these things he spoke to willing ears. After much controversy, the Reformers boldly propounded the principles of the new doctrine, and the struggle for religious supremacy grew bitter. They claimed justification by faith, and the use as well as the authority of the Scriptures, rejecting the doctrine of transubstantiation, the adoration of the Virgin and Saints, and the headship of the Pope. Luther was excommunicated. But the Reformation principles spread, and ultimately a great part of Germany, as well as Switzerland, the Low Countries, Scandinavia, England and Scotland were won over to the new faith. In England, Henry VIII. readily espoused the cause of the Reformation, his own personal quarrel with the Pope acting as an incentive. Under Mary there was a brief and sanguinary reaction, but Elizabeth gave completeness to the work which her father had instituted.

Reformatory Schools, for the reclamation of juvenile offenders, originated in France in 1839. The Philanthropic Society of London founded such an institution at Redhill in Surrey in 1850. Since then many other schools of this class have been opened, under government authority and inspection, and there are now some 45 Reformatory, 139 Industrial, 24 Truant and 24 Day Industrial Schools in existence in Great Britain, with about 23,000 boys and 5,000 girls. In Ireland there are six such schools.

Reform Bills. The principal Bills have been passed for the Reform of the Parliamentary Franchise. The first was that of 1832, which in addition to a sweeping re-distribution of seats, granted the franchise to borough householders paying a £10 rental, and in counties to those with a rental of £50. The second Reform Bill was passed in 1867, conferring the franchise on all borough householders paying poor rates, on lodgers paying £10 a year, and to tenants in counties paying £12. A third Reform Bill, passed in 1884, practically gave household suffrage and effected a large measure of redistribution of seats. The Parliament Bill of 1911 may also be classed with Reform Bills, since it practically abolishes the veto of the House of Lords, and paves the way for the reconstitution of that Chamber.

Refuges for destitute boys and girls were established in 1825, the first institution of the kind being in Great Queen Street in London.

Regalia, a term commonly used to indicate the ensigns of royalty, such as the crown, sceptre, sword of State, etc., which, in the case of the British insignia, are kept in the Tower of London; but in its stricter sense meaning the prerogatives of royalty, which are six in number—the power of judicature, of life and death, of war and peace, of estrays, etc., of assessments, and of minting money.

Regattas, which are boat or yacht races, were first introduced into this country in 1775, when the Thames was the scene of one of these competitions. Since then they have become popular institutions on the river and round the coast, and at Henley every year there is a very fashionable gathering at the Regatta there.

Regency Bills were the Acts of Parliament passed in the reign of George III., appointing the Prince of Wales (afterwards George IV.) to the Regency during his father's mental incapacity.

Regent's Canal, extending from Paddington—where it connects with the Grand Junction Canal—through Regent's Park, Islington, Hoxton and Hackney, to Limehouse, where it merges into the Thames. It is 9 miles in length and for a considerable portion of its course is subterranean. It was opened in 1820.

Regicides, the name given to the commissioners who tried and condemned Charles I. They were 150 in number, of whom 70 acted and 59 signed the death warrant. On the Restoration most of those who were then living were brought to trial, and 30 out of 29 were executed.

Regiments, the name given to bodies of military troops forming the largest permanent unit commanded by a colonel. The Dragoon Guards, the Scots Greys, and the Royal Irish were formed about 1684, the Coldstream Guards in 1660, and the first regiment of Lancers in 1816.

Regium Donum, a royal gift in support of the Presbyterian ministry of Ireland, begun by Charles II. in 1672, and revived by William III. in 1690. A commutation of this allowance was effected by a special Act in 1871.

Regius Professor, a University Professor occupying one of the Chairs established by Henry VIII. Oxford has eight Regius Professors, Cambridge three, and Dublin five.

Reichsrath, the Austrian Parliament, comprising an Upper House of Princes, Nobles and Prelates, and a Lower House of 353 members.

Reichstag, the Diet or Imperial Parliament of Germany.

Reign of Terror, in France, practically dated from the ascendancy of Robespierre to his fall, March 1793 to July 1794.

Reindeer, a genus of deer horned in both sexes, occurring only in northerly regions. It has an average height of 4 feet 6 inches, is very fleet of foot, and the Laplanders utilise it for draught purposes.

Relics are objects which the Roman Catholic Church has declared to be worthy of special veneration, and comprise supposed portions of the Cross, bones and garments of saints etc., which are treasured in churches and shrines, and often attract large bodies of pilgrims.

Relief in sculpture is of three kinds—high relief (*alto-relievo*), in which the figures stand out to the extent of one-half on their natural proportions, low-relief (*basso-relievo*) when the figures project but slightly; and middle relief (*mezzo-relievo*), when the projection is intermediate.

Religions are of more numerous kinds than can well be classified. At the present time, it is estimated there are throughout the world about 500,000,000 Christian adherents, including 270,000,000 Roman Catholics and 170,000,000 Protestants; nearly 400,000,000 Confucians and Taoists, 250,000,000 followers of Hinduism, 220,000,000 Mahomedans, 140,000,000 Buddhists and 12,000,000 members of the Jewish faith.

Religious Tract Society was founded in 1779, and circulates from 60 million to 70 million copies of its numerous publications yearly.

Remainder, a legal term signifying a future condition of an estate, taking effect after its enjoyment by the present tenant is terminated. It does not "vest" until the event which will put an end to the present estate is certain of happening.

Remora, a peculiar family of fishes possessing a flattened oval suctorial projection on the top of the head, by which the fish can attach itself firmly to the bottoms of vessels or other objects. The remora occurs mostly in warm seas and attains a length of about 30 inches in the tropics.

Renaissance, a term designating the revival of classic ideals in literature, painting and architecture, a movement which was most prominently exemplified in France, and lasted through the main part of the 15th and 16th centuries. The influence of the Renaissance in England was mostly literary.

Rennet, a substance obtained from the stomach of a calf or other sucking quadruped, and used for curdling milk.

Repeater, the name applied to a watch that will strike the hour last past on the pressure of a spring. In the more modern examples the repeating extends to the striking of the quarters and minutes.

Replevin, a legal term indicating an action-at-law to decide whether goods taken in execution have been rightfully seized or not.

Repoussé, a style of ornamentation produced by hammering up metal from the inside, so as to form distinct designs on the outer surface.

Representative Peers are peers elected by their fellow peers to sit in the House of Lords—Scotland has 16, elected or re-elected for each Parliament; Ireland has 4, elected for life.

Reptilia, the class of vertebrate animals including tortoises, lizards, snakes, crocodiles, etc. They are in general structural arrangement very similar to birds, and the theory of evolution indicates that birds are the descendants of the Reptilia.

Requiem, a Mass for the dead, musical settings of which have been written by many eminent composers. Among the best-known Requiem is those of Palestrina, Mozart, and Verdi.

Reredos, the ornamental screen at the back of the altar or Communion table. It is often of a highly-decorative character.

Resins, are vegetable compounds largely employed in the industrial arts. They comprise india-rubber, turpentine, mastic, copal, dragon's blood, etc.

Respirator, a protective article worn over the mouth by persons affected with throat or lung disease, to prevent their breathing the raw cold air or fog. Ordinarily it is made of wire gauze so contrived that the air in its passage into the mouth is slightly warmed. Respirators charged with filtering substances have been introduced.

Respondentia, a legal term applying to maritime contracts, mortgaging ships and their cargoes for money advanced; differing from a bottomry bond in the extent of the pledge.

Rest, a musical term denoting silence or cessation from playing for the period represented by the character of the rest. Thus, there are minim, semibreve, quaver, and other rests, which represent the same lengths of silence as the notes themselves would represent in sound.

Retriever, a variety of the domestic dog useful to sportsmen for bringing in game that have been shot. It is a capital water-dog, and is usually of a black or brown colour.

Revelation. (See Apocalypses.)

Revolver, a revolving pistol provided with a number of chambers (six being the usual number), each of which can be fired in succession by the pulling of the trigger. A weapon of this kind existed in the 17th century, but it was not until 1825, when Colt's revolver was introduced, that a really serviceable small arm of this class was available. The principle of the revolver has been adapted to breech-loading guns, as in the mitrailleuse and the mauler.

Rexnes des Deux Mondes, "the famous French fortnightly review, which has been continued by the greatest writers in France; started in 1831.

Rhantic Beds, a term applied to certain strata which connect the Lias and Trias formations. They abound in fish fossils, and occur at Penarth in Wales and in certain parts of the Alps.

Rhea, a large bird of the ostrich family, a native of America, and the only species of the Katitz known on the American continent.

Rhesus, the name of one of the sacred monkeys of India. It is abundantly distributed over the hills and plains, and is about 18 inches long and of a yellowish-brown.

Rhinoceros, a huge hoofed quadruped, of which

there are nine existing species; native to the river and marsh regions of Africa, India, Borneo and Java. It is remarkable for its thick hide and upturned snout, from which springs a long horn. The white rhinoceros, which is scarce, is the biggest species, attaining a length of 10 to 12 feet and a height of from 5 to 6 feet. The black rhinoceros is the most familiar.

Rhodium, a scarce metal discovered by Dr. Wollaston in 1804 in platinum ores.

Rhynchope, a genus of birds of the gull family, inhabiting the tropical parts of Africa, India and America. They are noted for their large curved bills, the upper mandible of which is much shorter than the lower one.

Rialto, a famous bridge that crosses the Grand Canal at Venice, and dates from 1591.

Ribbon Fish is a deep-sea fish, deriving its name from the ribbon-like shape. Though many feet in length, it is only an inch or two thick. By reason of its keeping to the ocean depths, the ribbon fish is rarely met with.

Ribbonism, a term applied to an agitation got up in Ireland about 1820 by a secret society whose object was to avenge upon landlords what the conspirators considered the wrongs of tenants. Many agrarian crimes were committed by the members of this society between 1828 and 1871, when a special Act was passed for their repression.

Ribbons, strips of fine fabric, usually made of silk, velvet, or satin, and in a great variety of colours and designs. They came into vogue in the 16th century. Coventry is at present the chief seat of the ribbon industry in England.

Ribbon Seal, a kind of seal found in the North Pacific, remarkable for being ornamented with an almost white broad band along its back and around its neck.

Rice, a grain-yielding grass extensively cultivated in India, China, and certain parts of America, and forming the main article of food of the Indian and Chinese peoples. Rice to the value of nearly three million pounds sterling is annually imported into this country. Arrack, an alcoholic liquor, is made from fermented rice seeds.

Riccolite, an ornamental stone, found almost exclusively in New Mexico, and presenting a series of white, olive and green serpentine layers.

Rider, the popular name of a Dutch gold coin first put into circulation in the 16th century, but not now in use. Its name was derived from its having engraved upon its obverse the figure of a horseman. It weighed about 50 grains. A coin of the same name was issued by James VI. of Scotland, afterwards James I. of England.

Rifle, a firearm, grooved in the barrel in order that the projectile may receive a rotatory motion on its own axis upon expulsion.

Rifle Bird is a remarkably beautiful Australian bird of a deep glossy black with olive-green and blue metallic markings. It is of arboreal habits. It is only the male which has any of such fine plumage.

"Rights of Man", the title of the declaration of the French National Assembly in 1793, proclaiming that all men have equal rights. Also the title of a famous book by Tom Paine, justifying the Revolution.

Rinderpest, an infectious cattle disease to which other ruminants are also liable. It spreads very quickly when once it breaks out, and over 50 per cent. of all the animals attacked die. It comes from Central Asia, and some of its visitations to this country have been attended by enormous loss of life. In 1856, out of 220,740 cattle attacked, over 73,000 died. The disease brings about a congestion of the mucous membranes, and there is an entire cessation of milk secretion.

Ring Dove, a kind of wood-pigeon, common in Britain, and about 17 inches long. It is of a blue-grey colour, tinged with brown.

Ring-money is supposed to have been in circulation among the ancient races of Europe, though the evidence on the point is not perhaps very conclusive. Numerous ring-shape pieces of bronze, however, have from time to time been discovered, which seem to favour the idea.

Rinks, for roller-skating, began to be popular in 1875 and in the course of the next ten years similar places were started all over the country, but died down after a few years, to witness a revival, however, in more recent days.

Riot Act (The), was passed in the first year of the reign of George I., its object being to prevent riotous assemblies. In times of disturbance, when a breach of the peace is threatened, if a magistrate reads the Riot Act to a collected crowd of twelve or more persons anyone refusing to disperse is liable to arrest and a long term of punishment.

Ritualists, the term used to designate an extreme High Church section of the Church of England, who brought into the ceremony of public worship coloured vestments, lighted candles, incense, and other features of Romanist worship, and excited much opposition and contention. The practices were repeatedly condemned. A Ritual Commission was appointed in 1904 to receive evidence in regard to ceremonial excesses, and attempts are being made to arrive at a basis by which both High Church and Low Church adherents can agree upon the subject of ceremonial. The report of the Ritual Commission, published in 1906, concluded that the law of public worship in the Church of England had become too narrow for the present generation's religious life; and that the machinery for discipline had broken down. The Commissioners favoured the giving of greater power to Bishops for the suppression of objectionable practices, but beyond this no immediate remedy of any effectuality or extent was suggested, and Ritualism remains practically unchecked.

Rix-Dollar, the name of a silver coin current in Germany, Sweden and Denmark up to the early part of the 19th century and worth about 5s.

Roach, a well-known fresh-water fish of the carp family, not often reaching more than a couple of pounds in weight.

Roburite, a flameless explosive invented and adopted in Germany in 1888. It is composed of chlorinated dinitro-benzene mixed with sufficient ammonium nitrate to oxidize it.

Rock Butter, the name commonly given to petroleum when found in its semi-solid state.

Rockets for use in war were invented by Sir William Congreve early in the 19th century, and proved very destructive in siege operations. Rockets, as implements of war, however, are now superseded by more efficient agents; but they are still used for signalling purposes, while in that connection their utility has been much increased in recent years. Boxer's life-saving rockets are mostly used in England.

Roeking, a marine fish of the cod family, distributed over the coasts of Europe, Iceland, Japan, South Africa, and New Zealand. There are eight known species, five of which are found on the British coast. This fish is remarkable for the number of barbels it carries around its mouth.

Rocks comprise the solid portions of the earth's crust, and all are composed of mineral substances and classed in reference to their various formations and conditions. (See Names of Different Rocks.)

Rock Soap, a kind of clay or black bole of a sticky nature, used for washing cloth and in the manufacture of crayons. It is a hydrate of silicate of aluminium.

Rod, a measure of length equalling 5½ yards, also called a pole or perch.

Rodentia, an order of mammals of the gnawing class, and including all kinds of rats, mice, squirrels, porcupines, hares, rabbits, etc.

Roe, the parts of fishes which extend on each side of the ribs in lobes next to the intestines. What is called "hard roe" is that of the female and consists of eggs; that of the male is the soft roe or milt. It is estimated that the ova in one conger-eel number many millions.

Roebuck, a deer that was formerly common in the forests and parks of Britain, but is now only found at large to the northern parts of Scotland. It is met with in many of the temperate regions of northern Europe and Asia.

Rogation Week begins with Rogation Sunday, the Sunday before Ascension day, and continues through the whole week, when extra prayers and supplications are offered as a preparation for the Ascension.

Rois Fainéants (King Do-Nothings), were the Merovingian Kings of France between 650 and 750, so-called because of their leaving the duty of government to their ministers.

Roller, an African and Asiatic bird of the *Columbidae* family. It gets its name from its habit of turning over in the air like the tumbler pigeon. It sometimes occurs in Britain.

Roman Catholic Church is the Christian Church whose head is the Pope of Rome. Its Creed comprises twelve articles, the seven sacraments of Baptism, Confirmation, Eucharist, Penance, Extreme Unction, Orders, and Matrimony: the doctrines include those of Original Sin and Justification, sanctioned by the Council of Trent; the Mass, as a propitiatory sacrifice; Purgatory; Papal Supremacy, etc. It was the established Church of England until the Reformation, after which many disabilities were imposed upon Roman Catholics, and continued in a more or less severe form until the passing of the Emancipation Act of 1829. There are three Roman Catholic Archbishops in England (Westminster, Birmingham and Liverpool), two in Scotland (St. Andrews and Edinburgh, and Glasgow), and four in Ireland (Armagh, Dublin, Cashel, and Tuam). There are over 260,000,000 Roman Catholics throughout the world, of which about five and a-half millions are in the United Kingdom, over three and a-quarter millions being in Ireland.

Romanesque Architecture includes the round-arched and vaulted orders, which were prominent from the 8th to the 12th century, and retains some characteristics of the Classical style, modified on Medieval lines. The Byzantine and Lombard orders come within the term Romanesque.

Roman Roads were made for the most part by criminals, and were of great strength and durability. Four such roads were made in England during the Roman occupation, fragments of which still remain. These were Watling Street, stretching from Kent to Cardigan; the Icknield Way, from St. David's to Tyne-mouth; Fosse, from Cornwall to Lincoln; and Ermin Street, from St. David's to Southampton.

Roman Walls for defence against invasion were built by Agricola, Hadrian, and Septimius Severus on the northern borders of England as a protection against the Picts and Scots. The first wall was begun by Agricola in A.D. 79, and extended a distance of 80 miles from the Tyne to the Solway Firth; the second was built from the Firth of Forth to the Firth of Clyde, 36 miles. Agricola's wall was extended by Hadrian in 121, and by Septimius Severus in 208, and ran from Howness, near Carlisle, to Walsend-on-Tyne. Many parts of these walls still remain.

Rondo, the name of a short musical composition with one prominent theme recurring throughout.

Röntgen Rays were discovered in 1895 by Professor Röntgen, of Wurtzburg, while experimenting with a Crookes vacuum tube, when the fact was accidentally revealed that a photographic plate, contained in a dark box and exposed to its rays, reflected metal objects, the box itself seeming transparent. Further experiments developed the idea, and now by the aid of Röntgen Rays photographs can be obtained of objects enclosed in solid bodies, enabling bullets and any solid bodies of metal, as well as bones, etc., in the body to be perfectly located and investigated. The discovery has proved of great advantage in surgical operations, and from experiments that are constantly in progress it is possible that the rays may prove of great utility in the case of various skin and other diseases.

Roodbeak, a reddish-brown member of the deer family, with large ears and pointed horns, abounding in the forests of Southern Africa.

Rook, a very common bird of the crow family abounding in all parts of Britain. The birds nest in colonies, and live chiefly on birds and insects. The plumage is black with blue and purple tinges.

Rosqual, a marine mammal of the whale order, specimens of which have been met with of from 70 to 100 feet long. They yield but a small quantity of blubber, and therefore are not much hunted. Several species are found in the North Sea.

Roseaniline, a well known aniline dye commonly known as magenta. (See *Aniline*).

Rosary (see *Beads*).

Roscolite, a green micaceous mineral first discovered by Professor Roscoe, and containing some 30 per cent. of vanadium pentoxide.

Rose Beetle, so-called because it feeds, wherever possible, on the petals of the rose. It is of a green colour on the back, red underneath, and is not more than one inch in length.

Roses retain their pre-eminence among flowers year after year, and the attar of roses is the most famous and most costly of all perfumes. The finest rose-gardens in the world are those of the province of Kozanlik, in Eastern Roumelia, where the plantations, which lie along the sweet valley of Maritza, extend up to upwards of 40 miles. Here nearly 6,000 lb. of the attar is produced every year, to make which several thousand tons of picked petals are used, for it takes about 200 lb. of rose leaves to make a single ounce of the attar. The price of the Turkish attar, which is produced by distillation, is from £15 to £20 per lb.; but that which comes from the South of France, where only a small quantity is produced, is even more expensive, owing to its particularly fine quality. The price of this is as much as £40 to £50 per lb.

Roses, Wars of the, between the rival houses of York and Lancaster, for the possession of the English crown, began in the reign of Henry VI. and terminated with the death of Richard III. on Bosworth Field. The emblem or badge of the Lancastrians was the red rose, and of the Yorkists the white rose. It is said that 100,000 of the gentry and common people, too nobles, and 12 Princes of the Blood were killed during the 20 years of this fierce contest. All rivalry between the Roses ended by the marriage of Henry VII., the Lancastrian, with the Princess Elizabeth, daughter of Edward IV., the Yorkist.

Rosetta Stone, a stone discovered in 1799 by the French at Rosetta in Egypt, and afterwards deposited in the British Museum. It is a piece of black basalt about 3 feet long, and contains hieroglyphic inscriptions, which were successfully deciphered, and found to contain a decree of Ptolemy Epiphanes, of about 195 B.C.

Rosewood, the name given to the timber of various South American trees of the *Leguminosae* order. Its ground colour is dark brown with red streakings, forming a variety of attractive designs.

Rosicrucians were a sect of philosophers founded by a German monk named Rosenkreuz in the 14th century. A good deal of mystery, however, surrounds the history of this secret society, the members of which were credited with the possession of the secrets of alchemy.

Rota Club was a political association formed during the Commonwealth, whose object was to secure the election of the chief officers of the State by ballot, and to have annual changes of Members of Parliament by rotation. Hence the name of the Club. They did not accomplish much, however.

Rotche, a small sea-bird of the Auk family, mostly inhabiting the Arctic Regions. Its back and wings are black and the under parts white. Familiarly known as the "Little Auk."

Rotifers, the order of animals known as "wheel-animalcules," microscopic in size, but possessing highly organised structures.

Rotham Row, a corruption of *route de roi* (king's drive), the fashionable riding and driving resort in Hyde Park.

Rottenstone, a siliceous limestone made porous by the action of water. In a pulverised form it is used for polishing soft metals.

Rouble, a Russian silver coin of the nominal value of about 2s. English.

Rouge, a substance obtained by heating coppers to the point of decomposition. This form of rouge is utilised both for polishing purposes and as a pigment.

Another kind of rouge used as an artificial colouring matter is obtained from the dried flowers of *Carthamus tinctorius*, and is mixed with French chalk finely powdered.

Rouge et Noir, a well-known gambling card game played on a table divided into two sections and marked with two black and two red lozenges. Any number of players can take part, and the money is staked on the red or black spaces. The cards are dealt out, first to Noir, until the pips aggregate more than 30; then in like manner to the Rouge, and the packet coming nearest to 31 wins the stakes.

Roulette, a gambling game played on a table carrying a revolving disc divided into 30 compartments, coloured red and black respectively. The players stake their money on any compartment, colour, or combination of numbers they please. The disc is whirled round and a ball is set rolling in the opposite direction, dropping finally into one of the compartments, thus deciding the winning number or colour.

Round, a musical composition in several parts, taken up by each participant at a different point from the others, and effecting a harmonious combination throughout. A Catch is similar in form, but usually allied to humorous words.

Roundheads, the name given to the Parliamentary party during the Civil War. It was originally a term of derision applied by the Royalists.

Round Towers are conical erections of considerable height, dating, probably, from some period between the 6th and 12th centuries. These buildings are numerous in Ireland, and three remain in Scotland. It is supposed they were built for ecclesiastical purposes, but there is no direct evidence of this existing.

Rove Beetles, beetles with long narrow bodies, and a habit of suddenly curving up their tails when surprised. They are a numerous genus, and much in evidence on warm summer evenings. They not only fly, but are capable of running at a great speed.

Royal Academy was founded in London, in 1768, under the patronage of George III., with Sir Joshua Reynolds, who was knighted for the occasion, as first president. The early exhibitions of the Academy were held first in Pall Mall, and later in Somerset House, where the exhibitions continued to be held until 1838, when the National Gallery being built, the Academy moved its quarters to that building. In 1869 the present Royal Academy, at Burlington House, was opened. The Academy numbers 40 R.A.'s and about 30 A.R.A.'s. The presidents have been: Sir Joshua Reynolds (1768), Benjamin West (1790), James Wyatt (1805), Benjamin West (1806), Sir Thomas Lawrence (1820), Sir Martin A. Shee (1830), Sir Charles Eastlake (1830), Sir Francis Grant (1856), Lord Leighton (1878), Sir J. E. Millais (1896), and Sir E. J. Poynter (1896).

Royal Academy of Music, founded in 1823, has enjoyed a Royal charter since 1830, and an annual Government grant of £500 since 1868. Every form of music is taught there, and the chief modern languages. It has valuable scholarships, and has produced many eminent musicians.

Royal Agricultural Society was founded in 1838 and incorporated in 1840. It holds an annual show, at which valuable prizes are offered for the best stock and the most important inventions in agricultural implements. These shows were held at different places each year from 1839 until a few years ago, when London was fixed upon as what was hoped would be a permanent show place, and a large tract of ground was secured at Park Royal for that purpose. The shows held at the latter place, however, failed to attract the public, and a reversion was made to the old system in 1906.

Royal College of Music, at Kensington Gore, was incorporated in 1883, and receives pupils of both sexes. It has 57 Open Free Scholarships and 21 Close Free Scholarships.

Royal Humane Society. (See *Humane Society, Royal*.)

Royal Institution was established in 1792, and was incorporated by Royal charter in 1800 for "the diffusion of knowledge" and the facilitating of inventions and scientific discoveries. It was in the

building of the Institution that Faraday conducted his experiments. Since 1833 it has supported two professors, one of chemistry and one of physiology.

Royal Society was founded in 1660 and received a Royal charter in 1662, Sir Robert Moray being the first president. Two years later the society began to publish its *Philosophical Transactions*. It was to the Royal Society that Newton first read his *Principia*, which was ordered to be printed. The meetings of the society have been held in rooms in Burlington House since 1857. There is a Parliamentary grant of £4,000 a year to the society for scientific purposes. Among the presidents have been Sir Christopher Wren, Pepys, Sir Isaac Newton, Sir Joseph Banks, Sir Humphry Davy, Professor Huxley, Lord Rayleigh, and Sir Archibald Geikie.

Rubber, produced from the juice of certain trees and shrubs of tropical countries, is in such extensive demand now for tyres and other purposes that rubber plantations have been established in almost every part of the world where rubber can be grown. The best kinds come from the Amazon valley. In 1910 a great rubber "boom" was experienced, hundreds of new companies being floated, while the price of rubber was more than doubled. There is an annual consumption of some 125,000 tons of rubber at the present time (1914). An artificial rubber, "synthetic rubber" was introduced.

Rubicon, a small river falling into the Adriatic, and forming one of the Italian boundaries, the crossing of which anciently involved decisive action and constituted a declaration of war. Thus the phrase "crossing the Rubicon" came into general use, denoting an act from which there is no withdrawal.

Rubidium, a scarce element first discovered in certain mineral waters in Bavaria in 1861 by Bunsen. It is always associated with lithium, and frequently with potassium and sodium.

Rubrics are the special instructions in regard to the ceremonies of the Church, appearing in the Prayer Book, and easily denoted by being printed in red.

Ruby is a deep red kind of *Corundum*, and a variety of sapphire; one of the most valued of precious stones, the best examples being worth more than diamonds of the same size and quality. Burma yields some of the finest, and rubies of inferior colour are found in Siam, Ceylon, South Africa, and Brazil.

Rudd, a fresh-water fish of wide distribution, plentiful in the rivers of Britain, and found in most other parts of Europe, also in Asia Minor. It is of a reddish-gold colour, with a greensh-blue beard. It averages from 1 to 2 lb. in weight.

Rudesheimer, a noted brand of wine made from grapes grown in the districts of Rudesheimer on the right bank of the Rhine.

Ruff, a bird of the sandpiper family, which was at one time very common in the Fen districts. The males are peculiar in having a well-developed ruff of feathers round the neck.

Ruffe, a small fresh-water fish common in most parts of Central Europe, and similar in appearance to the ordinary perch. It is found in British rivers.

Ruffles, the name given to a pleated strip of fine linen worn by men in the breast of the shirt, and fashionable down to the early part of the 19th century.

"Rule, Britannia!" the national sea-song of England, was written by James Thomson, the author of the "Seasons," and set to music by Dr. Arne about 1740.

Rum, an ardent spirit distilled from molasses, and containing from 40 to 50 per cent. of alcohol. It is chiefly manufactured in the West Indies, and derives its special flavour from a volatile oil.

Ruminantia, a class of ruminants that chew the cud, being provided with a compartmented stomach, enabling them to swallow food, and afterwards bring it back to the mouth for mastication.

Rummage Sale, the name given to a clearing-out sale of articles, at docks or other public places, which have not been claimed by their owners within a prescribed period.

Runes or Runic Inscriptions, the description applied to certain alphabetic characters discovered cut upon stone monuments and implements found in

many parts of Europe, including England. In only a very few instances has it been possible to put any distinct and conclusive interpretation upon them.

Rupia, an East Indian coin forming the standard unit of value in India. It is of the nominal value of 2s., but, owing to the fluctuating price of silver, its value has much deteriorated in recent years, its actual value being rated by an Act of Parliament in 1898 at 1s. 4d.

Rusa, a genus of deer inhabiting India, Ceylon, the Philippines, and the Malay Archipelago. It stands about 5 feet high, is of a dark brown hue, and of a somewhat sturdy build. Its antlers are long and powerful. The Sambar is the most familiar species.

Rusiochine, a red substance resulting from evaporating the green solution formed when chlorine, water and ammonia are added to quinine already in solution.

Russian Grand Dukes.—The surviving male relatives of the Czar Nicolas II. extend to cousins of third degree and are all grand dukes. These thirty male members of the imperial house are a serious burden on poverty-stricken Russia, for each one of them receives as his birthright an income of £100,000, approximately, a year from the moment he sees the light of the world till the hour of his death. The present sum paid to the grand dukes and princes of the Russian imperial house thus amounts to a total of about three millions sterling per annum. Between them these grand-dukes and princes own 5,000 square miles of land, or about one-fortieth part of the entire territory of European Russia. Besides these vast estates, they possess no less than 335 palaces and castles, and employ some 20,000 domestic servants.

Ruthven Raid was the conspiracy of which Ruthven, Earl of Gowrie, was the leader in 1600, directed against James VI. of Scotland, which was unsuccessful, and in consequence of which Gowrie lost his life two years later.

Rye House Plot, formed in 1683 with the object of assassinating Charles II. and the Duke of York (afterwards James II.), in order to secure the succession of the Duke of Monmouth. The plot was frustrated, and among those who suffered death for supposed participation in it were Lord William Russell and Algernon Sidney. The meeting place of the conspirators was Broadbourne, Hertfordshire.

S

Sabal, the typical genus of the *Sabalidæ* family of fan-shaped leaved palms. *Sabal palmetto* is the Palmetto Palm.

Sabaoth, a Hebrew word, meaning an army or host, and applied sometimes to the Supreme Being, e.g. "the Lord of Hosts," (Rom. ix. 29).

Sabbatarianism, a term generally employed to designate such as rigidly observe the Sabbath, but in the 19th century applied to the sect which was in favour of Saturday (Seventh Day) being honoured as the Christian Sabbath. In America at the present time there are still several sects of Sabbatarianism, or Seventh Day Baptists.

Sabbath, the Day of Rest as ordained by God. Christians make it the first day of the week, and the Jews the seventh.

Sabbath Breaking.—In England penalties for the disregard of the Sabbath have been imposed from time to time by the Legislature. By the Statute of Charles II., c. 2, still in force, "No person is allowed to work on the Lord's day, or use any boat or barge, or expose any goods for sale, except meat in public houses, milk at certain hours, and works of necessity or charity, on forfeiture of 5s." Prosecutions under this Act are regularly carried out in several places, and the penalty imposed is duly paid by tradesmen who break the law.

Sabbatical Year was instituted by the Jews in ancient times for the purpose of giving the soil a rest from cultivation. This was every seventh year.

Sabellianism designates a religion founded by Sabellius in Egypt in the 3rd century, and did not accept the Trinity. A Council of the Roman Church condemned it in A.D. 360.

Sabines were a brave race inhabiting a territory near Rome in early times. Romulus, it is said, lured the Sabine men to the Roman sports, and in their absence carried off their daughters by force. Ultimately the Sabines were absorbed in the Roman people about 566 B.C.

Sable, a beautifully furred mammal of the weasel family, inhabiting Siberia and other parts of Northern Asia. It is bright brown in colour, and has a long, bushy tail. There is also an American variety. Wherever it exists it is hunted for its valuable fur.

Saccharin is an isonide of orthosulphobenzoic acid, a coal-tar product, and is 300 times as sweet as cane sugar. It is not used as a substitute for sugar, but simply as a sweetening agent when sugar is forbidden, as in certain diseases. It has no value as a food.

Saccharoid, a name given by Kane to a sweetish substance, similar to orcin, produced by the decomposition of Heeren's pseudo-erythrin.

Saccharometer, an instrument for determining the amount of sugar in solution by means of polarised light. Used in breweries and distilleries for estimating the specific gravity of worts, &c.

Sack was the name given in olden times to the white dry wines of Spain and Madeira, canary being the most popular.

Sacrament, according to the Protestant Church, includes Baptism and the Lord's Supper. In the Roman Catholic Church there are seven Sacraments. (See **Roman Catholic Church**.)

Sacred Books of the East is the term applied to the Books in which the faiths of Brahmans, Buddhists and Mahomedans are set down; and are claimed by believers to be works of Divine inspiration.

Sacred Wars of the ancients were three in number—those of the Achæans against Cirrha, 595 B.C.; that between the Phocians and the Delphians, 443 B.C.; and that of the Phocians and the Macedonians, 346 B.C.

Sacrifice, the offering up to a deity of some object as an expression of thanksgiving or penitence. The first sacrifice we read of in the Bible was that offered to God by Abel. The ancient Greeks, and the Romans practised sacrifice largely, and the history of Paganism is full of stories of human sacrifices. Some savage races indulge in these inhuman cruelties even at the present day.

Sacrilege is the breaking into a place of worship and stealing articles therefrom. In olden times these offences were punishable with death, but by Acts passed in the last century the punishment was generally treated as an ordinary burglarious offence.

Saddles were introduced by the ancient Greeks or Romans, and were not known in England probably before the 6th century.

Sadducees, a Jewish sect of unbelievers, who held that the soul was mortal, and that there was no hereafter. Alluded to in the New Testament.

Safety Lamp was used in coal mines, was invented by Sir Humphry Davy in 1815, and illustrates the principle that flame surrounded by fine wire-gauze is ineffective to ignite inflammable gases. George Stephenson invented a safety lamp about the same time and much on the same principle, but the completely effective safety lamp has yet to be invented.

Sagitta, or "the Arrow," one of the celestial constellations situated between Cygnus and Aquila. Sagittarius is another of the zodiacal constellations, consisting of 69 stars, which ancient astronomers worked into the representation of an archer. It is situated between Scorpio and Capricornus.

Saiga, an antelope of Tartary, Western Asia, and Eastern Europe, tawny yellow, and about the size of the fallow deer.

Sainfoin, a widely cultivated forage plant, especially adapted for sheep. It is of strong, leafy growth and bears bright red flowers.

Salamander, a species of amphibian lizard, of which there are several varieties; the spotted salamander is black spotted with gold, and is popularly credited with being incomcombustible in fire, which it, of course, is fallacy. Neither is it venomous, as has been supposed.

Saline, a white crystalline substance, much used as

a medicament, and obtained from the bark of willow-poplar, and other allied trees. It is a compound of carbon, hydrogen and oxygen.

Salic Law was instituted in France in the 6th century for the purpose of excluding females from inheriting the Crown. The Bourbons introduced the same law into Spain, but this was abolished by decree in 1830 to enable Isabella II. to succeed.

Salicylic Acid can be obtained from the flowers of the meadow-sweet, and from oil of wintergreen, but is now usually prepared by the action of carbon dioxide on sodium phenate under pressure. The acid is then prepared from the sodium salicylate. It is used both as an antiseptic and as a food preservative.

Salmon, a familiar fish notable for its habit of ascending rivers from the sea in the autumn and there depositing its spawn, not returning to the sea until the early spring. It is unlawful to catch salmon between September 14th and February 1st.

Salt, one of the oldest of condiments, exists in many substances, and is chloride of sodium, compounded of the non-metal chlorine and the metal sodium. It is obtained from deposits in the earth, from salt-springs, and from sea-water. There are salt mines in Galicia which have been worked for hundreds of years. The chief English salt-mines are in Cheshire.

Saltpetre. (See **Nitre**.)

Salvage, compensation given in respect of property saved from the perils of the sea, when the ship containing it has had to be abandoned, or it has been lost. Salvage compensation varies from one-tenth to one-half the value of the rescued property.

Salvation Army originated in East London in 1865, under the name of the Christian Mission, by William Booth, a former Methodist minister. The body in 1878 took the title of the Salvation Army, and for working purposes adopted a quasi-military organisation, with its General (Mr. Booth) as its commander-in-chief. The movement had for its object the promotion of religion among the masses, and has been carried on with great energy and success. It publishes 63 periodicals in 24 languages, with a total weekly issue of over 14 millions. Its operations extend to 52 countries and colonies. It has over 7,500 corps, circles, and societies, upwards of 20,000 officers and cadets, and 55,320 voluntary local officers. It has 44 shelters and homes. In this branch of its work it supplies annually over five million beds and more than eight million meals. An International Congress of Salvationists was held in London in 1904, and again in 1914, and King Edward received "General" Booth in private audience at Buckingham Palace. Later the venerable head of the organisation made extensive motor-car tours and trips abroad in furtherance of his work. His health failed, however, early in 1912, and after an operation on his eyes, and the almost total loss of his sight, he broke down and died in August and was given a great funeral after a lying-in-state. Bramwell Booth, his son, succeeded him.

Sanatorium, an institution for the reception of people out of health, and requiring nursing and medical attendance.

Sanctuaries were places where offenders against the law were free from arrest, and when all such asylums were suppressed in this country, several parts of London were treated as sanctuaries. The chief of these refuge localities was in Whitefriars. There were others in the Minories, Mitre Court, the Savoy, Westminster and the Mint. There were also sanctuaries at Beverley and at St. Burian's in Cornwall.

Sand Blast, an American invention introduced in 1871, is a method of cutting or decorating glass and other hard substances by means of sand driven by a blast of air or steam.

Sanderling, a bird of the sandpiper family, occurring on the British coast mostly as a bird of passage, and making its home in Arctic regions.

Sand Grouse, a common bird of the grouse family, inhabiting Southern Europe and Northern Africa.

Sandpiper, a bird comprising several varieties, some of which inhabit Britain along the Northern coasts.

Sanhedrim, the ancient Jewish Ecclesiastical Council of 70 members, said to have been originated by Moses when he called together 70 elders to assist him as judges. In modern times the Sanhedrim has only been summoned on very rare occasions, such as that convoked by Napoleon I. in 1806.

Sanitation, the science of health in its application to disease prevention generally, embracing the investigation of drainage, air supply, isolation in infectious disease, and hygienic measures of all kinds. The Sanitary Institute of Great Britain, founded in 1876, has accomplished much valuable work in the interests of public health and convenience.

Sanskya, one of the leading systems of the Hindoo faith, and supposed to be the philosophy from which Buddhism originated. It recognises no deity, but assumes the existence of primordial matter and of spiritual individuality.

Sans-Culottes, a term originally applied by the French aristocrats to the revolutionary leaders in 1793, and afterwards adopted by the latter as a title of honour.

Sanskrit is the language of ancient East India, spoken by the Brahmins, and existing in early Oriental literature. As written in India at the present day the Sanskrit alphabet comprises 47 letters—24 vowels and 23 consonants. The language is still spoken in certain parts of southern India.

Saponin, a compound obtained from the soapwort root, and from certain barks, seeds, and plants. It is utilised to some extent as a bronchial remedy, and in its pulverised form induces excessive sneezing.

Sappan-Wood, the timber of a tree attaining a height of from 30 feet to 40 feet, abundant in Ceylon and the East Indies. It is chiefly of value as yielding a red dye.

Sappers and Miners, the name given originally to members of the regiment of Royal Engineers.

Sapphic Verse, a metric form of verse said to have been invented by Sappho, the lyric poetess of Mitylene, who flourished about 600 B.C. This verse consists of five trochees, the second of which is a spondee, and the third a dactyl.

Sapphire, a valuable deep blue stone, next in hardness to the diamond, found mostly in India, Ceylon, and Northern Italy.

Saracens, a band of Bedouin Arabs, who in the Middle Ages were employed with considerable success by the Emperor Valens against the Goths. In the 6th century they became Mahomedans, and in the 8th conquered Spain. Later, the term Saracen was used to indicate the non-Christian races generally against whom the Crusades were directed.

Sarcine, a white crystalline solid found in animal tissues and juices.

Sarcophagus, the name given to a stone coffin, such as was used by the ancient Egyptians, Greeks and Romans, and receiving the remains of their famous dead. These sarcophagi were often decorated with rich carvings and sculptures.

Sardine, formerly supposed to be a distinct species of fish, but now conclusively proved to be the young of the pilchard. They abound in the Mediterranean and on the Norwegian coasts, and form a valuable table commodity, being largely preserved in oil and other substances for British, Continental and American consumption.

Sardonyx, a species of agate comprising layers of alternating brown, red, white, and other colours. It is much esteemed as a gem.

Sarracolla, a valuable ornamental marble occurring near Sarrancolin in the Aude Valley, France. It is vari-coloured, with yellow predominating.

Sassanides were a dynasty of Persian rulers descended from Artaxerxes. They reigned from 226 to 652.

Sesquioxide is a native boric acid of a yellow white colour, occurring as a deposit in the water from the hot springs of Tuscany.

Satellites are small planets revolving round the larger ones. The moon is the earth's only satellite. Saturn has eight.

Satin, a silk fabric of glossy surface of a velvety texture, once very fashionable for dresses, but now little used except for trimming purposes.

Satin-Bird, the famous "bower bird" of Australia so named from its habit of constructing a bower-like nest; has a glossy black plumage, with the under parts yellow.

Satinwood, the timber of a tree plentiful in India and Ceylon, and valued for cabinet work. It is of fine grain and very hard. Varieties also exist in the West Indies, Florida and Tasmania.

Satrap, the name given in ancient times to a Persian Governor of a Province.

Saturday, the seventh day of the week (the Jewish Sabbath), derived its name from Saturn, or, as some hold, is called after the Saxon idol, Saterne, which was worshipped on this day.

Saturn, a planet, the sixth from the Sun, from which it is distant about 872 millions of miles, and around which it makes a revolution in 10,759 days. It is about 77,230 miles in mean diameter, or ten times as large as the earth, and rotates on its axis in ten and a quarter hours. It is surrounded by a series of rings apart from, but revolving round, the planet. It has eight satellites.

Saturnalia, festivals held in ancient Rome in honour of the god Saturn. They were made the scene of the most boisterous festivities, and were continued for several days about the middle of December.

Saurostees, the name given to a genus of fossil cetaceans discovered in the Tertiary formation of South America.

Savings Bank. (See **Banking** in "Business.")

Savoy Palace, in London, between the Strand and the Thames, was originally built in the 13th century by Peter of Savoy. It was burnt in the Wat Tyler Rebellion in 1381, and afterwards restored and converted into a hospital in the reign of Henry VII. It was here that the famous but fruitless Savoy Conference was held between the Church and the Presbyterian Party in 1661. The ancient chapel of the Savoy was burnt down in 1864, but rebuilt the following year.

Saw, a tool said, by Pliny, to have been invented by Dædalus, and fashioned in imitation of the jaw-bone of a snake. Saw-mills date from the 15th century, in Madagascar, Breslau, but they were not introduced into England before the 17th century, and even then met with great opposition. The circular saw was invented in the 18th century.

Sawfish, a sub-tropical fish whose snout often attains the length of several feet, and is provided with saw-like projections which render it dangerous even to the whale itself.

Saxons, a Teutonic race originally inhabiting what is now Holstein. It was from this people that the conquerors of England sprang in the 5th century.

Scald, the name of the Norse poet who was somewhat analogous to the bards of Wales. Their office was to celebrate the achievements of their warriors and leaders.

Scandalum Magnatum, a law passed in 1379, prescribing certain punishments to such as circulated scandalous statements concerning peers, Ministers, and other public functionaries.

Scapular, a vestment hanging from the shoulder to the knees, worn by members of certain Roman Catholic orders. The name is also given to two small pieces of cloth worn over the shoulders by lay members of the church in honour of the Virgin.

Scarabæus, a genus of beetles widely distributed through Africa and Asia and the inner parts of Europe. It is to this genus that the "Sacred Beetle" of the Egyptians belongs, and numerous representations of it are found on ancient monuments.

Seal, a small Anglo-Saxon coin, circulated in the 7th and 8th centuries, and worth nominally a penny; struck sometimes in silver.

Seiphiæ, a sect of philosophers founded by Pyrrho in ancient Greece 324 B.C. Their philosophy consisted in general doubt concerning everything.

Sceptre, the staff or rod constituting the symbol of supreme authority. Tarquin, the elder, was the first

- Roman to assume the sceptre in 468 B.C. The French kings of the 5th century made a golden rod their sceptre.
- Schiedam**, a kind of gin, commonly called Hollands, manufactured at Schiedam, from the juice of the juniper berry and malt barley.
- Schism** was constituted a punishable offence in 1753. Bolingbroke introducing a law "to prevent the growth of schism and for the further security of the Churches of England and Ireland as by law established." Teachers were required to conform to the Church. The Act was repealed in 1759.
- Schist**, the geological name of certain rocks in closely parallel layers, the mica schist being the most important. Quartz is a main constituent.
- Schoolmen**, or **Scholastic Philosophers**, were a body who, in the Middle Ages, devoted themselves to the study and exposition of difficult questions of religious inquiry, and attempted to reconcile the teaching of the Church to the dictates of human reason. Amongst the chief Schoolmen were Archbishop Anselm, Albertus Magnus, Thomas Aquinas, Peter Lombard, and Duns Scotus.
- Schooner**, a small two-masted vessel with fore and aft sails. Some also carry top-sails. The schooner is a favourite sailing vessel on account of its speed.
- Scorpion**, a large form of spider, in structure not unlike a lobster. It is only found in hot climates, and often attains a length of 6 or 7 inches. The tail is provided with a venomous sting, which, though seldom fatal, causes extreme pain.
- Scotists** were followers of the Schoolman, John Duns Scotus, who propounded certain moral laws and doctrines which were somewhat at variance with the teachings of the main body of Schoolmen.
- Scouts**, **Boy**. This movement, founded by Lieut.-Gen. Sir K. Baden-Powell "to help the boys of whatever class to become all-round men," has been developed with great spirit and success. There is a membership of over 100,000 in the United Kingdom, and of 150,000 in other parts of the Empire. The movement has been extended to girls.
- Scruple**, in English apothecaries' weight, comprises 20 grains, or the third of a drachm. In ancient Rome a scruple was the 24th part of an ounce, and also indicated a surface and a time measure.
- Sculpture** is believed to have originated in Egypt, and Pliny refers to a school of statuary at Sicyon about 550 B.C. Lysippus was appointed sculptor to Alexander the Great 320 B.C. The greatest of the Grecian sculptors were Phidias (480 B.C.), Myron (480 B.C.) and Praxiteles (350 B.C.). The Romans did not cultivate sculpture with any special success, and it was not until the Art revival of the Middle Ages that it was earnestly taken up again. It was Michael Angelo who carried Italian sculpture to its highest point in the 16th century. Not until the 18th century did England produce any particularly striking sculpture, and even then the art was mainly represented by foreigners. The chief English sculptors since then have been Flaxman, Chantrey, Westmacott, Gibson, Foley, Woolner and Thornycroft. Canova, in Italy, and Thorwaldsen, in Denmark, were among the greatest sculptors of the 18th century, and at the present day Rodin holds the highest rank among French sculptors.
- Seutage**, or **escuage**, was a feudal tax levied on lands subject to knight service, the service being exercised in lieu of paying the tax.
- Seythians**, nomadic people of ancient times, originally inhabiting the Steppes of Russia, but subsequently occupied a part of India.
- Sea Eagle**, a large genus of Eagles, consisting of seven species, two of which occur in Europe. They live on fish and carrion and sometimes seek their prey among living animals.
- Sea Elephant**, a curious species of seal, the males of which possess a proboscis a foot or more in length. They are found on the coast of California, and in certain parts of the Southern Ocean, and have a commercial value for their blubber.
- Sea Horse**, a rather common sea-fish, very numerous in the tropics and comprising some 20 species. Their bodies are ringed and they have prehensile tails. Their heads are horse-shaped, and they swim in a vertical position.
- Seals**, or **Signets**, have been in use from the remotest times. Some impressions of seals of Saxon kings are in the British Museum. The Great Seal of England was first used by Edward the Confessor, and it is the Great Seal that is used on the writs summoning Parliament, and for sealing all State documents of importance. The Lord Chancellor is the official custodian of the Seal.
- Sea Mouse**, a genus of Annelids of the Aphrodite family, of oval shape and some 8 or 9 inches long, and iridescent. They are covered with fine hairs, and in some species are barbed and bristled.
- Seasons** comprise the four natural divisions of the year, and are due to the inclinations of the earth's axis to the plane of the elliptic. (See *Equinox*.) The spring season is entered about the 21st March, autumn September 22. The summer and winter seasons are governed by the solstices (which see), and begin respectively about June 21 and December 22.
- Sea Urchin**, a curious kind of echinoid encased in a calcareous globular shell, covered with spines which are used both for defence and locomotion.
- Se-Baptists** were a sect of the 17th century, who held that baptism was sufficiently fulfilled by a man baptising himself.
- Secretary Bird**, so called because of the quill-like plumes about its ears, is a bird of prey common in Africa, and of considerable service as an exterminator of snakes. It is a large bird about 4 feet in height.
- Secularism** describes the principles first advocated by Bradlaugh, Holyoake and others, not in opposition to Christianity, but apart from it, and deals with matters of human welfare and utility, ignoring altogether theological questions.
- Sedan Chairs** were first made at Sedan in France in the 16th century, and introduced into England in the reign of James II. They were in general use in the 18th century, when they were the usual means of carriage for ladies and gentlemen. They were borne on two side poles by a couple of bearers, and only accommodated one person.
- Sedgemoor, Battle of**, was the deciding battle of the Monmouth Rebellion, and was fought on July 6th, 1685, at Sedgemoor in Somersetshire. The Duke of Monmouth was made captive, and afterwards tried and beheaded.
- Sedition**, the incitement to opposition to the governing power, was formerly severely dealt with. A Sedition Bill was passed in 1795, and for the next quarter of a century this statute was much in evidence to put down seditious writings, meetings, and assemblies. In later times numerous prosecutions for sedition have taken place in Ireland.
- Seismometer**, an instrument for measuring the force of earthquake shocks, is in its present improved form the invention of Messrs. Ewing and Grey. It is a clockwork apparatus, with a duplex pendulum, and records the direction and velocity of seismic waves.
- Selden Society**, for the study of English legal history, was founded in 1867.
- Selenium**, a non-metallic element of a dark red colour, and solid, found associated with sulphur, iron, pyrites, etc., though only in small quantities. It possesses strong electric resistance, and is valuable in the construction of electrical instruments.
- Self-Denying Ordinance** was a measure passed in 1654, providing that no member of Parliament should hold military or civil office, and was forced through the House of Commons by Cromwell, in order to deprive the Earl of Essex and other Presbyterians of power.
- Seminole**, a tribe of North American Indians originally located in Florida, but now for the most part living on reservations in the Indian Territory. Up to 1840 they gave the United States Government much trouble, and several campaigns were necessary before they were subdued.
- Semitic Languages** are divided into two sections: one including the Assyrian, Aramaean, Hebrew and Phœnician groups; the other embracing the Arabic and the Ethiopian. The Arabic is the most copious,

the Aramæan the poorest; the Hebrew standing in an intermediary position.

Senate, the higher governing Assembly of a Legislature. The Senate of Rome originally comprised 300 members, all of whom were patricians. The number was increased from time to time, and under Julius Cæsar reached 900. The French Senate dates from 1799; the United States Senate from the establishment of the Republic.

Seneschal, a high official of a royal or noble household, the title originating in France in the 10th century, and being afterwards adopted in England and other parts of Europe.

Separatists, the name given to the Dissenters in the time of Charles II., who pressed several severe measures against them. In recent times the term has been applied to the Irish Home Rule Party.

Sephardim, the name of the descendants of those Jews of Spain and Portugal who left those countries in the 15th and 16th centuries to avoid the persecutions of the Inquisition.

Sepia, a pigment prepared from a black secretion of the cuttle-fish. In the East it is used as a writing ink, but in this country is best known as a colour, which is formed by its being treated with caustic lye.

Sepoys, native Indian troops under the command of British officers. The name dates back to the 16th century when the Prince of Sind had a bodyguard of natives dressed and armed like Europeans. The Sepoys comprise over 150,000 men, the Imperial Indian army containing about half the number.

September, the ninth month of the year, and the seventh of the old Roman calendar; hence the name, from *Septimus*. The designation was several times changed by the Emperors, but none of the new names survived for long.

Septemberists, were those who took part in the massacre of prisoners in Paris in September, 1792.

Septuagesima Sunday is the third Sunday before Lent.

Sequin, a gold coin of Italy, notably of Venice, which circulated from the 13th to the 18th century. It was worth about 9s. 3d. English.

Serfs, the name given to the slaves formerly existing in Russia, who answered to the condition of the feudal "villeins" of England. They were attached to the soil and were absolute property in all sales or leases. They were the transferred property of the landlords. In 1861 the whole of the serfs in Russia were emancipated. Serfdom existed in Prussia down to 1792, in Denmark to 1766, and in the German hereditary States to 1781.

Serge, a mixed worsted cloth much used for male and female garments, and of considerable durability.

Serjeants at Law, the highest degree of barrister-rank formerly existing in England; until 1823 it was necessary for all Common Law Judges to be Serjeants before their elevation to the Bench. This obligation was abolished by the Judicature Act of that year, and no Serjeants have been made since 1828.

Serval, a small carnivorous animal of the lynx order, with black spots on a tawny ground. It is numerous in Africa, preys upon the smaller animals of the deer family, and is sometimes styled the "Tiger Cat."

Settlement Act, of 1680, was passed in 1680, with the object of limiting the Succession to the British Throne to Protestants.

Seven Champions of Christendom, as set forth in mediæval literature, were St. George of England, St. Andrew of Scotland, St. Patrick of Ireland, St. David of Wales, St. James of Spain, St. Denis of France, and St. Anthony of Italy.

Seven Churches of Asia, referred to in the Revelation of St. John, were those of Ephesus, founded by St. Paul in 57, Smyrna, Pergamæ, Thyatira, Sardis, Philadelphia (now Allah Shahr) and Laodicea.

Seven Sages (or Seven Wise Men of Greece), regarded as the chief philosophers of the age before Solon of Athens; Thales of Miletus; Pittacus of Mitylene; Bias of Priene; Chilo of Sparta; Cleobulus of Lindus; and Periander of Corinth.

Seven Sleepers, of the ancient legend, took refuge from the wrath of the Emperor Decius in a mountain

cavern, when they were made to sleep for 300 years. A festival to celebrate their awakening is kept in the Roman Church on 27th July.

Seven Wonders of the World were: 1, the Pyramids of Egypt; 2, the tomb of Mausolus, King of Caria (hence the word mausoleum); 3, the Temple of Diana at Ephesus; 4, the Walls and Hanging Gardens of Babylon; 5, the Colossus at Rhodes; 6, the Ivory and Gold Statue of Jupiter Olympus; and 7, the Pharos, or Watch Tower built at Alexandria by Ptolemy Philadelphus, King of Egypt.

Seven Years War was that waged by Frederick the Great and England against Austria, France and Russia, from 1756 to 1763. It resulted in the secession of Silesia to Prussia, of Canada to England, and in the strengthening of our Indian Empire.

Sewing Machine, a machine for stitching cloth or other materials, and operated by manual, steam, or other power. Many attempts were made to produce such a machine between 1780 and 1840, but the first really practical invention of the kind was that of Elias Howe, an American, in 1841. Other sewing machines were afterwards introduced, and many improvements have been effected.

Sexagesima Sunday is the second Sunday before

Sextant, an instrument which has superseded the quadrant as a measurer of angles between distant objects. It is of special importance in navigation and surveying, and contains 60 degrees described on a graduated arc. A small telescope is attached, and there are also a couple of mirrors which reflect the distant objects so as to enable them to be accurately observed. It was invented by Hadley in 1731.

Shad, a common sea-fish of the herring kind, abounding on the British coasts and ascending the rivers for spawning in the spring. Its back is dark blue, with silvery sides.

Shagreen, shark's skin; also a leather of peculiar grain made from skins of wild asses, camels, horses, etc., and mostly manufactured in Astrakhan and Asia Minor.

Shake, a musical term, signifying a vibrant effect produced by the rapid trilling of two notes.

Shakers were originally an English sect who emigrated to America in 1772, and under the leadership of Ann Lee established themselves in a community at New Lebanon, in New York State. They practise celibacy and oral confession, hold goods in common, and reject baptism and the Lord's Supper. Dancing constitutes a part of their worship.

Shalloon, a kind of cloth manufactured from wool and worsted, and used chiefly for women's dresses and coat linings. It gets its name from the fact that it was originally made at Chalon.

Shamrock, wood-sorrel, the three-leaved plant native to Ireland and the national emblem.

Shark, a large and powerful ocean fish, comprising many species, very widely distributed, but most numerous in tropical seas. They have formidable teeth and are the most carnivorous of all fishes. They usually attain a large size, the whale-shark being often of a length of 50 feet. Commercially the shark yields shagreen from its skin, the fins are made into gelatine, and an oil is obtained from the liver.

Shawls are loose coverings worn by women over their shoulders and were introduced into Europe from the East. They are made of various materials, wool, silk, cotton, etc., or of mixed fabrics, and those from Cashmere, India, are famed for their beauty of colour and design. At one time these were very fashionable, as were the shawls made at Paisley for the great part of the 19th century.

Sheep, a well-known family of ruminants of great utility as wool-producers, and for food. From the earliest times sheep have been a source of wealth to England. So much were they valued in the 15th and 16th centuries that their exportation was frequently prohibited. The chief English varieties are the Leicester, Cotswold, Southdown and Cheviot breeds.

⁶ Of the foreign breeds the most valued are the Merino sheep of Spain, which yield a fine long wool. At the present day Australia and the Argentine are the largest wool-producing countries in the world.

Sheldrake, a genus of ducks, one of which, the common sheldrake, is an inhabitant of this country. It is a beautiful plumed bird with white neck, light red body and black head. Another species, the ruddy sheldrake, a native of Asia, appears in Britain only occasionally. See *Pear's Dictionary of Poultry and Cage Birds*.

Sheriff, meaning the reeve or governor of a shire, has existed as an office in England from before the Norman Conquest. These county officials are now called High Sheriffs, and are nominated each year on November 12th. This office has, however, in recent times lost much of its ancient significance, though it is still usually filled by men of prominence and wealth. They are appointed by the Crown upon presentation of the judges, except in the metropolis, where the citizens retain the right of electing sheriffs for London and Middlesex. Ordinarily the term is applied to officials acting as High Bailiffs.

Shibboleth was the test word which Jephthah used to distinguish the Gileadites, his own men, from the Ephraimites as they passed the Jordan. Such as would not give the word were refused passage. The term is now frequently used to designate any special watchword or party phrase.

Shield, a weapon carried on the arm by soldiers before the invention of firearms, mostly made of metal, leather, or wood. In heraldry the term implies a shield-shaped escutcheon, forming the ground on which arms are displayed.

Shilling has been an English coin from Saxon times, but it was not of the value of 12 pence until after the Conquest. The present style of shilling dates from the time of Henry VII.

Ship-money, first levied in the 11th century, was re-imposed in a very burdensome form by Charles I. in 1634-6, and was the immediate cause of the Civil War. London was assessed in 7 ships of 4,000 tons and 1,600 men, and other places in like proportion. Hampden was the first prominent man to refuse to pay the tax, and there was a general disposition to support him. The Long Parliament declared it to be illegal and in the reign of Charles II. it was ultimately abolished.

Ships have existed from prehistoric times. There is mention of one that sailed from Egypt to Greece in 1265 B.C., and in 786 B.C. the Tyrians built a double-decked vessel. No double-decked ships were known in England, however, before the *Royal Harry* was built by Henry VII., and it was not until the 17th century that shipbuilding was carried on in this country as a prominent industry.

Ship-worm, a peculiar bivalve mollusc which possesses the power of boring its way through the timber of ships and other wood, and is highly destructive.

Shirts do not seem to have been generally worn in Europe before the 8th century. According to Stow woollen shirts were worn until about 1233, when linen of a coarse kind, then first manufactured in England by Flemish weavers, was adopted.

Shoddy, the name given to a kind of cloth mainly composed of woollen or worsted rags, torn up and re-fabricated by powerful machinery. It was first made at Batley in Yorkshire about 1813, and in later times has become a very important industry employing many thousands of people at Batley and the neighbouring town of Dewsbury.

Shoes, as covering for the human foot, have been worn from the earliest times. They are referred to in the Bible and early historical records. The shoes of the Jews were made of wood, rush, linen, or leather. Pythagoras directed his followers to wear shoes made from the bark of trees. The Romans were the first to set the example of costly shoes, and introduced various decorative adornments of ivory and precious stones. In the Middle Ages fashion played some fantastic tricks with shoes, and in England, about the middle of the 15th century, shoes with such long points were worn that they had to be tied to the knees for convenience of walking; the dandies used silver chains for the purpose. It was about 1623 when shoes of the present form were introduced, and in 1668 the buckle came into use as an ornament.

These continued in vogue up to the 19th century, before which period shoes were not made "right" and "left."

Short Parliament, that of Charles I. in 1640, lasting only three weeks.

Shot, the name given to solid projectiles fired from guns. In the time of Henry V. stone shot was used, later leaden shot, then iron shot, and finally steel shot, which was introduced by Sir Joseph Whitworth, and is now very generally adopted.

Shrike, the name of an extensive group of birds, mostly inhabiting Africa and South America. The shrike is commonly called the "Butcher bird," and is of sober plumage. It preys upon small animals and birds, and from the effective way in which it kills its victims gets its common name. Four species, of which the red-backed shrike is the most numerous, are visitors to England.

Shrimp, a sea crustacean of the lobster family, is found in great numbers in the shallow places of our coast.

Shrove Tuesday, the day before the first day of Lent, receiving its name from the old custom of shirring, or making confession, on that day. In England the day has always been associated with the making of pancakes.

Sigylæ or **Sibyllæ**, women reputed to be inspired, who flourished at different periods in various parts of the world. Pliny, Plato, Ælian and Varro speak of some of these weird creatures; and an Erythraean Sybil, who offered books of destiny for a large sum to Tarquin II., is famous in classic story.

Sicilian Vespers, the term applied to the terrible massacre of French people in Sicily in 1282. The French were then in occupation of the island, and had been guilty of many cruelties. On Easter Monday at Palermo in the year named, by a preconcerted signal, a general rising began on the stroke of the Vesper Bell, and spread through the whole island, 8,000 persons being killed in Palermo alone. The result was the supersession of French by Spanish rule.

Siderostat, an instrument invented in 1868 for observing the light of the stars on the principle of the Camera Obscura.

Siegenite, a variety of Cobalt Linnæite of a nickeliferous quality, found at Siegen in Prussia.

Signals, for conveying information or warning to ships of sea, were not in much use in any English fleet before the time of Elizabeth. Flags are now in most general use, and a very elaborate code in connection with them is adopted, enabling words and sentences to be clearly comprehended by their varied manipulation. Other modes of sea signalling are afforded by steam jets, and at night by flashes of light. Land signalling is usually by heliograph (which see). Semaphores are the principal signals on railways, in connection with coloured lamps. The blue-signal system now in general use—which ensures the safety of a train within a given distance by not permitting another train to be on the same line of rails within that distance—has been of great service in preventing railway accidents. There are also electric, automatic, and pneumatic signals, and for times of fog explosives called fog-signals are placed on railway metals.

Sikhs, a Hindoo sect established in the 15th century, but gradually extending into a powerful race, settled mainly in the Punjab, and of an intensely military spirit. The Sikhs, under Ranjit Singh, strongly opposed the British rule in the early part of the 19th century, and many fierce battles were fought before they were finally subdued, and their country annexed in 1848. They are now amongst the most loyal of His Majesty's Indian subjects.

Silence, Towers of, are towers, usually about 25 feet high, erected by the Parves of Persia and India for the reception of the corpses of their dead. The vultures flock there and strip the bodies of flesh, and the bones fall through a grating into a pit, where they are afterwards removed for burial.

Silhouette, a form of black profile portrait, invented by Etienne de Silhouette in 1759, and formed by an outline cutting made with scissors or other sharp instrument from cloth, paper, or other flat substance.

Silicon, an important non-metallic element entering into the constitution of many earths, minerals, and metallic oxides. Next to oxygen, it is the most abundant constituent of our globe's crust.

Silk, the name given to a soft glossy fabric manufactured from the fine thread produced by the silkworm. It was known to, and highly prized by the ancients, being at one time paid for, weight for weight, with gold. The manufacture of silk was carried on in Sicily in the 12th century, later spreading to Italy, Spain, and the South of France. It was not manufactured in England before 1604; but when certain French refugees established themselves at Spitalfields in 1686, the industry was developed and became of importance. In the 18th century the Lombers of Derby achieved great success in this industry, and in recent years an important new branch of silk manufacture was established by Lord Masham at Bradford, by which what is known as "waste silk" is fabricated into plushes, velvets, etc., on an enormous scale.

Silkworm, the larva of a species of moth. It is native to China, and has been cultivated with success in India, Persia, Turkey, and Italy. The silkworm of commerce feeds on mulberry leaves, and produces a cocoon of silk varying in colour from white to orange. The cocoon is the silken habitation constructed by the worm for its entrance upon the pupa condition, and to obtain the silk the pupa is killed by immersion in hot water.

Silures, an ancient British tribe settled in Monmouth and Herefordshire at the time of the Roman invasion, and with difficulty subdued by Ostorius Scapula, the Roman General, A.D. 50.

Silver, a white precious metal, found in a free state, also in certain combinations, and in a variety of ores. The chief silver-producing regions are the Andes and Cordillera, Peru, Bolivia, and Mexico have yielded vast supplies of the metal since the 16th century, and Colorado and Nevada, in the United States, have also been very prolific in silver yield. The mines of the Comstock lode of Virginia City, Nevada, in which Mr. J. W. Mackay, the "Silver King," was interested, have been the most productive in modern times. The depreciation in silver values in recent years has greatly retarded production.

Simbil, a quaint kind of African stool, possessing a green beak tipped with red.

Simnel Conspiracy was an English historical incident of 1486, when Lambert Simnel, a baker's son, claimed to be the nephew of Edward Plantagenet, Earl of Warwick, and heir to the throne. He induced a large number of followers to join him in rebellion, but his army was defeated and he was taken prisoner, but pardoned and subsequently employed in the Royal household as a menial.

Simonians, a sect founded by Simon Magus in the 1st century, who held that the gift of the Holy Spirit was to be purchased with money.

Simony, the offence of trading in church offices, has been contrary to English law since the time of Elizabeth, and presentations made for pecuniary consideration are void. Persons making such presentation are liable to heavy fine.

Sin-eaters were people hired in certain parts of England in olden times to eat bread over dead bodies at funerals, the idea being that the eaters thereby took upon themselves the burden of the sins of the dead.

Siropia, a ferruginous earth found near Siropo on the Black Sea, and sometimes used as a pigment.

Sirgana, the scientific name of the green eckdaw of Asia. It has a bright green crest and bill and feet of coral red.

Sirius, the dog-star, so called because of its situation in the mouth of the Dog (Canis Major); it is the brightest of all the stars.

Siskin, a small bird of the goldfinch family, common in Northern regions, and of a grey-green colour. It is a lively, swift-flying bird with a very acute bill.

Sistine Chapel is the chapel of the Pope in the Vatican, renowned for its marvellous frescoes by Michael Angelo.

Six Articles, The Statute of the, was passed

in 1530 for compelling adhesion to the chief doctrines of faith:—transubstantiation, communion in one kind, vows of chastity, celibacy of the clergy, private masses, and auricular confession; and those who refused to subscribe to the Articles were treated as heretics. The Act was repealed in 1549.

Sizars, a student of Cambridge or Dublin University to whom concessions in regard to their college bills are made by virtue of their having been aided by benefactions. Similar students at Oxford are called Servitors.

Size, a gelatinous substance used as a varnish and made from shreds of parchment, glue, hides, etc.

Skate, a genus of sea-fishes, some of which attain a considerable size. They belong to the Ray family and are much esteemed for food.

Skilling, an old Scandinavian and North German copper coin, varying in value from a farthing to a penny English.

Slink, a smooth-scaled lizard, inhabiting the warmer parts of Africa. Its average length is about 5 inches, and it is prettily striped.

Skunk, a North American mammal of the weasel family, with short legs and long bushy tail, and of a black colour, with a white patch on the back. It secretes a foul-smelling fluid in a pair of glands beneath the root of the tail, and has the power of ejecting it at will; and its urine is tainted with this obnoxious fluid retains the odour for days.

Slate, a hard kind of shale rock capable of being split into thin sheets, and chiefly used for roofing purposes. The largest slate quarries are in Wales and Cumberland. Slate varies in colour from green to blue and purple.

Slavery, in its earlier forms, as in the times of the Romans, in the Feudal Ages, when vassalage and villeinage existed, and in the serfdom of Russia and other northern nations, was attended by many inhumanities and evils; but perhaps in the negro slavery system which prevailed in the British Colonies for upwards of 200 years and in certain parts of the United States up to 1865, it attained its highest point of cruelty. Since 1833 no form of slavery has existed within the British Empire.

Slings as a weapon of attack find prominent illustration in the Old Testament, as the instrument with which David slew Goliath. There were bodies of slingers in the Carthaginian and Roman armies, and slings were used as late as the 17th century when it was necessary to economise powder.

Sloop, a fore and aft rigged, one-masted vessel, carrying jib, fore-staysail, mainsail and gaff-top-sail. A sloop of war used to be a gun-carrying vessel of swift motion and great utility.

Slough, a curious family of arboreal animals, only found in South America. They dwell almost entirely in the trees, proceeding from branch to branch with their bodies hanging downwards, and live upon leaves and fruit. When on the ground they move very slowly and with much difficulty, hence their common name.

Sloyd, a Finnish system of manual training, in which pupils in the elementary schools are taught the use of ordinary tools as a preparation for later technical instruction.

Snail Industries. The rearing of snails as a food product is carried on in various European countries, especially in France and Italy. Many species are regarded as edible; but the large white snail (*Helix pomatia*) is the one generally preferred. The Romans reared this species in enormous quantities. In the United States edible snails are frequently to be seen exposed for sale; but they are not raised in that country, and have been shipped to America alive from Europe. In Vienna, again, during Lent there is a snail market, the snails coming in byre from Swabia. The great centre for the consumption of snails, however, is Paris and some of the French provinces.

Snake, an important order of reptilia, having a scaly cylindrical body, without fore-limbs, and only in some instances possessing rudimentary hind-limbs. Their locomotion is accomplished by means of the excessive mobility of their ribs, which are

very numerous. All snakes have teeth which only serve for seizing prey, and the poisonous varieties are furnished with poison fangs in the upper jaw. These fangs are perforated and the venom passes into them from glands in the skull. Snakes are only found in tropical and sub-tropical regions.

Snipe, a somewhat familiar wading bird, of which two species are found in Britain—the Common Snipe, that appears in the winter, and the Great Snipe that is but an occasional winter visitor. They are only found in marshy districts.

Snow is frozen rain formed in the upper portion of the atmosphere and taking the form of light flakes, which fall to the earth at a much slower rate than rain. All snow assumes the form of crystals.

Snap (see *Dictionary of the Tongue*).

Socialism, a word that first came into general use about 1834 in connection with Robert Owen's Communitarian Settlement at New Lanark. The idea of Socialism is joint ownership by all the members of a community of the instruments and means of production, and there are more or less Socialistic organisations in various countries. About the middle of the 19th century, Charles Kingsley and others established a form of Christian Socialism, and the late William Morris, Mr. John Burns and others founded a Socialist League in 1886. There has been a considerable expansion in the Socialistic movement in recent years, and many Socialists were returned to Parliament in 1905 and in 1910, but both the two great political parties are opposed to advanced Socialistic tenets. See **Syndicalism**.

Social Science, which deals with social conditions generally, has formed a subject of much study in recent years. In 1857 an Association for the Promotion of Social Science was organised, and has ever since continued to hold annual meetings. Lord Brougham was the first President.

Socialists were followers of Lælius and Faustus Socinus, two Siennese noblemen, who preached in the 16th century, and held that there was only one God, that Christ was mortal, and that it was unlawful for princes to make war. Many Socialian bodies still continue to exist.

Sociology, the science of human society, dealing with every form of social problem and human progress.

Soda Ash, carbonate of soda, is now mainly obtained by certain processes of manufacture from common salt. It was formerly obtained from the ashes of plants permeated with sea-salt. Bicarbonate of soda results from the action of carbonic acid gas upon soda crystals, and is a white powder much utilised for effervescent drinks, and for medicinal purposes.

Sodium, a metallic element first obtained by Sir Humphry Davy in 1807 from soda, by means of the electric battery. It is found in the various forms of salt in combination with chlorine in many minerals, and in most vegetable and animal organisms.

Soil, the upper portion of the crust of the earth, the medium from which all vegetation springs. It consists of rocky decomposition and organic matter, and is always characteristic of the rocky formation where it is found. It is either dominated by sand, or clay, or chalk, or humus.

Solar System, a general term embracing the sun, the planets and their satellites, and all celestial bodies which revolve round the sun.

Sole, a much esteemed table fish, and one of the best known members of the Marine flat-fish family. The British Common Sole is the finest in food quality, and after that comes the Lemon Sole, which is very abundant in the English Channel.

Sollitor (see *Attorney*).

Solstice, an astronomical term indicating the point at which the sun is most distant from the equator, which occurs about June 21st, when the Summer solstice is entered, and December 22nd, for the Winter Solstice.

Somerset House, a large Government building stretching from the Strand to the Thames at the corner of Waterloo Bridge, and comprising the headquarters of the Inland Revenue and various other offices and registries. It was built towards the end

of the 18th century on the site of an old palace which had belonged to the Protector Somerset.

Sonnet, a favourite form of short poem in which Shakespeare, Milton, Wordsworth and Keats especially excelled. It consists of fourteen decasyllabic lines, and is said to have been invented in the 11th century by Guido d'Arezzo.

Soot, a black substance deposited from fuel, gas or other flame, in combustion, and adhering to the sides of any aperture through which the smoke, which is its principal constituent, may pass. It forms a useful manure, and is also of some value as a medicine.

Sophists were the first Athenian teachers of philosophy in the 5th century B.C., who were supposed to base their reasoning on false premises, sacrificing much to mere quibble of rhetoric. They were denounced by Socrates and avenged themselves upon that philosopher by plotting against him. Plato and Aristotle also railed against the Sophists, and the term "Sophism" has in later times been generally applied to fallacious arguments.

Sorcerers were sufficiently numerous in the middle of the 16th century to have severe laws passed against them, and in 1603 James I. made it a capital offence to pretend to gifts of sorcery or witchcraft.

Sound. (See *Acoustics*).

Soundings at sea, to determine its depth at any point, have been taken in all seas, with the result that the ocean's depths have been defined with considerable accuracy. The deepest reading was that of the *Challenger* Expedition in 1873, near St. Thomas's in the North Atlantic, when 3,875 fathoms were sounded. The sounding is accomplished by lead and line.

South Sea Bubble, a project entered upon in 1701 as financial speculation by what was called the South Sea Company. Harley, Earl of Oxford, who was then in power, conceived the idea of utilising this project for getting together a sufficient sum to pay off the National Debt, then standing at about £30,000,000. The company contracted to redeem the whole debt in 25 years on condition that they were granted a monopoly of the South Sea trade. The idea fascinated the public, fabulous profits being dreamt of, and there was an immense demand for shares, which ran up in value from £100 to £1,000. All classes, joined in the gamble, but by the wise policy of Sir Robert Walpole the fraud was exposed in 1720, when the whole scheme collapsed and thousands of people were ruined.

Sovereign, a British gold coin worth 20s. It was first coined in 1489, and has ever since remained the principal coin of the realm. Its weight is fixed at 123.27447 grains troy, and it consists of 22 parts of pure gold to 2 parts of alloy.

Sparrow, the most familiar of all British birds both in town and country. It is a member of the Finch family, and is hardy and prolific. It was not known in the United States until 1879, when a few birds were introduced, and now it abounds in all parts of the country.

Sparrow-Hawk, a member of the Falconidae family, of which six species only are known, one of which is a native of Britain, and one of the best known of birds of prey. It is from 10 to 12 inches long and of an ashy hue.

Speaker of the House of Commons, an official who presides over the deliberations of the Lower House of Parliament. The first Speaker was Peter de Montfort, 1260, but the first regular official to bear the title was Sir Peter de la Mare, 1376. Since 1857 there have been four Speakers—John Evelyn Denison (afterwards Viscount Ossington), from 1857 to 1872; Sir H. W. B. Brand (afterwards Viscount Hampden), 1872 to 1884; Arthur Wellesley Peel (afterwards Viscount Peel), from 1884 to 1895; and W. C. Gully (Viscount Selby), from 1895 to 1905. The present speaker is Mr. J. W. Lowther.

Spectacles are said to have been invented about 1285 by a Florentine monk, Alexander de Spina. The invention, however, is also claimed for Roger Bacon and others. The lenses of spectacles are made either of glass or pebble (rock crystal).

"Spectator," Addison's famous periodical publication, was first issued on March 1st, 1711, the last issue being December 30th, 1714. The bulk of the papers were contributed by Addison and Steele. A review of the same name started in London in 1833, one of the ablest papers of its class.

Spectroscope, an instrument for forming, investigating, and ascertaining the composition of spectra of luminous bodies. It consists of a tube through which the light enters to a collimating lens, and then through the prism under investigation, a telescope serving the purpose of examination instrument.

Spectrum, the name applied to a colour or band of light reflected from the sun or other luminous body through a small hole or slit refracted by a prism, and resulting in an intermingling of various colours—violet, blue, green, red, orange, yellow, indigo. Newton was the first discoverer of the phenomena, and in later times experiments have led to various chemical discoveries.

Speculum Metal is a white hard substance formed of one part of tin with two parts of copper. From its high polishing quality it is much used for the reflecting surfaces of telescopes.

Spelling Reform is a subject which has many distinguished supporters—philologists and men of letters—and the "Simplified Spelling Society," whose aim is to bring about a system of spelling which shall represent the actual pronunciation of each word, and numbers over 2,000 members, including Sir James A. H. Murray, Viscount Bryce, Sir William Ramsay, and Andrew Carnegie, is actively engaged in spreading the new spelling propaganda.

Spermatozoa, the infinitesimal organisms constituting the generating element in male animals, and possessing the power of fertilising the female ovum.

Spiders were formerly classed as insects, but are now included with the animals of the Arachnida class. They have eight legs, breathe through pulmonary sacs, have six to eight eyes, and in most species spin webs composed of a viscid fluid.

Spinnet, a keyed instrument of the 17th century, something like the harpsichord.

Sponge, a marine organism of a low order, comprising a series of aggregated amoeba-like animals. While the sponge lives a current of water circulates through the main apertures. It is the dead skeleton of this mass that forms the sponge of commerce.

Spoonbill, a large white bird of the Heron family, remarkable for its broad, flat, spoon-shaped bill. It inhabits tropical regions.

Sprat, a sea fish of the herring order, plentiful on all European coasts. It averages from 3 to 4 inches in length. It frequently does duty for the preparation of "anchovy" paste, as its fry does for whitebait.

Spruce have been used by horse riders from ancient times, and in the feudal period a knight was allowed to wear gilt spurs and an esquire silver ones.

Squirrels of which there are over 200 species, are not found in Australia, but in most other parts of the world are abundant. They are all of arboreal habits, and feed on vegetable substances. The Common Squirrel of Britain is a fair representative of the entire family.

Stag, a large species of deer, still to be found in its wild state in the forest regions of Scotland, and kept as a domestic animal in many parks. It has large curved antlers, and is altogether a noble-looking animal, giving capitalists when hunted.

Stage Coach (see *Mail Coach*).

Stalactites are calcium deposits formed on the roofs and sides of limestone caves, and in tunnels, under bridges, and other places where the acid of rain-water percolates through and partly dissolves the limestone, resulting in the growth of icicle-like forms that often assume groupings. The water that drops from these and rests upon the ground is called *stalagmitic*, which accumulates and hardens into a series of sharp mounds or hillocks.

Stamp Duties were first imposed in 1670-1, and applied to certain legal documents only. An important extension of the Stamp Duty was effected in 1711 by the Newspaper Stamp Tax, which was continued in one form or another until 1855. Stamps on Notes

or Bills of Exchange date from 1720. Since 1865 all fees in the Superior Courts are collected by stamps.

"Standard," a Conservative morning newspaper started in 1827, and an evening issue dating from 1827. These papers were acquired by a Limited Company, headed by Mr. C. A. Pearson, when the *Evening Standard* absorbed *The St. James's Gazette*.

Standard, Battle of the, fought near Northallerton in Yorkshire in 1138, between the Scots and the English, got its name from the fact that the English forces carried a sacred standard. The Scots led by their king, David, were defeated.

Starch, is an organic compound occurring in granules in nearly all green plants, and especially in the seeds of dicotyledonous and cereal plants, potatoes, rice, etc. In its pure form starch is a tasteless, odourless white powder, and is a carbohydrate consisting of carbon, hydrogen, and oxygen. It enters largely into various kinds of foods.

Star Chamber, an ancient Tribunal of State in existence in 1486 and possibly earlier, charged with the duty of trying offences against the Government, unfettered by the ordinary rules of law. It was in effect a Privy Council entrusted with judicial functions, and the present Judicial Committee of the Privy Council to some extent represents the older Tribunal. Under Charles I. the Star Chamber was used by the King and his party in the most unjust manner to persecute their opponents, and became such a scandal that in 1640 it had to be abolished.

Starling, a well-known European insectivorous bird, one species of which is common in Britain. It nests in holes and crevices, and is a familiar object on roofs and chimneys in various parts of the country. It has a light-coloured bill and black plumage.

States General of France consisted of three Orders, the Clergy, Nobility, and Commons, and constituted a sort of Privy Council. Louis XVI. summoned the States General to Versailles on 5th May, 1789, when the body comprised 308 Ecclesiastics, 285 Nobles, and 621 Deputies. That was the occasion on which the Deputies assumed the title of "The National Assembly," with but one House.

Statues. (See *Sculpture*).

Staurolite, a silicate of aluminium and iron found in brown prismatic crystals. Rocks of staurolite slate occur in Scotland and the Pyrenees.

Steam, the vapour derived from water heated to boiling point, and of great service as a motive power, possessing an immense elasticity of force, enabling it to be applied to many industrial purposes.

Steam Engine, a machine whereby steam becomes the active agent of the working of machinery, and of very wide application. The leading types of steam engine are: (a) condensing, or low-pressure engines, where the steam is generated by a boiler; (b) non-condensing, in which the cylinder exhausts its steam into the open air. Engines of the latter type are used where portable engines are required.

Steam Hammer, invented by James Nasmyth in 1830, and proved of great utility in the development of the iron trade. The hammer itself, which is fixed to the end of a piston-rod passing through the bottom of an inverted cylinder, often weighs as much as 30 or 200 tons, and is so perfectly controlled by the steam power that its action can be so accurately gauged that it could be made to crack the glass of a watch without actually breaking it, or brought down upon a mass of molten iron with a force representing many hundreds of tons.

Stearine, is the portion of fatty matters and oils which remains solid at an ordinary temperature, and is a compound of stearic acid with glycerine. It is largely used in the manufacture of candles and for other commercial purposes.

Steel, the variety of iron that has been in general use from the earliest times, but how and where first manufactured remains a mystery. Carbon is regarded as an essential element in steel, other ingredients present being silicon, manganese, sulphur and phosphorus. The oldest method, and the one now generally adopted for the manufacture of steel, is that known as the "cementation process," but the

most important method of all was introduced by Sir Henry Bessemer in 1856. This is known as the "Bessemer process," which consists in first burning all the carbon out of pig iron, and then putting back into it a sufficient quantity of carbon to produce steel containing the required proportion of this element. The metal produced by this process is called "Bessemer steel," which is of the highest value for structural purposes, rails, etc. For the manufacture of tools and weapons steel is indispensable. The United States, Great Britain and Germany are the leading countries in the world in steel production.

Steel Yard, was a sort of exchange which existed in Cannon Street, London, from the 13th to the 16th centuries. It was the chief resort of the Hanse merchants and the Flemings, to whom many privileges in regard to the exportation of English goods to the Continent were given.

Stenography, the art of short-hand writing, was practised by the ancients, but was not in use in England before the 16th century. The systems invented in the 18th century were numerous, but the one that was most widely adopted was that of Mason, as improved by Gurney. In 1837 Pitman's phonographic system was first announced, which was a decided advance on any previous system, establishing a simple series of phonetic signs, that was easily learned and admitted of great abbreviation. This is the system in general use to-day. Its inventor received the honour of knighthood.

Stethometer, an instrument by which the specific gravity of liquids can be ascertained. It was invented by M. Say in 1797.

Stereoscope, an optical instrument invented by Professor Wheatstone and afterwards considerably improved. It blends into one picture two plane representations of things seen by each eye separately, which has the effect of seeming to throw natural objects into relief. It was only after photography was utilised in connection with the stereoscope that it became of special significance.

Stereotype, a metal cast taken from movable type which has been set up in the ordinary way. The first to introduce the process in practical form in this country was William God, of Edinburgh, who made stereotype plates in 1730. An impression of the type matter is first taken by means of a mould of prepared plaster of Paris or moistened sheets of specially prepared paper, and when molten stereo metal is poured upon the mould and allowed to cool and harden, the stereo plate is formed, and can be printed from as a solid block indefinitely.

Stethoscope, an instrument by which the action of the heart and other organs of the chest can be heard and gauged. It was invented by Laënnec, of Paris, in 1816, and consists of a cylinder, one end having a funnel-shaped opening which is placed against the chest, while the other end is held to the listener's ear. There is also a binaural stethoscope, which has two India-rubber tubes for the ears.

Stirrups, a support for a horseman's feet, usually having a metal loop at the bottom. They are attached to saddles, and were not in common use before the 13th century.

Stocks, an instrument of punishment, consisting of a framework of wood, with holes through which the offender's feet are put, he being compelled to sit in that position for the prescribed time. Much used in olden times, but now practically abolished.

Stoics were the followers of Zeno, a Greek philosopher of the 4th century B.C. They received their name from the fact that they were taught in a porch. Zeno's doctrine was that happiness was only attainable by living agreeably to nature and reason, and that God was the Soul of the World.

Stonehenge, a remarkable collection of huge stones arranged in two circles, and covering an area of 20,000 feet in circumference, situated on Salisbury Plain. The general inference is that these stones are the remains of an ancient Druidical Temple, though some maintain that they are of Roman origin.

Stool of Repentance, a seat placed near the pulpit in Scottish churches in former times, on which

persons guilty of moral lapse were ordered to sit in expiation during service.

Stork, a family of heron-like birds with long bills, freely distributed over Europe, Asia and Africa, and inhabiting marshy regions. The White Stork is an occasional visitor to England, and, more rarely, the Black Stork; these are the only two European storks.

Storthing, the Norwegian legislative assembly, dates back to 1223, when the first Storthing was held at Bergen by Haco 5th.

Strathspey, a Scottish dance of the reel class, getting its name from the fact that it originated in the valley of the Spey.

Strontium, a metallic element existing chiefly as celestine and strontianite. The native carbonate of Strontia was discovered at Strouan, in Argyleshire, in 1787, and in 1808 Sir Humphry Davy first obtained from it the metal Strontium. It is much used in the preparation of fireworks.

Stucco, a mixture composed of plaster of Paris mixed with a solution of glue, and much used in architectural decoration. It was known to the ancients and freely utilised in Italy in the 16th century. Not until the 18th century was it favoured in England.

Stundists, a religious sect of South Russia, converted to Puritan principles by German missionaries, and subjected to much persecution by the peasant adherents of the Greek Church in 1879.

Sturgeon, a large elongated marine fish, with five rows of osseous bucklers, and pointed mouth with four barbels. It is plentiful in the seas of our coasts, and often attains a length of from 8 to 10 feet. It is a good table fish, and passes the spawning period in rivers. Caviare is prepared from sturgeon ova.

Sublimation, the process by which solid substances are first turned into vapour by heating and then allowed to cool into solidity, thus becoming freed from impurities.

Sublime Porte, the official name of the court of the Sultan of Turkey. The name was originally given to a piece of sacred black stone placed at the entrance to the palace of the caliphs of Bagdad.

Submarine Boats have in recent years become an important feature of the fleets of different nations. The French were the first to introduce them. They are of two main classes, large submersible boats of considerable range of action, and a smaller kind mostly for harbour defence. In 1913 France had 100 submarines, Great Britain 64, Russia 29, Germany 16.

Succession, Acts of, have been passed at various periods to secure royal descent in a particular line. That establishing the Protestant Succession, passed in 1689, is the one under which our present dynasty reigns.

Suez Canal, connecting the Red Sea to the Bay of Pelusium, was first projected in 1853 by Ferdinand de Lesseps, and the consent of the governments of Egypt, Turkey, Russia, France, and Austria were obtained to its being cut. The British Government, however, withheld their approval, a company was formed with a capital of £8,000,000, mostly subscribed in France, and in 1859 the formal opening of the Canal took place. It has a length of 99 miles, and was at first of sufficient depth only for vessels drawing 26 feet of water. Since then it has been deepened, and now can receive vessels drawing up to 29 feet of water, and operations are in progress for a further deepening. The Canal shortens the distance between London and Bombay by about 23 days. The total cost at the time of opening was £12,000,000, of which £3,500,000 was paid to the Khedive in shares, and it was the purchase of these shares in 1875 for £4,000,000 by the British Government that gave Britain a controlling interest which has proved so advantageous to her commerce. These shares are worth £30,000,000, and yield over £1,000,000 per annum in dividends. In 1870 500 vessels traversed the canal; in 1912 the number was 5,373, of a total net tonnage of 20,275,120, no fewer than 3,335 being British ships aggregating a tonnage of 12,247,624, Germany coming next with 698 vessels.

Sugar, an article of food obtained from the juices of the sugar cane, the sugar beet, the sugar maple, and certain grasses. These yield sugar in its crude form, after which it is refined by well-known processes. Treacle is sugar in its uncrystallised form.

Sulphur, an elementary brittle crystalline solid abounding in the vicinity of volcanoes. It occurs in combination with other elements, such as sulphates and sulphides, and allied with oxygen, hydrogen, chlorine, etc., is of great commercial utility. Used in its pure state it constitutes the inflammable element in gunpowder.

Sulphuric Acid, a compound of great commercial importance, used in a variety of manufactures, and composed of sulphur, oxygen and hydrogen.

Sultan, the title of the Turkish Ruler and first held by Angrolipex and Musgrad in the 11th century.

Sumptuary Laws were not uncommon in ancient times. Both the Greeks and Romans passed laws against luxury, and under Edward III. and Henry VIII. many curious restrictions were imposed in England, prescribing the quality of the cloth which should be worn by people of different ranks, etc.

Sun, the centre of the solar system, estimated to be distant from the earth 93,000,000 miles, to have a diameter of 865,000,000 miles, and is 7,305 times the volume, and 332,000 times the weight, of the earth. It has a seeming diurnal motion from East to West caused by the earth's rotation on its axis, and an annual motion through the ecliptic caused by the earth's revolution around the sun. From these motions we get the variations day and night, and the seasons. Large spots are observed on the sun—varying in size from 30,000 miles in diameter—which form and disappear at irregular intervals. Investigation of the solar system shows that in its atmosphere are present hydrogen, oxygen, calcium, radium, helium, sodium, magnesium, lead, uranium, aluminium, and other elements. The sun's temperature is such that it is estimated each square metre of the sun's surface radiates a sufficient quantity of heat per minute to raise 10,000 kilograms of water from freezing to boiling point.

Sunday, the first day of the week, among the Christians called "Lord's Day." In ancient times it was the day on which the sun was worshipped. In Anglo-Saxon days the Sabbath day was kept Holy from Saturday at 3 p.m. to Monday, day-break.

Sunday Schools have existed in one form or another since the 16th century, but as at present organised were established by Robert Raikes, a Gloucester printer, in 1780.

Sun Dial. (See **Dials**.)

Sun-Fish, a genus of sea-fishes of rounded form, of which there are many species. The common sun-fish averages from 4 to 5 feet in length.

Sunnites, the great body of Mahomedans who accept the *Sunnah*, a collection of traditions concerning Mahomed, as well as the Koran. Only the Shiites, mostly confined to Persia, reject the *Sunnah*.

Surgeons are strictly distinct from physicians, in that they deal with such diseases or injuries as demand operations by instruments for their cure. Most doctors, however, are now both physicians and surgeons—general practitioners—yet no one is entitled to call himself surgeon until he is a Fellow or a Member of one of the Royal Colleges of Surgeons, or of some other body authorised to confer the degree of Bachelor of Surgery.

Surnames were not used in England before the Conquest. The elder Normans used the word "Fitz" signifying son, as "Fitzwilliam." The "O" of the Irish meant grandson, as "O'Connor," while the Scottish Highlanders used "Mac" for son, as "MacKenzie," "Macintosh," etc. Then among the English the word "son" itself was simply added to the father's name, as "Johnson," "Robertson," "Simpson," etc. When surnames came into use they generally had reference to occupation, places of residence, or personal characteristics, and this style of naming is responsible for the great majority of existing surnames. Smith, Taylor, Butler, Baker, etc., are of the occupation type; Hill, Dale, Brook, Beck, etc., and place-names generally, belong to what may be called the geographical type; while personal peculiarities are denoted in such names as Savage, Redman, Black, White, Brown, etc.

Surplice, a white linen garment or robe of office worn by clergymen, choristers, and other church officials during Divine worship. It first came into use in the 4th century and was general in the 8th century. The fact that this garment was worn by early ecclesiastics *super pelle*, that is, above the dressed skins which constituted their ordinary attire in winter, explains the derivation of the word.

Suspension Bridges. (See **Bridges**.)

Suttee, the practice prevalent in some parts of India, until specially prohibited by a law of 1829, of the self-burning of widows on their husband's pyre, the idea being, according to the religion of Brahma, that widows thus immolated passed direct to heaven. As many as 700 widows have thus perished in one year in Bengal alone.

Swallow, a familiar summer visitor to Britain, arriving in April and leaving in October. There are nearly 100 species, distributed over most parts of the globe, but only three visit England—the Common Swallow, the House Martin, and the Sand Martin.

Swan, a large water-bird of graceful appearance, greatly esteemed for its whiteness and beauty, and kept on many rivers and ornamental waters in this country. The largest swannery is at Abbotsbury, near Weymouth.

Swearing, on the Gospels, was first introduced in judicial proceedings about 600. There are various enactments imposing fines for profane swearing. (See **Oaths**.)

Swedenborgians are the followers of Emmanuel Swedenborg. They also call themselves "the New Jerusalemites."

Swift, a bird so called from its rapid flight, is a native of Southern Asia, and comprises over 30 species. Two species are seen in Britain.

Swiss Guards were a special body of troops established in France in 1536 for the guarding of the Royal person. On the attack on the Tuilleries in 1792, the Swiss Guards stuck to their post until massacred. They were subsequently re-organised in 1815, but finally disbanded in 1830.

Swords, from 30 to 30 inches long, were used by the Romans. The most famous swords of the Middle Ages were those made of Damascus and Ferrara steel. The term is now applied to almost any long-edged bladed weapon.

Symphony, the title given to an orchestral composition of wide scope, and comprising five different movements—the introduction, allegro, andante, scherzo, and finale. The most famous composers of symphonies have been Beethoven, Handel, Haydn, and Mozart.

Syndicalism, a new labour movement which demands that industries shall be controlled by those who work them.

Synods, assemblies of heads or representatives of State and ecclesiastical for settling disputes relating to Church authority and government. The first National Synod in England was in 672 at Hertford, the last was held by Cardinal Pole in 1555. In Presbyterian churches a Synod is a court of Presbyteries.

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Tabanus, the type genus, entomologically, of the Tabanidae; a familiar British variety is the Breeze-fly.

Tabard, a cloak or outer garment worn in medieval days by the peasantry. The name was also applied to a garment worn by knights over their armour.

Tabernacle, a place of worship; a sacred place; specifically in Hebrew history the Temple of Solomon. "Spurgeon's Tabernacle" in London, built for the famous Baptist preacher in 1861, is a familiar non-Jewish example of the application of the name.

Tael, a Chinese coin equal in value to 1½ oz. of pure silver; the Halkan customs tael is worth about 48.9d.

Taffety, a kind of silk fabric manufactured in England in the 16th century, and now generally applied to a mixed cloth of silk and wool.

Tailor Bird, a familiar bird in India and China, of an olive-green colour, and remarkable for its habit of constructing its nest of leaves, which it sews together.

Taipei Rebellion broke out in China in 1850, and was intended to overthrow the Manchurian dynasty. It was not suppressed until 1864, when, by the aid of General Gordon, the rebels were crushed.

Tai Mahal, the white marble mausoleum built at Agra by Shah Jahan in memory of his favourite wife. Over 20,000 men were occupied for over twenty years in its erection.

Talavera, Battle of, was fought on the 27th and 28th July, 1809, between the British and Spanish forces under Wellington, and a large French force under Victor and Sebastiani. It ended in complete defeat for the French.

Talc, a lustrous siliceous mineral found in foliated and granular masses, soft to the touch, and used as a substitute for chalk. Soapstone is a variety of talc.

Talent, an ancient denomination of coin or money value. In Palestine it was worth 3,000 shekels, or between £300 and £400. The Attic talent was of the value of about £200, the Roman great talent £90, the little talent £75.

Talisman, a charm, consisting of a magical figure, engraved under superstitious observance of the configuration of the heavens, to which wonderful potentiality for averting evil was anciently ascribed.

Tallage, in Norman times, were taxes levied by the Crown upon lands and tenements.

Tallow, the more solid portions of animal fat, and prepared from beef, mutton, and other fats by melting at a low temperature. Stearin is its chief constituent.

Tally Office, in the Exchequer, was the department of the Government in which tallies were kept, representing the acknowledgment of monies paid or lent; in 1834 the Houses of Parliament were burnt down through the overheating of a stove with discarded Exchequer tallies.

Talmud, the book containing the civil and canonical laws of the ancient Jews, comprising the Mishna, being a compilation from oral tradition, and the Gemara, which is a collection of criticisms and comments on the Mishna by eminent Jewish Rabbis. There are two Talmuds—the Jerusalem, compiled in the 4th or 6th century, and the Babylonish, collected in the 6th century.

Tamarind, a tree of great utility, of which there are two varieties, one peculiar to the West Indies, and the other to the East Indies. Its wood makes good building timber, its bark has tonic properties, its leaves yield a valuable dye, and its fruit is used in the making of sauces.

Tambourine, a light, small one-headed drum, formed of a ring or hoop of wood, or metal, with loose discs of metal let into the sides which jingle when shaken. In ancient times this instrument was called the timbrel. It is much played in Southern Europe as a dance accompaniment, and of late years has had a sort of revival in England, by its use by girls of the Salvation Army.

Tammany, a New York democratic organisation, sprang out of an old benevolent society named after an Indian chief, and has exerted a powerful influence over political movements in New York in recent times. The leaders of the organisation have in many instances used their power when their party has been successful at the polls in a manner which has brought down upon them the strongest condemnation of the supporters of pure municipal government. They have appointed their nominees to every prominent office, and have exacted bribes from contractors, saloon keepers, and others for concessions and privileges which they would not otherwise have obtained, and generally Tammany rule has meant wholesale corruption. Of this there is ample evidence in the disclosures of the Tweed and other Tammany frauds, and in the fact that the "Boss" for the time being usually contrives to make himself wealthy. Mr. Sulzer, Tammany Governor of New York State, was impeached for misuse of political funds in 1913.

Tanistry, a system of land tenure which once prevailed among the Celts, by which the succession devolved upon the member of the family whom the clan deemed most fitted for it.

Tannin, a substance obtained from a variety of plants

and trees, and from gall-nuts, and largely used in leather making.

Tanning, the process by which skins and hides are converted into leather. Tannin, or tannic acid, is the chief ingredient used, and this is obtained mainly from the bark of oak, hemlock, birch, beech, and other trees. The skins are steeped in baths or tanks of the tannic preparation for a considerable time, and in absorbing acid become gradually converted into leather.

Tantalum, a scarce metal occurring in very small quantities in combination with various rare minerals, such as tantalite, columbite, etc., associated with niobium.

Tapestry, a fabric largely used in former times for wall decoration and hangings. It was known to the ancient Greeks, but in its modern form came into prominence in the 15th and 16th centuries, when it was manufactured in a marked degree of excellence by the weavers of Flanders, especially those of Arras. The manufacture was introduced into England early in the 17th century, and was attended by considerable success. At the present day the term is applied to worsted cloths for furniture coverings, and there are also various kinds of tapestry carried now made. The most famous tapestries of olden times were the *Auvers* tapestry, and the *Savonnerie*. The Gobelins Tapestry factory, originated in Paris in the reign of Francis I., is still a national establishment. (See also *Bayeux Tapestry*.)

Tapioca, a food-substance yielded by the tuber of a tropical plant, poisonous in its raw state, but purified by roasting.

Tapir, a hoofed quadruped of hog-like form, having a flexible proboscis. It is a vegetable feeder, lives in the forest regions of South America, Sumatra and Borneo, and is of a dark brown color.

Tar is a dark viscid product obtained from the destructive distillation of wood, coal, peat, etc. The woods mainly used are of the pine family. The product of the distillation of wood is acid; that of coal is alkaline. In the course of distillation it yields light oil consisting of benzene and similar hydrocarbons; dead oil, comprising carbolic acid, aniline, naphthalene, etc.; and pitch, a leading ingredient in asphalts and black varnishes. From coal tar numerous dyes and other compounds are obtained.

Tarentula, a large hairy kind of spider common in some parts of Italy, and at one time thought to be poisonous. Music was supposed to be the only cure for its sting, which superstition gave rise to the Tarentula dance.

Targums, the name given to certain Chaldean paraphrases of portions of the Old Testament, probably of the 1st century. The most valuable of the Targums which have survived are those on the Pentateuch, ascribed to Onkelos, and Jonathan-ben-Uziel.

Tartan, a thin transparent muslin fabric used for light evening dresses or ornamentation.

Tarpaulin Rock at Rome received its name from the tradition that Tarpa, the daughter of the Governor of the Citadel who betrayed the fortress to the Sabines, was crushed to death by their shields and buried beneath the rock. It was the height whence persons guilty of treason were hurled to death.

Tarsus, the seven small bones constituting the ankle or instep, including the three metatarsal bones.

Tartan, the name given to a cloth of woollen or worsted plaid, formerly the distinctive material of the dress of the Scottish Highlanders, each clan having its own special tartan. Tartans are now an ordinary fabric for women's dresses everywhere. Of modern varieties there are silk and velvet tartans.

Tartar, a term used to denote a person of irascible temper, a vixen or shrew; to "catch a tartar" was to come into contact with such a one, or to encounter more than was bargained for.

Tartaric Acid, an organic acid of great value prepared from tartar deposited in wine vats during fermentation. The commercial tartaric acid is chiefly obtained from acid potassium tartrate (Argol), and is largely used in dyeing, calico printing, and in the manufacture of effervescent beverages. The purified sort is cream of tartar.

Tattersall's, a famous horse-market at Knightsbridge, originated by Richard Tattersall in 1770, and since carried on by his successors with success, the sale of thoroughbreds being the chief business.

Taurin, an organic substance existing in bile, and deriving its name from the fact that it was first discovered in the bile of the ox. It contains sulphur and nitrogen.

Taurus, the second constellation of the Zodiac, lying between Aries and Gemini, and including the Pleiades group and a smaller group, the Hyades, among which the star Aldebaran, of the first magnitude, appears.

Taverns were not known before the 13th century. In Edward III.'s time there were only three in London: "one in Chepe, one in Walbrook, and the other in Lombard Street."

Taximeter is an ingenious contrivance by which the strictly legal fare chargeable for a cab journey is indicated. It is only recently that it has been adopted on a large scale in London, although in Berlin and Paris it has been successfully working for many years. It is now in use extensively in this country both for motor cabs and ordinary cabs.

Taxia is a resinous substance obtained from the leaves of the yew-tree.

Tay Bridge spans the Tay at Dundee, is over two miles in length, and was opened for traffic on the 20th June, 1897. A previous bridge, completed in 1877, was blown down on the 28th December, 1879, as a railway train was passing over it, and upwards of eighty people perished.

Tea was introduced into England about the middle of the 17th century, when it was a great luxury, and fetched from £6 to £20 a pound. It is an Asiatic plant, native properly to China, Japan, and India. Up to about 1850 the greater portion of the tea imported into this country came from China; the bulk is now obtained from India and Ceylon, although China tea of good quality is again working its way into favour. Green tea and black tea differ by reason of the method of their drying and preparation for the market, the former being roasted after but a short exposure to the air, and the latter after a much longer exposure.

Teak, the wood of an Indian tree of great hardness and durability, largely used in shipbuilding.

Teal, a small fresh-water duck, of which two kinds, the Common Teal and the Garganey, occur in Britain. Other species—there are seventeen in all—are found in America and other countries.

Te Deum, the song of praise ("Te Deum laudamus"—"We praise Thee, O God"), is supposed to have been the composition of St. Ambrose in the 4th century. It is used in the services of the Roman Catholic and English churches.

Testators, a name given to the originators of the first English Temperance Society. The term arose from a quaint assertion of a Preston working man, when the question of partial or total abstinence was discussed. He declared that nothing but "te-te-to-tal" would do.

Telegraph. The first practical telegraphic instruments were invented by Gauss and Weber in 1833, and by Sir Charles Wheatstone in 1836, although the idea of using electricity for transmitting intelligible messages was first suggested towards the close of the 18th century. The Morse-Digney recording instrument, which is now most largely used, is a kind of clockwork arrangement in which the slight clicking sounds alone are sufficient to interpret the message, the letters being indicated by various combinations of dots and dashes. From 60 to 100 words per minute can be transmitted by this method. Of late years various systems of multiplex-telegraphy have been devised, by means of which many messages can be transmitted over the line at the same time. The principle of a code telegram was adopted by the House of Commons in 1889, but the Act did not come into operation until 1895. The most important and interesting of recent telegraphic developments have been in connection with wireless telegraphy, introduced by Signor Marconi. An arrangement came into force on January 1st, 1905,

whereby telegrams for transmission from wireless stations on the coasts to ships at sea are accepted at a charge of 10d. a word. An arrangement exists with Britain and the Marconi Co. for wireless stations in London, Egypt, Aden, Bangalore, Pretoria, and Singapore, linking all parts of the Empire. Since October, 1907, there has been wireless telegraphy between this country and America.

Telepathy supposes such a mental sympathy between persons as enables emotional influences to pass from one to another at a distance without external means and independently of the ordinary action of the senses.

Telephone, an instrument for producing sound at a distance over a conducting wire or cord by the agency of electricity, was invented by Graham Bell in 1875, although it is only in recent years that it has come into general use. It consists of a thin disc of iron vibrating in front of a magnet, surrounded by a coil of insulated copper wire which is connected with a similar coil at a distant station. By speaking into the mouthpiece of the telephone, currents of electricity are induced which are transmitted through the line, and thus sounds are reproduced. The National Telephone Company, which was an amalgamation of various companies, originally formed to develop the telephone industry of this country, was taken over by the General Post Office from January 1, 1912. There are International Telephone lines connecting England and Belgium and England and France, and experiments are being conducted with a view to further extending International telephonic communications. Telephone business is largely on the increase for business and other purposes in all our populous centres, and now that the Post Office authorities have assumed full control further developments may be looked for.

Telescope, an optical instrument for viewing objects at a distance, used largely in astronomy, originated in the early part of the 17th century, although its principle was described as far back as 1550 by Roger Bacon. It consists essentially of two members, one the objective, a large converging lens, or concave mirror, which forms an optical image of the object; the other, the eyepiece, which magnifies the image. The largest reflector in the world is that made by Alvan Clark for the Yerkes Observatory, Chicago. The diameter of the object glass in this instrument is 40 inches, and the length of the tube 75 feet.

Telescope Fly, a two-winged tropical insect, remarkable for the long projecting stalk upon which its eyes are placed.

Tellurium, a scarce element found in minute quantities in its native state and in combination with gold, silver, and other metals. It is a crystalline, brittle substance, resembling sulphur and selenium.

Temnograph, an instrument working by frictional motion governed by pendulous weights, and designed to plot on a scale accurately a section of the ground over which it passes.

Temperance Societies were originally started in the United States about 1826. The British and Foreign Temperance Society was established in 1831, and the London Temperance League in 1851.

Templars were soldier knights organised in the 11th century for the purpose of protecting pilgrims in their journeyings to and from Jerusalem, and obtained their name from having granted to them by Baldwin II., a temple for their accommodation. At first they were non-military, and wore neither crests nor helmets, but a long wide mantle and a red cross on the left shoulder. They were established in England about 1180. During the crusades they rendered valuable service, showing great bravery and devotion. In the 12th century they founded numerous religious houses in various parts of Europe and became possessed of considerable wealth. It was this that caused their downfall. Kings and Popes alike grew jealous of their influence, and they were subjected to much persecution, and Pope Clement V. abolished the Order in 1312. Edward II. in 1308 seized all the property of the English Templars. The English possessions of the Order were transferred to the Hospitallers of St. John, afterwards called the

Knights of Malta. The London Temple is on the site of the chief seat of the Order in this country.

Temple, a building dedicated to the worship of a deity or deities. Those built by the ancient Greeks, at Olympia, Athens, and Delphi, were the most famous. The Temple of Diana at Ephesus was another. The Temple of Solomon 1012 B.C. was destroyed by Titus A.D. 70.

Temple Bar, an historic gateway that until 1879 stood at the western entrance to Fleet Street, near the bottom of Chancery Lane. In olden times it was the custom to impale the heads of traitors over this gateway. Re-erected at Theobald's Park, Cheshunt.

Tempo, a musical expression referring to the pace at which a composition is to be played, and generally used in combination with a qualifying word, as "Tempo Ordinario," ordinary time.

Tenant Right is the right which a tenant has in unexhausted improvement introduced into land he is relinquishing, and applies both to permanent improvements and unexhausted crops.

Tench, a familiar fresh-water fish of the Carp family, averaging some three pounds in weight, and of a mingled green and olive colour.

Tenebrae (*darkness*), the title given to a solemn service peculiar to the Roman Catholic Church on Good Friday and two previous days, when all the lights, but one are extinguished.

Tenor, the part sung by the highest natural male voice. Its compass covers about two octaves, ranging upward from the first C and below the middle C.

Teraphim, the name used by the ancient Hebrews to designate certain household gods partly in human shape, and greatly revered.

Teredo, the scientific name of the ship-worm, which lodges itself when young in the bottom of ships, and bores its way outward, causing much injury. Modern ships, however, do not offer opportunities to the ship-worm, for even when of wood they are metal-sheathed.

Termite are white ants which abound in hot countries and live in colonies, their habitations being built upon mounds rising to a height of 12 or 15 feet, and constructed with a labyrinth series of galleries and chambers. A king and queen are at the head of a colony; the rest are neuter, the males being soldiers and the females workers.

Tern a species of sea-gull of elegant plumage, smaller than the ordinary gull. There are some sixty species, about a dozen of which are British.

Terra-Cotta, a kind of unglazed pottery, mostly of a red colour, largely used for building and garden decoration. Many terra-cotta examples of Greek statuettes and other objects have been discovered.

Terrapin, a kind of fresh-water tortoise common on the Atlantic coast of America, and greatly esteemed.

Terrier, the name applied to several breeds of hardy dogs ranging from the shaggy Skye to the old English black and tan. The class also includes the fox-terrier, the Maltese, the Boston, and the Yorkshire.

Territorial. The Territorial force of the British Army came into being from the 1st April, 1908, when the Volunteer Force and the Imperial Yeomanry were combined in the new organisation. This Second Line force is controlled by the various County Associations formed for this purpose, and is regional in character, each district recruiting one, and three of them two divisions each. There are Divisions, Mounted Brigades and Army Troops, with Artillery and Engineers for defended ports; and the equipment is on the latest modern lines, with wireless, cable and air-line, Telegraph companies, cyclist battalions, etc. In 1913 the Territorials numbered 265,807.

Tertiary Series, the third in order of the geological formations, comprising the three sub-groups of the Pliocene, Miocene, and Eocene divisions.

Test Act, passed in 1673, prescribed that all government officers, civil and military, should be compelled to receive the sacrament according to the forms of the Church. It was repealed in 1828.

Testator, a French and Scotch silver coin of the 16th century. There was also an English tester of the value of 1s., and later on one worth 6d.

Testudo, the name given to a military movement in use by the ancient Roman soldiers. It consisted of a

defensive screen formed by troops standing close together and massing their shields above their heads.

Tetradrachm, an ancient Grecian coin, of silver, equal to 4 drachmas.

Teutonic Order of German military knights, was founded in the Holy Land, at the end of the 12th century, for succouring the wounded of the Christian army before Acre. Returning to Germany, they established themselves on Prussian territory, but were dispersed in the 13th century by Jagellon, Duke of Lithuania. The Order continued to exist in a more or less weakened form, and in 1809 Napoleon I. ended its existence by confiscating its possessions.

Teutons, a German race that came into prominence in the 4th century B.C., and later invaded Gaul, but were defeated by Marcius 102 B.C. The name Teutons was afterwards applied to the German peoples generally.

Thaler, a German silver coin which has existed since the 16th century. That of the present day is worth about 3s. English. "Dollar" is its derivative.

Thallium, a scarce metal, discovered by Sir William Crookes in 1861 from the refuse left after the distillation of selenium. It is found in iron and copper pyrites, and is employed in the manufacture of glass.

Thames, the principal river of England, rises in the Cotswold Hills, and passing through Wiltshire, Berkshire, and Oxfordshire, and pursuing its ever-broadening seaward course through Reading, Windsor, Richmond, London, Greenwich, and Gravesend. It is about 220 miles long, and at the Nore, where it joins the sea, is six miles wide. Commercially, it is the most important river of Great Britain.

Thane, a title of nobility used in Anglo-Saxon times, and in the reign of Athelstan was conferred upon any free man who possessed five hides of land, or had accomplished three sea voyages.

Thanet Beds, a term applied to certain strata of sand, constituting the base of the Tertiary, in the London Basin, and remarkable for its bottom layer of marine flints.

Thaumaturgy, a term used to express something miraculous or wonderful, the name being derived from Gregory Thaumaturgus, a Pontus bishop of the 3rd century, who claimed to have wrought many supernatural marvels.

Theatines, a religious Order established in Italy in the 16th century, for the purpose of repressing heresy. They bound themselves to poverty, and refrained from soliciting alms, though they did not refuse voluntary gifts. Some remnants of the Order still exist in Italy.

Theatres are buildings in which plays are performed. The theatres of the ancient Greeks and Romans were generally in circular form, with tiers of stone seats around them, and roofless. The first authorised theatre in England was that of Burbage, built in Shoreditch in 1574. Other theatres were erected at Bankside, in Southwark—the Globe, where some of Shakespeare's plays were first produced, and the Blackfriars. From 1642 to 1660 all London theatres were closed, but at the Restoration they were opened again, and for the first time women were allowed to appear on the stage, female parts having previously been played by young beardless men. At present there are over 50 theatres licensed by the Lord Chamberlain in London alone, affording accommodation for over 400,000 persons, and at which there is an average daily attendance of between 70,000 and 80,000.

Theism, belief in a personal Deity, and therefore applicable to all leading religions.

Thellusson Act, passed in 1800, marked an important change in the law regarding a testator's power of devising real property. Peter Isaac Thellusson, a wealthy London merchant, left the bulk of his property, over £600,000, to accumulate during the lives of his three sons and their sons, after which the accumulated fund was to go to the eldest male descendant. Mr. Thellusson died in 1797, and the publication of his will gave rise to so much censure that the Thellusson Act was passed, restraining testators thereafter from devising

property for accumulation for longer periods than 22 years after death.

Theobromine, an alkaloid substance found in the seeds or beans of the Cacao plant, and a chief constituent of the cocoa and chocolate of commerce. It is the alkaloid present in tea and coffee.

Theodolite, an instrument, used by surveyors, for measuring horizontal angles upon a circle.

Theosophists. The Theosophical Society, which has its headquarters in Madras, was founded by Mme. Blavatsky and Col. Olcott in 1875, in New York, and has now over 400 branches in different parts of the world. Its professed aims are (1) to form a nucleus of the universal brotherhood of humanity; (2) to encourage the study of comparative religion, philosophy and science; (3) to investigate the unexplained laws of nature and the powers latent in man. Among other things, theosophy claims to "restore to the world the science of the spirit," while its bond of union is "not the profession of a common belief but a common search and aspiration for Truth."

Therapeutics, the science which treats of the healing of diseases and the laws of health.

Thermite is the name of a mixture of granulated aluminium and oxide of iron in atomic proportions, and was developed by Dr. Hans Goldschmidt, of Essen Rulr. It is used with success for welding purposes. Thermite may be stirred with a red hot poker, thrown into the fire, or have melted cast iron poured over it without setting up any visible action; but, raised to a higher temperature, reaction ensues, and a heat a thousand degrees hotter than any furnace.

Thermo-Dynamics, a term first applied by Joule to designate that branch of physical science which treats of the relations of heat to work. What is called the first law of thermo-dynamics is thus stated by Clerk Maxwell: "when work is transformed into heat, or heat into work, the quantity of work is mechanically equivalent to the quantity of heat." The second law asserts "that heat tends to flow from a body of hotter temperature to one that is colder, and will not naturally flow in any other way."

Thermo-Electricity is the electrical current resulting from the heating or cooling of two or more dissimilar metals at the point of union.

Thermometer, an instrument by which the temperature of bodies is ascertained, was invented by Galileo, and developed by his pupil, in the early part of the 17th century. It consists of a glass tube with a very small bore, containing, in general, mercury or alcohol. This expands or contracts by variation in the temperature, and the state of the atmosphere, the body, liquid, or gas as the case may be, with regard to heat, is indicated by a scale on the surface of the tube. Various forms of thermometer are used for particular purposes. For further information and illustrative comparisons see p. 112.

Thick-Knee, a family of birds closely related to the plover. The only English species is the Norfolk plover.

Thieves' Vinegar was a concoction anciently made from rosemary tops, sage leaves, and other articles steeped in vinegar, and believed to be an antidote against the plague. The tradition was that certain thieves had plundered the dead without catching the infection during one of the historic visitations in England by reason of having drunk this infusion. In reality, however, it had no such quality.

Thirty-Nine Articles. (See *Articles*.)

"Thirty Tyrants" were a committee who ruled Athens, with absolute authority, from 404 to 403 B.C., when Thrasybulus overthrew them.

Thirty Years' War, between the Roman Catholics and Protestants in Germany, lasted from 1618 to 1648. The chief figures of this war were Wallenstein and Gustavus Adolphus.

Thistle, Order of. (See *Orders*.)

Thistlewood Conspiracy was headed by Arthur Thistlewood, who had been imprisoned previously for challenging Lord Sidmouth, and had for its object the overthrow of the Cabinet, and the assassination of the Ministry, on the occasion of George III.'s funeral in 1820. The plotters met in Cato Street, Tottenham Court Road, London, but

were betrayed and brought to trial, and Thistlewood and four more conspirators were hanged for treason.

Thomites, a fanatical organisation headed by a Cornish publican named Thom, who claimed to be Sir W. Courtenay, knight of Malta, and King of Jerusalem, who got up an agitation against the Poor Law Act in 1834. In the disturbances that took place Thom killed several people, he himself and eight others being slain by the military.

Thorium, a scarce metal of the nature of aluminium. It ignites below a red heat, and burns with great brilliancy.

Thorn Back, a fish of the ray or skate species, common in the British seas, and popular as food. It has a mottled skin, in which yellow and light and dark brown intermingle.

Thorough, the name given to the political policy of Strafford and Laud, in the reign of Charles I., when they attempted by a relentless system of tyranny against their opponents to dispose of all obstacles to the gaining of their ends.

Thorough Bass, a musical term applied to a voice part accompanied by numerals, showing the chord applicable to each note. The term also refers to the entire science of harmonic composition.

Thous, a kind of fox or small wolf—in some respects resembling a jackal—occurring in Africa and parts of Asia. It is of various colours, but mostly brindled, with dark stripes across the back.

Thrush, a well-known song bird, also known as the throats and the mavis. It is widely distributed over Europe, Asia, and South America. There are some hundred species, eight occurring in Britain.

Thugs were a secret organisation of Indian fanatical assassins. They strangled their victims, and buried their bodies with a consecrated pickaxe, and set upon one-third of their plunder to the goddess Kali. These assassins were difficult to suppress, but vigorous measures ultimately, after twenty years' effort, secured their extermination about 1830.

Thumb-Screw, an instrument of torture used in olden times to extort confessions from prisoners. It consisted of a frame of three upright bars, between which the thumb of the victim was inserted; then a screw was turned on with sufficient force to give intense pain without jeopardising life.

Thuro's Invasion was a wild escapade undertaken by Thurot, an Irish naval officer in the French service. He got together a small naval squadron, and landed at Carrickfergus with 3,000 men in February, 1766. After sacking the town he crossed to the Isle of Man, and there was engaged by Captain Elliot. Thurot (whose real name was O'Farrell) was killed and his little army captured.

Thursday, the 5th day of the week, named after Thor, the Scandinavian deity. To the ancient Romans Thursday was *Dies Jovis*, or Jupiter's day.

Thyrus, a staff carried by ancient Greece by the Bacchantes during their festivities. It was tipped with a pine-cone ornament and frequently appears in ancient sculptures.

Tiara was the name originally given to a head ornament worn by the ancient Persians. The name was afterwards applied to the Pope's Triple Crown. The tiara of the first French kings was a high round cap. At the present day any coronet or frontal head ornament is styled a tiara.

Tichborne Case, the longest trial ever known in English Courts, was begun on 23rd May, 1871, when Arthur Orton, claiming to be Sir Roger Tichborne, commenced proceedings to establish his right to the Tichborne estates, worth £24,000 a year, and lasted until the 6th March, 1872, having occupied 103 days—the claimant being non-suited and arrested on a charge of perjury. The claimant himself was under examination 22 days, and the speech of Sir John (afterwards Lord) Coleridge extended over 26 days. These proceedings cost the estate over £90,000. The claimant's trial for perjury and forgery was begun on the 23rd April, 1872, and lasted off and on until the 28th February, 1874, when Orton was sentenced to 14 years' imprisonment. He was released on ticket of leave in 1884, and some years later made a written confession of his guilt.

Tides, the periodical rise and fall of the waters of the ocean and its arms, are due to the attraction of the moon and sun. Newton was the first to give a general explanation of the phenomenon of the tides. He supposed the ocean to cover the whole earth, and to assume at each instant a figure of equilibrium, under the combined gravitational influence of earth, sun, and moon, thus making and controlling the tides.

Tiers Etat, the lowest of the three estates of the realm as reckoned in France—nobility, clergy, and tiers Etat—prior to the Revolution.

Tiger, a powerful carnivorous animal of the cat family, which occurs in India and certain other parts of Asia. Its skin is of a tawny yellow, relieved by black stripings of great beauty of formation. The tiger is hunted in India, and its ferocious disposition renders the sport both exciting and dangerous. The prey of the tiger includes buffaloes, antelopes, and occasionally human beings, though the man-eating tiger is the exception rather than the rule. Tigers attain a length of from 14 to 15 feet.

Tiger-Cat, though much smaller than the tiger, bears considerable resemblance to it in regard to its markings and general structure. It is found not only in India but in Java and South America. It preys on small game.

Tiles are slabs of baked clay, used for covering floors, roofs, passages, etc., and of various forms; they were used in ancient times and were often made of marble or enamelled earthenware. In modern times tiles have been largely used for decorative purposes, especially for fire-places, hearths, and floors, many beautiful designs having been produced.

"Times" (*The*) newspaper was founded in 1785, as "The London Daily Universal Register," and assumed its present title in 1788. Since 1803 the Walter family have been the chief proprietors and directors. On a reorganisation in 1903, Lord Northcliffe acquired a large proprietary share. The 40,000 number of *The Times* was issued on Sept. 10, 1912.

Tin, a well-known metal generally found in veins of rock, occurring in Cornwall and Devon, the Malay Archipelago, and Australia. It is a white metal, susceptible of being rolled to an extreme fineness, and forms one of the most useful alloys, being a component of Britannia metal, bell metal, bronze, pewter, etc.

Tin-Plate is tin-coated steel plate, largely used for domestic utensils, and other purposes. The chief centre of the trade in this country is South Wales.

Titanium, a scarce metal found in association with oxygen in rutile, anatase, and brookite, as well as with certain magnetic iron ores. It combines with nitrogen at a high temperature.

Tithes, an ecclesiastical tax consisting of a tenth part of the annual produce, known to the ancient Jews, and first imposed by Christian authorities in the 4th century, although not made compulsory in England before the 9th century. Tithes derived from land are termed "predial," those derived from cattle being styled "mixed," while others are personal. After the passing of the Tithes Commutation Act of 1836, tithes were gradually converted into rent charges, and to-day the old form of tithes exists only to a small degree.

Titles by Purchase. Titles cannot be bought—at least directly—in this country, but on the Continent it is different. A title of nobility from one of the German States costs £8,000, while that of baron of the empire may be obtained for the sum of £12,000. In Spain one may receive the Order of Charles III., of Isabella, or that of Merit, "your choice" for £250, the Cross of the Chevalier or any title of nobility for £1,000. At the Vatican the Orders of Pius IX., of Gregory, and of Silvester have been sold; the Commander's Orders for £280, that of Chevalier for £120, Gentlemen of the Cap and Sword for £120, Baron £1,800, Count £3,400.

Titmouse, a small but powerful bird of the woodpeckers and forsythids. There are over 90 species, six of which occur in Britain; the long-tailed titmouse being the most common. The other British varieties are

the great titmouse, the coal titmouse, the marsh titmouse, the blue titmouse, and the crested titmouse, whose names sufficiently describe their peculiarities. They feed on insects and larvae, and are found in North America and Asia as well as in Europe.

Tobacco is made from the leaves of various narcotic plants of the Nicotiana family, which contain a volatile oil and an alkaloid called nicotine. Tobacco is largely grown in America, Cuba, France, and other countries of a warm climate. It undergoes various processes of preparation. The leaves are first dried, then cut into small pieces, moistened and compressed, and in this form is known as cut or "shag" tobacco; when moistened with syrup or treacle and pressed into cakes, it is Cavendish; when twisted into string form, it is "twist" or "pigtail." For cigars the mid-ribs of the dry leaves are removed, and what is left is moistened and rolled into cylindrical shape. For snuff, the tobacco leaves are moistened and allowed to ferment, then dried, powdered and scented. The consumption of tobacco in the United Kingdom is over 9,500,000 lb. per annum, the amount paid for duty on the same aggregating over £17,000,000.

Toga, an outer robe worn by the ancient Romans, and corresponding to the pallium of the Greeks. It was white and made of wool, and was the distinctive garb of the Roman citizen.

Toleration Act was passed in 1689, to relieve Protestant dissenters from the more serious of the disabilities under which they had previously laboured.

Tolls, payments for privileges of passage, existed from very early times. They were first exacted in respect of ships passing up rivers, tolls being demanded on the Elbe in 1109. Tolls for land passage are said to have originated in England in 1269, toll-bars being erected at certain distances on the high-roads in the 17th century, where toll had to be paid for all vehicles passing to and fro. After about 1825 they began to disappear, but have lingered here and there on country roads down to very recent years. Tolls on London river bridges ceased in 1878-9.

Tomahawk, an axe-like weapon formerly in common use among the North American Indians, who showed great accuracy of aim in throwing it.

Ton, a weight of 20 cwt. avoirdupois, or 2,240 lb. In the United States the ton is an even 2,000 lb.

Tonic Sol-Fa system of musical notation, in which letters are substituted for notes, was invented about 1840 by Miss Glover, of Norwich, and afterwards developed with considerable success by the Rev. John Curwen. The Tonic Sol-Fa Association was founded in 1853, and the College in 1862.

Tonsure, the shaven part of the head of a Roman Catholic ecclesiastic, dates from the 5th or 6th century. In the Roman Catholic Church only a circle, or a crown, is shaved, while in the Greek Church the hair is wholly shaved off.

Topaz, a transparent mineral gem, being a silicate and fluoride of aluminium, and generally found in granitic rocks. Its usual colour is a variety of yellow, but it also occurs in pink and blue shades. The best kinds come from Brazil. It is also found in Scotland, Cornwall, Siberia, and the United States. A pure topaz has the brilliancy of a diamond.

Tope, a small kind of shark, sometimes called the dog-fish. It occurs in European waters; one species, which has a dark back, and is white underneath, is found in British seas.

Tories, a political party name which came into use about 1690. They supported the hereditary doctrine of divine right, were opposed to Dissenters, and were essentially members of the Court party. In later times they opposed the Reform Bill and held out for the maintenance of Church and State unimpaired. The word is still used to express a more rigid adherence to the older principles of Toryism than is implied in the word "Conservative."

Torpedoes. (See *NAVY*.)

Tort, a legal term specifying an actionable wrong, apart from mere breach of contract. Torts are classed as wrongful acts, such as trespass, libel, etc., and acts resulting in pecuniary loss, such as negligence, nuisance, etc.

Tortoises or Turtles are cold-blooded reptiles, four-footed, and encased in a strong shell protection, the shells of some species being of beautiful horny substance and design, in much demand for combs and ornamental work. It is the custom to designate the land species as tortoises and the aquatic kinds as turtles. The commercial tortoise-shell, however, is chiefly obtained from sea-turtles. Tortoises abound in all warm climates except Australia. The green turtle from which the celebrated soup is made is a marine reptile found chiefly in the Indian and Pacific Oceans.

Torture, as a form of punishment, was in use among the Romans, though only upon the persons of slaves. In the Middle Ages it was commonly resorted to, especially in connection with charges of heresy. It was held that torture would make a guilty person confess, but not an innocent one. It was not inflicted in England after 1640. As practised by the Spanish Inquisition it included a terrible variety of suffering, often being carried to the point of death.

Toucan, the name of a South American family of birds, remarkable for their huge bills, are brightly coloured, and often attain a length of from 6 to 8 inches. They live on fruit, are of arboreal habits, and nest in holes.

Touchstone, a kind of jasper called by the ancients "Lydian stone," of economic value in testing the quality of metal alloys, especially gold alloys. The testing process is very simple. The alloy is drawn across the broken surface of the Touchstone, and from the nature of the mark or streak it makes the quality of the alloy can be ascertained.

Turmaline, a mineral occurring in different colours in prismatic crystals, and remarkable for its action on light, it having the power of polarising light rays under certain conditions. It is a double silicate of aluminium, iron, and certain other metals, and occurs in Cornwall, Devon, South America, and Asia.

Tournaments were equestrian contests between military knights and others armed with lances, and prevailed through almost the whole period of the Middle Ages. They were introduced into England by the Normans.

Tower of London was a royal palace from the time of the Conqueror, who began the building of the White Tower in 1066. Later kings made considerable additions. From the 15th to the 18th centuries many princes and nobles were executed or imprisoned here, and here Henry VI., Edward V., and his brother were put to death. The Crown Jewels are kept at the Tower, and in the Armoury a fine collection of armour of various dates is preserved.

Towton, the Yorkshire village between Leeds and York, where, in 1461, Edward IV. defeated the Lancastrians and established his rule.

Transcendentalism, a term that came into use from about 1833 in reference to a religious movement, headed by Pusey, Keble, Newman, and other Oxford high churchmen, who published "Tracts for the Times," in which their views were set forth. Among other things, they advocated a higher degree of ceremonial in worship, and their enthusiasm put new activity into the Church, although the secession to Rome of some of their more prominent members showed the tendency of the movement.

Trafalgar, Battle of, was fought off Cape Trafalgar on the 21st October, 1805, between the British and the combined French and Spanish Fleets, the former under Nelson's command, consisting of twenty-seven vessels; the latter, under the command of Villeneuve, comprising eighteen French and fifteen Spanish men-of-war. The British destroyed, captured, or sunk nineteen of the enemy's ships, and a complete victory was gained, though at the cost of Nelson's life.

Tramways were first established in New York by John Francis Train about 1825, and the first English tramway was opened in 1865 at Birkenhead. The first London tramway was established at Bayswater, in 1861. It was not until after 1870, however, when an Act to facilitate the construction of tramways was passed, that any great extension of these roads took place. Between 1870 and 1880, 233 miles of tramways

were constructed in England and Wales. Up to this time the cars had been drawn by horses. A steam cable tramway was opened on Highgate Hill in 1884, and steam came to be largely employed during the next few years. In later years, however, electricity has gradually superseded other forms of motive power on tramways, and the result has been an enormous extension of this method of transit. In 1898 there were only 265 miles of tramways open within the United Kingdom, and in 1902 there were about 3,000 miles open. The capital expended is about 74 millions sterling, and the majority of the systems in running are electrified, and under municipal control both in London and the great provincial towns. The number of passengers carried exceed 2,743 millions per annum. Electric tramway development, however, is being considerably arrested by the extension of the motor-bus services.

Transcendentalism, a term applied to a system of philosophy which transcends ordinary experience. It originated in Germany, and had for its chief apostles Richter, Fichte, and Schelling. In America Emerson propounded transcendental theories.

Transsept, the portion of a church which extends across the interior between the nave and the choir. The terminal portions are called respectively the north and south transepts. Some of the older churches have two transepts.

Transmigration of Souls was a doctrine expounded by Pythagoras, and forms part of the Brahmin and Buddhist religions. The ancient Greeks termed it metempsychosis, and the theory is that after death the soul of a man passes into the body of some other man or animal.

Transubstantiation, a term which first came into recognised use in the controversy between Berengar and Lanfranc in the 11th century, indicating the supposed conversion of the bread and wine of the Eucharist into the body and blood of Christ, and called the doctrine of the "Real Presence."

Trappists, an austere monastic Order founded at La Trappe, in Normandy, in 1140. A new Order of Trappists was established by Rancé in 1662, after which the members of the Order were enjoined to silence, prayer, reading, and manual labour, and forbidden to study or to eat fish or drink wine. They were expelled from France when the Revolution broke out, and for a time were settled in Worcestershire, but in 1815 they removed to Mount Mellary, in Co. Waterford, Ireland, where they established a new community. There are to-day Trappist Monasteries in France, Belgium, Italy, Algeria, Ireland, and the United States.

"Travellers' Tree," the name given to a peculiar kind of tree which grows in Madagascar, its branches and leaves forming themselves into the shape of a peacock's tail. The leaves are several feet in length, and their stalks are full of water, which furnishes a refreshing drink to travellers.

Treadmill, a large cylindrical machine provided with a series of steps, and maintained in rotary motion by the pressure of men's weight. A rail is fixed outside the wheel, and to this the workers of the treadmill hold by their hands, while their feet are kept continually in motion from step to step, the weight of their bodies keeping the machinery revolving. It is at present used chiefly in prisons as a form of punishment.

Treasure-Trove, a legal term applying to money, plate, or bullion found hidden in the earth, or elsewhere, and for which there is no owner. The treasure legally belongs to the Crown, but it is the practice to reward the finder with the full value of the property on its being delivered up.

Treble, in music, is the highest part of vocal or instrumental music, as sung by soprano voices, or played by the violin or other instrument of high pitch.

Tree-Frog, a kind of frog very plentiful in South America and fairly representative in Europe, Asia, North America and Australia. The European kind is of a greenish colour, and while on the tree is difficult to distinguish from the foliage. It possesses feet of peculiar formation, with discs exuding a sticky

composition, which enables it to hold to trees and other objects with ease.

Trent, Council of, first sat in 1545, the last sitting being on the 25th of December, 1562. It was at this Council that, at the time of the Reformation, the general policy, principles, and dogmas of the Roman Catholic Church were authoritatively settled.

Triassic Formation is the lower division of the Mesozoic series of rocks, lying above the Permian and below the Jurassic series. The Triassic in Britain is sub-divided into Upper and Lower Trias, the former comprising marl and shale, and the Lower consisting chiefly of red sandstone. This formation does not give any special yield of fossil remains.

Tribunes, of the Romans, were first elected from the people in 494 B.C. At first there were only two, then the number was raised to five, and finally to ten. They held the power of *veto*, and their persons were regarded as sacred.

Tricolour, the flag of the French republic since 1793, consisting of three equal vertical bands of red, white, and blue.

Triennial Act, which fixed the duration of Parliament to three years, was passed by the Long Parliament in 1642. Charles II. repealed this Act, but it was re-enacted in 1664, to be repealed again in 1716 by the passing of the Septennial Act, which still remains in force.

Trigonometry, a department of mathematics dealing with angles and their functions in every form, and divided into two sections—plane trigonometry and spherical trigonometry.

Trimmer, a name that came into use in English politics in the latter part of the 17th century, being specially applied to the party headed by the Marquis of Halifax, who was charged with adapting himself to Whigs or Tories as occasion served.

Trimurti, the Hindu triad, Brahma, Vishnu, and Siva, symbolised as an entity. In the depictions of the Trimurti three distinct heads are represented, the theological unity combining Brahma, the creative power, Vishnu, the preserving element, and Siva, the destroying principle, in one supreme unification.

Trinity, the term applied to the Godhead, "three persons and one God," as it is expressed in the *Litany*—Father, Son, and Holy Ghost. The doctrine of the Trinity has general acceptance among Christian communities, and has been explained in different ways. One of the earliest statements of it is the Athanasian: "We worship one God in Trinity, and Trinity in unity; neither confounding the Persons, nor dividing the substance."

Trinity House, on Tower Hill, London, was incorporated in 1514 as an association for piloting ships, and has ever since been entrusted with various matters connected with the regulation of British navigation. Since 1854, the lighthouses of the country have been under its supervision.

Triple Alliance. There have been several Triple Alliances; among others that of England, Sweden, and the Netherlands against France in 1668; that of Great Britain, France, and the Netherlands in 1717 against Spain; and that of Germany, Austria, Italy, in 1882, against Russia and France.

Triptych, a picture, carving, or other representation, generally panelled, with two swing doors, by which it could be closed in; frequently used as an altar piece. Also a writing tablet in three parts, two of which folded over the one in the centre.

Trireme, an ancient vessel with three rows of oars, of great effectuality in early naval warfare. Mentioned by Thucydides. It was a long, narrow vessel propelled by 170 rowers. The Romans copied it from the Greeks, and used it with considerable advantage.

Trisagion ("thrice holy"), an ancient Jewish hymn, still regularly sung in the service of the Greek Church. A version of it—*Tersanctus*—also forms part of the Anglican Eucharistic service.

Trisula, a trident emblem of Siva, the destroying principle of the Hindu Trinity.

Triumvirate, a term used to denote a coalition of three persons in the exercise of supreme authority. The first Roman triumvirate was that of Pompey,

Julius Caesar and Crassus, 60 B.C.; the second was that of Mark Antony, Octavian and Lepidus, 43 B.C. There have been modern instances of office-holding by triumvirate, the most notable being that of Jefferson, Madison and Gallatin in America. The term is used also in respect of any trio or triad of persons or qualities.

Troglodyte, signifying "a cave-dweller"—a term used by several classic writers in speaking of prehistoric races who lived in caverns and excavations where they could be safe from the attacks of wild animals. Evidence of such existence have been found in many parts of Europe, and there are cave-dwellers to this day among certain Indian tribes of North America.

Trogon, a bird of the woodpecker family, famous for its long curved tail, extending to two feet or more. It is strictly a tropical bird, and is found in Central America, India, and Africa. The upper part of its plumage is of a rich golden green, while below it is of a bright crimson.

Trombone, a well-known brass musical instrument of the trumpet order, comprising three tubes, one of which fits into another and can be extended to and fro to produce the various notes. The tone of the trombone is rich, and it forms one of the most useful adjuncts of a modern orchestra or band.

Troop, as constituted in the British cavalry force, forms a body of 56 non-commissioned officers and men, commanded by a captain and two lieutenants. A squadron comprises two troops.

Trophies are memorials of victory, often consisting of arms or other spoils captured in battle. In modern times trophies have often taken the form of symbolic erections, but, generally, a trophy constituted an object or a group of objects taken from an enemy, or captured in the chase, such as arms, flags, etc.

Tropic-Bird, a long-tailed kind of sea-bird of white plumage, about the size of a pigeon.

Troubadours was the name given to the early Provençal poets, whose rhymes were chiefly devoted to chivalry and romance. They did much to cultivate the romantic sentiment in days when society was somewhat barbaric, and helped considerably in the formation of those unwritten codes of honour which served to mitigate the rudeness of medieval days. Their vogue was from the 11th to the 13th century, and they were chiefly of knightly rank. With the decline of chivalry their occupation was gone, and though minstrels of a commoner type continued to appear as troubadours for some time later, men of the true troubadour spirit no longer existed.

Trout, a fresh-water fish of the Salmonidae family, with dark spots, common in the lakes and rivers of Europe, and much esteemed by anglers.

Trouvère or **Trouveur** were medieval poets, of northern France, whose productions were of a more elaborate character—epics, romances, fables, and chansons de geste—than those of their contemporaries the Troubadours.

Truffles are a subterranean edible fungus much esteemed for seasoning purposes. There are many species, and they are found in considerable quantities in France, England, Italy, and other places. They are often met with under birch or oak trees, and prefer calcareous soils, but there are no positive indications on the surface to show where they are, and they are not to be cultivated. Hogs, and sometimes dogs, are used to scent them out, the former, by reason of their rooting propensities, being the most successful in the work.

Trumeau, an architectural term denoting a piece of wall, generally a central pillar or column between two openings, such as those of arched doorways. In niches of these trumeaux a sculptured figure was often placed in the churches of the mediæval period.

Trumpet, a very ancient wind musical instrument consisting of a single tube of brass or other metal, and in olden times used chiefly for military music, though now adopted in orchestral composition. Handel was fond of this instrument, and wrote some fine music for trumpet obligato.

Trunk-hose was the part of the hose which covered the trunk or body, and extended in bow form from

the waist to the middle of the thigh, enclosing the hips. In vogue in the 16th and 17th centuries.

Tsambo, the cereal product of Tibet, Tataray, and parts of China, from which the chief food of the people is made.

Tschefkinite, a mineral of velvet-black colour found in certain parts of Russia, named after General Tschefkin. It is a silicate whose exact constituents are unknown.

Tsetse, an African dipterous fly of considerable size, whose bite is poisonous, and often fatal to animals.

Tsuba, a flat piece of metal constituting the guard of a Japanese sword, usually pierced and decorated.

Tuberculosis is a disease resulting from the formation of tubercles and the presence of tubercle-bacillus. Tuberculosis of the lungs is what is known as consumption.

Tudor Period extends from 1485 to 1603. The first Tudor sovereign was Henry VII., descended from Owen Tudor; then followed Henry VIII., Edward VI., Mary, and Elizabeth, the last of the line.

Tuesday, the third day of the week, named from the Saxon deity Tiu, Tiw, or Tiesco. To the Romans, it was the day of Mars.

Tullerian, a French royal and Imperial palace, dating from 1664. It was attacked by insurgents during the outbreaks of 1792, 1830, and 1848, and in 1871 was burned down by the Communists.

Tulipomania was a 17th century craze for the possession of rare tulips, which attained its height about 1630, and led to financial panic in Holland. A single bulb of "Semper Augustus" was sold for 13,000 florins. Dumas the elder, in his story, *The Black Tulip*, gives an interesting picture of the period.

Tulle, a delicate kind of silk lace, originally made at Tulle in France. It is much used for the ornamentation of ladies' garments, hats, etc., and for veils.

Tumululi, a mound of earth raised over the bodies of the dead. The mound of Marathon, enclosing the bodies of the Athenians who were killed in the famous battle with the Persians, is a celebrated tumulus. Such mounds were commonly raised over the tombs of the distinguished dead in ancient times, and sometimes enclosed heavy structures of masonry.

The Roman "barrows" were tumuli. Evidences of such mounds are frequent in prehistoric remains.

Tun, a liquid measure formerly in general use, but now obsolete. A tun of ale was 216 gallons.

Tundra is the name of a vast treeless plain of Northern Russia with small lakes and morasses scattered here and there, but almost devoid of vegetation. It is a cold, bare region, where only the reindeer can find sufficient sustenance.

Tungsten, a metal some of whose ores are known as *wolfram* and *shrelite*.

Tunny, the name of a species of mackerel common in Mediterranean and Atlantic waters. Grows to a great size—eight or ten feet frequently—and is the object of important fisheries. A large trade is done in preserved tunny.

Turban, a head-dress worn by men in Oriental countries, and consists of a scarf wrapped round the turboosh or cap. Turbans vary in material, colour, and folds, according to the rank of the wearer.

Turbines, propelled by steam, have recently come into prominence in connection with steamship transit. Numerous vessels are now afloat, and many more are building of this type. Although the principle was embodied in patents of sixty years ago, it is only within the last few years that any special effort has been made to secure its more general adoption.

Turbine engines have been decided upon for many new British liners, and a considerable number have been successfully tried in America. The English Channel service has also got its turbine steamers, and a torpedo turbine is a recent achievement.

For high speed the turbine class of steamer possesses advantages over ordinary reciprocating engines.

Turbot, a large sea fish, highly valued as food. It often attains from 30 to 40 lbs. in weight. Its flesh is white and firm. It is confined to European waters, and is caught by line or trawl.

Turkey, a fowl of American origin, brought to Europe from America soon after the dis-

covery of that country. It was a domesticated bird in England in the first half of the 16th century.

As a wild game bird it still exists in large numbers in Mexico, its native country, and in the Southern States of America. The turkey in domestication has greatly developed. The cock turkey often attains a weight of 30 lbs. It has a lustrous plumage; the head and upper part of the neck are bare of feathers. The hen is smaller. At Christmas time in England, and on Thanksgiving Day in the United States, the turkey is the chief ornament of the festive table.

Turmeric, a yellow dye substance obtained from an East Indian plant of the ginger class, which is cultivated in other warm climates also, for commercial purposes. Turmeric, in its commercial form, comprises the root of the plant dried or powdered. It is likewise used in the preparation of curry powder, and has an alkaloid taste.

Turpentine, a resinous substance obtained from a variety of mostly coniferous trees, the *Pinus australis*, of which there are large forests in North Carolina, being the most productive of the oily matter. The crude turpentine undergoes distillation, the resin which is separated from the resin being colourless and of a pungent odour. It uses are many. It is largely utilised in making paints and varnishes, and has medicinal properties.

Turquoise, formerly called Turkey Stone, is a blue, or greenish-blue precious stone, the earliest and best specimens of which came from Persia. It is composed of a phosphate of aluminium, with small proportions of copper and iron. India, Tibet, and Silesia yield turquoise, and a variety is found in New Mexico and Nevada. It derives its name from the fact that the first specimens were imported through Turkey.

Turtle. See *Tortoise*.

Turtle-Dove, a small kind of wild pigeon, which visits the southern parts of England about May and remains until September. The heads of the male birds are a light bluish-grey, the back is greyish-brown, while the breast has a purple tint. The female is less pronounced in colour.

Twankey is the name of a small river in western China, and supplies the name of a kind of tea grown in that region, in considerable favour with a large class of consumers.

Tweed, a twilled fabric, consisting of two or more colours of yarn combined in the same cloth, and should be entirely of wool, though there are inferior kinds in which cotton has a part. The surface of the cloth is unfinished. Tweed was originally woven in the valley of the Tweed, hence its name, but is now manufactured in all cloth-producing centres.

Twelfth Night is the eve of the feast of the Epiphany, and in olden times was made the occasion of many festivities. It was the most popular festival next to Christmas, but is now little observed.

Twilight is the light which is reflected in the atmosphere when the sun is below the horizon before sunrise or after sunset. The term is most usually understood to refer, however, to the evening light; the morning light we call dawn. The twilight varies in duration in different countries, according to the position of the sun. In tropical countries it is short; in the extreme north it continues through the night.

Tyburn, the name of a turnpike which formerly stood near the present Marble Arch, and a notorious place of public execution of criminals.

Tycoon, a title often used by foreigners to designate the Emperor of Japan, but not used or recognised by the Japanese. The title seems to have been coined in 1854 by those concerned in concluding the treaty between the United States and Japan. In Japanese Tycoon simply means, "great prince."

Tympanum is, in architectural phraseology, the triangular space at the back of a pediment, or, indeed, any space in a similar position, as over a window or between the lintel and the arch of a doorway. In ecclesiastical edifices the tympanum is often utilised for sculptured ornamentation.

Tynwald, the title given to the Parliament of the Isle of Man, which includes the Governor and Council (the Upper House), and the House of Keys, the representative assembly. This practically con-

stitutes Home Rule, the acts passed by the Tynwald simply requiring the assent of the Sovereign.

Typewriting is a method of printing in type-letters by means of a machine called a typewriter, of which there are several kinds, including the Remington, Yost, Smith-Premier, Underwood, Oliver, Barlock, and others. Each machine is fitted with a keyboard, indicating the various letters of the alphabet, figures, punctuation marks, etc., and as these are struck by the finger of the operator the corresponding type-signs are impressed on the paper, the ink being conveyed by an ink-saturated ribbon or pad. Typewriters are now a necessary feature of most business houses, and are also much used by literary men and others, representing a great saving of time as well as ensuring a clearness of caligraphy not otherwise attainable. One of the most generally effective of modern labour-saving contrivances.

Typhoon, a cyclonic storm of great violence occurring in the autumn months in the China seas. It is similar in duration and destructive force to the general West Indian hurricane.

Tyrolienne, a Tyrolean dance of a waltz character, often accompanied by a song or chorus.

Tyrolite, the name given to a hydrous arsenate of copper—soft, flexible, and in colour a bluish-green.

U

Ubbonites, a sect of German Anabaptists, named after the founder, Ubbo Phillips, who in 1534 separated from the main sect by refusing to acknowledge Christ's kingdom as an earthly one.

Ubiquarians (or **Ubiquitarians**), a small German sect, originated 1250 by John Brentius, who held that the body of Christ was present everywhere.

Uckwallists, a Mennonite sect who believed that Judas and Pilate would be saved by reason of their ignorance, and taught the doctrine of Universalism.

Uhlans, a light cavalry soldier armed with a lance. Marshal Saxe had a corps of them; and in the Franco-German war of 1870 the Prussian Uhlans won fame.

Ukase, a Russian edict, issued by the Czar or his government, and having the force of regular laws.

Ulster Custom, a tenant-right usage prevailing in Ulster, and recognising the right of a yearly tenant to remain in occupation so long as a fair rent is paid, to dispose of his tenancy, and to obtain compensation if the landlord resumes possession for himself.

Ultramarine, a sky-blue pigment obtained from lapis lazuli, a stone found in Tibet, Persia, Siberia, and some other countries. A cheaper ultramarine is now produced by grinding and heating a mixture of clay, sulphur, carbonate of soda and resin.

Ultramontanism is the term applied to the views of Roman Catholics who deem that absolute authority in religious affairs should be vested in the Pope, subordinate only to the Ecumenical Council.

Umbur is of two kinds, raw and burnt. Both are used as pigments, the former being a dark brown and the latter a reddish-brown. It is made from brown hematite and clay.

Umbrellas did not come into general use in England until the latter part of the 18th century. They were known to the ancients, however, by whom they were used both against sun and rain.

Uncials were a form of written characters used in times prior to the 10th century; while smaller than capitals they were larger than the later minuscule. The term uncial was a misapplication of St. Jerome's *litteræ uncialis*, "inch-high" letters.

"**Uncle Tom's Cabin**," a story published in 1852, setting forth in an intensely interesting form the horrors of the slave trade as they then existed in America. Its author, Mrs. Harriet Beecher Stowe, achieved great fame by the story.

Unction, the act of anointing with oil, a symbol of consecration practised in the Roman Catholic, Greek, and other Churches, but not in the Protestant.

Extreme unction is the rite of anointing a dying person with holy oil. This function consists in anointing the eyes, ears, nostrils, mouth, the palms of the hands, and the soles of the feet.

Undulatory Theory is the theory which traces light to vibrations set up in an invisible medium termed the luminiferous ether, and therefore transmitted and diffused to the permeation of all space.

Uneared increment is an increase in value of land, houses, etc., brought about by influences independent of the efforts or outlay of the owner.

Unicorn, a fabulous single-horned animal, the monocoer of classic writers. In heraldry its form is horse-like, with the tail of a lion and pointed single horn growing out of the forehead. Introduced into the British Royal Arms by James I., two unicorns having figured in the Scottish Royal Arms.

Uniformity Act was passed in 1559, in the second year of Elizabeth's reign, and prescribed the restoration of the English Prayer Book, ordering it to be read in all churches, and imposing a penalty on those who neglected to attend church. Both Roman Catholics and Puritans suffered by this enactment. A century later, in 1662, Charles II.'s Act of Uniformity, commanding all clergymen to subscribe unreservedly to the whole of the Prayer Book, led to the defection of 2,000 divines, who preferred to give up their benefices to going against their consciences.

Uniforms for soldiers were introduced by Louis XIV. in 1665, but were not adopted in the British military service until some years later.

Unionists, the name given to the Conservatives and seceding Liberals who opposed Mr. Gladstone's Home Rule Bill in 1886. The term is still continued as a general party appellation.

Union Jack, is a combination of two flags—the banner of St. George, white with a red cross, the original English flag, and the banner of Scotland, blue with a white diagonal cross. This combination was effected after the union with Scotland, and the term Jack is supposed to refer to James I. (Jacques). A further addition was made to the Union Jack after the union with Ireland in 1801, when the banner of St. Patrick, white with a diagonal red cross, was introduced.

Union of Great Britain and Ireland was proposed in the Irish Parliament in January, 1799, but rejected by a majority of one, while in the English House of Commons the majority in favour of it was overwhelming. The measure was ultimately passed with adequate majorities by both Parliaments, and the union came into force on January 1, 1801.

Union, Treaty of, was the treaty by which Scotland became formally united to England, the two countries being incorporated as the United Kingdom of Great Britain, the same Parliament to represent both, Scotland electing sixteen peers and forty-five members of the House of Commons. Uniformity of coins, weights, and measures was provided for, Scottish trade laws and customs were assimilated to those of England, and as regarded religion and the practice of the law, Scotland was to continue as before. This Act was ratified on May 1, 1707.

Unit, a former British gold coin of the value of 20s. issued in 1664 by James I.

Unitarianism is the doctrine which proclaims the impersonality of God, and denies the theory of the Trinity. As regards other matters of belief and doctrine Unitarians hold differing views, the older members of the sect accepting Christ as a Divine manifestation in a human life, and believing in the sacred character of the Scriptures and in the miracles; whereas the "Progressive" Unitarians only accept Christ as a specially good, wise and holy man, and reject the inspiration of the Bible, the miracles and the doctrine of atonement. It was not until after the Reformation that Unitarianism developed to any particular extent in England. In the United States Unitarians are numerically strong and have produced some eminent preachers, such as Dr. Channing and Theodore Parker. In Great Britain the Unitarians have at present 345 chapels or other places of worship, and about as many recognised ministers.

United Greeks are such members of the Greek Church as cling to the older Greek.

United Irishmen were an association of Irishmen

whose aim was to establish an Irish Republic. They were in league with French supporters and had six war frigates ready for action. The leader, Wolfe Tone, was captured, however, in October, 1798, and the movement was effectually crushed. Wolfe Tone committed suicide in prison.

Universalists, a sect that arose in the 3rd century, and was condemned by the Council of Constantinople in 553. They held the doctrine of the final salvation of all men. There are several Churches of Universalists in America to-day, but the sect has few followers in Britain.

Universities are institutions for providing higher education, with power to confer degrees on such members as pass certain prescribed educational standards. In England there are nine universities—Oxford and Cambridge, both founded before the 12th century; London, 13th century; Liverpool, Leeds, Manchester, Durham, Sheffield, and Birmingham. Scotland has four—St. Andrews, Glasgow, Aberdeen, and Edinburgh; the first three having been founded in the 15th century, and that of Edinburgh in 1582. In Ireland there are three universities—Dublin University (founded in 1592 as Trinity College); the National University of Ireland established in 1908; and the Queen's University of Belfast, founded in 1827. The University of Wales dates from 1893. The universities of France, Germany, and other countries are numerous, and many of them very ancient. The Bologna and Paris Universities were founded in the 12th century. The chief universities of the United States are those of Yale and Harvard.

University Extension is a method which has been in operation for a number of years of extending the means of university teaching to young people who would otherwise be unable to avail themselves of university advantages. Under this scheme lectures are given and classes opened in the chief centres of population, and the higher education of the universities is thus brought within popular reach. Female as well as male students are admitted to these courses.

Upari, the poisonous sap of certain trees growing in Java and the Malayan and Philippine Islands. The natives use the sap for arrow-poison. Strychnine is yielded by one of these trees, the *Strychnos ignatia*.

Uraeus, the sacred serpent of the ancient Egyptians, always represented on the head-dresses of divinities and royal personages. It was the symbol of supreme power, and was in the form of an asp.

Uralite, a mineral substance having the crystalline form of augite, but the physical properties of hornblende. It is commonly regarded as a paramorph of the last named mineral.

Uraninite, a pitch-black heavy mineral usually found in granite rocks and forming the chief source of uranium. It is also called pitch-blende, and occurs sparingly in Cornwall.

Uranium, a metal discovered by Klaproth in 1789 in pitch-blende. It is of a dark colour and heavy, and is found in Cornwall, Saxony, and elsewhere. The oxides and salts of uranium are of importance, and are used for colouring glass and other purposes. Uranite is an emerald-green ore of uranium, and the discovery of Radium was due to experiments with uranium.

Uranus, the seventh of the major planets in distance from the sun, from which it is removed 1,800 millions of miles. It is nearly four times the diameter of the earth and has four satellites. Sir William Herschel discovered the planet in 1781.

Uriconian, the name given to a series of volcanic rocks occurring in Shropshire near Wroxeter, the site of the old Roman station of Uriconium.

Ursa Major, the Greater Bear, or "Charles's Wain," a constellation familiar to all observers because of the brilliancy of the seven stars forming its outline. It never sets in these latitudes.

Ursa Minor, the Lesser Bear Constellation, has, like Ursa Major, several prominent stars, of which the pole star is the brightest.

Usquebaugh is the old Celtic name for spirit, distilled originally from barley. The name is still used

in Scotland. Burns in *Tam o' Shanter*, wrote, "Wi' usquebae we'll face the devil."

Utilitarianism is a term that originated with the Italian philosopher Beccaria, and has for its aim "the greatest happiness of the greatest number," and insists that this should be the sole aim of all public action. Jeremy Bentham was the chief propounder of the philosophy, and in more recent times John Stuart Mill advocated it with much acceptance. Herbert Spencer's exposition of the theory represented a still higher development of it.

Utopia was the imaginary island of Sir Thomas More's ideal state, where the conditions of life and government were perfect. The work, which was published in 1516, was the forerunner of a host of other books on similar lines. Swift, Voltaire, and, in our own time, Bellamy, Mallock, and others have ventured into the same field with more or less success. Ruskin styled Utopianism "another of the devil's pet words."

Utraquist, a name given in Church history to the Calixtines, because, in the 15th century, they partook of, or demanded, both elements in their celebration of the Eucharist.

Utrecht, Treaty of, was the famous treaty by which the War of the Spanish Succession was brought to a close in 1713. It was signed by the representatives of Great Britain and her allies and France, and resulted in a general adjustment of many old-standing international differences.

Uvarovite, an emerald-green variety of garnet. It contains chromium sesquioxide. Named after Uvarov, the Russian statesman.

Uvula-wort (or **Throatwort**), the nettle-leaved Bell-flower (*Campanula Trachelium*), found plentifully in English copses, and given its popular name because of the reputation it had of being of service medicinally in the treatment of pains and swellings in the throat.

Usama, a Burman linear measure equal to about 22 English miles.

V

Vagrancy was the subject of stringent punishment under the old English laws. A vagabond on conviction was sentenced to be branded with a "V" and sent into slavery for two years by an ordinance of 1547, and whipping, setting in the stocks, and mutilating the ears were other penalties of this offence. The present Vagrant Act was passed in 1844.

Valentine's Day, the 14th February, is a Roman Catholic festival in celebration of St. Valentine, one of the Christian martyrs of the 3rd century. He was so renowned for affection and benevolence that the custom arose of selecting valentines on his festival day.

Valentinians were a sect of the 2nd century, adherents of Valentine, a priest, who deserted his faith and proclaimed doctrine in which gods and goddesses were substituted for the Trinity.

Valhalla, in Scandinavian mythology, is the special Paradise to which the souls of warriors slain in battle were transported. The term is also generally used to designate a burial place of great men.

Valkyria, the chosen handmaidens of Odin, appointed to serve at the Valhalla banquets. Their most important office, however, according to the Norse mythology, was to ride through the air at a time of battle and point out the heroes who were to fall. It is one of these Valkyria who is made the heroine of Wagner's opera "Die Walküre."

Vampire, according to ancient superstition, was a spectre in human form, which rose from its grave in the night-time and preyed upon the living as they slept, sucking their blood, and then returning to the grave.

Vampire-bats, a peculiar kind of bat commonly known as a "flying fox." These bats are found in South America, Asia, Africa, and the Malay Archipelago, and receive their name from the supposition that they live on the blood of animals.

Vanadium, a scarce metallic element found in iron ores and certain minerals and clays. It forms

oxides which develop salts of commercial value in dyeing and calico printing. Originally discovered by Ström in 1830, it was found also in the copperbeds of Cheshire by Roscoe in 1836.

Vandalia was a Gothic war who ravaged Gaul, Spain, and North Africa in the 5th century, and finally attacked the city of Rome, drawing down upon themselves universal opprobrium for their wanton destruction of beautiful objects and monuments.

Vanilla, a climbing orchid of tropical America, found also in Asia; the dried fruit of certain species furnishes the agreeable aromatic vanilla of commerce, so much used for flavouring.

Variolids, the name given to the water-lizards or the *Lacertis* order, and distinct from the true lizards in having scales arranged in rings across the body. They are inhabitants of Southern Asia.

Varnish is of two leading kinds: spirit varnish, made from resinous substances dissolved in spirit; and oil-varnish, in which the dissolving agent is linseed oil and turpentine.

Vase, a hollow vessel of a decorative character, with or without handles, and of various shapes and designs. The vases of the ancient Greeks were of great beauty, and such as have been preserved are highly valued. One of the finest examples of a Greco-Roman vase is the famous Portland Vase in the British Museum. (See **Portland Vase**).

Vatican, the Papal residence at Rome, a famous palace on the hill adjacent to St. Peter's. Its museum is a rich treasure-house of literary and artistic objects.

Vauxhall Gardens were a famous London pleasure resort from the early part of the 18th to the middle of the 19th centuries. It was here that many great singers appeared from time to time, where the earliest balloon ascents in England were made, and where the displays of fireworks were on a scale of great magnitude for the period.

Vedas, the sacred writings of the ancient Hindoos, comprising hymns, sacred formulae, and prayers. Their origin is by no means clearly established.

Vegetarianism is the theory that vegetables are the only proper food for human beings and afford all the sustenance that is necessary for a healthy life. A Vegetarian Society was founded in London in 1847, and both in the metropolis and in numerous provincial towns vegetarian restaurants have been established with considerable success.

Velhungerlochte, a mediæval tribunal said to have been founded by Charlemagne in the 13th century. It dealt with cases in which the penalty of death was involved, and caused many persons of rank and distinction who were not favoured by the Government to be summarily arrested, convicted and put to death. The last of these courts was held in 1668, by which time the suppression of the tribunal had become a public necessity.

Vellum. (See **F parchment**.)

Velvet, silk fabric woven with a fine pile on one side only. When the pile is made entirely of silk it is styled silk velvet; when cotton is mixed with the silk, it is cotton-velvet or velveteen.

Ventilation is a means adopted of obtaining fresh supplies of air in rooms and buildings. It is a science that has been much studied in recent years and has led to the adoption of methods of air renewal by which the public health has been greatly improved.

Ventriloquism, the art of speaking in many voices and at apparent different distances, without seeming motion of the lips. The art was practised by the ancient Greeks and Romans, and was probably responsible for many supposed oracular utterances.

Venue, a legal term designating the place where an action is to be tried or from which a jury is to be summoned.

Venus, the planet second in order from the Sun, and distant from that orb 67,500,000 miles. It is 7,510 miles in diameter and revolves on its axis only once in 243 days. At wide intervals Venus passes between the earth and the sun, when what is called the "Transit of Venus" takes place. The last transit was in 1882. There will not be another until 2004.

Verd-Antique, a peculiar kind of stone found chiefly in Italy, and to some extent quarried in Cornwall and certain parts of Scotland, Ireland, and the United States. It is a highly-ornamental stone, var-coloured, beautifully veined and capable of a high polish.

Verdigris, a compound formed by exposing copper to contact with vinegar in the air. There is blue verdigris and green verdigris, the latter containing the greater proportion of copper. Verdigris is used both as a mordant and as a pigment.

Verjuice, an acid liquid formerly much used in cooking. It is derived mostly from sour grapes, crab-apples, and other acid fruits.

Vermillion, a pigment obtained from cinnabar, but generally made artificially from a mixture of one part of sulphur with four of mercury. It yields a bright red colour.

Versat, a Russian measure of length equal to about two-thirds of an English mile.

Vertebrate, the zoological division comprising such animals as have a backbone.

Vesta, a minor planet discovered by Dr. Olbers of Bremen in 1807. It revolves round the Sun between Mars and Jupiter.

Vestals were priestesses of ancient Rome, appointed to guard the perpetual fire consecrated to Vesta. They were required to take vows of chastity, and during the thousand years from Numa, 710 B.C. to Theodosius, A.D. 394, when the order was abolished, only 18 vestals were condemned for incontinence.

Viatium (literally "provision for a journey"), an expression designating the numbering of Holy Communion to one on the point of death.

Vicar of Bray, the original of the ballad of that name, was Simon Allevyn, a Berkshire vicar, who was "twice a Papist and twice a Protestant," as Fuller asserts, serving under four monarchs, Henry VIII., Edward VI., Mary I., and Elizabeth.

Victoria Cross, an order of merit for conspicuous valour, awarded to members of the Army and Navy, was established in 1856, since when there have been over 520 distributions made. The Cross carries with it a pension of £20 a year to non-commissioned officers and men with an extra £5 for every bar.

Victoria Regia, a species of large water-lily, a native of South America, having leaves of a diameter of 5 to 6 feet, the flower being about a foot in diameter, white, with a rose-centre. Specimens are to be seen growing at Kew.

Vicuña, a large mammal of the camel family, found wild in the mountain regions of Bolivia and Chili. It is not domesticated like the Lama and Alpaca, but yields a wool which is made into dress fabrics.

Vienna Congress, sat at Vienna from September, 1814 to June, 1815, and settled the delimitation of the territories of the various European nations after the subjugation of Napoleon. Ceylon, Mauritius, Cape Colony, Heligoland, Malta, and part of Guiana were accorded to England; France was permitted to hold more territory than she had possessed at the outbreak of the Revolution, in 1792; Austria took Northern Italy; Russia, Poland; and Prussia, part of Saxony and the Rhenish province.

Wikinges, were Scandinavian sea-plunderers who from the 8th to the 10th centuries were the terrors of northern waters. They were traditionally supposed to be descendants of Norse Kings, and men of great physical prowess.

Wine-making. (See **Wine** and **Distillation**.)

Vinegar, is obtained by the fermentation of alcoholic liquids, induced by various processes. It is a dilute acetic acid. Vinegar has been used as a condiment from the days of the Romans, and is the active agent in the preparation of pickles and many sauces.

Violin, a familiar stringed musical instrument, a smaller form of the more ancient viol. Instruments of the violin type have been in use from remote times, and the form as now played upon is practically the same as that of the 16th century. The construction of the violin was in the century following brought to a point of refinement that has not since been equalled. The greatest of all violin-makers was Stradivari of Cremona, whose violins to-day fetch immense prices.

Violoncello, a large, stringed instrument, tuned an octave lower than the viola, and held held downwards by the performer between his knees while playing. One of the most effective of orchestral instruments, and a powerful medium of solo playing.

Viper, a species of poisonous snake of which there is one example in Britain, the common viper or adder, measuring from 2 to 3 feet in length, and only found in very dry localities.

Virginal, a keyed instrument of a clavichord type, fashionable in the 16th and 17th centuries, and said to have been played upon by Queen Elizabeth and Mary Queen of Scots.

Virgo, the 6th constellation of the Zodiac, lying between Leo and Libra. It has seven prominent stars ranged in the form of the letter "Y." One of these stars is of the first magnitude, the other six being of the third magnitude.

Viscount, a title of rank coming next below that of an Earl. The title originally stood for deputy-earl. The first English Viscount was Viscount Beaumont, created in 1440.

Vishnu, one of the gods of the Hindoo Trinity; the supreme head, symbolised in the Vedas as the Sun.

Volsung, an offshoot of the Ostrogoths. They invaded Italy under Alaric in A.D. 400, and 20 years later acquired and occupied Rome. They were powerful up to the 6th and 7th centuries, ruling in Spain, France and Italy in turn, until in 711 the Saracens overthrew them, and slew their last king, Roderic.

Vitriol, the old name of sulphuric acid, represented in its pure form by oil of vitriol. Sulphate of copper forms blue vitriol; sulphate of iron, green vitriol; and sulphate of zinc, white vitriol. Among other vitriols are nickel vitriol, red vitriol, and blue vitriol.

Vivandiere, a female camp follower informally attached to French military regiments, and acting as vendor of liquors, fruits, etc.

Vivisection, the dissection for scientific purposes of living animals. The practice has been strongly opposed by humanitarians, and certain Acts have been passed for restricting vivisection to authorised and qualified persons within prescribed limits.

Vizier, a chief Turkish minister in the olden days. The first Grand Vizier to the Ottoman Porte was appointed in 1386, and although the office was formally abolished in 1838, it has since been occasionally revived.

Volapuk, a commercial language intended for universal use, formulated by Johann M. Schleyer about 1879.

Volcanoes are mountains or mounds beneath which, in the depths of the earth, there is a continual fire that at intervals throws up flame, molten rock (lava), ashes, etc. The most active volcanoes of modern times have been those of Aetna, Vesuvius and Stromboli, in Italy; Hekla in Iceland; and Mont Pelée in Martinique. The last named was in violent eruption in 1902, when the chief town of St. Pierre was completely destroyed, and many lives were lost.

Vole, a small rodent represented in Britain by three species, the best known being the Short-tailed Field Mouse. There are in all some 50 species, distributed over nearly all parts of the world.

Volt, the electro-motive force unit, named after Volta, and defined and adopted since 1893 in terms of the ohm and the ampere.

Volunteers were first raised in England during the American War in 1778, and in 1793-94, when a French invasion was feared, a considerable Volunteer force was organised. The Volunteers at that time numbered over 400,000. Another agitation in 1859 concerning a probable French invasion caused the formation of the Volunteer force. The enrolled strength of the Volunteer organisation in 1870 was 292,893; and in 1901 it reached its highest point, 288,476. In 1907 the entire number of Volunteers was 257,918. The force was re-formed as the Territorial Force in 1908. (See *Territorial Force*.)

Vulcanite (ebonite), the dark form of india-rubber, capable of being vulcanised at a high temperature. It is used as an electrical insulator, and for many

commercial purposes, such as the manufacture of combs, piano keys, etc.

Vulgate, a term used to designate the Latin version of the Scriptures sanctioned by the Council of Trent in 1546.

Vulpine Phalanger, an Australian marsupial mammal, resembling a small fox, and called also the Brush-tailed Opossum.

Vulture, a famous bird of prey of two distinctive groups: that of the Old World, which has the nostrils divided by a mass of bone, and the New World vulture, which has no such division. Vultures are the great scavengers of tropical regions. The European species are the Griffon Vulture and the Egyptian Vulture, which, however, have seldom been known to visit England. Vultures are without feathers on the head and neck.

W

Wading Birds, an order of long-legged birds, including the stork, flamingo, heron, crane, etc., which frequent marshes and shallow waters, and are able to stand in the water to watch for prey.

Wagram, Battle of, was fought on the 5th and 6th July, 1809, when Napoleon completely defeated the Austrians, leading to the signing of the treaty of Peace, by which Austria relinquished all her sea-coast to France, and Joseph Bonaparte was acknowledged King of Spain.

Wagtail, a familiar long-tailed small bird, of which four species are British, the Pied, Grey, Yellow, and White Wagtails, while the Blue-headed Wagtail also occasionally makes his appearance. The species frequents flat and marshy country, and one variety is called "Peggy Dishwasher." Wagtails nest in ruts, and are bold and active of habit.

Wahabees were followers of Abd-el-Wahab, an Arab reformer who advocated complete obedience to the Koran, and attracted numerous fanatical supporters. They were at one time powerful enough to rule an Arabian territory, but were subdued by Ibrahim Pasha in 1826.

Walls, a legal term applied to stolen goods that have been thrown away in flight. They are liable to be forfeited to the Crown, but will be given up to the person robbed if it be shown that he has taken adequate steps to have the thief arrested.

Waltz, the night minstrels who make music at Christmas in the open, a remnant of the old-time minstrels attached to Courts and feudal dwellings.

Wakes were originally parish festivals in celebration of the patron saint's day and the dedication of the church. Regulated by law in 1536, they gradually fell into desuetude, or became divorced from their former significance.

Walcheren Expedition was undertaken under the command of the Earl of Chatham, heading 40,000 land forces, and Sir Richard Strachan, with a fleet of 35 ships of the line and 200 smaller vessels, in July, 1809, its object being to capture Walcheren, then in the possession of the French. So much time was wasted, however, by Chatham on the way, a full month being spent in Flushing, that the enemy had ample time to defend Antwerp, the ultimate object of the expedition, and when at last the British forces were landed on Walcheren Island all chance of success was gone, and the place was evacuated, Chatham leaving behind a garrison of 15,000 men, 7,000 of whom perished from malaria, and 3,500 were permanently incapacitated. The whole project ended in disaster and Chatham was compelled to resign his post.

Waldenses, the name given to a settlement of Christians under the leadership of Peter de Waldo, of Lyons, in the 12th century. They attracted much attention by the persecutions to which they were subjected. They were then settled in Piedmont, and continued to live there in spite of every opposition. Later, both Charles I. and Cromwell interceded and obtained for them increased toleration. The Waldenses are now a somewhat numerous sect, having over fifty places of worship

- in Piedmont and a membership of over 15,000. They have had full freedom of worship since 1848.
- Wall of China (The Great),** begun in 214 B.C. and intended as a barrier against invasion. It is nearly 7,500 miles in length, stretching along the north-western boundary of the country, and varying in height and thickness, being the strongest in the neighbourhood of Peking.
- Waloons** were French Protestants inhabiting certain parts of France and Belgium, and many of them came to this country in 1565 as refugees. They established themselves at Sandwich, and certain parts of the eastern counties, and aided the development of local industries.
- Walpurgis Night,** the night before the 1st of May, when witches and creatures of evil are supposed to have liberty to roam. Named after St. Walpurgis, an English nun, who went on a mission to Germany in the 8th century. There is a famous Walpurgis night scene in Goethe's *Faust*.
- Walrus,** a large marine mammal having in the upper jaw two large curved tusks, which average in length from ten to thirteen feet. It lives on fish, and inhabits the North Polar regions.
- Waltz,** a popular round dance, danced in couples, introduced into England from the Continent in 1813.
- Wandoo Monkey,** a headless monkey with a tufted tail, found on the Malabar Coast, and often called the "lion-tailed monkey."
- Wapantake,** the ancient name given in the northern counties to territorial divisions corresponding to the Hundreds of southern counties.
- Wapinschow,** an ancient Scottish custom of assembling the people for the purpose of testing their capacity for bearing arms and their readiness to take the field.
- Wapiti,** a large North American deer with great brown-tinted horns, often, but erroneously, styled the Elk or Grey Deer.
- Warbler,** a small, lively bird famed for its song, and represented in Britain by over 20 species, including the nightingale, the red-breast, the willow-wren, etc.
- Wardmoths** are annual meetings of the inhabitants of London wards, at which they elect their Common Councilmen. Their meetings date from 1366.
- War Expenditure.** Russia's weekly expenditure of £1,077,950 towards the close of the war with Japan was by no means extraordinary. Our own war in South Africa, the bill for which totalled the huge sum of £111,948,000, worked out at £1,500,000 a week. The total cost of the Crimean War was about £33,000,000; of this Russia paid £12,000,000, France £93,000,000, and Great Britain £78,000,000, the weekly expenditure for the three countries being, Russia £1,400,000, France £900,000, and Great Britain £700,000. America's successful struggle for independence cost the mother country £121,000,000, or just under £1,600,000 a week. France, however, has had to foot the heaviest weekly war bill on record, the total cost of her terrible conflict with Germany being £315,000,000, or over £7,000,000 a week. The Napoleonic wars which ended at Waterloo were comparatively cheap for France, seeing that the total bill only amounted to £565,000,000, while that of Great Britain, including the financing of many little Powers in their struggle against the Emperor, amounted to £831,000,000.
- Wars of the Roses.** (See *Roses*, *Wars of*.)
- Wart-snake,** a curious but harmless viviparous serpent having warty scales, numerous in certain parts of India. One species is aquatic.
- Wasp,** the name of a well-known order of insects which live in communities of males, females, and workers, much the same as bees. The female wasp and neuters have a venomous sting.
- Watch.** (See *Polices*.)
- Watchers.** (See *Hærology*.)
- Water Deer,** the Chinese musk deer, an animal of small size and aquatic habits, and hornless.
- Water Flea,** a small crustacean provided with several pairs of legs, carrying gills which enable them to swim rapidly to and fro on the surface of the water. They are only found in fresh water.
- Water Frame,** the name given to the spinning frame invented by Arkwright, because of its being driven by water-power. In Lancashire, where it was most used, it was known as the "throstle."
- Water-Gas** is an illuminating gas, and also in its non-luminous form is used as a heating gas. It is obtained by means of a specially constructed furnace into which steam is admitted, and passes upward through the fire and into a separator, where it becomes decomposed. As the steam passes through the furnace it is charged with either coal dust or crude naphtha, which process induces chemical reaction, and a fixed gas is the result.
- Waterlander,** a sect established in Holland as an offshoot of the Mennonites. They were more tolerant than the original sect, and did not regard the Bible as necessary to salvation. For a time they were of great influence, but ultimately they became reconciled with their opponents, with whom they are now united.
- Waterloo, Battle of,** was fought on Sunday, June 18th, 1815. Napoleon had 71,947 men and 246 guns; while Wellington's army, at the beginning of the battle, comprised 67,667 men and 156 guns. The battle raged from 10 in the morning until 5 in the afternoon with alternating success, Wellington gradually gaining the mastery, however, and when the Prussian forces under Blücher joined him late in the afternoon the whole allied army moved forward and Napoleon's defeat was rendered complete. The total losses of the Allied Army in killed, wounded and missing were 25,076. The French lost over 30,000 men.
- Waterloo Bridge,** crossing the Thames, was built by Rennie, and opened in 1817. It has nine arches, each of 120 feet span, is built of granite, and has a length (including approaches) of 2,425 feet.
- Waterproofing,** a method of rendering cloths capable of resisting water, an art which has been greatly developed in recent years. The first article of the kind was what is called "Mackintosh," made mainly of india-rubber, but later processes mingle the waterproofing with the threads of the fabric by the introduction of additional substances.
- Water-Spider,** an interesting little animal which spins a sac of silk on a water-plant, which it uses as a sort of diving bell. From this it obtains bubbles of air, one at a time. Thus the spider is enabled to remain below the surface a considerable time.
- Water-Spout,** a column of water drawn to a considerable height in the air and descending to earth with a rapid whirling motion. The phenomenon only lasts a few minutes, and frequently a number of water-spouts form and discharge either simultaneously or in rapid succession. Water-spouts only occur over the sea.
- Watling Street,** the name of the old Roman road which ran from Dover, by way of Canterbury, Rochester, London, and Bedford, to Chester.
- Wax,** the name applied to certain plant substances or mixtures, and used for various purposes, such as the making of wax candles, bleaching, and making artificial flowers, anatomical models, etc., also in pharmacy for blending in the composition of plasters, ointment, etc. The best known natural wax is beeswax, and there are others, such as spermaceti, obtained from the sperm whale, and Chinese wax, which is a cerotyl cerate.
- Waxbill,** a small Oriental and African bird of the Ploceidæ family, with wax-like bill, and beautifully variegated plumage. The Java sparrow, the South African Grosbeak, and the blue-breasted wax-bill are attractive, and often find their way into cages.
- Wax-Goose,** the name generally given to a festive gathering of people employed in printing and other works, so called from the fact that in earlier times a goose was the principal dish of the feast.
- Weasel,** a small carnivorous mammal common in Britain, of nocturnal habits, living on small rodents, birds, etc.
- Wheat Office** is now a branch of the Board of Agriculture and Fisheries. In the United States £200,000 a year is spent on this kind of work, and the advice given to fruit farmers and cotton planters abundantly compensates for the outlay. The British

Weather Office staff are always glad to help anyone to information for a special purpose.

Weather Predictions by Animals are more common than is perhaps believed by town dwellers. Cats are credited with wailing right over their ears when rain is approaching. Cats also become restless and wander aimlessly about the house when a thunderstorm is brewing. The braying of a donkey is said to be a sign of coming rain. Before winter sets in, moles prepare a sort of basin in which they deposit a quantity of earthworms. When these basins are fewer in number than usual the mole-catchers state that the winter is sure to be mild. The field-mouse has been noticed carefully to cover up its hole prior to the setting in of cold and snow. Sheep in mountainous districts will change their feeding ground to the lee side of the hills before the arrival of severe gales and rain. Bees are very sensitive to atmospheric changes. When they return to the hive, and do not come out again for a time, rain is indicated. Working bees, when collecting honey, are said to be so afraid of bad weather that if a cloud obscures the sun they will hurry home. If domestic geese are seen to fly without any palpable reason, rain is to be expected. If ducks are noticed going out on to the grass fields in the daytime in search of snails, a shower may usually be looked for. When it is likely to be wet, garden-spiders spin only short threads. When the shrill voice of the peacock is heard, a change of weather is probable. If the swallow flies high it is a sign of fine weather, but when it is near the ground rain is to be expected. The movements of rooks are much watched by some agriculturists as an index to the coming weather. If the rooks are seen settling noisily upon trees and flying hither and thither instead of going straight away, a wet day is probable. If they are flying low in the winter, going and returning silently, early and late, before sunrise and after sunset, a sharp frost may be looked for. Fish are extremely sensitive to the weather, as the angler well knows, many species declining to feed when a change is in progress.

Weaver Bird, a small bird inhabiting Southern Asia and Australia, remarkable for its habit of building a nest formed of blades of grass dexterously interwoven and suspended from the boughs of trees.

Weaving has been practised since before any time of which we have record. The Egyptians credit the invention to Isis, the Grecians to Minerva. The main principle of the weaving loom is the same to-day as it was thousands of years ago; a warp extends lengthwise through the loom, the threads being held in separate regular order by being passed through a reed or "slay," while the weft is crossed through alternating threads of the warp by means of a shuttle which holds the weft. Thus the fabric is built up. Weaving was done by hand up to the early part of the 19th century, when Cartwright's steam-powered loom was introduced, and is now in universal use. The Jacquard loom for weaving figured designs dates from 1801.

Wedding Days, or anniversaries observed, in addition to the original wedding day, are as follows: Silver Wedding Day, commemorates the 25th year of married life; Golden Wedding Day, 50 years; Diamond Wedding, 60 years.

Wednesday, the 4th day of the week, derived its name from Woden or Odin, the Norse god of war.

Week. (See Calendar.)

"Weekly Dispatch" was started as a London Liberal Sunday newspaper in 1801. It is now one of the Harnsworth series of papers.

Weaver, a species of sea-fishes which possess the power of inflicting stings by means of the dorsal fin. The British species are the Great Weaver, which averages some 15 inches in length, and the Little Weaver, which is less than half that size.

Weevil, the popular name of a large order of beetles of a very destructive kind. They abound in all parts of the world, and are voracious feeders on leaves, seeds and grain. Some of the tropical species possess brilliant plumage.

Weights and Measures are said to have been introduced by Phidon, Tyrant of Argos, in 895 B.C.

Weights were at first calculated from grains of wheat, the lowest still called a grain. The basis of ancient measures was the natural proportions of the human body, the digit or breadth of the middle part of the first joint of the forefinger being taken as the lowest unit. Under Richard I., standards of weights and measures had to be provided for the whole kingdom by the sheriffs of London.

Wellington College. (See Public Schools.)

Wenlock Group, a geological term referring to a sub-group of the Upper Silurian series, more than 4,000 feet in thickness, and consisting of limestone and shale.

Werewolf, according to an Old World superstition, was a human being changed into a wolf, but preserving its original intelligence. Numerous men charged in the Middle Ages with crimes were deemed of the Werewolf category. The superstition prevailed in many parts of Europe to a comparatively recent time, and some such belief is prevalent amongst most savage races at the present day.

Wesleyan Methodists. (See Methodists.)

Western Church, the name given in ecclesiastical history to the Roman Catholic Church, as distinct from the Eastern or Greek Church.

Westminster Abbey stands on the site of an old church and religious establishment of the 7th century. It was rebuilt under Edward the Confessor, and again under Henry III., and important additions were made by Edward II., Edward III., Richard II., Richard III., and Henry VII., the latter erecting the beautiful eastern chape in the Decorated Style which bears his name. The western towers and front were rebuilt by Wren in the 18th century.

Westminster Hall, adjoining the Houses of Parliament, was built as a Banqueting Hall by William Rufus, and many courtly festivals were held there in succeeding centuries. King John established the Law Courts there. It now forms a gigantic hallway, leading to the Houses of Parliament, but was once more used as a Banqueting Hall in August, 1905, when the then Prime Minister, Mr. Balfour, entertained the Officers of the French Fleet there.

Whale, a large marine animal averaging, when full grown, from 40 to 60 feet long, the head comprising nearly one-third of the whole length. It inhabits the Arctic Ocean, and is much hunted for the sake of its blubber, a thick mass of fat, underlying its skin to a thickness of from 8 to 16 inches. This blubber yields the whale oil of commerce, and the whalebone is derived from the baleen plates, forming the structural portion of the mouth. The whale fisheries form an important industry, Dundee being the headquarters of the whale-fishing fleet. About half a ton of whalebone is obtained from one whale, which is worth between £2,000 to £3,000 per ton. (See **Rorqual** and **Spinn Whale**.)

Wheat, the name of several varieties of plants of the Grass family, yielding a fruit or grain which, in its crushed state, is termed flour, and from which is obtained our most valuable food staple. Over five and a-half million tons of wheat grain is imported into this country. There are less than two million acres under wheat in Great Britain. Of the wheat consumed annually in this country (about 33,500,000 quarters), only 7,500,000 quarters are grown at home. It is calculated, however, that Canada's capacity for wheat production is so great that we could look to that colony alone to supply us all with wheat.

Whelk, a molluscous univalve with a spiral shell, and comprising some 20 species. The Common Whelk is abundant on the British coasts, and is captured in large quantities and sold as food.

Whidah Bird, the widow-bird, of West and Equatorial Africa, a beautiful genus including the "Mourning Widows" and "Paradise Widow-birds" of the dealers. To a body of about 5 inches long, the males of some of the species have a tail of something like 12 inches during the breeding season. The plumage is showy and the song pleasing.

Whigs, a political name which came into use in the time of Charles II., and designated the progressive

- party down to the passing of the Reform Bill of 1832 when it was superseded by the term Liberal.
- Whimbrel**, a bird of the Curlew family, more common in Scotland than in England.
- Whinchat**, a small migratory bird, which is seen in Britain from April till September, and has a bright brown plumage, spotted with darker brown. The male has a beautiful song.
- Whip**, the name commonly given to the Patronage Secretary of the Treasury, whose duty it is to keep the supporters of the Government together for important Parliamentary divisions. Each party has its own chief Whip, with assistants.
- Whirlpool**, a circling current of water often of great power, capable of drawing into its centre and submerging small vessels. The most famous whirlpool is the *muelstrom* on the Norwegian coast.
- Whirlwind**, a sudden circular rush of opposing winds, which often causes much damage.
- Whisky**, an ardent spirit distilled from malt or other grain, and containing a large percentage of alcohol. It has a greater consumption than any other spirit, and is of many kinds, Scotch and Irish whiskies being chiefly consumed in this country, and being of pot still or patent still production, or a blend of the two. American whiskies are mostly distilled from Indian corn.
- Whistler**, a kind of marmot found in the mountains of Northern and Western America.
- White Ant.** (See *Termites*.)
- Whitebait**. (See *Herring*.)
- Whiteboys**, an insurrectionary Irish body who gave great trouble to the authorities in the latter part of the 18th century and the early part of the 19th. They derived their name from their custom of wearing a linen garment over their coats. Several of their ringleaders were executed.
- White Cross League**, a missionary association working in the principal towns and cantonments of India. The Bishop of Lahore is president.
- White Elephant**, a term in common use to designate a gift that causes the recipient more trouble or cost than it is worth; derived from an old-time custom of the Kings of Siam who presented a white elephant to a courtier if he desired to ruin.
- Whitehall**, erected within sight of Westminster Abbey and Palace in the 13th century, was the residence of the Archbishops of York until Henry VIII. took possession of it in 1530. Thenceforward to 1609, when it was burned down, it continued to be the favourite town residence of royalty, and to the Stuarts especially it was a great centre of court festivities. In those days, with its grounds, it extended from the Strand to the river. The only portion of Whitehall now standing is the Banqueting Hall built by Inigo Jones, on a scaffold projected from the front of which Charles I. was beheaded.
- White House**, the name of the official residence at Washington of the President of the United States.
- Whitethroat**, a familiar bird of the warbler family, commonly seen in British hedgerows in the summer time.
- Whiting**, a well-known sea-fish of the cod family, very plentiful around our coasts, much used as food, and averaging from 14 to 16 inches in length.
- Whitsuntide**, the festival celebrating the descent of the Holy Ghost. It is a movable feast, always occurring seven weeks after Easter.
- Widgeon**, a kind of Duck common in Northern Europe, and breeding to some extent in Scotland. The male is of somewhat brilliant colours, with interminglings of black, red, and white.
- Wild Cattle** existed in our dense forests for some time after the Norman Conquest; Fitzstephen mentions that forest bulls were to be found around London, and Walbran, in his *Memorials of the Abbey of St. Mary of Fontainebleau*, states that "fierce wild cattle" were to be found in Knaresborough Forest. Descendants of these fierce animals are said to exist now in a few famous herds in a semi-domesticated state. The most famous of these are the Chillingham herd of white cattle of the Earl of Tankerville, and Earl Ferrers's Chertley Park herd.
- Wild Sheep** still exist at St. Kilda, but nowhere else in Great Britain. In the 18th century the proprietor of St. Kilda was entitled to one out of every seven sheep born on the main island. These were carried to one of the smaller islets, where they were allowed to run wild.
- Will**, a written document signed by a person containing directions as to the disposition of his property or possessions after his death. The person making a will must be of full age, and the will must be signed in the presence of two witnesses, who must also sign their names to the document in the testator's presence.
- Willow**, a waterside-loving tree of the genus *Salix*, to which the osiers belong. The White Willow makes the best cricket-bat blades, and its wood is useful in carpentry also; while the bark of nearly all the species is of considerable commercial importance, especially for tannery purposes.
- Wimple**, an antique outdoor covering for the neck, chin, and sides of the face, of silk or linen, worn by women in Anglo-Saxon and Norman days; and still retained as a Conventual dress for nuns in some places. It was bound on the forehead of females of quality by a golden and jewelled fillet.
- Wincey**, a fabric sometimes woven entirely of wool, but more commonly of wool and cotton. Also sometimes called lincey-wincey.
- Wind**, air set in motion by special atmospheric conditions, is of various degrees, from a slight rustling breeze to a hurricane. Winds are *constant*, as in trade winds or anti-trade winds; *periodic*, as in monsoons and other wind-visitations occurring according to influences of season; *cyclonic* and *anti-cyclonic*, when their motion is spiral; *whirlwinds*, *hurricanes* and *torradores*, when high temperature and great density induce extreme agitation. Ordinarily, a wind is named from the point from which it blows. The *sirocco*, the *mistral*, and the *simoon* are local forms of winds of great velocity. A *blizzard* is a blinding blast of icy temperature.
- Windmills** were in use in the East in ancient times, but were not much seen in Europe before the 13th century. Wind sawmills were invented by a Dutchman in the 17th century, and one was erected near the Strand in London in 1633. Great improvements have been made in these mills in recent years, especially in the United States, where, by the application of the wide shaft principle, much space is saved and the mills can be used for pumping, grinding, and other purposes.
- Windows**, originally apertures for the admission of the wind into dwellings, began to be made of glass and used only for the admission of light in very early times. There is evidence of glass windows having been used at Pompeii, but they did not become common in England before the 12th century. A window tax was imposed in 1695, and again at later dates for special revenue purposes. As late as 1890, the sum of £1,824,584 was obtained from this tax. It was repealed in 1889.
- Windsor Castle**, the famous British royal residence on the banks of the Thames, as it now stands, was mainly built by Henry III., though a royal residence had existed there from the time of the Conqueror. Additions were made by Henry VIII., Elizabeth, and Charles II. Windsor Park and Forest comprise over 25,000 acres.
- Wine**, the fermented juice of the grape, to which alcohol and other matters are added. The varieties of wine are innumerable, each obtaining its distinctive character from the kind and quality of the grapes of which it is made, the locality in which it is produced, or the amount of alcohol it contains. Wines are "sparkling," as champagne, due to their being bottled before fermentation is completed; or "still," that is, non-effervescent. Alcohol is present in ports and sherries to the extent of from 16 to 25 per cent.; in lighter wines from 7 to 10 per cent. France, Germany, Spain, Portugal, Italy, Greece, and Austria-Hungary are all wine-producing countries; and the United States, Australia, and South Africa have also to be reckoned with in this connection, their wines improving in quality year by year.
- Wire**, originally made by hammering, is now produced

by means of powerful machinery which draws the heated metal through a series of holes of gradually diminishing size. The first wire mill in England was set up at Macclesfield in 1669. Enormous quantities of wire, of differing grades and sizes, are now used, ranging from a thickness difficult to bend to the finest thread.

Witchcraft, was generally believed in all through the Middle Ages, and thousands of people were put to death as witches. In England the laws against witchcraft existed down to 1736. According to one authority, "the judicial murders for witchcraft in England in 200 years was 30,000." The last executions for witchcraft in England were in 1716, when a Mrs. Hicks and her daughter aged nine were hanged at Huntingdon.

Witanagemot, the name given to the Great Council of the Anglo-Saxons, "the Council of the Wise Men," and composed of the leading nobility.

Woad, a plant that in olden times was largely used in England for the blue-dye obtained from it. It is a biennial plant, and is still cultivated in some parts.

Wolf-Fish, a voracious sea-fish living largely on crustaceans, which its strong teeth enable it easily to crush. It is also called the cat-fish.

Wolverine, a species of cat inhabiting the more northerly parts of the United States, and somewhat resembling the Polar bear in shape and structure, though of a dark colour.

Wolves, well-known carnivorous animals still found in many parts of Europe, but not existing in Britain since the middle of the 17th century.

Woodcock, a game-bird greatly valued for its flesh, but not very abundant at present in Britain. It is of the Snipe family, and winters with us. It is one of the birds protected by the Game Laws. The parent birds carry their young to and from the feeding spots.

Wood-Louse, a name of wide application given to any terrestrial isopod of the Oniscidae family. They have segmented bodies and numerous legs, and feed mostly on decaying matter, animal and vegetable.

Woodpecker, a familiar tree-climbing bird, of which three species are found in Britain. It builds in hollows of trees, and feeds on insects which it obtains from the trunks of trees by tapping them, for which purpose it has a wedge-shaped bill and a protrusile tongue. There are some 200 species.

Wool has been largely grown and used in the manufacture of cloth in England from times anterior to the Roman invasion. It is grown on the backs of sheep, and is of various kinds, according to the breed of sheep from which it is derived. Wool differs from hair in that it has a wavy, serrated fibre, its curl being a notable characteristic, whereas hair has a smooth surface comparatively free from serratures. Long wools are mostly used for the manufacture of worsted goods, and short wools for woollen cloths, though the improvements in machinery in recent years have enabled manufacturers to utilise short wools to a great extent for dress fabrics as well as for woollens. The finest wools are obtained from the fleeces of the Spanish merino sheep. Australia and New Zealand are now the greatest wool producing countries.

Woolpack, the name given to the seat occupied by the Lord Chancellor in the House of Lords. At the time when it was first used, in the reign of Edward III, wool was the great staple commodity of the country.

Worcester, Battle of, was fought on September 2nd, 1651, between Cromwell and his forces and the Scots army under Charles Stuart (afterwards Charles II.), when the latter was defeated.

Work Divisions in Different Nations. From a table showing the division of labour in different countries, the following comparisons are obtained. Occupations are divided into three classes, namely, agriculture, horticulture and forestry; manufactures and mining; and commerce and transportation. In the last-named class Holland leads with a percentage of 17.2, while America's is 10.6. England's is only 13, Germany is 10.4, and France 9.4. In manufactures and mining America has a comparatively low rank, her percentage being only 24.7. Scotland leads all with 60.4, followed closely by

England and Wales with 58.3, Germany has 57.4, and France 33.6. Belgium, Holland and Switzerland also, of course, rank high, each of them having more than one-third of its working population thus engaged. In the first class, of agriculture and allied occupations, America has a percentage of 55.9, while Germany has 37, France 44.2, Austria and Hungary respectively 58.2 and 58.6, Italy 59.4, Holland 30.7, Belgium 21.1, Scotland 12, and England and Wales only 8.

World's Greatest City, **The**—London, the capital of the British Empire, is the largest, wealthiest and most populous city of the world. It covers an area of 692 sq. miles—inclusive of what is legitimately called "Greater London"—has a population of 7,252,363, consuming over 225,000,000 gallons of water per day, admitting within its ports goods to the annual value of £167,558,254, and exporting £253,511,393 worth, enjoying nearly eight sq. miles of parks and open spaces, having 609 acres of cemeteries, and being protected by a force of 22,137 police. Greater London's mean rateable value, for Metropolitan Police purposes, is roundly 56 millions a year. It is governed, as to the City proper, by the Lord Mayor and Corporation; as to the whole of London, for general administrative purposes, by the London County Council; and as to various local affairs, by the various borough councils, of which it has 28. It returns 6 representatives to Parliament. It has 77 livery companies owning property of the aggregate value of £15,000,000, with a total annual income of nearly £800,000. It is estimated that 1,500,000 persons enter the central portion of the city every day, 91,000 of whom—as well as 12,000 vehicles—pass along Champs-Élysées; while over 15,000 pass through Holborn. There is an average of 351 births and 66 deaths per day in London. Within the City proper the portion preserved over by the Lord Mayor and Corporation, there are 484 miles of crowded streets, with a day population of 350,000, and a night population of 26,000. The number of foreigners permanently resident in London is over 200,000. In the hospitals and dispensaries of London 2,269,578 patients are treated every year, involving a total ordinary expenditure of about £800,000. There are 1,056 elementary schools in London, with accommodation for over 800,000 children. The various railways running into London carry in and out of it every day 720,000 passengers; the omnibuses, now mainly of the motor class, carry another 38,000 passengers; while the different tramways—those of the County Council and the combined services of the various private companies running services—are responsible for fully half-a-million more. These figures do not take account of short journey "bus, tram and "tube" traffic, but simply give an idea of the number of workers and business men who proceed daily from the suburbs to Central London. London has about 11,000 cabs, including motors and taxicabs. Nearly 8,000 articles (including 27,000 umbrellas) are left in public cases every year. There are more people in London streets between six and seven in the evening than at any other time, when 174,958 workers are setting off, on the average, from their employment for home. There are 100,000 females working within the London area under the Factory Acts' cognisance, while there are 300,000 one-room dwellers, and about 2,000 people who are homeless. The earning capacity of the workers of London is £173,391,000 per annum. The landowners of London number 34,000, the largest landowners being the Crown, the Ecclesiastical Commissioners, and the City Corporation, who own together 39 sq. miles. There are in addition 283 large landowners owning on the average 1/4 of a sq. mile each, the remaining owners possessing about an acre each.

Worsted, the name given to a fabric made from long wools or wools mixed with cotton or other fibrous material. This class of fabrics was first manufactured at, and derived its name from, Worsted, in Norfolk, in the 14th century. Norwich was, until the latter part of the 18th century, the headquarters of this industry, but now for more than 200 years the worsted manufacturing centre has been Bradford.

Wrasse, a sea-fish of the Labridæ family. The family has numerous species, all of which are thick-lipped. The British species are the balloon wrasse and the red wrasse.

Wren, a class of small passerine birds possessing up-turned tails, and most abundant in South America. The British species is an interesting singing bird with a surprisingly loud note for its size.

Wroth Silver is the name given to certain annual payments made by tenants of the Duke of Buccleuch on the 18th of November each year at Knightlow Hill, in Warwickshire.

Wryneck, a tree-creeper bird of the Woodpecker family, only one species of which visits Britain. It is of pretty plumage and gains its name from its curious habit of curving its neck.

X

Xanthamide, a crystalline substance, produced by passing ammoniacal gas into an alcoholic solution of xanthic ether.

Xanthia, a genus of moths with brilliant yellow markings found in America and the West Indies.

Xanthic Acid, the name given to various ether acids, and consisting of an oily liquid of an astringent character yielding a yellow colour.

Xanthurus, a genus of American jays, green in colour, mingled with yellow, blue and white, and attaining a length of from 12 to 14 inches.

Xebec, a light three-masted vessel most favoured in former times by the Algerian corsairs of the Mediterranean.

Xema, a beautiful snow-white sea-gull, with a forked tail, inhabiting the northern shore of the American Continent.

Xenopus, a lively small bird of the Tree-creeper family, common in South America and peculiar in having an upturned bill.

Xenurus, one of the Armadillos of tropical America. It lives in burrows.

Xenylene Alcohol, or diphenylic acid; a diatomic alcohol, obtained by the action of water on diazobenzidine nitrate.

Xerus, an African ground squirrel with a rather bristly fur, and an enormous bushy tail.

Xeonon, the name given to sculptured wooden images of the time of the ancient Greeks.

Xenallite, a Mexican mineral, tough and greyish white, found associated with bustamite and apophyllite.

X Rays. (See Roentgen Rays.)

Xylograph, the name given to an engraving on wood or an impression thereof.

Xyloidine, an explosive compound much recently used in gun-cotton, prepared by trituration starch with fuming nitric acid and reducing it to an in-odoriferous powder.

Xylophone, a musical instrument comprising a series of tuned wooden bars supported on bands, and usually played with wooden hammers.

Xystarch, an Athenian officer, who presided over the gymnastic exercises of the xyst, or covered portico under which the athletes performed.

Y

Yacht, a light kind of vessel now much used for pleasure trips and racing. The first yachting club was the Cork Harbour Club, started about 1790, and it was not until 1812 that the Royal Yacht Squadron was founded at Cowes. The Royal Thames Yacht Club dates from 1823. There are about fifty other yachting clubs in this country. The yacht-racing competitions of greatest interest in recent years have been those for the America Cup, for which Sir Thomas Lipton has unsuccessfully completed three times on behalf of England, and is a challenger for 1914.

Yak, a curious, long-haired ox, found in Tibet, and there employed as a beast of burden.

Yale University was established in 1701, and is one of the leading universities of the United States.

It received its name from Elihu Yale, who endowed it largely in 1716.

Yam, the root of various kinds of diascoræa, a plant which grows in Asia, America, Africa and Australia; used as a substitute for the potato, roasted or boiled. It also furnishes a flour for bread or pudding making.

Yankee, a term applied to residents in the New England States, and said to have been derived from a corrupt pronunciation of the word English by Indians. Other definitions have been given, but the one referred to seems to be most likely.

Yard, a standard measure of 36 inches, the word being derived from the Saxon *gyrd*, or rod. The yard was anciently regarded as the circumference of the body, but Henry I. decreed it should be the length of his arm.

Yarn is the textile thread or fibre spun into the form of weft or warp ready to be woven into fabrica.

Yataghan, a peculiar kind of sword with a curved edge, but without guard or cross-piece. It is worn by soldiers and others in the Turkish principalities, and by Turks and Arabs in other parts. The word is also written "ataghan."

Yawl, the jolly boat of a ship, also the name given to any small yacht of the cutter class.

Year. (See Calendar.)

Year-Books, containing annual reports of legal cases, common in England, and used back to the 11th century, and formed the first attempt to establish legal reports. In modern times the title has been given to almost any kind of annual publication.

Yearling, a young horse or other animal in the second year of its age.

Yeast, a substance that sets up fermentation, and discovered in 1836 to be a fungoid or vegetable cell. It is the potent agent in the production of alcohol from sugar; added with warm water to flour it commences the process of fermentation that gives sponginess to the loaf in bread-making.

Yeast-Powder, a preparation of soda, phosphates, and other substances that cause fermentation, and is used for leavening bread. Baking-powders are similar preparations.

Yellow-Bird, a name frequently given to the golden oriole (*g. o.*).

Yellow-Hammer, a common British bird of the bunting family, which builds on the ground. Its plumage is mainly yellow, and it is a fine singer.

Yen, the Japanese monetary unit, represented by a gold coin of the value of about 25. 0.1d. English.

Yeomen of the Guard (commonly called "Beefeaters"—a corruption of "Buttlers") is a body of Foot Guards established in the reign of Henry VIII. for the protection of the Royal Person. These soldiers are now few in number, and their duties are those of attendants at the Tower and appearing in full dress upon ceremonious State occasions. They still wear the style of dress of the Tudor period.

Yew, an evergreen tree, the wood of which was in former days in very great demand for bow-making. Held sacred in Nepal.

Yezdegird, the name of the old Persian king which began in 632, when Yezdegird was made King of Persia. The Parsees of India still use the term.

Yezidees, a sect of devil worshippers inhabiting certain parts of Mesopotamia.

Yoga, a section of the Hindoo philosophy which proclaims the emancipation of the soul through a junction with the universal spirit. The Yogis are a Salvafite sect, founded by Goraknath. They have a temple at Gorakhpore.

York Minster, one of the oldest and finest of English cathedrals, is 524 feet long, its nave is 240 feet broad, and the central tower is 216 feet high. The present edifice, in parts, dates back to the 12th century, but a church stood on the site in the 7th century. In 1823 it was set on fire by a lunatic named Jonathan Martin, and the destruction that then took place cost £60,000 to restore.

Young England Party, a term applied to a number of young Tory politicians of the Corn Law days, who not only opposed the repeal of the Corn Law, but proposed to bring about a closer relationship between the upper and lower classes.

Young Men's Christian Association was founded in 1844 largely by the efforts of Mr. George (later Sir George) Williams. It has to-day 7,823 branches in over 40 countries, and a total membership of 82,209, the United Kingdom alone 120,500 members. Its headquarters are at the "George Williams House," Russell Square, W.C.

Young Women's Christian Association, formed on the lines of the Young Men's Christian Association, has a British membership of nearly 100,000, and a total membership of 275,000.

Yttria, a metallic oxide found in combination with cerium, erbium, didymium, and gadolinite in Sweden and Norway. It is a grey-white powder.

Yuga, one of the periods into which, in Hindoo chronology, the history of the world is divided. There are four:—the Satya Yuga, which contained 1,728,000 years; the Treta Yuga, 1,296,000 years; the Dwapara Yuga, 864,000; and the Kali Yuga, now in progress. This began about B.C. 3094, and will extend to 432,000 years in all, according to the Hindoo beliefs.

Z

Zabra, the name of a small coasting vessel used in the Mediterranean and elsewhere.

Zaccheans, an obscure sect of Gnostics, mentioned by Epiphanius.

Zalophus, a genus of eared seals, in which is included the common sea-lion of the Californian coast.

Zamboni's Pile, a dry voltaic battery, invented by Zamboni, retaining potentiality for a lengthy period.

Zanzaleans, a Syrian sect of the 6th century-follower of Zanzalee who opposed water baptism, and urged baptism by fire, or by the application of hot iron; at one time very numerous.

Zebra, an African quadruped of whitish-grey colour, with regular black stripes, perhaps the most beautiful member of the Equine family. Rather larger than an ass, and smaller than the horse, it has a tufted tail, is of light build, wild, and fleet of foot; there are several species, and the Quagga and Burchell's Zebra (ground colouring yellow), as well as the True Zebra, belong to the group.

Zebu, a species of oxen having a large hump on the shoulder and short horns. In India and some parts of Africa these animals are domesticated and used as beasts of burden. They are of a light grey colour and very docile. Their flesh makes good food-meat; the Hindoos, however, do not slay them, but regard them with much veneration.

Zemindar, the name given to a class of revenue-farmers once common in India, but now to a great extent superseded.

Zemstvo, a local territorial assembly in Russia for dealing with matters of taxation, schools, roads, etc., under the control of the provincial governors.

Zemane, the portion of dwelling in India where the female members of the family are kept, and to which strangers are not admitted.

Zend-Avesta, the name given to ancient sacred books of the Zoroastrians or Parsees. They originally numbered twenty-one, but only three survive.

Zenith, the highest point in the heavens above where an observer stands, the opposite pole to the Nadir.

Zeoilites, a class of mineral found in volcanic rocks. Crystalline substances which melt under heat, they are composite silicates of alumina and alkalies.

Zeriba (or *Zarabeh*), a military enclosure of prickly brushwood, used with effectuality by the British troops in Egypt in 1882.

Zero, the cypher signifying nothing in Arabic numbers. On a Centigrade or Réaumur thermometer the zero line marks the melting point of ice; on a Fahrenheit zero is 32° below the water-freezing point.

Zets, the name given in former times to the closet or

room, above a church porch, where the sexton lived and guarded the documents of the church.

Zinc, a familiar metal, known to the ancients, and used by them in the making of brass. It occurs in sulphide or carbonate of zinc and other forms. The ores of zinc are crushed and roasted. In combination with copper it constitutes the familiar alloy called brass, and zinc itself is much used for roofing and other protective purposes.

Zionists, the name given to a body of Jews whose object is to re-establish their race in Palestine. The movement has been largely taken up, and already numerous settlements of Zionists have been formed in the Holy Land.

Zippelite, a mineral found at Joachimsthal, in Bohemia, as an alteration product of uraninite; it is essentially a hydrated sulphate, shaded yellow, of sesquioxide of uranium.

Zirconium was discovered in the sand of the rivers of Ceylon in 1789, and is the metallic base of Zirconite. It appears generally in the form of a black powder, after chemical modification.

Zither, a stringed musical instrument of the dulcimer kind, having strings of metal which are played upon with the right hand, a plectrum being used for striking the strings.

Zodiac, the belt of the firmament enclosing the circuit over which the principal planets travel. It is divided into 12 equal spaces of 30 degrees each, comprising respectively the 12 signs of the Zodiac—Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, and Pisces.

Zootrope, an optical instrument of a cylindrical shape, exhibiting pictures in such a form that the figures in them seem to be endowed with motion.

Zollverein, a commercial federation of German States, dating from 1818, for the maintenance of uniform duties and tariffs as against foreign countries and of Free Trade between themselves. It is now co-extensive with the German Empire.

Zone, an imaginary geographical belt encircling the earth. There are five of these zones—the Torrid Zone, from tropic to tropic; two Temperate Zones, from the tropics to the Polar Circles; and two Frigid Zones, from the Polar Circles to the North and South Poles respectively.

Zoolatry, animal worship, which in ancient times prevailed among the Egyptians and other primitive races. The zebu is still an object of adoration amongst the Hindoos, and snake-worship survives on the African west coast.

Zoological Gardens of London were opened in 1827, and belong to the Zoological Society of London. They contain one of the largest and most varied collections of living animals in the world.

Zoology, the science of animal biology, treating of the structure, classification, and distribution of the various members of the animal kingdom.

Zoomorphism, characteristic exhibition of the forms of the lower animals, as distinct from man, an element entering largely into classic mythology.

Zoophyte, the name given to a class of organisms combining the nature of both plants and animals, such as corals, sponges, sea anemones, etc.

Zorilla, a small African quadruped of the Skunk order, usually striped or spotted, and possessing the power of ejecting a noxious odour.

Zouaves, a body of French soldiers first organised in Algeria, and then consisting exclusively of Herber natives. They were a fine body of troops, and did good service both in Algeria and Europe. As now constituted, the Zouave regiment are almost exclusively French.

Zulus, a native African people occupying Zululand, now included in the colony of Natal. They are a brave race, and in a war with Great Britain in 1879 inflicted severe defeats upon our troops. The Zulu King, Cetewayo, was finally defeated and taken prisoner, and his country annexed.

Zymoscope, an instrument for testing the fermenting power in yeast, invented by Zeaseck.

PEARS' DICTIONARY
of
PROMINENT PEOPLE.



Pears' Dictionary of Prominent People Past and Present

A BIOGRAPHICAL DICTIONARY, GIVING PARTICULARS OF THE
LIVES AND LEADING ACHIEVEMENTS OF THE MOST DISTINGUISHED
MEN AND WOMEN OF ALL AGES AND COUNTRIES.

Abbas II., Khedive of Egypt (b. 1874), succeeded his father, Tewfik Pasha, 1892.

Abbey, E. A., R.A. (b. Philadelphia, U.S.A., 1852, d. 1912). Came to England 1878. A great painter and book illustrator, and a literary man of ability.

Abbot, George, Archbishop of Canterbury in 1611, and one of the translators of the authorised version of the Bible.

Abd-el-Kader, Emir of Mascara (b. 1807), of princely rank. Violently opposed French occupation of Algeria from 1830 to 1844. Made prisoner 1847, released 1852; d. at Damascus 1883.

Abdul-Aziz, Sultan of Turkey from 1861 to 1876.

Abdul-Hamid II., Ex-Sultan of Turkey (b. 1842), succeeded his brother 1876. Began his reign with proposals of reform, but after the Russo-Turkish War (1877-1878) assumed autocratic rule. Went to war with Greece in 1897, and was victorious. Conceded a constitution in 1898, but, becoming the tool of a reactionary movement, in April, 1909, was deposed by his brother and heir, Mohammed Reshid (q.v.), succeeding him.

Abdul-Medjid, Sultan of Turkey from 1839 to 1861.

Abdurrahman Khan (b. 1830), proclaimed Ameer of Afghanistan 1880; d. 1901.

A'Becket, Thomas, Archbishop of Canterbury under Henry II. (b. 1118). A powerful and ambitious prelate who boldly supported the authority of the Pope against the dictates of the King, and was assassinated in Canterbury Cathedral December 29th, 1170, being canonised two years later.

A'Beckett, Gilbert Abbott (1811-1856). Well known by his contributions to *Punch* and as the author of some comic histories. Was a London stipendiary magistrate.

Abel, Sir Frederick, Bart. (1827-1902). Became Professor of Chemistry at the Royal Military Academy in 1861, and in 1864 was appointed chemist to the War Department, holding that office until 1888. Joint inventor, with Prof. Dewar, of cordite.

Abelard, Peter (1079-1142), scholar, philosopher and theologian. The romantic attachment between him and Héloïse, mainly set forth in the Letters of the latter, has been more written about than perhaps any other love affair. Their remains now lie in one tomb at Père Lachaise, to which they were removed after the Revolution.

Abencerrages, a Moorish faction, prominent in Granada in the 15th century. The hall of the Abencerrages in the Alhambra is said to have been the scene of the massacre of this noted family by King Abu Hassam.

Aberconway, Lord (b. 1850), formerly the Rt. Hon. Sir Charles B. McLaren, largely interested in leading steel, coal, ship-building, granite and other industries, and from 1880 to 1911, when he was raised to the peerage, an active Liberal M.P.

Abercorn, Duke of (b. 1869), succeeded his father, the 2nd duke, 1913. M.P. for Londonderry, 1906-13. Treasurer to H.M.'s Household, 1903-05.

Abercrombie, James, a British general who led an expedition against the French in Canada in 1748, and suffered defeat by Montcalm at Ticonderoga.

Abercromby, Sir Ralph, an English general who gained a victory over the French at Alexandria in 1801, but died from wounds received in the battle.

Aberdeen, Rt. Hon. Geo. Hamilton Gordon, 4th Earl of (1784-1860). The distinguished statesman and Prime Minister, grandfather of the present Earl, was appointed British Ambassador-Extraordinary to Austria, and signed the preliminary treaty at Töplitz in 1813, and the next year the Treaty of Paris. Was Foreign Secretary under Wellington, and Colonial Secretary under Peel first, and then Foreign Minister for the five years from 1841 onwards, becoming Premier in 1852 and resigning in 1855, his Ministry being formed of a coalition between the Whigs and Peelites.

Aberdeen, Rt. Hon. Sir John Campbell Gordon, 7th Earl of (b. 1847), Lord-Lieutenant of Ireland January to July 1886, and also from 1905 to 1914. Governor-General of Canada (1893-1898). A prominent Liberal peer. The Countess of Aberdeen (b. 1857) is a leader among women Liberals, and an ardent advocate of social reform.

Abernethy, John (1764-1831), one of the most celebrated surgeons of his time, noted as much for his eccentric manners as for his professional skill.

About, Edmond F. V. (1828-1885) eminent French novelist and journalist.

Abraham, Rt. Hon. William, P.C., M.P. (b. 1841). Originally a working collier; since 1885 has been representative of the Rhondda Valley Div. in Parliament. President, S. Wales Miners' Federation.

Abruzzi, Duke of the (b. 1873), is the third son of Amadeo, Duke of Aosta, and has greatly distinguished himself by Arctic exploration. In 1899 he advanced nearer to the North Pole than any previous explorer had done, his expedition reaching 85 degrees 34 minutes N. latitude, or 20 minutes beyond Nansen's 1893-1896 achievement. Peary, the American explorer (q.v.), has, however, since eclipsed this record. In 1896, the Duke of the Abruzzi made the ascent of Mount St. Elias, Alaska; and in 1906 he conducted an expedition to Ruwenzori, the great mountain range in the heart of Africa.

Abt, Franz (1819-1885). A German composer of popular songs which acquired a world-wide reputation; d. at Wiesbaden. One of his best known songs is "When the Swallows Homeward Fly."

Acland, Francis Dyke, M.P. (b. 1874). Under-Secretary for Foreign Affairs since 1911, previously Financial Secretary to the War Office. Son of Rt. Hon. A. H. D. Acland. Represented N.-West Cornwall.

Acton, Lord, 1st Baron (1834-1902). Brought up in the Roman Catholic faith, and became celebrated for his historical studies and theological writings. In politics was an earnest supporter of Mr. Gladstone. Became Regius Professor of Modern History at Cambridge in 1895. Had a most extensive library, which was bought at his death by Mr. Andrew Carnegie, by whom it was presented to Mr. John Morley, who in turn gave the greater portion of it to Cambridge University.

Adams, John, succeeded Washington as President of the United States, and was the first of the Republic's ambassadors to England, d. 1846.

Adams, John Couch (1819-1892), an eminent English mathematician and astronomer. Co-discoverer with Leverrier of the planet Neptune.

Addison, Joseph (1673-1719). The son of an English clergyman, he achieved fame both as a writer and a politician. Held many offices under various statesmen, and was government and by his famous essays, first in the *Tatler*, and afterwards in the *Spectator*, made an undying name. His tragedy "Cato" was a brilliant success.

Adelaide, Queen (1792-1849). Princess of Saxe-Coburg-Meiningen, wife of the Duke of Clarence, afterwards King William IV. of England. Became Queen in 1830, and was Queen-Dowager from 1837 till her demise, her reignhood being spent in works of benevolence and charity.

Adler, Dr. Hermann (1830-1911). Chief Rabbi United Hebrew Congregations of British Empire from 1891 until his death. Was an active worker in all prominent Jewish movements.

Adey, General Sir John (1819-1900), entered the Royal Artillery 1836, made Captain ten years later, went through the Crimean War, where he achieved much distinction. Served in the Indian Mutiny, and remained in India until 1866. From 1870 to 1875 director of artillery at the War Office. K.C.B. 1873.

Æschines (380-314 B.C.). A great Athenian orator, contemporary and opponent of Demosthenes.

Æschylus, the father of the Greek tragic drama (450-325 B.C.). Composed seventy plays and gained the prize for dramatic excellence thirteen times.

Æsop (b. in Greece about 650, d. 544 B.C.). His fables are the most celebrated productions of the kind.

Æsio, F. G. (b. 1870). A well-known English writer on natural history and sport.

Agassiz, J. L. R. (1807-1873). Born in Switzerland, this noted naturalist became a student of and writer upon Ichthyological pursuits, his first great work being a history of the fresh-water fishes of Central Europe. Visited England in 1834. Appointed professor of Natural History at Neuchâtel in 1838. Went to America in 1846, and remained in that country up to his death, having occupied many important offices and done much good work for the extension of his favourite branch of study.

Agatha, St., a Sicilian virgin martyr who was put to death at Palermo, A.D. 251.

Agha Khan, Sultan Mahomed Shah (b. 1877), head of the Ismailiah Moslems, settled in British India. Created K.C.I.E. in 1897 and G.C.I.E. in 1902.

Agriicola, Gnaeus Julius (57-93 A.D.), became

Roman Consul of Britain 78 A.D. Strengthened the power of the Romans in this country, corrected many abuses, and did much to encourage trade and industry. Remained in Britain seven years.

Agrippa, Cornelius (140-153), soldier, diplomatist, and philosopher, achieved great eminence under the German Emperors Maximilian and Charles V. As a theologian he incurred the violent hatred of the Dominican monks; as a student of the occult he acquired the reputation of a magician.

Agrippa, Marcus Vipsanius (63-12 B.C.). At eighteen obtained important military appointments, and achieved such fame for his successes that he was chosen Ædile 33 B.C. He was the greatest military commander of Rome, after Julius Cæsar.

Agrippina (the Elder), daughter of Marcus Vipsanius Agrippa, wife of Germanicus, and mother of Caligula, was one of the most virtuous and heroic women of her time; remarkable for her bold defiance of the tyrant Tiberius. She died A.D. 33.

Agrippina (the Younger), daughter of the last named, and mother of Nero, was notorious for her abandoned licentiousness and perfidy. Claudius made her his consort in 48 A.D. Her career was one long course of intrigue and infamy. She was ultimately put to death by the order of Nero 60 A.D.

Aguinado, Emilio, a Philippine leader, who first commanded the native revolt against Spanish rule, and later opposed the United States forces, but after stubborn resistance was captured in March, 1902.

Ahmed Mirza, Shah of Persia (b. 1807), succeeded to the throne in 1909, on his father's abdication and flight, though not crowned until July, 1914.

Aidan, Saint, an early missionary who, in the 7th century, founded the monastery of Lindisfarne, and was known as the "Apostle of Northumbria."

Aida, Hamilton (1829-1905), painter, novelist and dramatist. Sometime an officer in the British Army; author of *Rita, Confidences*, and other clever novels; also of many poems, and of the plays of "Philip," and "A Nine Days' Wonder."

Aikin, Lucy (1782-1864), industrious and painstaking writer of historical and other studies, and niece of Mrs. Harbauld. Among her best known works are a *Life of Addison* and *Memoirs of the Court of Queen Elizabeth*.

Ainsworth, William Harrison (1805-1882). Between 1834 and 1850 his novels had considerable vogue. The best known are *Jack Sheppard*, *The Tower of London*, *Guy Fawkes*, and *Windward Castle*.

Aird, Sir John, Bart. (1832-1911), a contracting engineer of eminence, associated with the carrying out of many great undertakings in different parts of the world, the wonderful Assouan Dam, on the Nile, being one of his most remarkable achievements. Was M.P. for North Paddington, 1887-1905.

Airdale, Lord (1830-1911), was head of the well-known firm of Kitson & Co., of Leeds, locomotive builders, iron and steel manufacturers, and engineers. A prominent Liberal, who, as Sir James Kitson, Bart., sat in the House of Commons for many years as member for the Colne Division. Was a personal friend of Mr. W. E. Gladstone. Made baronet in 1886, and raised to the peerage in 1907.

Airy, Sir George (1817-1881), for many years astronomer royal, and the first to demonstrate the theory of the rainbow.

Akbar the Great, Mogul emperor from 1556-1605, and a monarch of great enlightenment and power.

A Kempis, Thomas (See Kempis).

Akenside, Mark (1721-1770), the son of a butcher of Newcastle-on-Tyne, a poet of some note in his day, whose "Pleasures of the Imagination" is still read. He was also a physician, and practised first in Northampton and then in London.

Alexander Douglas (See Chisholm Viscount).

Alaric, the famous chief who led the Visigoths against the Romans, and afterwards invaded both Greece and Italy. He took Rome in 410, died the following year, and was buried with a vast treasure in the bed of the River Busento, and so that the Romans might not discover his remains, the slaves who buried him were put to death.

Alban, St., who flourished in the latter part of the

3rd century, was born at Verulamium (where St. Albans now stands) and served as a soldier under Diocletian at Rome. Later he was converted to Christianity, and was for a time a renowned preacher of that religion, finally suffering martyrdom. Of a king of the Mericans, built a monastery to his memory near Verulamium, four or five hundred years later. St. Alban's Day in the Calendar of the Roman Church is June 22nd, and in that of the Anglican Church June 17th.

Albani, Madame, b. 1852, near Montreal. Made her first appearance on the lyric stage in England at Covent Garden in 1872. Married Mr. Ernest Gye in 1876, was for many years a leading prima donna, achieving great celebrity as *Isa* in "Lohengrin." As a concert room singer also reached high rank.

Albemarle, Duke of. (See Monk.)

Alberoni, Cardinal (1664-1752), minister of Philip of Spain, was an Italian of humble birth. For some years he exercised great influence. His object was to restore to Spain her ancient power, but he was too reckless in the conduct of foreign affairs to succeed. Plunging into war with Austria, he found himself confronted with the Quadruple Alliance—Austria, England, Holland, and France—and his plans were defeated. He was banished from Spain and died in his native town of Piacenza, leaving great wealth.

Albert, Prince Francis Augustus Charles Emmanuel, Consort of Queen Victoria (1819-1861). On his marriage with the Queen in 1840 Parliament granted him an income of £30,000 a year. The Prince adapted himself with considerable success to the difficulties of his position, and gradually secured the confidence and esteem of statesmen and public alike. He devoted himself to artistic pursuits and greatly interested himself in Science and Industry. The Great Exhibition of 1851 owed much of its success, if not its origin, to his efforts. The title of Prince Consort was conferred upon him in 1857. He was attacked by typhoid fever in December, 1861, and died after a very short illness. The Albert Memorial in Hyde Park forms a splendid national tribute to his memory.

Albertus Magnus (1193- some authorities say 1205-1280) was a distinguished German philosopher, and voluminous writer on the occult sciences. Bishop of Ratisbon from 1260. His dabblings in alchemy and astrology gained him wide notoriety.

Alcaeus, a Greek lyric poet of the 7th century B.C.

Alcester, Baron Frederick Seymour (1827-1895), commanded the British fleet that successfully bombarded Alexandria in 1882.

Alciades (b. circa 450 B.C., treacherously killed in battle at Melissa, Phrygia, B.C. 404), the celebrated Athenian statesman and general, pupil and friend of Socrates. Handsome, talented, capricious, and imperious; he sided with the Spartans after reaching distrust in Athens. Later he went over to the Persians, but soon returned to the Athenian army, winning brilliant battles against the Peloponnesians and Persians, but suffering defeat at Andros.

Alcuin (735-804) was an ecclesiastic and writer of much prominence. He sustained successive important offices in the English Church, and later went to France on the invitation of the Emperor Charlemagne, from whom he enjoyed much favour. His last years were passed at Tours, in the Abbey of St. Martin. The writings he left behind him were mainly theological and historical, and he is generally credited with the composition of the famous "Zarling's Books," which bear the name of Charlemagne.

Aldhelm, St., an English missionary and scholar of the 7th century, who was successively Abbot of Malmesbury and Bishop of Sherborne.

Aldred, a powerful ecclesiastic of the 11th century in great favour with the Conqueror, whom he crowned. Was Bishop of Worcester (1044-1060), and Archbishop of York (1060-69).

Alexander, Sir George (b. 1828); well known as an actor manager; made his first appearance in 1879 at Nottingham. In 188x was engaged by Irving, and for some years held a prominent position in the Lyceum company. In 1891 became manager of the

St. James's Theatre in London, achieving many successes. Elected a member of the London County Council, 1907. Knighted, 1911.

Alexander I. of Russia (1777-1825) succeeded his father, Paul I., and played an active part in the Napoleonic wars, joining the coalition against him in 1805 and again in 1812, and often taking active part in the military movements.

Alexander II. of Russia (1818-1881), succeeded his father, the Emperor Nicolas, in 1855. In 1861 he emancipated 23 millions of serfs. On March 13, 1881, was assassinated by bombs thrown beneath his carriage in St. Petersburg by Nihilists.

Alexander I. of Serbia (1876-1903), was the son of King Milan and succeeded his father on the latter's abdication in 1880, the rule of the country being carried on under a Regency until 1893. Alexander and his Queen Draga were both assassinated by military revolutionaries in 1903.

Alexander the Great (356-323 B.C.), King of Macedon, succeeded his father Philip in 336 B.C., and from the first showed himself fitted for mighty military exploits. He conquered in turn the Thians, the Persian Satraps, overthrew Darius, overran Syria and Phœnicia, possessed himself of all the cities along the shores of the Mediterranean, conquered Egypt, and founded Alexandria, and finally retired upon Babylon, intent on building up an Empire of which that ancient city should be the capital, but died eleven days later.

Alexandra, Queen (b. 1844), d. of Chris IX. of Denmark, married to the Prince of Wales (afterwards Edward VII.) on March 10, 1863. Queen from Jan. 22, 1901, to May 6, 1910.

Alexeff, Admiral (b. 1814), was Viceroy of the Russian Dominions in the Far East at the outbreak of the Russo-Japanese War in 1904.

Alfieri, Count Vittorio, the Italian poet (1749-1803), was the author of twenty-one tragedies and six comedies, and did much to revive the greatness of the Italian tragic drama.

Alfonso the Wise (1222-1284), a celebrated King of Leon and Castile, founder of the legal code which became the basis of Spanish jurisprudence, a liberal patron of literature and science, particularly of astronomy; dethroned by his son Sancho in 1282.

Alford, Henry (1809-1871), an eminent theologian and writer, Dean of Canterbury, and the first editor of the *Contemporary Review*.

Alfred the Great (849-901), succeeded his father, Ethelwulf, king of the West Saxons, at the age of twenty-two, and found himself in conflict with the Danes from the outset. After six years of unsuccessful effort he took refuge in the Isle of Athelney, but the following year was able to attack the Danes in great force at Edington (Eighthand), and was completely victorious. Subsequently he had some years of peace, and during that time did much to lay the foundations of the country's future greatness. Later, the Danes again invaded the country, and the rest of Alfred's reign was occupied in conflict. Alfred died at the age of fifty-two, after a reign of thirty years, and was buried at Winchester. He codified the laws, and gave England her first fleet.

Allison, Sir Archibald (1792-1869), was the author of a voluminous *History of Europe* from 1789 to 1815—a vast storehouse of facts rather ponderously handled—and of a continuation, to Napoleon III.

Albutt, Sir Thomas Clifford, K.C.B., Regius Prof. of Physic, Cambridge Univ., since 1892 (b. 1861). Inventor of the Short Clinical Thermometer and author of numerous works on medicine and surgery.

Allen, Charles Grant (1848-1899), a popular writer and novelist possessing a wide range of subjects, writing equally well on science, literature, and art, and achieving quite in the field of fiction.

Allerton (Rt. Hon. W. Lawrie Jackson), 1st Baron (b. 1840) was for many years successfully engaged in the leather trade at Leeds; entered Parliament, was Financial Secretary to the Treasury for several years, and Chief Secretary for Ireland in 1891-1892. An active and distinguished Chairman of the Great Northern Railway Company, he was raised to the peerage for his political services in

King Edward VII.'s Coronation year. Father of F. S. Jackson, the cricketer.

Alleyne, Edward (1565-1626), a famous actor, contemporary of Shakespeare and founder of Dulwich College.

Alma-Tadema, Sir Lawrence, R.A. (1836-1922), the son of a Netherlands notary, was educated at Antwerp, and came to England in 1869, where he soon made a name for himself as a painter of classical pictures of great beauty of colour and delicate design. He was elected R.A. in 1878. Knighted in 1892, and was a member of the Order of Merit. An exhibition of his works was held in 1913.

Alured (or Alfred) of Beverley was one of the early English historians, and flourished in the 12th century. His history of England was written in Latin, and covers the (chiefly fabulous) chronicles of the period from the Roman occupation to Henry I. It remained in MS. until 1716.

Alverstone, Baron Sir Richard Webster (b. 1842); educated at Charterhouse and Trinity College. Admitted to the Bar 1874, made Q.C. 1878, elected M.P. for Launceston in 1885, and became Attorney-General the same year; was re-appointed Attorney-General in 1891, and again in 1895. Master of the Rolls in 1902, in which year he was made a peer and Lord Chief Justice. Resigned 1913.

Ambrose, Saint, Bishop of Milan in the reign of Theodosius, whom he lured from the Church because of his massacre of the Thessalonians.

Amerigo Vesputi (1452-1512), an Italian navigator who made important voyages of discovery. In 1499 he reached America and explored the coast line for some hundred leagues, returning to Spain the same year. It was unknown to him that Columbus had landed in America the year before; that discovery being kept a State secret, so that Vesputi's narrative was the first information publicly given of the discovery of the continent.

Amery, Leopold C. M. S., M.P. (b. 1873); son of C. F. Amery, of the Indian Forest Department—born at Gorakhpur, educated at Harrow and Oxford. On Times staff since 1899, edited the *Times History of the War in S. Africa*, 1899-1900.

Amherst, General (1717-1797), won distinction in the conquest of Canada in association with Wolfe.

Ampère, André Marie (1775-1834), a celebrated French mathematician who devoted himself successfully to the study of electricity and magnetism, and was the first to propound the electro-dynamic theory.

Amphill, Baron (b. 1810), was private secretary to Mr. Chamberlain for some years, and in 1900 was appointed Governor of Madras. Became Viceroy and Acting Governor-General of India in 1904-1905 during Lord Curzon's absence. Son of the first Lord Amphill, ambassador to Germany.

Amundsen, Roald (b. 1873), Norwegian explorer, after graduating at Christiania University went to sea in sealing and whaling ships to gain polar experience, and in 1897 was a member of the Gerlach expedition. In 1906 navigated the North-west passage; in 1911 set out ahead of Captain Scott on a South polar quest, and early in 1912 the news came that he had succeeded in reaching the South Pole.

Anacreon (580-475 B.C.), the celebrated Greek poet whose Odes hold a high place in poetic literature.

Anaxagoras (500-428 B.C.) was a famous Greek philosopher of the Ionic School, among whose pupils were Socrates, Pericles, and Euripides.

Anaximander, a celebrated Greek philosopher (610-547 B.C.). He is said to have been the first to note the obliquity of the ecliptic, invented geographical maps, and laid down the theory that the moon shone with light borrowed from the sun.

Anaximenes, a Greek philosopher of the Ionic school, flourished 6th century B.C.; friend of Anaximander; regarded air as the principle of things.

Anaximenes (for Leontaeus), son of Aristotle (lived in 4th century B.C.); rhetorician, historian, and companion of Alexander the Great.

Andersen, Hans Christian (1805-1875). Perhaps the most gifted writer of fairy tales that the world has known. His *Tales for Children*, the *Wild*

Swans, *The Improvisatore*, and *The Ice-Maiden* are the daintiest productions in that class of literature; and his *Story of my Life* is as interesting as his fairy tales. Born and died in Denmark.

Anderson, Elizabeth Garrett (b. 1836), one of the first Englishwomen to enter the medical profession. Practised in London for many years. In 1900-10 was Mayoress of Aldeburgh, her native town.

Anderson, Mary (b. 1859) of Anglo-German parentage and Californian nativity, was for some years an actress of celebrity, appearing in America and England with great success. Retired from the stage in 1889 on marrying Mr. Antonio de Navarro.

Andrassy (1823-1890), a prominent Hungarian statesman, who, after being in exile from 1848 to 1851, was advanced to a leading position and was Prime Minister in 1867.

André, John (1751-1780) was an English officer who, while engaged on the British side in the American War of Independence, was arrested as a spy by Washington, tried by court-martial, and executed.

It is generally believed wrongfully, from a misapprehension of the facts. Washington himself declared André to be more unforlunately than a spy. In 1821 André's remains were brought from America and interred in Westminster Abbey.

Andrea del Sarto (1480-1531). This celebrated son of a Florentine tailor was one of the great Italian artists of his time, known as the "faultless painter." Most of the famous galleries of the world contain examples of his magnificent fresco and other painting, mainly dealing with religious subjects.

Andrée, Salomon August, a Swedish explorer who attempted in 1807 to reach the North Pole by balloon, but, except for a message by pigeon despatched two days after his ascent, was never heard of again.

Andrews, Lancelot (1525-1626), a distinguished English prelate who was first Bishop of Ely, Chichester, and Winchester, and one of the translators of the authorised version of the Bible.

Angelico, Fra (1391-1442), a famous Italian painter of religious subjects, mostly in the form of frescoes, of which the best examples are at Florence.

Angelo, Michael. (See Michael-Angelo.)

Anglesey (Henry Paget), first Marquis of (1768-1854), a celebrated British general, who led the cavalry at Waterloo and achieved much distinction by his tact and bravery.

Anne Boleyn. (See Boleyn, Anne.)

Anne, Queen (1604-1714), Queen of Great Britain and Ireland from 1702 to the time of her death, was a daughter of James II., and succeeded William III., her cousin. During her reign, England, in alliance with Austria, Holland, Prussia, Savoy and Portugal, entered upon the War of the Spanish Succession. It was in this war that Marlborough achieved his great victories, and his wife, Sarah, for a long time was Anne's favourite, and wielded an immense influence at Court, the Queen being too weak in self-reliance to take much interest in her own affairs. Anne's reign has been called the Augustan Age of Britain because of the many eminent men of letters who flourished during that period. She was the last of the Stuarts to occupy the British throne, and the first monarch to be styled Sovereign of Great Britain, the union between Great Britain and Scotland dating from 1707. Anne was married to Prince George of Denmark, and their numerous progeny all died in childhood.

Anselm, Archbishop of Canterbury (1033-1109), was a native of Aosta, and succeeded Lanfranc as English Primate. He was in serious conflict with William Rufus on the question of ecclesiastical rights, and for a time suffered exile. Under Henry I. he regained power, making a compromise with that monarch which enabled him to carry on his theological work in comparative harmony. He died at Canterbury, and was canonised later, his day being celebrated in the Roman Church on April 21st.

Anson, Lord George (1693-1761), a navigator of great eminence, whose "Voyage Round the World" is still a popular book of adventure. He won many victories, obtained a peerage, rose to full Admiral's

rank in the Navy, and served two terms as First Lord of the Admiralty.

Anson, Sir Wm. R., Bart., P.C., M.P. (1733-1794). Represented Oxford University in Parliament from 1781, was Parliamentary Secretary to the Board of Education, 1792-1795, and is the author of books on the Law of Contract and Constitutional Law.

Anstey, Christopher (1724-1805), was a poet and wit of repute, whose "New Bath Guide"—in which the fashionable frequenters of Bath, their habits and surroundings, were depicted with much shrewd humour—was a great success.

Antonelli, Cardinal (1806-1876), was the first Premier of the first Constitutional Ministry of Pius IX. In the long trouble between the Pope and the French, and during the Garibaldian campaign, he had a very difficult part to play, but he displayed considerable diplomatic power, and it was he who wrote requesting the Italians to occupy Rome.

Antoninus Pius, Emperor of Rome from A.D. 138 to 161, was the successor of Hadrian, and formed an agreeable contrast to most of the Roman Emperors, in that he endeavoured to govern more with an eye to the public well-being than his own personal pleasure. It was during his reign that the wall between the North and Clyde was built.

Antony, Mark (circa 83-30 B.C.), celebrated Roman triumvir and general; a prominent adherent of Caesar; but engaged in intrigues after the latter's death, and was opposed by Brutus and Cassius. His association with the Egyptian Queen Cleopatra made him a prominent figure of historic romance. Committed suicide after defeat by Octavian.

Antony, St. (or Anthony) (circa 251-356), was a native of Upper Egypt, and according to his own account spent much time in conflict with the devil. He is one of the best known saints of the Roman calendar, and his festival is on January 17th. He was believed to give relief to those who appealed to him when suffering from erysipelas, from which tradition the name St. Anthony's Fire is given to the disease.

Apelles, the famous Greek painter, flourished in the time of Alexander the Great, whose friendship he enjoyed. His "Aphrodite Anadyomene," painted for the temple of Asclepius in Cos, has been accounted the most perfect picture of antiquity.

Aquinas, Thomas (1225-1274), the "Father of Moral Philosophy," was a native of Southern Italy and came of a noble family. In 1243 he joined the Dominicans, and the remainder of his life was spent in religious pilgrimages and disputations. In 1263 he visited London. He left behind him numerous theological and philosophical writings of great power. He was canonised in 1323.

Arabi Pasha (1839-1911), was the leader of the Egyptian rebellion of 1881, and defended Alexandria against the British fleet. Later he suffered defeat and was captured at Tel-el-Kebir, was banished to Ceylon, but released in 1907.

Arago, François Jean Dominique (1786-1853), a French astronomer and natural philosopher of great eminence, whose researches added much to our knowledge of electricity and magnetism. His expositions of the polarisation of light did much to advance that branch of science. In the field of astronomy he also achieved much distinction. He was awarded the Copley Medal of the British Royal Society. Arago was an ardent Republican, and was made a member of the Provisional Government after the Revolution of 1848, becoming Minister of War and Marine. On the accession of Louis Napoleon he refused to take the oath of allegiance.

Aram, Eugene (1704-1759), was a schoolmaster of considerable learning, and lived at Knaresborough, in Yorkshire, from 1734 to 1745, in which latter year a friend of his, one Daniel Clark, suddenly disappeared. Soon after, Aram also quitted Knaresborough. In 1759, while Aram was teaching in a school at Lynn, a skeleton was discovered at Knaresborough, and it was declared to be that of Daniel Clark. This was denied by a man named Houseman in such a manner as to cause suspicion to fall upon him, and he was arrested, whereupon he

confessed that Clark had been murdered in his presence by Aram, and that his body would be found in St. Robert's Caves. Search disclosed the actual skeleton, and Aram was also arrested, tried at York, found guilty, and executed. His defence was powerful and eloquent, but availed him nothing. Lord Lytton's novel, *Eugene Aram*, and Toni Hood's dramatic poem, *The Dream of Eugene Aram*, effectively deal with the romantic story.

Arbuthnot, John (1667-1735), a prominent wit, doctor, and littérateur of the Queen Anne period. His *History of John Bull* is his best known work.

Arch, Joseph (b. 1826), the founder of the National Agricultural Union, was for many years an agricultural labourer, and championed the cause of his class with great ability. Sat for some years as M.P. for N.W. Norfolk, finally retiring in 1900.

Archer, Fred (1857-1886), a favourite jockey for several years, winner of many leading races, his first Derby falling to him in 1877.

Archer, William (b. 1850), educated at Edinburgh University, and settled in London in 1878, acting as dramatic critic of the *London Figaro* from 1879 to 1881. From 1881 to 1905 dramatic critic of *The Herald*, now of the *Spectator*, and has published many volumes on dramatic matters. The first to make Ibsen known to the British public.

Archimedes (287-212 B.C.), a Greek geometrician and philosopher of remarkable power, to whom we are indebted for the discovery of the principles of the lever and of specific gravity, and for the invention of the famous archimedean screw.

Ardlau, Baron (1840-1915), the head of the Guinness family of Dublin, and owner of the Muckross Abbey Estate, Kilmaree, was M.P. for Dublin 1868-1869 and 1874-1880, created baronet in 1868, and raised to the peerage in 1880.

Argand, Aime (1733-1803), inventor of the lamp bearing his name, which for the first time introduced a current of air to penetrate and increase the power of the flame, by using a chimney glass and circular wick. He was a Swiss physician.

Argyll, Duke of (1845-1914), married H.R.H. Princess Louise in 1871; was for some time (as Marquess of Lorne) M.P.; Governor-Gen. of Canada from 1878 to 1883; Gov. of Windsor Castle, 1897-1901. Wrote a *Life of Palmerston*. Succeeded his father in 1901.

Argyll (George Douglas Campbell), Duke of (1823-1900), a prominent statesman, scientist, and writer, and a member of several Liberal Governments, down to 1881, when he declined to follow Mr. Gladstone on the Home Rule question. His books *The Reign of Law* and *The Philosophy of Belief* rank high amongst books of their class.

Argyll, Marquis of (Archibald Campbell) (1598-1661), was a strong supporter of Charles I. in the Civil War, and opposed Cromwell to the last, but his open support of the Covenanters and other acts caused him to be impeached in 1661, when he was found guilty and executed.

Ariosto, Ludovico (1474-1533), the author of *Orlando Furioso*, was one of the most celebrated of the Italian poets. In addition to his famous epic he wrote many comedies, satires and poems.

Aristeides (or Aristides), a Greek writer, and founder of the school of prose romance; flourished in the 2nd century B.C. His *Mæstian Tales* are among the most celebrated works of fiction.

Aristides, the Athenian general, was of noble descent, and first achieved fame at the battle of Marathon, 490 B.C. He was renowned not less for his valour than for his scrupulous honesty and a desire to do justice to others; hence he was surnamed "the Just." He took part in many campaigns and missions, was sometimes high in favour, at other times suffered banishment, but he never swerved from the path of duty.

Aristippus (344-335 B.C.) founded the Cyrenaic school of philosophy, which taught that sensual pleasure was the only happiness. He was a native of Cyrene, in Africa, but became a pupil of Socrates, and settled in Athens.

Aristophanes (448-380 B.C.) was one of the

foremost Athenian play-writers and the greatest of the Greek comic poets. He is said to have composed fifty-four plays in all. Eleven of these only have survived. They are full of satire, and deal unsparingly with the people and institutions of his time.

Aristotle (384-322 B.C.). This, the most famous of all the Greek philosophers, was a disciple of Plato, after whose death he retired from Athens, and later on undertook the education of Alexander, afterwards known as Alexander the Great. Subsequently at Athens he established the Lyceum and founded the Peripatetic school of philosophy, which has had great influence upon the expansion of thought.

Arkwright, Sir Richard (1732-1792), was a native of Preston, and in early life a barber and travelling hairdresser. Becoming interested in mechanical problems, he set himself the task of inventing an improved cotton-spinning machine. Hargreave's spinning-jenny was then the leading machine, but the yarn it produced could only be used for warp; it was not compact enough for weft. Arkwright therefore experimented until, by adopting an arrangement of rollers that moved with different velocities, he succeeded in perfecting his 'spinning-frame,' which accomplished the desired end. He took out his first patent in 1769, and, entering into partnership with Mr. Jedediah Strutt, of Derby, became a manufacturer on a large scale, in 1771 establishing the first spinning-mill worked by water-power. He was knighted in 1786.

Armstrong, Edward (1817-1896), a well-known R.A. and historical painter, who contributed some of the frescoes in the Houses of Parliament, and achieved a considerable reputation as a painter of battle scenes.

Armstrong, H. E. (1828-1908), one of the most distinguished of modern British sculptors, was the sculptor of the south and east sides of the podium of the Albert Memorial, of external decorative work at the Colonial Offices, and a vast number of other works in marble, wood, bronze, and silver. Was elected R.A. in 1879.

Armstrong, Lord (1810-1900), was a solicitor at Newcastle, when his attention was drawn to certain mechanical problems, and he devoted himself to the invention of the hydraulic crane and other machinery for the better utilisation of water power. During the Crimean War he studied the subject of guns, and produced his famous "Armstrong gun," the biggest that had up to that time been constructed. He introduced many improvements in gun construction, and in 1859 was appointed engineer of Rifle and Ordnance, and received the honour of knighthood. Later his immense works at Elswick became the chief establishment in this country for the manufacture of guns and ships of war. He was raised to the peerage in 1887.

Arns, Dr. J. A. (1770-1778), an English musical composer of considerable merit, and of great popularity in his day. He composed numerous ballad operas, and at Drury Lane, Covent Garden, and Vauxhall organised the chief performances for long periods. His best known opera was "Artaxerxes," and his most popular songs were "Rule, Britannia!" and "Where the Bee Sucks."

Arnold, Sir Edwin (1832-1904), educated at University College, Oxford, where he gained the Newdigate Prize in 1852; was at the Government Sanskrit College, Poona, for some years, and, returning to England in 1861, became connected with the *Daily Telegraph's* editorial staff. He was the author of the "Light of Asia" and numerous other poems, and wrote several books of travel that were very popular. Created K.C.I.E.

Arnold, Matthew (1822-1888), son of Dr. Thomas Arnold, achieved a high reputation as poet and critic. In 1857 he was appointed Professor of Poetry at Oxford, where in 1843 he had won the Newdigate Prize, and in 1845 had been elected Fellow of Oriel. For some years filled the position of Government Inspector of Education. As the propounder of the principles of "sweetness and light," as well as by his graceful verse, he secured a high place amongst the literary men of the Victorian era.

Arnold, Thomas, D.D. (1795-1842), headmaster of Rugby from 1828 to his death. His influence at Rugby was such as to give that institution a supreme position among English public schools. A man of intense spiritual feeling, of a sympathetic and lovable nature, yet possessed of all the necessary attributes of scholarship, he was greatly esteemed and venerated. His "Lectures on Modern History," delivered at Oxford, were of great merit, and were subsequently published. He was the author also of a History of Rome.

Arnold-Forster, The Rt. Hon. H. O., M.P. (1855-1909), grandson of Dr. Arnold, and adopted son of the late Rt. Hon. W. E. Forster, was educated at Rugby and Oxford, and for some years was a director of Cassell & Co., Ltd. Was elected for West Belfast in 1902, and from the first showed a keen interest in the public services. Was appointed Parliamentary Secretary to the Admiralty in Mr. Balfour's Ministry in 1900, and became Secretary for War in 1903. Was the author of numerous works bearing on public questions. In 1907 published *Letters on Socialism*.

Arnott, Nell (1788-1874), was a native of Arbroath, and, after studying at Aberdeen, settled in London and acquired fame as a doctor and practical scientist. He was a prolific writer on Natural Science, and invented many useful appliances.

Arrol, Sir William (1830-1913), the well-known contractor and engineer, whose firm built the Tay, Forth, and London Tower Bridges. Originally a pleicer in a cotton-mill, and later a working blacksmith. He was knighted in 1890, and represented South Ayrshire from 1895 to 1906, as a Liberal Unionist, retiring at the latter date from Parliamentary life.

Artaxerxes was the name borne by several ancient Persian kings, some of whom achieved great distinction. The first Artaxerxes was the son of Xerxes, and reigned from 465 B.C. for 40 years; he was succeeded by the second Artaxerxes, who was the son of Darius II., and reigned 45 years. The last to bear the name of Artaxerxes was the founder of the Sassanid dynasty, A.D. 223.

Artemus Ward. (See *Brown, C. F.*)

Arthur, a famous British chieftain and supposed king, who is stated to have flourished in the 6th century, and around whose life many beautiful legends have been written, including Lord Tennyson's "Idylls of the King."

Arundel, Thomas, Archbishop of Canterbury, in the reigns of Richard II. and Henry II., previously Bishop of Ely and Archbishop of York, and for a time Lord Chancellor. An active politician and bitter enemy of heresy.

Ashbourne, Baron (1837-1913), a prominent political lawyer, who was Lord Chancellor of Ireland in four Conservative Governments.

Ashmole, Elias (1673-1693), founder of the Ashmolean Museum, Oxford, was a noted antiquary and astrologer, and a native of Lichfield.

Aske, Robert, the leader of the Pilgrimage of Grace, directed against the Reformation, was a man of power, and might have been a serious danger to Henry VIII., had he not accepted the king's pardon for himself and followers. Advantage was taken of his later rising, in which he had no share, to secure his arrest and execution in 1537.

Askew, Anne (1521-1546), was one of the Protestant martyrs who were burned at the stake with three others in Smithfield. She was a Lincolnshire lady who clung to the Protestant faith, despite the fact that her husband and father were avowed Romanists.

Askwith, Sir George Ranken, K.C.B. (b. 1861), appointed in 1911 Comptroller-General of the Commercial, Labour, and Statistical Departments of the Board of Trade, having been for some years previously engaged in arranging important trade, railway, shipping, and other disputes.

Assaia, an Ionian woman of great intellectual power, beauty, and influence, the companion of Pericles, was born at Miletus, but went to Athens and there became distinguished.

Asquith, The Right Hon. H. H., K.C., M.P. for East Fife since 1880 (b. 1852 at Morley in Yorkshire), Prime Minister and First Lord of the Treasury since 1908, was educated at the City of London School and Balliol College, Oxford; afterwards called to the Bar, entered Parliament in 1886 and in 1892 appointed Home Secretary, Chancellor of the Exchequer 1905-8. His Premiership has been marked by a strong forward policy, of which the Parliament Bill abolishing the veto of the Lords, the Home Rule Bill, and the Welsh Church Bill are prominent examples. Assumed in addition to the Premiership the post of War Minister on the resignation of Col. Seely, March, 1914, relinquishing it to Lord Kitchener on the outbreak of war in the following August.

Asser, John, a Welsh monk of the 10th century, noted for having been tutor, friend and biographer of King Alfred. He was made bishop of Sherborne.

Astbury, Samuel (1648-1743), was the uncle of Josiah Wedgwood, and towards the middle of the 18th century made great improvements in the pottery manufacture at Burslem.

Astor, John Jacob (1763-1843), the founder of the Astor family of millionaires, was a native of Heidelberg, and emigrating to America went out to the North-West, where, being trading in furs, soon building up a large fortune which he wisely invested in New York real estate, which rapidly increased in value, enabling him to leave his son William £1,000,000, and £70,000 for the founding of a public library.

Astor, Hon. William Waldorf (b. 1848), is the son of the second John Jacob Astor, the American millionaire, but for many years has resided in this country, and become a naturalised British subject. He is the author of several novels including *Soyez and Pharaoh's Daughter*, and for many years has owned the *Daily Mail Gazette*. From 1882 to 1885 was United States Minister to Italy. Has given £20,000 to Oxford University.

Athanasius, St. (296-373), was Bishop of Alexandria and Primate of Egypt. He spent much of his time in bitter theological controversy, and was condemned several times for his opinions, and finally driven from Alexandria; taking refuge in a desert, he wrote numerous letters in support of Christian doctrine, and under Emperor Julian was recalled to Alexandria. The Athanasian Creed is supposed to reflect his belief, but was probably not written by him.

Athelstan (895-940), grandson of Alfred the Great, was crowned King of England in 925, and was the first ruler of all England.

Atterbury, Francis (1662-1739), a noted churchman and Jacobite, who for refusing to sign the declaration of allegiance to George I. and other acts was condemned to perpetual banishment.

Attila (406-453), King of the Huns, was a warlike leader, who achieved many conquests over the Roman forces, committing great ravages and laying large tracts of country waste. He marched through Germany and Gaul, and died as he was preparing for another invasion of Italy.

Auber, D. F. E. (1782-1871), was a distinguished French composer of light operas. Many of his works are still performed, such as "Masaniello," "Fra Diavolo," "Le Domino Noir," and "Les Diamants de la Couronne," etc.

Audley, Thomas, Lord Chancellor of England, temp. Henry VIII. Previously Speaker of the House of Commons (1559), and Lord Keeper (1559) in succession to Sir Thomas More.

Audubon, John James (1781-1851), was an artist and ornithologist of great ability, who published the *Birds of America*, as the result of fifteen years' enthusiastic labour. It is a colossal work of ten volumes, in which all the figures are depicted life-size.

Augustine (354-430) was Bishop of Hippo for over thirty years. He was born in Africa, but went to Rome, and under the influence of St. Ambrose became deeply religious, writing much on doctrinal subjects, and his works are held in great esteem.

Augustine, St., was the missionary monk who was sent to Britain by Gregory the Great in 597. He succeeded in converting King Ethelbert, after which

he made good progress with the people generally, and became the first Archbishop of Canterbury. He died in 604.

Augustus, Gaius Octavianus (63 B.C.-14 A.D.), was the first Emperor of Rome, succeeded Julius Caesar. After a triumvirate of twelve years, in which he was associated with Mark Antony and Lepidus, he became supreme ruler and for forty-five years exercised a beneficent and powerful sway. He was a devoted patron of Horace and Virgil. The Augustan Age is still held among the most memorable in the history of letters.

Aurelian, Lucius Claudius Domitius (212-275), a distinguished general under Claudius II., whom he succeeded as Emperor. Originally a private soldier, he rose to the highest possible position, and was called the "Restorer of the Roman Empire."

Aurelius, Marcus Antoninus (121-180), Emperor of Rome, a man of great intellectual power, and a disciple of the Stoics. He died while attempting to suppress a rebellion fomented by his wife, Faustina.

Aurangzeb, the last of the Great Moguls, Emperors of Hindustan; succeeded his father Shah Jehan in 1658 and reigned until his death in 1707. He was a ruler of ability, and greatly extended his empire by conquest, but his zeal for Mohammedanism aroused the hatred of the Hindus, and when he died the disruption of the vast Mogul territory followed rapidly.

Austen, Jane (1775-1817), an English novelist regarded by many as the ablest female fiction writer that England has produced. Lord Macaulay, Scott, and other critics have awarded her works the highest possible praise.

Austin, Alfred (1835-1913), Poet Laureate, was educated at London University, and in 1864 published a satire called *The Season*, which contained some vigorous verses of undoubted vigour. For some years he was connected with *The Standard* as leader writer, and also wrote for the *Quarterly Review*. Between 1870 and his death some half-dozen volumes of poems were issued by him, all displaying a deep love of nature, and no little of the true poetic feeling. He was appointed Laureate in 1866, after the office had been vacant four years.

Autolycus, a Greek astronomer of the 4th century, B.C., whose writings on the fixed stars and the revolving sphere were valuable contributions to astronomical science.

Avebury, Rt. Hon. Lord (1834-1913), banker, scientist, and politician. Best known to the world under the name he bore until 1900 of Sir John Lubbock. His writings cover a considerable field, and are marked by a keen observation of natural phenomena, and animal and vegetable life, and his style is at once sympathetic and lucid. As a member of the House of Commons he was identified with several important legislative measures, and had the credit of securing the statutory observance of Bank Holidays.

Aytoun, William Edmonstone (1813-1865), collaborated with Sir Theodore Martin in the "Bon Gaultier" Ballads, and was the author of "Lays of the Scottish Cavaliers." He was a native of Edinburgh.

B

Babbage, Charles, eminent mathematician (1791-1871). Was Professor of Mathematics at the University of Cambridge, and attracted much attention by inventing a calculating machine, which, however, only partially realised its designer's aims, and never came into use. His works on *Logarithms* and *On the Economy of Manufactures and Machinery* were highly valued, and his autobiographical *Passages from the Life of a Philosopher* contains much that is interesting.

Baber (1483-1530), founder of the Mogul dynasty which ruled Northern India for three centuries, and a descendant of Tamerlane.

Babington, Anthony, a Derbyshire Roman Catholic who headed a conspiracy against the life of

Queen Elizabeth, and was arrested and executed at Tyburn in 1586.

Bach, Johann Sebastian (1685-1750), one of Germany's greatest musical composers, his "Passion Music," "Preludes and Fugues," and other compositions being unrivalled in their class.

Bacon, Francis, Lord Verulam, and Viscount St. Albans (1561-1626), was one of the greatest of English philosophers and statesmen, who was Attorney-General to Elizabeth, and under James I. became Lord Chancellor. His political career was tarnished by certain acts of corruption, for which he paid the penalty, but his writings were marked by keen insight, brilliancy of language, and a depth of thought which place them in the first rank of philosophical literature. His *Novum Organum* and his *Essays* are splendid monuments of learning and wisdom.

Bacon, John (1740-1799), a British sculptor of eminence, to whom we owe some notable monuments, including those to Lord Chatham in Westminster Abbey and the Guildhall, and that of Dr. Johnson in St. Paul's.

Bacon, Sir Nicholas (1510-1579), was the father of Francis Bacon, and held the position of Lord Keeper to Queen Elizabeth with much distinction.

Bacon, Roger (1214-1294), generally alluded to as "Friar" Bacon, was a man of remarkable genius. The invention of gunpowder has been ascribed to him, and he is also said to have invented the air-pump, and was acquainted with the principle of the telescope. For a long time he was looked upon as an alchemist, and only in modern times have his discoveries been rightly appreciated.

Baden-Powell, Lieut.-Gen. Sir Baden F. S., C.B., C.V.O. (b. 1857), attained great popularity by his brilliant defence of Mafeking during the Boer War.

After the war he organised the South African Scouts, and was later appointed Inspector-General of Cavalry in 1903. Founded the B.P. Scouts organisation in 1908.

Baffin, William (1584-1622), was a distinguished explorer who, in 1616, discovered the north-east coast of British North America from Greenland, and bears his name.

He was killed in the service of China.

Bagshot, Walter (1810-1877), was editor of the *Illustrated London News* from 1855 to his death, and made a great reputation as a writer on financial subjects.

Bailhache, The Hon. Sir C. M., Judge of the High Court since 1911 (b. 1859). Educated City of London School and London University.

Bailey, Sir Aba (b. 1804), a Rand millionaire. He presented the Salvation Army with an estate of 80,000 acres in South Africa. He was born in Cape Colony and fought in the Boer War with the South African Light Horse, which force he largely helped to finance. Is proud to be known as one of Kruger's "traitors," who was released from prison on payment of a fine of £2,000.

Bailey, P. J. (1810-1904), author of *Poems*, a poem which ran through many editions. The poem was published when the author was twenty-three, but his future work did not fulfil his early promise.

Baillie, Joanna (1702-1851), a Scotch poetess and dramatist of considerable merit, who, in her day, was highly extolled. Her dramas are marked by much beauty of expression and nobility of thought, but the "Grecian" style rather than the stage. Sir Walter Scott greatly admired Miss Baillie's works. She lived in Hampstead for over half a century.

Baily, E. H. (1788-1857), a sculptor of many successful monuments and sculpture figures. He was the sculptor of the Nelson statue, and of the bas-reliefs on the south side of the Marble Arch. Some of his exhibited pieces, such as "Eve at the Fountain," "Girl preparing for the Bath," and "The Graces," were much admired.

Baily, Francis (1774-1844), an astronomer, and one of the promoters of the Astronomical Society, who devoted himself with great assiduity and success to the various branches of his favourite science.

Bain, Alexander (1818-1903), a psychologist of great attainments, who wrote *The Senses and the*

Intellect and The Emotions and the Will, two books which give him a high position as an original thinker. He occupied the Chair of Logic in the University of Aberdeen for twenty years.

Baird, Sir David (1757-1829), a British general who served under Moore at Corunna and was commander of the force which captured Cape Colony in 1806.

Baker, Sir Benjamin (1840-1907), an eminent engineer who was connected with some of the most notable enterprises of modern times. He was consulting engineer to the Egyptian Government for the Assouan Dam, was joint engineer with Sir John Fowler of the Forth Bridge, and engineer of the Central London Tube Railway.

Baker, Sir Samuel White (1821-1893), a traveller and author of special note, whose books are full of charm and whose services as an explorer will long be remembered. In the "fifties" he spent much time in Ceylon, and wrote two interesting books on the island; in the "sixties" he set out to explore Central Africa, and achieved the discovery of Lake Albert Nyanza. He was knighted in 1866. In 1869 he was in command of a military expedition to Central Africa for the suppression of the slave trade, and the Khedive made him Governor-General of the new territory for four years at a salary of £10,000 a year, being succeeded by General Gordon.

Balcanquhall, Lord. See Crawford, Bal of.

Balfe, Michael William (1808-1890), the most popular composer of English ballad operas of the 19th century. His "Bohemian Girl," "Siege of Rochelle," "Satanstoe," and "The Rose of Castile" are among the most notable of his compositions. He had a fine gift of melody.

Balfour, Rt. Hon. Arthur James, M.P. (b. 1834), was educated at Eton and Cambridge. He entered Parliament in 1874, and for a time was private secretary to his uncle, Lord Salisbury. About 1880 he obtained a seat in the House of Commons as a member of what was known as the "Fourth Party"; but was not until Lord Salisbury became Prime Minister in 1885, and made Mr. Balfour President of the Local Government Board, that he began to be regarded as a serious politician. Later, he was Chief Secretary for Ireland. In 1891 he became First Lord of the Treasury, a position which he held also under Lord Salisbury's next Government in 1895 and 1901. On Lord Salisbury's resignation in 1902, Mr. Balfour assumed the post of Prime Minister, which he held until the close of 1905.

He gave place to a Liberal Government under Sir H. Campbell-Bannerman. During his Manchester seat at the General Election in the early days of 1906, he was subsequently returned at a by-election for the City of London, and Leader of the Opposition in the House of Commons until Nov. 8, 1911, when he resigned that post. Among his published works the *Principles of Political Economy* and *Foundations of Reform* are the most remarkable. President of the British Association in 1904; delivered Romanes Lecture in 1909 on "Criticism and Beauty"; Gifford Lecturer, Glasgow Univ., 1913-14.

Balfour, Rt. Hon. Gerald W. (b. 1853), brother of the above, M.P. for Central Leeds, 1885-1900; Chief Secretary for Ireland, 1895-1900; President Board of Trade, 1900-1905. Suffered defeat at the General Election of 1906.

Balfour of Burleigh, Lord (b. 1840), was Secretary to the Board of Trade and Secretary for Scotland with a seat in the Cabinet between 1895 and 1903, resigning in the latter year because of disagreement with his colleagues on the Fiscal Policy proposals of Mr. Chamberlain.

Balhol, Sir John De, founder of Balhol College, Oxford (and father of John Balhol, the claimant to the Scotch throne), after an unsuccessful attempt to overcome Simon de Montfort, was condemned to certain penalties, and died in exile in 1266.

Balhol, John (1599-1744), competitor with Robert Bruce for the Scotch throne, and Edward I. decided in his favour. Only reigned four years, when Edward deposed him, committed him to the Tower, and finally banished him from the country. He retired to Normandy. His son, Edward Balhol, recovered

- his father's kingdom in 1332, and was upheld by Edward III. whilst very unpopular by reason of his having given up the south of Scotland to the English. He renounced his title and throne in 1356, and retired to England on an annuity.
- Bail, John**, the excommunicated priest who took a leading part in the Wat Tyler insurrection of 1381, and was arrested and executed.
- Bail, Sir R. S., LL.D., F.R.S.** (1840-1913), a distinguished astronomer and mathematician, and Lowndean Professor of Astronomy and Geometry at Cambridge. Wrote many books on astronomical subjects and was a popular lecturer. Knighted 1896.
- Balzac, Honoré de** (1799-1850), one of the greatest of French novelists, and the author of over eighty novels, to which he gave the covering title of "La Comédie Humaine." His stories are faithful depictions of almost every phase of French life, and in character delineation he has never been excelled.
- Bampton, John** (1689-1751), an eminent divine, who founded the Oxford Bampton divinity lectures.
- Bancroft, George** (1800-1891), American historian and statesman. Was secretary of the Navy in 1845, and in 1846 was Minister to London. His *History of the United States* is a monumental work, conceived in a philosophical spirit, and highly valued.
- Bancroft, Richard** (1544-1610), a stern upholder of ecclesiastical rights and a bitter enemy of the Non-conformists. Was Archbishop of Canterbury from 1604 to 1610, and was largely responsible for the text of the Authorised Version of the Bible.
- Bancroft, Sir Squire** (b. 1841), one of the best known actors and managers of the later Victorian period. Managed the old Prince of Wales's theatre in London, in conjunction with Marie Wilton (Lady Bancroft), for many years, producing there the popular Robertsonian comedies; afterwards, held the Haymarket Theatre for several years, and retired in 1885. Knighted in 1897.
- Banger, Bishop of.** (See Williams.)
- Banim, John** (1798-1842), the most popular Irish novelist of his time, whose tales of the "O'Hara Family," written in conjunction with his brother Michael, are realistic and powerful.
- Banks, Sir Joseph** (1743-1820) was president of the Royal Society for upwards of forty years. As a naturalist he was one of the most eminent men of his time, and encouraged science in every form. When Captain Cook made his voyage to the South Seas in 1768, Sir Joseph accompanied him for the purpose of observing the transit of Venus. He left very valuable botanical collections to the British Museum.
- Barbara, St.**, an early Christian martyr, who lived in the 3rd century, and was beheaded by her own father, he being killed immediately afterwards by lightning. She is the patron saint of artillery.
- Barbauld, Anna Letitia** (1743-1825), an industrious authoress, who wrote numerous acceptable and highly devotional works for young people, and was a poetess of note in her time.
- Barbour, John** (1316-1395), a Scottish divine and historian, whose poem, "The Bruce," is a composition well calculated to inspire national enthusiasm.
- Barclay, Mrs. Florence L.**, authoress of many bright and popular novels, including *The Rosary*, and *The Upland Tree*. She is the wife of the Rev. C. Barclay, Vicar of Little Anwell.
- Barham, Richard Harris** (1768-1845), a Kentish-born clergyman who gained a deserved reputation as a humorist by his *Inglorious Legends*.
- Baring-Gould, Rev. Sabine** (b. 1834), is the author of numerous novels, the majority of which have been highly successful, including *John Herring*, *Court Royal*, and *Mehalah*. Has also published many volumes of travel, folk-lore, fairy tales, etc.
- Barnabas, St.**, was a native of Cyprus, and is credited with having introduced Christianity into Antioch, and suffered martyrdom A.D. 61.
- Barnard, Lady Anne** (1750-1825), was the eldest daughter of James Lindsay, fifth Earl of Balcarres. Her "Auld Robin Gray" is one of the most tender of our ballads of humble life, was written when she was a girl of twenty-two, published anonymously, and assumed to be an ancient piece. She revealed the secret of its authorship in a letter (8th July, 1823) to Sir Walter Scott.
- Barnardo, Dr. T. J.** (1845-1905), the founder of the well-known homes for orphan-wards, for some forty years devoted himself to the protection, education, and advancement of destitute children. At the time of his death he controlled over a hundred homes, and left in full working organisation an emigration scheme by which boys are regularly drafted out to Canada.
- Barnato, Barnett Isaacs** (1852-1897), a South African diamond magnate, who by a few lucky strokes lifted himself from poverty to affluence. Returning to England broken in health he leaped into the sea and was drowned.
- Barnes, William** (1800-1880), clergyman and poet, who gained a high reputation for his "Poems of Rural Life in the Dorset Dialect," which revealed true poetic qualities and much quaint humour.
- Barnum, Phineas T.** (1810-1891), was America's most famous showman, the exhibitor of "Tom Thumb," the impresario of the Jenny Lind American tour, and originator of Barnum and Bailey's "Greatest Show on Earth."
- Barrae, Paul F. J. M., Comte de** (1755-1799), a prominent actor in the first French Revolution. One of the men who voted for the execution of the King, and later on was a bitter enemy of Robespierre.
- Barrett, Lawrence** (1839-1891), American actor-manager, associated with Edwin Booth for a lengthy period, and produced many plays with success.
- Barratt, Wilson** (1846-1904), a favourite English actor of the romantic school. He was also a dramatic author of some pretensions, and had a long career of popularity, making much money out of the "Silver King" and other plays of a sensational cast.
- Barrie, Sir J. M., Bart.** (b. 1830, at Kirriemuir); after passing through Edinburgh University entered journalism, and later published a series of essays and sketches which at once made him popular. He followed these up with some very clever novels, including *All in a Row*, *Thru the Little Minister*, *Sentimental Tommy*, etc., and in more recent years has achieved considerable success as a dramatist, "Peter Pan" being amongst his most popular plays.
- Barron, Major Gen. Sir H., K.C.M.G.**, Governor of Western Australia since 1913 and former Governor of Tasmania (b. 1850). Was for some years chief instructor at Shoeburyness.
- Barrow, Isaac** (1627-1697), a famous divine, mathematician, Greek scholar, and tutor of Sir Isaac Newton. His "Sermons" are amongst the finest in the language. He was buried in Westminster Abbey, and was for many years Vice-Chancellor of Cambridge University.
- Barrow, Sir John** (1704-1819), Secretary to the Admiralty from 1804 to 1845, was a native of Ulverston. He was a prolific writer of Naval Biographies, and his Autobiography, published at the age of 83, is a book of valuable reminiscences.
- Barry, Sir Charles** (1795-1860), the architect of the present Houses of Parliament, which occupied twenty years in building, one of the finest specimens of 19th century architecture. He was knighted in 1852, and was buried in Westminster Abbey.
- Barry, Sir John Wolfe, K.C.B.** (b. 1837), the eminent engineer, has designed and carried out some of the most prominent undertakings of the time, including Barry Dock, Tower Bridge, Blackfriars Railway Bridge, and Kew Bridge.
- Barry, Canon W. F.** (b. 1840), rector of St. Peter's, Leamington, and author of "The New Antigone" (1887) and other romantic novels of later date. His books on Newman and Renan rank high in Roman Catholic literature.
- Bartholomew, Fra** (1460-1517), the distinguished Florentine painter and friend of Savonarola, at whose death he became a monk. Examples of his work are in the National Gallery and the Louvre, but the finest are at Florence.
- Bartholomew, Francesco** (1790-1819), a Florentine engraver who came to England in 1794, and for many years was engaged upon engravings, of which he produced an enormous number, many of them of great artistic merit and highly valued by collectors.

to-day. Was a member of the British Royal Academy, and died in 1850.

Barton, Rt. Hon. Sir E. (b. 1849), is a native of Sydney, and became a member of the New South Wales Parliament in 1879. Was Speaker from 1883 to 1887. Afterwards became Attorney-General. Devoted himself earnestly for many years to the cause of Federation, and was Premier of the first Australian Commonwealth Ministry, 1901-1903, becoming in the latter year Judge of the High Federal Court.

Bashkirtseff, Marie (1800-1881), a clever, emotional diarist and painter, of Russian parentage, whose *Memoirs*, published in Paris, caused considerable sensation by their remarkably vivid revelations of an abnormal temperament.

Basil the Great was Bishop of Cæsarea in the 4th century, and a strong opponent of Arianism.

Bath and Wells, Bishop of. (See Kennion.)

Battenberg, Prince Henry (1858-1895), husband of Princess Beatrice, youngest daughter of Queen Victoria. Was stricken with fever while on an expedition in Ashanti in 1895, and died at sea.

Battenberg, Admiral Prince Louis of (b. 1854), is a son of Prince Alexander of Hesse, and married to his cousin, Princess Victoria, daughter of Princess Alice of England, and the Grand Duke of Hesse. Has had a successful career in the British Navy, which he entered in 1868. Appointed to the command of the Second Cruiser Squadron in 1904; second in command Mediterranean, 1906; commander-in-chief Atlantic Fleet, 1908. First Sea Lord, 1912.

Baur, Ferdinand (1792-1860), a German theologian of great eminence and influence, the founder of "The New Theological School of Theology."

Baxter, Richard (1615-1691), a Great Nonconformist, remarkable for the ability and boldness of his writings. He was constantly persecuted, and was ill-treated by Judge Jeffreys. Baxter's *Saint's Everlasting Rest* is a masterpiece.

Bayard, Pierre du Terrail, Chevalier de (1475-1524), a French knight of exemplary conduct and remarkable for his chivalry. Fell at the Battle of Sesia, and was named "Le Chevalier sans peur et sans reproche."

Baylis, Sir Wyke (1835-1906), achieved much distinction in connection with church decoration and religious art, and was elected President of the Royal Society of British Artists in 1888. Knighted in 1897.

Bessane, François (1811-1888), the French general who commanded the army of the Rhine in the Franco-German War of 1870-1871, and after Sedan retired to Metz, was under siege there with all his troops for some months, and ultimately surrendered to the enemy. Later he was condemned to death by court-martial, but the sentence was commuted to life imprisonment. Subsequently he escaped and lived in Madrid.

Benson, Sir Benjamin Disraeli, Earl of (1804-1881), statesman and novelist. Was the son of Isaac Disraeli, and after being privately educated, passed some time in a lawyer's office, and then took to authorship, meeting with but indifferent success until he published his *Curran Grey*, which was so judiciously clever that it at once made him a name. He was then only twenty-one. Drifting into Society he was made much of because of his brilliance, and after a few more essays in novel writing he entered Parliament in 1852, and in long afterwards became a prominent and picturesque figure in that assembly. He allied himself with the Tory party, and ultimately became one of its chief leaders. He was made Premier in 1868 on the retirement of Lord Derby, and again in 1874, retaining office until 1880, dying the following year. His foreign policy, particularly on the Eastern question, was aggressive. He was raised to the peerage in 1876.

Benson, David (1404-1540), was the leader of the Anti-Reformation party in Scotland, and held the important position of Cardinal and Archbishop of St. Andrews. He was assassinated.

Bleat, James (1735-1803), a Scottish poet of genius, who wrote "The Minstrel," and was also author of numerous essays and philosophical writings which

were much esteemed and gained him a pension of £300 a year from George III.

Beatty, Rear Adm. Sir David, K.C.B. (b. 1871), Commander of the first Battle Cruiser Squadron since 1912. Formerly Naval Adviser to the Army Council; served with distinction in the Sudan and China. On Aug. 28, 1914, made a dash with his squadron into a portion of the German fleet in the Heligoland fight, sinking two German cruisers and two destroyers, and seriously damaging another.

Beaufort, Cardinal (1370-1447), was half-brother of Henry IV, and four times Lord Chancellor. He wielded great power, and was a powerful factor in the political movements of the time. Was successively Bishop of Lincoln and Winchester.

Beauharnais, Eugene de (1781-1824), son of Josephine Beauharnais, who afterwards became the wife of Napoleon. Napoleon made him his Aide-de-Camp, adopted him, and showed him great favour.

Beaumont, Adm. Sir Lewis A. (b. 1847), has held several important commands in the Navy, which he entered in 1860. Was Director of Naval Intelligence, 1891-1899, and in 1904 was appointed commander-in-chief at Devonport. In 1905 sat on the North Sea Inquiry. Retired 1912.

Beaumont and Fletcher contemporary dramatists with Shakespeare, and joint authors of many plays, including "The Maid's Tragedy" and "Philaster." Beaumont (sole author of "The Faithful Shepherdess") was buried in Westminster Abbey; Fletcher, who died in 1625, was interred in St. Saviour's, Southwark.

Bebel, Ferdinand Aug. (1840-1913), the foremost German Socialist leader, a native of Cologne, and a member of the North German Parliament of 1867. In 1872 was condemned to two years' imprisonment for treason, and was imprisoned for aspersing the Emperor. A noted political orator.

Beckford, William (1760-1844), the eccentric author of *Vathek*. Spent his later years as a recluse on his estate at Fonthill, on which he expended £273,000. His father, also named William, served as Lord Mayor of London in 1769 and 1769.

Bede, "The Venerable" (673-735), a monk of great influence and ability whose historical works cover a great range and are valuable in the outline they give of the early history of this country.

Becham, Thomas (b. 1790), musical conductor and operatic impresario. Educated at Rossall and Wadham College, Oxford. Founder of the Becham Orchestra. Has done much for operatic art.

Becher, Henry Ward (1813-1887), an eminent American preacher and lecturer, whose church at Brooklyn was for many years the most popular in the United States. Brother of Mrs. H. B. Stowe.

Bechey, Frederick William (1796-1856), an Arctic explorer who accompanied Franklin on an expedition in 1845, and made voyages on his own account subsequently. Bechey Island in Melville Sound was named after him.

Beerbohm, Max (b. 1872), was educated at Charterhouse and Merton College, Oxford. Is a brilliant critic and caricaturist, who has contributed largely to the *Saturday Review*.

Beethoven, Ludwig van (1770-1827), born at Bonn, died in Vienna. One of the kings of musical composition, whose symphonies, sonatas, overtures and operas all reach the highest standard of musical imagination. He received lessons from Mozart.

Begbie, Harold (b. 1871), has won his way in journalism and literature by a variety of good work, from humorous "By the Way" jottings for the *Globe* to serious war poems.

Behring, Emil von (b. 1853), a distinguished German scientist, Professor at Strassburg; discoverer of an anti-toxin for diphtheria, and claimant to a cure for phases of tuberculosis.

Behring, Vitus (1686-1741), was a Danish navigator who entered the Russian service and in 1748 discovered what is called Behring's Strait, afterwards being wrecked on Behring's Island, where he died.

Beit, Alfred (1853-1900), a South African magnate of great wealth, made his way to South Africa in 1875, associated himself with diamond mining.

made a vast fortune. Was a man of great force of character and public spirit, and a munificent patron of imperial and charitable institutions.

Bake, Charles T. (1800-1874), a distinguished diplomatist and traveller, who spent many years in Abyssinia, afterwards publishing the result of his researches, which were of great value. He also visited and wrote upon the Holy Land. Was British Consul in Saxony 1836-1838.

Bellarius (505-565), a famous Roman general under Justinian. His defeats of the Goths and Vandals, and of the Persians, were great achievements.

Bell, Alexander Graham (b. 1847 in Edinburgh). Went to America in 1870, and became Professor of Physiology in Boston University. In 1876 he exhibited an invention which was developed into the telephone as we now know it. He also invented the phonograph, and has devoted much attention to the improvement of the education of the deaf.

Bell, Andrew (1753-1839), was born at St. Andrews, and was a highly successful educationist. While superintendent of an orphanage school at Madras, he introduced the system of monitor assistants which was afterwards universally adopted.

Bell, C. F. Moberley (1847-1911), was from 1865 to 1880 *Times* correspondent in Egypt, and contributed to the leading journal a succession of brilliant letters. Coming to England he became assistant manager and later manager of the paper, and from 1898 was managing director. His books on Egyptian questions were of great value at a critical period.

Bell, Sir Charles (1774-1842), an eminent anatomist to whom we owe the discovery of the distinct functions of the sensory and motor nerves. His *Bridgewater treatise on the Hand* is well known.

Bell, Sir Hugh, Bart. (b. 1843), an engineering director of Bell Brothers, Limited, iron and steel manufacturers, Middlesbrough. President of the Iron and Steel Institute in 1907. Unsuccessfully contested the City of London in opposition to Mr. Balfour in 1910. His wife, Lady Bell, is a writer of some note, and for her book, *At the Works*, published in 1907.

Bell, Richard (b. 1859), was M.P. for Derby from 1900 to 1910, and General Secretary of the Amalgamated Railway Servants from 1897 to 1900. Took a prominent part in the dispute between the railway companies and their men in 1907, materially helping matters to a settlement. Now Unemployment Insurance Officer to Board of Trade.

Bellini, Gentile (1421-1508), a celebrated Venetian painter, whose "Preaching of St. Mark at Alexandria" in St. Mark's College, Venice, is one of the best of the 15th century.

Bellini, Giovanni (1476-1516), brother of the last-named, and more celebrated. His religious pictures, of which there are several in this country, including three in the National Gallery, are of great importance.

Bellini, Vincenzo (1806-1883), an Italian operatic composer of great popularity during the first half of the 19th century. His "La Sonnambula," "Norma," and "I Puritani," are still frequently performed.

Belloe, Hilaire (b. 1870), author of several clever and entertaining works, including the *Bad Child's Book of Beasts*, *The Modern Traveller*, *The Old Road*, and *Hulls*, and the *Sea*. Has published also valuable studies of Danton and Robespierre and has recently made a high reputation for a series of vigorous war articles.

Belzoni, Giovanni B. (1778-1823), a renowned explorer of Egypt who settled in England at the beginning of the 19th century. After a precarious existence began to turn his attention to hydraulic experiments, and went to Egypt with the view of getting the Government to sanction a scheme of his for raising the water of the Nile. He was then attracted to the study of Egyptian antiquities, and engaged in highly successful researches.

Bombay, Admiral (1623-1702), was commander of the British fleet in the East Indies till 1702. His attempted capture of the French fleet was frustrated by the treachery of some of his officers, but even after he had lost his leg in the action he insisted on directing the operations on deck.

Benckendorff, Count (b. 1810), Russian Ambassador to Great Britain since 1902, and remembered in connection with the settlement of the Roskdestvensky Dogger Bank incident.

Benedict, Sir Julius (1804-1888), a composer of mark who came to England from Germany in 1835, and for many years occupied a prominent position as conductor and composer. Among his operas may be mentioned "The Lily of Killarney," "The Crusaders," and "The Gypsy's Warning." He was knighted in 1871.

Benedict, St. (480-543), built twelve monasteries, and founded the Order of the Benedictine Monks, at Monte Cassino, near Naples.

Bennett, Arnold (b. 1867), one of the ablest of our younger novelists, whose stories of the Pottery Town, where he was brought up, are of high merit. *The Old Wives Tale*, *Laymanster*, and *Hilda Lessways* are among his most successful efforts. His story *The Life of Nath Nicklin* was written for Pears' Annual for 1914. He has also written plays, including *Milestones* and *The Great Adventure*.

Bennett, James Gordon (b. 1843), proprietor of the *New York Herald*, and a famous yachtsman and motorist. The races for the Gordon-Bennett Cup were leading events in motor history a few years ago. Mr. Bennett lives in Paris mainly. He sent out St. Louis on the expedition which resulted in the finding of Livingstone.

Bennett, Sir W. Sterndale (1816-1875), an English composer of eminence, who did much for the advancement of musical art in this country. Schumann pronounced him to be "the most musical of all Englishmen." His *Caratas* are among the best produced in England, and include "The May Queen" and "The Woman of Samaria."

Benson, A. C. (b. 1873), poet of Magdalene College, Cambridge. Son of Archbishop Benson. Was joint editor with Lord Lytton of *Queen Victoria's Letters* (1907), and has written many charming books of essays, including *From a College Window*, *The Union Letters*, *The House of Queen*.

Benson, Edward Frederic (b. 1859), one of our popular novelists, and an archaeologist. His first novel, *Dodo*, published in 1883, was the fiction sensation of the year, and has been followed up by a succession of clever stories. *Dodo the Second* was issued in the spring of 1914.

Benson, Edward White (1820-1898), was headmaster of Wellington College in 1859. In 1877 became Bishop of Truro, and in 1882 was appointed Archbishop of Canterbury. He was a Prelate of great sincerity of purpose, and a great ecclesiastic.

Bentham, Jeremy (1748-1832), the founder of the school of political philosophy, the tenets of which were extended by John Stuart Mill. His works on *Government*, *Usury*, and *The Principles of Morals and Politics*, expound the Utilitarian system with great lucidity.

Bentham, Lord George (1792-1848), a devoted Protectionist, who attracted much attention by his uncompromising opposition to Sir Robert Peel. He died suddenly when his political career seemed full of promise, and his life was written by his friend, Benjamin Disraeli (Lord Beaconsfield).

Bentley, Richard (1662-1747), was an eminent scholar and critic, who filled the positions in succession of Master of Trinity College and Keeper of the Royal Library at St. James's. He was a great controversialist and critic, to whom Dean Swift paid handsome tribute in his *Battle of the Books*.

Béranger, the eminent French poet (1780-1856), was the most popular song-writer that France has produced. His songs were often written to serve some passing political purpose, and were invariably in harmony with popular sentiment.

Berthold, Count, Foreign Minister in the Austro-Hungarian Government. Succeeded the late Count Aehrenthal in 1912.

Beresford, Admiral Lord Charles (b. 1846), second son of the Marquis of Waterford. He had a varied and distinguished career. In 1875-1876 accompanied the late King, then Prince of Wales, on his visit to India. At the bombardment of Alexan-

dria did distinguished service in command of the *Condor*, and in 1884 was on Lord Wolsley's staff in the Nile Expedition. Later he commanded the Naval Brigade at the battles of Abu-Klea, Abu-Kru, and Metemneh; headed the expedition which rescued Sir Charles Wilson's party in the Sudd; and became a Lord Commissioner of the Admiralty in 1886. Has been in Parliament, when not on active service, off and on since 1885, when he was returned for Marylebone. Lord Charles possesses three medals for life-saving, and among his literary works may be mentioned *The Life and Times of Nelson*, which was published as *Pearse's Annual* for 1915. Succeeded to the command of the Channel Fleet in 1907, retiring from that position in 1909. M.P. for Portsmouth since 1910.

Bergson, Henri Louis (b. Paris, 1859), a philosopher of bold ideas whose writings and lectures arouse much discussion. Professor at the Collège de France since 1900. L lectured in London in 1913, and was Gifford Lecturer at Edinburgh in 1912.

Berkeley, Bishop (1624-1753), the propounder of the philosophy that the only things that are real are our ideas of what is presented to our senses. In support of this philosophy he wrote several works of great ingenuity of argument, chief among them being his *Alciphron*, or *the Minute Philosopher*.

Berlioz, Hector (1803-1869), was an eccentric but highly endowed French musical composer who studied in Paris and Rome, and afterwards, settling in Paris, devoted himself to conducting and composing with much energy. He suffered hardship and humiliation before he got a hearing, but his originality and his ardent romanticism fascinated such men as Paganini and Liszt, and though musical convention to a great extent prevented the realisation of his plans, he ranks as one of the great musical geniuses of the 19th century. His "Damnation of Faust" and his "Roméo and Juliet" symphony are his most inspired productions. His wife was an English actress, Miss Smithson, for whom he formed a romantic attachment while she was appearing in black-and-white parts in Rome.

Bernadotte, Jean Baptiste (1764-1844), was a French commander of great distinction who served under Napoleon, and in 1810 was chosen heir to the throne of Sweden. In 1818 he succeeded as Charles XIII, and was a capable ruler.

Bernard, St. (1072-1153), took an active part in promoting the crusade of 1149, and founded the monastic order of the Bernardines.

Bernhardt, Sarah (b. 1845), the most renowned tragedienne of her time. Became a member of the Comédie Française after the Siege of Paris, and thereafter occupied a specially prominent position as an actress. Her first performance in London was in 1870. Among her most conspicuous successes are "Théodora," "Fédora," and "La Toxica," while she also appeared as Hamlet with distinction.

Borrie, Rt. Hon. Sir F. E. (b. 1844), entered the Foreign Office in 1871, and held several important secretarieships. In 1904 was appointed Ambassador to Italy, and in 1904 British Ambassador in Paris. Is brother to the Earl of Abingdon.

Bertillon, M. Alphonse (b. 1853), an ingenious Parisian police prefect, who invented the anthropometric method of criminal detection, which has been adopted extensively in Britain and other countries.

Besant, Mrs. Annie, President of the Theosophical Society since 1907, previously associated with Bradlaugh in secular movements. Of late years has been actively engaged in theosophical and educational projects in India.

Besant, Sir Walter (1836-1901), a prolific author and novelist, whose first stories were written in collaboration with Mr. James Rice. The best known works which he wrote alone are *All Sorts and Conditions of Men*, *Dorothy Foster*, and *Armour of Lyonesse*. He also wrote several critical and biographical works, and a number of books on ancient London.

Bessemer, Sir Henry (1813-1898), an inventor who became rich and famous by his invention of the well-known process of converting cast-iron direct into

steel. His invention entirely revolutionised the steel manufacture, greatly reducing cost of production and making it possible to utilise steel in many directions where previously iron only had been used. It was knighted in 1879. Many other inventions stand to his credit, but they are insignificant in comparison with that of the steel process, which will always remain identified with his name.

Bethmann-Hollweg, Theobald von, Chancellor of the German Empire since 1909 (b. 1856). In directing the Imperial policy in regard to Moroccan and other foreign affairs, he has shown a masterful capacity for attaining his object, despite much opposition and many entanglements.

Betty, William Henry (1791-1874), an Irish actor of singular precocity who as the "Infant Roscius" was famous on the stage at eleven. For some years, he enjoyed a marvellous success and made a considerable fortune, retiring in 1824.

Beust, Count Frederik von (1809-1886), was for a number of years Chancellor of the Austro-Hungarian Empire, retiring in 1871.

Bewick, Thomas (1753-1828), earned great fame as a wood engraver, and the works which he illustrated now realise high prices. All his works were remarkable for breadth of treatment and fidelity to nature. His *History of British Quadrupeds* and *History of British Birds*, and his illustrated editions of Goldsmith's *Deserted Village* and *Traveller*, *Æsop's Fables*, etc., are of great value.

Beza, Theodore (1519-1603), a Calvinist reformer of great influence, who provided upon the King of Navarre to aid the French Protestants, and was president of the synods of French Reformers at Nîmes and Rochelle.

Biddle, John (1715-1782), the founder of English Unitarianism, was imprisoned for denial of the Trinity, but released by Cromwell. He reformed, preached, and succeeded in establishing a Unitarian Church. Later on he was again sent to gaol, and died there.

Birkbeck, George (1776-1841), physician, philanthropist, and philosopher. A Yorkshireman who settled in London in 1804, and became the chief founder of Mechanics' Institutes. The Birkbeck Institute was his own special work.

Birmingham, Bishop of. (See Wakefield, Russell.)

Birmingham, G. A. (See Hannay, The Rev. Canon.)

Birrell, Rt. Hon. Augustine, K.C., M.P. (b. 1851), the accomplished author of *Obiter Dicta*; entered Parliament in 1889. In addition to *Obiter Dicta*, he has written a *Life of Charlotte Brontë*, *Men, Women and Books*, etc. He was sometime Professor of Law at University College, London, and became Education Minister in the Government of Sir Henry Campbell-Bannerman in 1905. In 1907 he succeeded Mr. Bryce as Secretary for Ireland.

Bishop, Sir Henry Rowley (1798-1863), composer of many popular ballad operas and songs, "Maid Marian," "Guy Riquering," and "The Miller and his Men," are his best known operas. He was also a very successful glee-writer, and was the composer of "Home, Sweet Home." He was knighted in 1842.

Bismarck, Prince Otto E. L. von (1815-1898), the most prominent and capable of the German statesmen of the 19th century, entered the diplomatic service in 1851, and filled positions in succession at Vienna, St. Petersburg, and Paris. In 1862 he was appointed Minister of Foreign Affairs, from which time dates the strong Bismarckian policy which was destined to achieve so much for Prussia. As Imperial Chancellor he may be said to have directed the destinies of his country down to the death of the Emperor William in 1888, when the present Emperor began to assume direct control, which Bismarck resented, and in 1890 the old pilot "was drowned," to use a figure of speech made memorable by one of Tanel's cartoons. Bismarck retired to his country estates, and did not again interfere seriously in political affairs. Made Count in 1865 and Prince in 1871.

Germany has over two hundred monuments to him. He presided at the famous Berlin Conference of 1878. His son, Count Herbert von Bismarck (1849), was appointed German Foreign Minister in 1885, but, like his father before him, did not get on well with William II.

Bizet, Georges (1838-1875), a French musical composer who gave the operatic stage several operas full of charming melody, and who in "Carmen" achieved one of the leading operatic triumphs of the latter half of the 19th century.

Björnson, Bjørnstjerne, the Norwegian poet, dramatist, and novelist (1832-1910), is one of the great names in modern European literature, his poems, plays, and stories being marked by a strong intellectuality and a rich imagination. Many of his works have been translated into English.

Black, William (1841-1898), an English novelist, of great popularity in his day. His best novels are: *A Daughter of Beth*, *Madcap Violet*, *Kilmeny*, and *A Princess of Thule*.

Blackie, John Stuart (1809-1895), an eminent and outspoken Scottish writer, philologist, and poet; Professor of Greek at Edinburgh, 1852-1882.

Blackmore, Richard Doddridge (1825-1900), a novelist who in 1866 made a great reputation with his romantic story of *Fora Dione*.

Blackstone, Sir William (1723-1780), was a Justice of the Court of Common Pleas. His great work, *Commentaries on the Laws of England*, became one of the British classics.

Blair, Robert (1700-1766), a noted Scottish poet, whose poem, "The Grave," entitles him to a place in all collections of British poetry.

Blake, Robert (1808-1857), a great English naval commander, who distinguished himself by repeated defeats of the Dutch and the capture of the plate-ship of Spain. He was buried in Westminster Abbey, with a magnificent public funeral; but his remains were removed therefrom, with those of other Commonwealth notables, after the Restoration.

Blake, William (1757-1827), painter, poet, and mystic, whose "Songs of Innocence" and scriptural drawings reveal an intense spirituality and much original power.

Blanc, Louis (1811-1882), a French Socialist politician who was Minister of Labour after the Revolution of 1848, but found his views too advanced for Louis Napoleon, who lived in exile until the fall of the Second Empire, when he returned to France and died at Cannes in 1882. He was a man of genial and amiable personality, and the author of several important historical works.

Blatchford, Robert (b. 1852), an able and trenchant Socialist writer, and editor of *The Clarion*. His chief books are *In Defence of the Bottom Dog*, *Merric England*, and *The Sorcery Shop*. During the war has contributed a full page article of vigorous criticism each week to the *Weekly Worker*.

Blavatsky, Helena Petrovna (1831-1891), a noted Theosophist of Russian birth, who claimed to possess spiritualistic power, and exercised considerable influence up to the time of her death over a small but devoted band.

Blessington, Marguerite, Countess of (1789-1849), an Irishwoman of literary taste who, with the Count d'Orsay (q.v.), established a sort of salon at Gore House, Kensington, where she held fashionable receptions, and was a liberal patron of things literary and artistic. Her novels of high life had quite a vogue in her lifetime, but are not now read.

Blind, Karl (1826-1907), was a native of Mannheim, and in 1847 associated himself with the German revolutionary movement, but was arrested and imprisoned. Gaining his liberty, he resided in Brussels for a time, and afterwards settled in London, remaining in close touch with men like Mazzini and Louis Blanc, and by pen and speech constantly advocating political freedom.

Blondel, troubadour servant to Richard I., who is said to have discovered the king's place of imprisonment in Austria by singing beneath the window, afterwards securing Richard's release.

Blondin, Charles (1824-1897), a famous French rope performer, who crossed Niagara Falls on a

tight-rope, and was for many years the most popular acrobat of his day, living mostly in England.

Blood, Thomas (1688-1689), the officer who attempted to steal the Royal Regalia from the Tower, and was captured and imprisoned. Charles II. not only pardoned him, but granted him a pension of £500 a year.

Bloomfield, Robert (1766-1823), a peasant poet, who attained considerable fame by his "Farmer's Boy," and other rural pieces, in which the love of Nature was gracefully and tenderly expressed.

Blücher, Field-Marshal L. von (1749-1819), was the famous Prussian commander who, after a long and brilliant military career, joined forces with Wellington in the final campaign against Napoleon, and materially helped to win the great victory of Waterloo by advancing to Wellington's support. After the peace he retired to his country seat in Silesia, and was seen no more in active service.

Blunt, Wilfrid Scawen (b. 1840), best known for the active part he took in Egyptian affairs in 1882-1883 and his continued support of what is called the Egyptian national movement. He was a devoted admirer of Arabi Pasha, and spent much money in his defence. In 1907 he published his *Secret History of the English Occupation of Egypt*, which aroused much controversy. Published a book of *Reminiscences* in 1912. At his Sussex seat he keeps the finest stud of Arab horses in the world. His wife is a grand-daughter of Lord Byron.

Blyth, Lord (b. 1847), an eminent authority on agriculture, and practical experimenter in farming methods. Is a director of W. and A. Gilbey, Ltd., a member of several learned and agricultural societies, and has large experimental farms in Essex. Made a baronet in 1895, and was raised to the peerage in 1901.

Boadicea, queen of the Iceni tribe of Britons, who raised an army against and defeated the Roman invaders, but was afterwards vanquished by Suetonius and committed suicide.

Boccaccio, Giovanni (1313-1375), an Italian author who has often been called "The Father of Novel Writing." He had a lively imagination and graceful style, and his famous *Decameron*—condemned by two Popes and by the Council of Trent—has been a fount of inspiration to poets and story tellers from Shakespeare to Keats.

Boehm, Sir Joseph Edgar (1843-1890), a successful Austrian sculptor who settled in London in 1862, and was afterwards entrusted with numerous important commissions, his best known statues being those of Queen Victoria, Wellington, and Carlyle.

Bolleau-Despreaux, Nicolas (1696-1711), a French poet who was contemporary with Molière, and wrote many classical imitations which were highly thought of in his own time and later, and are still frequently referred to.

Boito, Arrigo (b. 1842), an Italian poet and musical composer. He wrote the libretti of "Otello" and "Falstaff" for Verdi, and for his own operas of "Mefistofele" and many others.

Boleyn, Anne (1507-1536), queen of Henry VIII and mother of Queen Elizabeth; originally maid-in-waiting to Queen Catherine, who was divorced by Henry to make way for her. She was a promoter of the Reformation, but fell from favour with her fickle spouse, and was beheaded on a charge of treason.

Bolingbroke, Henry St. John, Viscount (1698-1751), a statesman and litterateur of the days of Queen Anne, whom he served both as Secretary of War and Foreign Secretary. Was exiled after the accession of George I. because of his devotion to the Stuarts, but later on was pardoned and returned to this country, spending the remainder of his days in literary pursuits. His *Study of History, Letters on Patriotism, and Idea of a Patriot King*, were works of power and influence.

Bolívar, Simon (1783-1830), the first President of Venezuela, and subsequently Dictator of Peru; commonly called the Washington of South America.

Bonaventure, St. (1221-1274), a Franciscan monk of great learning and piety, and a leading Schoolman. He was called "the Seraphic Doctor."

Bond, Rt. Hon. Sir R. (b. 1857), Premier of Newfoundland 1900-1909, and has been a member of the Newfoundland Legislature since 1882. Has borne a prominent part in all negotiations of late years for the settlement of the Newfoundland fisheries questions, and attended the Imperial Conference in London in 1907.

Bonheur, Rosa (1822-1899), a native of Bordeaux, and one of the most noted animal painters of the 19th century. "The Horse Fair" is probably the most popular picture of the kind.

Boniface, St. (680-755), a native of Devon, spent most of his life in Germany in Christianising missions, and became Archbishop of Mainz. He and a number of followers were massacred in Friesland.

Bonner, Edmund (1588-1656), the notorious Bishop of London in the reign of Mary Tudor, and the prime mover in the persecutions of the Protestant martyrs. He remained faithful to his religion after Elizabeth came to the throne, and passed the last ten years of his life a prisoner.

Bonnivarde, François de (1496-1570), a Republican monk, and author of a history of Geneva, his native city; suffered a long incarceration in the Castle of Chillon, and was the subject of Byron's poem, "The Prisoner of Chillon."

Booth, "General" Bramwell (b. 1866), eldest son and successor of "General" William Booth as head of the Salvation Army. Was chief of staff from 1880 to 1912. His wife, **Mrs. Bramwell Booth**, is also a great personality and an active force in the organisation.

Booth, Rt. Hon. Charles, P.C. (b. 1840), a Liverpool merchant and shipowner who has devoted many years and much of his fortune to the collection of facts concerning the poor of London, of which ten volumes have appeared. In 1904 he was made a Privy Councillor.

Booth, Edwin (1833-1891), an American tragedian of great eminence, son of Junius Brutus Booth, the English tragedian, and brother of John Wilkes Booth, who assassinated President Lincoln. As a Shakespearean actor Booth took high rank, and is said to have played Hamlet oftener than any other actor. He visited England several times.

Booth, "General" William (1829-1912), while quite a young man became a Methodist local preacher, and a travelling evangelist. Founded the Salvation Army in 1878, which under his enthusiastic and eminently practical direction became an organisation of world-wide influence. President at an International Salvation Army Congress in London in 1904. Had the Freedom of the City of London granted to him in 1905, in 1907 visited Japan, and in 1908 South Africa. He died in August 1912.

Borden, Robert Laird, K.C., M.P. (b. 1854), Premier of Canada since 1911, defeating Sir Wilfrid Laurier, the general election on the Reciprocity Bill, has been the leader of the Conservative party in the Canadian House of Commons since the resignation of Sir Charles Tupper in 1896. Has had a distinguished career at the Bar also. Accompanied by some of his Ministers he visited England in 1912 and arranged a new Canadian naval programme with the Imperial Government, which, owing to opposition, has been delayed.

Borgia, Caesar, the masterful and unscrupulous son of Pope Alexander VI., who paved his way to power by the murder of those who stood in his way, and aided by Louis XII. of France, became ruler of Romagna, the Marches, and Umbria. Pope Julius II. banished him from Rome, and he was imprisoned in Spain, but escaped to find a soldier's death in the army of Navarre in the invasion of Castille, in 1507.

Borgia, Lucrezia, sister of Caesar, was deemed almost as blood-guilty as her brother, and there can be no doubt that many crimes were committed in her name if not by her own hand.

Borsosio, Carlo Saint (1758-1821), Cardinal Archbishop of Milan, was a nephew of Pius IV., and of great benevolence. Canonised in 1614.

Borrow, George (1803-1881), was for many years travelling agent for the British and Foreign Bible

Society, and in the course of his wanderings made a special study of gypsy life, and wrote some of the most charming and picturesque books about the Romany tribes we possess. His *Lavengro* and *Kennedy* are classics.

Boscawen, Admiral (1717-1761), was one of the most gallant of our 18th century naval commanders, and known as "Old Dreadnought." He was in command of the fleet that took Madras, and in the operations at Cape Finisterre, Quebec, and Louisbourg, Cape Breton, did signal service.

Bossuet, J. B. (1627-1704), an eminent French Bishop and theologian, whose sermons are of striking eloquence, and whose historical and controversial works are of high literary merit.

Boswell, James (1740-1795), made himself famous by writing *The Life of Dr. Johnson*, for which purpose he came to London from Scotland, and devoted himself assiduously to studying Johnson's character, spending some years in close intimacy with the great lexicographer and produced what is probably the finest biography in the language.

Botha, General the Hon. Louis (b. 1863), the Boer general who succeeded Joubert in the chief command against the British forces. On parliamentary government being granted to the Transvaal in 1907 he became the first Prime Minister, and attended the Imperial Conference in England the same year. In 1910 made first Premier of the South African Confederation. Took strong action, January, 1914, in deporting nine strike leaders to England. After the outbreak of war with Germany took the field at the head of a Union force and in addition to putting down a rebel movement, engineered by Germany, successfully invaded German African territory.

Boticelli, Sandro (1445-1510), Italian painter and disciple of Savonarola, the devout monk. Produced many notable pictures, and assisted in the decoration of the Sistine Chapel. His illustrations to Dante's *Divine Comedy* are world-famous.

Boucicault, Dion (1822-1890), a prolific playwright and capable actor, who at twenty years of age made a hit with "London Assurance," and during the later period of his life won fame and fortune by the writing of Irish dramas, including "The Colleen Bawn" and "Arrah-na-Pogue."

Bouguereau, W. Adolphe (1825-1905), a celebrated French painter, whose pictures of classical and religious subject gave him celebrity. "The Triumph of Venus," "The Martyr," "Sappho," and "The Golden Age" were among his masterpieces.

Boulanger, General G. E. J. (1837-1921), was for a few years the most popular man in Paris, if not in France. Was made War Minister in 1886, and converted by a violent attitude towards Germany and a flattery of the mob, to attract much attention. In 1889 he may be said to have denounced French politics, and many expected that he would become *chef d'état*, and become dictator of France; but his courage was not equal to his opportunity, and he rapidly fell out of favour and left the country in order to avoid arrest. His career was over, and in 1901 he committed suicide at Brussels on the grave of Mdm. Bonnemain, with whom he had formerly lived.

Boulton, Matthew (1728-1806), a Birmingham engineer and inventor, who provided capital for James Watt in order to develop the steam engine. The two were in partnership for many years. It was to Boulton's practical business qualities that Watt owed much of his success.

Bourget, Paul (b. 1851), a French novelist, poet and critic, who has spent much time in England, and written some interesting books on the country and its people. His novels are remarkable for their artistic qualities, but are mostly of sombre tone.

Bourne, The Most Rev. Francis, Roman Catholic Cardinal Archbishop of Westminster, was born in 1801, and became a priest in 1824. In 1896 was appointed Bishop of Exeter, and in the following year Bishop of Southwark. In 1903 he succeeded Cardinal Vaughan at Westminster.

Bowler, Thomas (1754-1825), a pious English physician, who issued expurgated editions of Shake-

speare and Gibbon, eliminating all expressions which he considered offensive to good taste and morality. From this came the term to "Bowdlerise."

Bowles, Thomas Gibson (b. 1849), an active politician who represented King's Lynn in Parliament from 1892 to 1901, re-elected in 1901, and lost the seat again the same year. An incisive writer, for many years proprietor of *Vanity Fair*.

Boyce, William (1710-1779), a composer and organist of note who produced much Church music and collected more, and was a song-writer of repute, his "Hearts of Oak" being well-known.

Boyd-Carpenter, Rt. Rev. Sir Wm. (b. 1841), D.D., Canon of Westminster since 1912. Bishop of Ripon 1894-1911. Author of many religious works, recipient of many honours, and a gifted preacher.

Braddon, Mary Elizabeth (Mrs. Maxwell) (b. 1837), began to write stories in 1861, and has a record of over sixty novels, many of which had a great success, among them being *Lady Audley's Secret*, *Aurora Floyd*, and *Henry Dunbar*.

Bradlaugh, Charles (1833-1891), a secularist writer and lecturer, who was very popular with the working classes. Was elected M.P. for Northampton in 1880, and after an undignified conflict in regard to taking the oath, became recognised as a useful representative, and esteemed by all parties.

Bradshaw, John (1586-1659), the Justice who presided at the trial of, and delivered sentence upon, Charles I. He subsequently quarrelled with Cromwell and was removed from office. At the Restoration his body was exhumed, with those of Cromwell and Ireton, and hung on a gibbet.

Brahe, Tycho (1546-1601), a celebrated Danish astronomer, who founded the planetary system which bears his name, and compiled a list of 777 fixed stars.

Brahms, Johannes (1833-1897), a German musical composer of deserved eminence, and the friend and pupil of Schumann. His compositions are of a varied order, most classical in form, and possess deep intensity of expression and poetic significance. His pianoforte music covers a wide range. He wrote some 300 songs, and among his more serious works the "German Requiem," the "Triumphlied," and the "Rhapsodie" are the best known.

Bramah, Joseph (1749-1814), was a native of Stanborough, Yorkshire, and, inventing himself to invention, introduced numerous mechanical improvements, including the hydrostatic press, a liquid-pumping apparatus, a most ingenious series of safety locks, and bank-note printing machines.

Brampton, Lord (1817-1907), long known to the public as Sir Henry Hawkins. Was famous as an advocate, and took part in many celebrated cases, including the Tichborne trial. Was made a judge in 1876, and on his retirement in 1898 was raised to the peerage. His *Reminiscences*, published in 1904, was one of the books of the year. He lived to the age of ninety. His wife, Lady Brampton, died a few months later, leaving the main portion of the Brampton fortune to Roman Catholic churches and charities.

Brassey, Earl (b. 1836), son of Thomas Brassey, came into prominence as a politician under Mr. Gladstone, having been both Civil Lord of, and Secretary to, the Admiralty. Is a recognised authority on naval matters, his *Naval Annual* being a standard book of reference. Has been Governor of Victoria. His famous yacht *Sunbeam*, and the story of its earlier voyages, written by the late Lady Brassey, are well remembered.

Brassey, Thomas (1805-1870), achieved great fame as a railway contractor, constructing the Great Northern Railway and others in this country, the Grand Trunk in Canada, and others in France, India, Australia, etc.

Bremer, Frederika (1801-1865), a Swedish novelist, whose works attracted much attention in this country as well as in her own. Her best known stories are *The H. Family*, *Barkers and Sisters*, and *The Proserpine*. The stories—as translated by Mary Howitt—are simple pictures of domestic life and full of charm.

Brennan, Louis C. B. (b. 1853), successful inventor; obtained £100,000 from the British Government for his torpedo; and is the inventor of a gyroscopic railway from which much utility is anticipated. The War Office provided him with a completely equipped factory for the carrying on of his experiments.

Brewster, Sir David (1781-1868), a Scottish philosopher of great scientific attainments who edited the *Edinburgh Encyclopedia* in 1808, invented the kaleidoscope in 1816, and gave permanent form to the stereoscope. Was one of the founders of the British Association, and a voluminous writer on science. Made important discoveries respecting the polarisation of light.

Bridge, Sir E., organist of Westminster Abbey (b. 1844), educated at Rochester, studied music under Sir John Goss, and since 1875 has been conductor of Westminster Abbey. He has composed numerous cantatas, anthems, etc., and was appointed Gresham Professor of Music in 1900. His marriage in the spring of 1914 was an event.

Bridges, Robert, M.A. (b. 1844), was appointed poet laureate after the death of Mr. Alfred Austin in 1907. Practised medicine successfully up to 1880, thenceforward devoting himself mainly to literature. Has published several volumes of poems and plays of a high merit, displaying a refined fancy and a broad philosophic spirit. Was born at Walmer and educated at Eton and Oxford.

Bridget, St., or St. Bride, an Irish saint of the 6th century, who was so beautiful that she desired to be made ugly in order to be free from temptation. St. Bridget's day is Feb. 1.

Bridgewater, Francis Egerton (1736-1803), 3rd (and last) Duke of. The projector of the famous Bridgewater Canal, which was the beginning of the great English canal system, and yielded his family enormous wealth; was absorbed in 1807 by the Manchester Ship Canal Company, who paid £1,750,000 for it.

Bridgewater, Francis, Earl of (1756-1820), grand-nephew of the last-named, and founder of the famous *Bridgewater Treatise*, written by the most celebrated divines and scientists of the day, and devoted to demonstrating the power, wisdom, and goodness of God, as manifested in the Creation.

Bright, John (1811-1889), a Radical Quaker statesman and orator, one of the chief promoters of the Reform movement which led to the introduction of Free Trade. Was President of the Board of Trade, and later Chancellor of the Duchy of Lancaster under Mr. Gladstone until the Home Rule policy was introduced, and was famed as a Parliamentarian and platform speaker.

Brindley, James (1715-1772), an eminent engineer who constructed or laid out 400 miles of navigable waterways in England, including the Bridgewater and Grand Trunk Canals.

Bristol, Bishop of. (See Browne.)

Broadbent, Sir William (1815-1907), was physician to the late King, and consulting physician to St. Mary's Hospital, and to the London Fever Hospital. Wrote on subjects of medical science with distinction.

Broadhurst, Henry (1840-1911), was one of the oldest and most respected of the Liberal-Labour members, an able speaker, and possessed of administrative capacity. He sat for Leicester from 1892 to 1905, when he retired. In Mr. Gladstone's 1880 Government he was Under-Secretary for the Home Department, and was Secretary to the Parliamentary Committee of the Trades Union Congress for fifteen years. Started life as a blacksmith.

Brook, Sir Thomas, R.A. (b. 1847), was the pupil of Foley, and has achieved a high reputation as a sculptor, among his latest work being the Queen Victoria Memorial in front of Buckingham Palace.

Brodie, Sir Benjamin C. (1783-1862), the leading English surgeon of his time, and author of numerous medical works of a standard description. He was medical adviser in succession to George IV., William IV., and Queen Victoria. Was President of the Royal Society, and created a baronet in 1834.

Brown, Charlotte (1816-1855), one of the most gifted novelists of the 19th century. Her *Yanée Eyre*, published in 1847, attracted universal notice, and her

- other novels, *Shirley*, *Villette*, and *The Professor*, are all marked by the force of strong genius. Her sisters, Emily and Anne, also wrote novels and poems, Emily's *Wuthering Heights* and some of her verse showing exceptional power.
- Brooke, Sir James** (1803-1868), an adventurous Englishman who showed great enterprise and administrative ability in his handling of the affairs of Sarawak, of which place he became Rajah, and also Governor of Labuan. His nephew, Sir Charles Brooke (b. 1829), succeeded him, and achieved great success in the suppression of piracy and head-hunting.
- Brooke, The Rev. Stopford A.** (b. 1832), was at one time a popular Church of England preacher and Chaplain to Queen Victoria. In 1880 he separated himself from the Church and became minister of Bedford Chapel, Bloomsbury, but retired in 1895. His leisure has been devoted to literary work, and he is the author of numerous able books, including a *History of Early English Literature*, and *The Life Superlativæ*, a volume of powerful sermons published in 1906. He published a work on Venice in 1907.
- Brougham, Lord** (1778-1868), one of the chief legal luminaries of the 19th century, who made a great name by defending Queen Caroline against George IV., and afterwards rose to political eminence. Was an eloquent advocate of Reform, and became Lord Chancellor in 1830. Contributed to the *Edinburgh Review*, and was an ardent promoter of education.
- Brown, John**, "of Ossawatimie" (1800-1859), the hero of Harper's Ferry, whose action in inciting certain negro slaves to rebel in 1859 struck the note of alarm which resulted in the Civil War. His attempt to take the Arsenal at Harper's Ferry was defeated, and he was hanged, being afterwards regarded as a martyr by the Abolitionists.
- Browne, Charles Farrer (Artemus Ward)** (1834-1867), was one of the most whimsical and amusing humorists America has produced. In addition to his books he wrote and delivered exceedingly funny lectures, and was making an English tour with them when he was seized with his fatal illness, and died at Southampton.
- Browne, Hubert K.** (1815-1889), best known as "Phil." Was the illustrator of Dickens's novels, from the Picken period down to *Little Dorrit*. He caught the humour of Dickens very happily, and his name will always be associated pictorially with that of the great novelist.
- Browne, Rt. Rev. George Forest**, Bishop of Bristol 1897-1914 (b. 1833), educated at Cambridge, Proctor of Cambridge University 1870-1871, 1877-1878, and 1879-1880, Canon and Treasurer of St. Paul's, 1891; and Bishop Suffragan of Stepney, 1895. Has written much on Church History, and is author of a standard work on *the Lives of France and Switzerland*.
- Browne, Sir James Crichton** (b. 1820), a famous specialist in mental disorders, and Visitor in Lunacy for the Lord Chancellor's department for thirty years.
- Browne, Sir Thomas** (1605-1682), the author of antiquary, whose works still attract the devout.
- Browning, Elizabeth Barrett** (1806-1861), an English poetess of eminence who, between 1830 and 1850, wrote many poems, showing great intellectual grasp and imaginative fervour. Some of her works, such as "The Cry of the Children," "Lady Geraldine's Courtship," "The Ransom of the Pigeon," and "Bertha in the Lane," are sure of immortality, and her "Aurora Leigh," a novel in poetic form, is, in portions, on a high level of poetic execution. She was married to Robert Browning in 1846, and afterwards lived mostly in Italy.
- Browning, Oscar** (b. 1837), a versatile man of letters, University Professor, and educationist, whose pen has covered a wide range of subjects. Is author of *Cornelius Nepos*, a *Life of George Eliot*, *Guelphs and Ghibellines*, *Charles XII. of Sweden*, *History of Educational Theories*, *History of Europe*, 1814-1843, etc., and a volume of Reminiscences published in 1910.
- Browning, Robert** (1812-1889), one of the two greatest poets of the later Victorian era. His earlier poems and dramas, though marked by singular insight and power, were far less popular, mainly because of a somewhat obscure and involved style from which he only occasionally freed himself. His "Strafford," and "The Blot on the Scutcheon" were both produced by Macready, and attained some measure of stage success; but Browning was essentially a poet to be read, rather than acted. Some of his dramatic characterisations are of striking power. From about 1864 to 1870 he published many works, and knew at last what it was to be an appreciated poet. His "Men and Women," "Dramatis Personæ," and "The Ring and The Book," contained some of the finest poetry of modern times.
- Bruce, James** (1730-1794), a celebrated African traveller of Scottish birth who successively explored Syria, the Nile Valley, and Abyssinia, and reached the source of the Blue Nile; published in 1790 a notable five-volume work on his discoveries.
- Bruce, Robert** (1810-1895), competed with John Balliol for the Crown of Scotland, and had a distinguished career on both sides of the border.
- Bruce, Robert** (1874-1899), grandson of the above, took part with Wallace in the revolt against Edward I., later leading the popular cause, achieving one victory after another, until at Bannockburn he overthrew the English army and ultimately secured Scottish independence. He reigned twenty-two years as King Robert I.
- Brummell, George** (1778-1840), "Beau" Brummell, the fashion leader in English Society when George IV. was Prince of Wales; was a *bon vivant* and gambler whose excesses involved him in imprisonment and ultimate bankruptcy.
- Brunel, Isambard Kingdom** (1806-1889), a prominent engineer who constructed the more difficult portions of the Great Western Railway, and many other important works, also achieved eminence as a designer of steam-ships, beginning with the Great Western, one of the first steamers to cross the Atlantic, and ending with the Great Eastern, by far the largest vessel that had been built up to the time of its completion in 1859.
- Brunel, Sir Mark Isambard** (1779-1849), father of the last-named, and constructor of the Thames tunnel, finished in 1843.
- Brunner, Rt. Hon. Sir John, Bart.** (b. 1849), a politician and philanthropist engaged with Dr. Ludwig Mond in a great alkali enterprise, and greatly interested in technical education and public affairs; was made a Privy Councillor in 1900, and was M.P. for Northwich from 1885 to 1910, when he retired.
- Brutus, Lucius Junius**, Roman Consul conjointly with Collatinus, 509 B.C. He was celebrated as the avenger of Lucretia, and for his patriotism in putting to death two of his own sons, who had conspired against Collatinus. Expelled the Tarquins and established the Republic, but fell in battle.
- Bryan, Wm. Jennings** (b. 1856), was Democratic candidate for the American Presidency in 1896 and again in 1900, but was defeated both times by McKinley. In 1907 was adopted for the third time Democratic candidate for the Presidency, but was unsuccessful against W. H. Taft. Under the Presidency of Woodrow Wilson in 1913 he received the appointment of Secretary of State.
- Bryant, William Cullen** (1794-1878), an eminent American poet and editor. His first poem, "Thanatopsis," was welcomed both in his own country and in England as the work of a serious poetic mind.
- Bryce, Rt. Hon. James, Viscount** (b. 1838), P.C., O.M. For many years Professor of Civil Law at Oxford. Was Under-Secretary for Foreign Affairs in 1886. Chancellor of the Duchy of Lancaster in 1892, and President of the Board of Trade in 1894. From 1905 to 1907 was Chief Secretary for Ireland; and from 1907 to 1912 British Ambassador to the United States. Among his historical writings his works on *The American Commonwealth* and *The Roman Empire* hold high rank. Published a work on the South American Republics in 1912, and in the same year paid a visit to Australia.

Bucer, Martin (1491-1551), was a noted German follower of Luther, who came to England on the invitation of Edward VI., and was made Professor of Theology at Cambridge.

Buchanan, George (1506-1582), the Scottish historian and tutor to Prince James, afterwards James I.; was the nephew of George Heriot and Moderator of the General Assembly.

Buchanan, James (1707-1768), American diplomatist and statesman, at one time United States Minister in London, and subsequently (1857-1861) President of the United States.

Buchanan, Robert W. (1841-1901), first attracted attention by some books of poems of great merit dealing mainly with humble life, and afterwards blossomed forth as a critic, novelist, and dramatist, being more or less successful in each line. His novel, *The Shadow of the Sword*, and his dramas, "Lady Clare" and "The Charlatan," are prominent examples of his work.

Buckingham, George Villiers, Duke of (1592-1628), the well-known favourite of James I., who afterwards got into disgrace under Charles I., and was assassinated by Felton.

Buckingham, George Villiers, Duke of (1629-1688), son of the last-named. An evil and unscrupulous politician and intriguer, who, after a few years of brilliant existence at the Court of Charles II., retired to his Yorkshire estate and died from fever succeeding a chill caught while hunting. His demise occurred, not in "the worst man's worst room," as Pope put it, but in the house of a tenant at Kirby Moorside. He was the organiser of the unpopular "Cabal" ministry of 1667-1673.

Buckland, Francis T. (1826-1880), son of Dean Buckland, was an instructive and entertaining writer on natural history, and a great authority on everything relating to fishing. He was Inspector of Salmon Fisheries from 1874 down to his death.

Buckland, William (1784-1861), an English clergyman and geologist (father of the foregoing) who held the Deanery of Westminster from 1845 to 1856, and wrote the Bridgewater treatise on *Geology and Mineralogy* and other learned works.

Buckle, George Earle (b. 1854), was educated at Oxford, and made a brilliant start on the editorial staff of the *Times*, becoming editor on the death of Thomas Chertsey in 1884, a position which he held up to 1912, when he retired. Wrote Vol. III. of *The Life of Disraeli*, of which Vols. I. and II. were written by the late Mr. Moneybags.

Buckle, Henry Thomas (1821-1892), the author of *The History of Civilisation in England*, one of the most vigorous productions of the 19th century.

Buckmaster, Sir S. O., M.P., K.C., Lord Chancellor, May, 1915; Solicitor-General 1913-15 (b. 1861), elected for the Keighley Division in 1911. Is an able speaker and has done good service to his party.

Buffon, G. L., Comte de (1707-1788), devoted his life to the study of natural history, and his famous work in thirty-five volumes gave a more elaborate description than had theretofore been published concerning the animal kingdom.

Bull, John (1563-1628), was organist to James I. and composed much acceptable music, including, it is supposed, our National Anthem "God save the King." In his later years was cathedral organist at Antwerp.

Buller, General Sir Redvers (1829-1908), served in many campaigns, and received numerous honours. In China, Ashanti, the Zulu War, Egypt, and the Sudan he won distinction, and in 1889 was Under-Secretary for Ireland, Quartermaster-General from 1887-1890, Adjutant-General 1890-1897. On the outbreak of the Boer War was made commander of the British forces, but owing to reverses, Lord Roberts went out and took supreme command. General Buller afterwards relieved Ladysmith and took an active part in later engagements. After his return to England he displeased his superiors by some remarks at a public dinner, which ended in his being retired on half-pay.

Bülow, Prince Bernhard von (b. 1849) after a distinguished career in Rome, Vienna, St. Petersburg, Roumania, Spain, and elsewhere, from 1900 to 1909

was Chancellor of the German Empire and Prime Minister of Prussia.

Bulwer-Lytton, Edward. (See *Lytton, Edward Bulwer-Lord*.)

Bunsen, Baron Christian von (1791-1880), a German diplomatist and scholar, who was Prussian ambassador to England from 1842 to 1854, and wrote numerous historical works of importance.

Bunsen, Robert Wilhelm (1811-1899), noted German chemist, discoverer of the metals cesium and rubidium, and inventor of the Bunsen burner, battery, and pump. Made many important observations in spectrum analysis.

Bunyan, John (1628-1688), was originally a travelling tinker and fought with the Cromwellians. Joining a Baptist Society in Bedford in 1655, he became imbued with religious enthusiasm and was for some years a popular preacher. After the Restoration he was thrown into prison, and there wrote his *Pilgrim's Progress* and *The Holy War*, the two finest allegorical works in this or any language.

Burdett-Coutts, Baroness (1814-1906), youngest daughter of Sir Francis Burdett, and granddaughter of Thomas Coutts, the banker, whose vast fortune came to her in 1837, through the Duchess of St. Albans, who had been Coutts's wife. The Baroness's public and private munificence covered almost every department of charitable effort. She married in 1881 Mr. W. L. Ashmead-Bartlett, who assumed the additional surname of his wife. She was buried in Westminster Abbey.

Burgh, Hubert de, one of the Magna Carta barons, and Regent during the minority of Henry III., and for some years afterwards chief Minister.

Burghley, Cecil, Lord (1520-1598), Secretary to Lord Protector Somerset, an influential statesman under Edward VI. and Queen Mary, and subsequently Queen Elizabeth's favourite Minister for forty years.

Burke, Edmund (1730-1797), the son of a Dublin attorney, went to London in 1756, and made his mark in literature by his famous work on the *Sublime and Beautiful*. Later on was private secretary to the Marquis of Rockingham, then Premier, and entered Parliament, where he quickly made a name. An able and earnest debater, he took part in all the great movements of his time, and in 1795, after his retirement, was awarded a handsome pension from the Civil List.

Burnard, Sir Francis Cowley (b. 1837), was educated for the bar, drifted into journalism and play-writing and for many years was a highly successful burlesque-writer, as well as the author of numerous plays. Joined the staff of *Punch* when twenty-seven, and was subsequently editor of that journal for a quarter of a century. He was knighted in 1902, and retired from *Punch* in 1906. A Civil List pension of £500 was conferred on him in 1907.

Burne-Jones, Sir Edward (1833-1898), an English painter of singular power, who at first modelled himself upon Rossetti, whose influence is more or less visible in most of his works. A sad mysticism dominates his pictures, but the colour scheme, the design, and the poetic charm are always evident. His most famous works are "The Days of Creation," "The Mirror of Venus," "The Briar Rose," and "King Cophetua." He was elected A.R.A. in 1885 but resigned in 1893, and was made a baronet in the following year.

Burnet, Bishop Gilbert (1643-1715), was a prominent prelate and historian of the time of William and Mary, being appointed to the see of Salisbury. His *History of the Reformation and History of His Own Times* are valuable contributions to the sum of historical knowledge.

Burnett, Frances Hodgson (b. 1849), is a native of Lancashire, but ranks with American novelists, having lived in the United States since 1865. *That Last Lord's*, published in 1877, established her fame as a novelist, since which she has written *Little Lord Fauntleroy*, *Little Saint Elizabeth*, and many others of merit and distinction.

Burney, Charles (1736-1814), achieved celebrity as the writer of a history of music, and as the father of

Frances Burney (Madame D'Arbly) the authoress of *Evelina* and other novels.

Burney, Frances. (See *D'Arbly, Madame.*)
Burnham, Baron. (b. 1833), has been connected with journalism all his life, being the son of the late Mr. J. M. Levy, whose connection with the cheap press is well known. Baron Burnham has for many years been chief proprietor of the *Daily Telegraph*, a paper which, under his direction, has obtained a world-wide reputation and an enormous circulation.

Burns, Rt. Hon. John, M.P. (b. 1838), the most prominent of parliamentary Labour representatives. A working man and a friend of working men, and came into special prominence during the great strike of dockers. Has represented Battersea in Parliament since 1892, and was for a number of years an active member of the London County Council. Was President of the Local Government Board, 1905-1914, in March, 1914, became President of the Board of Trade, but resigned the office when the war broke out in Aug. 1914.

Burns, Robert (1759-1796), Scotland's greatest poet. Started the world with a little book of poems in 1786 which proclaimed him a true son of the muses. With the £500 that his book yielded him he bought a farm, obtained an appointment with the Excise in 1789, and for the last five years of his life lived at Dumfries. In his career he poured forth song after song of emotional tenderness, and made himself immortal. It was a glorious humanity of which he was the inspired mouthpiece.

Burritt, Ellhu (1810-1870), the "Learned Blacksmith," was a well-known American linguist, writer and publicist, and founder of "The League of Universal Brotherhood"; was U.S. Consul at Birmingham for many years.

Burrows, Rt. Rev. L. H., D.D., Bishop of Sheffield since Feb. 1914 (b. 1857). Educ. Charterhouse and New College, Oxford. Successively Vicar of Wrecklesham, Goddington, Croydon, Hove, and Suffragan Bishop of Lewes.

Burt, Rt. Hon. Thomas, M.P., P.C. (b. 1837), was a pit-lad, and later became a trades-union official of the old school, and was returned M.P. for Morpeth in 1874, holding the seat for nearly forty years, and winning wide esteem for his straightforwardness and sturdy political conduct.

Burton, Sir Richard (1821-1890), explorer, Orientalist and diplomatist, who became famous after making a pilgrimage to Mecca in 1853 disguised as a Mohammedan. Later he did much exploring in Central Africa, and wrote some of our most popular books on that region. Entered the Diplomatic Service in 1861 and was successively Consul at Fernando Po, Santos in Brazil, Danavos, and Trieste. Perhaps his greatest work was the translation of the *Arabian Nights* in their fullness. This work is in sixteen volumes.

Butler, Samuel (1612-1680), renowned as the author of "Hudibras," one of the wittiest poems in the language, and one of the most quoted. His last years were spent in poverty, and he was buried in the Churchyard of St. Paul's, Covent Garden, and given a memorial in Westminster Abbey, "that he who was destitute of all things when alive might not want a monument when dead."

Butler, Lieut.-General Sir William (1838-1901), soldier, traveller, and author, saw service in many lands; Canada (1870); Ashanti (1871); Zulu War, Egypt, etc.; appointed to command in South Africa, Dec. 1898, but a few months later resigned; in 1899 was given command of the Western District, finally retiring from the army in 1905. Among his books, *The Great Lone Land* (1872) and *The Wild North Land* were conspicuous successes. His wife (née Elizabeth Thompson) painted "The Roll Call."

Bust, Madame Clara (b. 1823), the leading English contralto, made her first professional appearance in London in 1852. Her success was immediate. She was married to Mr. Kennerley Rumford—also an able vocalist—in 1900.

Buxton, Rt. Hon. Sydney C., Lord, Governor-General of South Africa since 1914 (b. 1853), M.P.

for Poplar 1886-1914; Colonial Under-Secretary 1892-1895; Postmaster-General (with Cabinet rank) 1905; President Board of Trade 1910-1914. Served on Royal Commission on Education, 1886-1889; member of Income Tax Committee, 1904. An active Liberal political writer and speaker.

Buxton, Sir Thomas Fowell, Bart. (1785-1845), a philanthropist and abolitionist, the friend of Wilberforce, and a distinguished prison reformer. He was made a baronet in 1840, and there is a statue to his memory in Westminster Abbey.

Syng, John (1704-1757), son of Viscount Torrington, after a brilliant career in the navy was made—like his father before him—an Admiral, and sent on an expedition to Minorca, to attack the French who were besieging the place. For some reason he failed to perform the duty entrusted to him. Was tried by court-martial and sentenced to death, being shot on shipboard at Spithead.

Byron, Henry James (1834-1884), an assiduous playwright for the last twenty years of his life, producing numerous burlesques of a class then in vogue, and also writing a number of comedies, some of which attained great success, notably "Our Boys," which ran from January, 1875, to April, 1879, in London, and proved equally popular in the provinces.

Byron, Lord (1788-1824), was the poet who exercised the greatest influence upon European thought during the early part of the 19th century. Educated at Harrow and Cambridge, he published his "Hours of Idleness" at twenty, a volume which was violently attacked by the *Edinburgh Review*, and provoked the retaliatory "English Bards and Scotch Reviewers," which caused a great sensation because of its unparing criticisms of the writers of the day. His "Childe Harold's Pilgrimage," the first two cantos of which were published in 1812, at once placed him in the front rank of poets, and thenceforward to the time of his death he continued to produce poems, most of which were marked by an intense Republican sentiment, yet full of passion and charm and beauty. He made an unhappy marriage in 1815 with the daughter of Sir Ralph Milbanke, from whom he parted after a twelvemonth. He lived abroad for the rest of his life, and died at Missolonghi, whither he had proceeded with the view of aiding the Greeks in their battle for national independence.

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Cabot, Sebastian (1477-1497), a naval explorer of note who was born at Bristol, and discovered Labrador in 1497. Later he closely surveyed 1,500 miles of American coast, and entering the service of Spain, made further voyages of discovery for the Emperor Charles V. His later years were spent in England, Edward VI. granting him the appointment of Grand Pilot. He was the son of John Cabot, an Italian navigator in the English service, and with his father was engaged in the search for the north-west passage to India under the patronage of King Henry VII.

Cadbury, George (b. 1839), a prominent member of the Society of Friends, a well-known philanthropist, an ardent Liberal, chief proprietor of the *Daily News and Leader*, and head of the firm of Cadbury Bros., Bourneville. Has taken the lead in the Garden City project, and the village of Bourneville may be regarded as the first enterprise of the character to be practically completed; it has an endowment of over £500,000.

Cade, John, an adventurous Irishman who, in 1495, headed an insurrection, and entered London with 30,000 men, defeating the Royal forces at Sevenoaks on the way, and committing the wildest excesses. Cade was himself killed the same year near Heathfield in Sussex by a Kentish sheriff named Iden. Cade assumed the name of Mortimer, and it was from the "London Stone" in Cannon Street that he harangued his followers.

Cadmus, founder of Thebes, 550 B.C., was a Phœnician, and is said to have introduced the alphabet into Greece.

Cadogan, Earl (b. 1840), Conservative statesman; has been Lord-Lieutenant of Ireland and Lord Privy Seal, previously serving in the minor Ministerial offices of Under-Secretary for War and the Colonies. First Mayor of Chelsea, 1900.

Cædmon, an Anglo-Saxon monk of Whitby, and the first of our native poets. He paraphrased the Scripture with poetic effect, and wrote the story of King Lear and his Daughters. He died about 680.

Cæsar, Julius (100-44 B.C.), achieved fame as a Roman general, and afterwards exercised great influence in Rome by his oratory. Was appointed successively military tribune, quaestor, ædile in 65, and pontifex maximus in 63. A year later he was prætor, and then formed one of the first triumvirate. His military exploits continued to fill the Romans with admiration. He invaded Gaul and Britain, and afterwards entered upon the Alexandrine war, which brought him into contact with Cleopatra, whose power over him did not cease till his death. On his return from Africa in 44 the Crown was offered to him, a circumstance which caused the aristocratic party to compass his assassination.

Caigiostro, Count (1743-1795), an Italian charlatan whose real name was Joseph Balsamo, who for a time had an extraordinarily successful career at the different courts of Europe. He came to grief in connection with the Marie Antoinette diamond necklace scandal, for which he was imprisoned in the Bastille, but escaped. He was afterwards imprisoned in the London Fleet and at Rome, and died in the fortress of San Leone.

Caine, Hall (b. 1853), the well-known novelist, who after spending some years as a journalist joined Dante G. Rossetti, with whom he lived until his death in 1882. Subsequently published some sonnets and critical books, and in 1885 produced his first novel, *The Shadow of a Crime*, which was successful and clearly indicated that he had found his vocation. Since then he has produced numerous novels, including *The Deerstalker*, *The Manxman*, *The Christian*, and in 1904 *The Prodigal Son*. His *The Woman Thou Gavest Me* was one of the fiction sensations of 1913. Several of his novels have been dramatised by himself. He has made a considerable fortune by his writings.

Caird, Edward (1835-1908), was for twenty-eight years Professor of Natural Philosophy at Glasgow University. On the death of Professor Jowett he succeeded him as Master of Balliol College, but retired in 1907.

Caird, Mrs. Mona, a dating writer on marriage problems and novelist, whose story, *The Wings of Israel*, published in 1889, created considerable stir, and has been followed by numerous other notable novels.

Cairns, Earl (1819-1885), was one of the ablest lawyers of his day, who, on entering Parliament in 1859, soon gained a high reputation for eloquence and statesmanship. He was appointed Solicitor-General in 1858 by Lord Derby, was subsequently Attorney-General and a Lord Justice of Appeal, and under Mr. Disraeli became Lord Chancellor in 1868, serving in the same capacity in the second Disraeli Administration. In 1878 he was elevated to an Earldom.

Claus, Dr. John (1510-1573), was physician to Edward VI. and Queens Mary and Elizabeth, and nine times President of the College of Physicians. His name is commemorated in Claus College, Cambridge.

Calamy, Edmund (1600-1666), a Puritan theologian who engaged with much enthusiasm in the religious controversies of his time. Although he was one of the Assembly of Divines, and continued a Nonconformist, he was made one of the King's Chaplains at the Restoration, but became a seceder under the Act of Uniformity and died in retirement.

Caldecott, Randolph (1846-1880), a book-illustrator of great merit and humour. Left a position as bank clerk at Manchester in 1872, and settled in London, where for the rest of his life he was a successful producer of black and white illustrations.

Calderon de la Barca, Pedro (1600-1681), a Spanish dramatist of great eminence whose plays

number nearly 200. He was writer of court spectacles for Philip IV.

Caligula, Calpurnius Cæsar, was the third of the Roman Emperors, who from a peaceful beginning in A.D. 37, worked up to a sanguinary and licentious ending. He was murdered in A.D. 41, after having disgusted the people with his monstrous acts.

Calcott, Sir Augustus Wall (1779-1844). Attained great eminence as a landscape painter, being elected R.A. in 1810 and knighted in 1837.

Calcott, John Wall, Mus. Doc. (1766-1821). Brother of the preceding. A composer to whom we owe many delightful glees and a musical grammar.

Calvé, Madame Emma (b. 1866). One of Europe's most famous *prime dorees*; made her first appearance as Marguerite in Coucou's "Faust" at Brussels in 1882; sang in Mascagni's "Cavalleria Rusticana" at Covent Garden ten years later. Her greatest part is Carmen.

Calverley, Charles Stuart (1831-1884), was educated at Harrow and Oxford, and from 1858 to the time of his death published numerous verses and translations, which enjoyed much favour. As a writer of society verses he particularly excelled.

Calvin, John (1509-1541), one of the leading Reformers of the 16th century. Was born in France and attained great popularity as a preacher in Paris, but was expelled, and subsequently lived at Geneva, where he continued to preach the new doctrine giving it that special shape which resulted in the formation of the Calvinist body, distinguished by its greater austerity from that of the Lutherans. Calvin's writings comprise fifty-three volumes.

Cambron, M. Paul (b. 1843), French Ambassador in London from 1898, and one of the authors of the French Treaty with Great Britain.

Cambridge, H. R. H. the Duke of (1819-1904), was grandson of George III. and cousin to Queen Victoria. Entered the British Army in 1837, receiving the rank of colonel, and held various appointments in Ireland and elsewhere. In 1854, four years after he had succeeded to the dukedom, was sent to the Crimea to take up a command, and was present at the battles of the Alma, Balaklava and Inkermann. In 1862 was appointed Commander-in-Chief, a post which he held with no little distinction for 33 years. He resigned in 1895.

Camden, William (1551-1623), an antiquary, historian, and master of Westminster School, whose researches, especially in the field of topography, have been of the greatest value. He became Clarenceux King-at-Arms, and was buried in Westminster Abbey. The Camden Society is named after him.

Cameron, Richard, one of the Scottish 17th century preachers who raised the standard of revolt in defence of the Solemn League and Covenant; he was after many vicissitudes, slain in combat near Aird's Moss, Ayrshire, in 1660. The members of the Reformed Presbyterian Church were afterwards called "Cameronians."

Cameron, Verney Lovett (1844-1894), a noted African explorer who was the first to cross the African continent from east to west. Explored Lake Tanganyika, and made many valuable geographical discoveries. In 1872 went out to find Livingstone, and in 1873 met a party of natives bearing the dead body to the coast.

Camillus, Marcus Furius, was five times Dictator of the Roman Republic, a supporter of the patrician order, and one of the most successful of the Roman generals. He died of the pestilence, B.C. 396.

Camões, Luis de (1524-1579), the author of the "Lusiad," the great epic poem of Portugal, which sets forth the adventures of the discoverers of India, and celebrates the achievements of the principal personages in Portuguese history.

Campbell, John, Baron (1779-1861), an eminent lawyer who entered Parliament in 1830. Became Attorney-General in 1834, Irish Chancellor in 1841, Chancellor of the Duchy of Lancaster in 1846, Chief Justice of the Queen's Bench in 1850, and Lord Chancellor in 1859. He inaugurated important legal

- reforms in connection with newspaper libel and the power of arrest in cases of disputed debt; and also wrote the *Lives of the Lord Chancellors*; and the *Lives of the Chief Justices*.
- Campbell, Rev. R. J.** (b. 1867), one of the popular Congregationalist preachers of the day, and pastor of the City Temple, London, succeeding the late Dr. Parker. A man of great earnestness and eloquence, and one of the religious forces of the time. A keen politician of Socialistic tendencies, and propounder of what is called the "New Theology."
- Campbell, Thomas** (1777-1844), the well-known poet who at twenty-two published "The Measures of Hope," a British classic. Many of his lyrics and songs take high rank, notably "Ye Mariners of England," "Hohenlinden," "The Battle of the Baltic," and "The Exile of Erin." He was granted a Crown pension of £200 a year, and was buried in Westminster Abbey.
- Campbell-Bannerman, Rt. Hon. Sir Henry** (1836-1908), Premier and First Lord of the Treasury in the Liberal Ministry formed by him in December, 1905, until shortly before his death in April, 1908. Was educated at Glasgow University and Trinity College, Cambridge. Entered Parliament in 1868. From 1871-1874 was Financial Secretary at the War Office and again from 1880-1882; Secretary to the Admiralty 1882-1884; and Chief Secretary for Ireland 1884-1885. In 1889 he was Mr. Gladstone's Secretary for War, and filled the same office also in 1892-1895 under Lord Rosebery. Upon the defeat of the Rosebery Ministry in 1895, Sir Henry was forced into Opposition, and was chosen subsequently to succeed Sir William Harcourt as Leader of his Party. He became Prime Minister at the close of 1905, and formed a Government which received a very large majority at the ensuing General Election. A statue of Sir Henry was unveiled at Stirling by Mr. Asquith, Nov. 1, 1912.
- Canning, Charles John, Earl and Viscount** (1782-1828), third son of George Canning, was Postmaster-General 1823-1825, and Governor-General of India 1825-1826.
- Canning, George** (1770-1827), entered Parliament in 1793 and became a great orator and a devoted adherent of Pitt, and without his services first as Under-Secretary of State and later as Treasurer to the Navy. He was Secretary for Foreign Affairs under the Duke of Portland, and in 1807 became Prime Minister, but died four months later.
- Canning, Viscount Stratford de Redcliffe** (1786-1838), cousin of George Canning, was the distinguished diplomatist who carried out many difficult and delicate missions abroad with brilliant success, and was apostrophised by Tennyson as "the voice of England in the East." The statues of the three Cannings stand side by side in the North Transept of Westminster Abbey.
- Canova, Antonio** (1757-1822), an Italian sculptor, whose influence was highly marked, and whose works achieved the first eminence. In 1802 was appointed chief curator of Roman works of art by Pope Pius VII., and afterwards was made Marquis of Ischia.
- Canterbury, Archbishop of.** (See **Davidson**.)
- Canute the Great** (905-1035), invaded England with a Danish force, and in 1033 succeeded in dethroning Ethelred the Unready, and setting up his own father, Sweyn, in Ethelred's stead. Sweyn dying in 1044, Canute claimed the crown, but it took him some years to firmly establish himself. He developed into a wise and beneficent sovereign, and reigned until 1035 peacefully.
- Caracalla, Marcus Aurelius** (A.D. 188-217), a native of Gaul, who became Roman Emperor in succession to his father, Severus, when the latter died at York in 211. Caracalla made evil use of his opportunities, proved himself excessively selfish and cruel, and was assassinated by one of his guards.
- Caractacus** was the name by which a Prince of ancient Britain became famed for his resistance to the Romans in the 1st century. He was ultimately captured and taken prisoner to Rome, where the Emperor Claudius was so moved by his dignity of bearing that he pardoned him.
- Carew, Bamfylde Moore** (1693-1770), the son of a Devonshire clergyman, acquired notoriety by long association with gypsies, who styled him their "King."
- Carew, Thomas** (1529-1639), a poet of great tenderness whose graceful songs were highly popular in their day, and long retained their place in collections of British poetry.
- Carey, Henry**, was an illegitimate son of George Savile, Marquis of Halifax, and was very popular for a number of years as a writer of light dramatic pieces, in which lyrics formed a chief feature. His best known song is "Sally in Our Alley," still familiar to everyone. Died in 1743.
- Carey, William, D.D.** (1761-1831), the first Baptist missionary to proceed to India, and from 1800 to 1830 Professor of Oriental Languages at Port William College, Calcutta. Became famed as an Oriental scholar, and published twenty-four different translations of the Scriptures.
- Carleton, William** (1708-1869), an Irish novelist whose stories had great vogue during the first half of the 19th century. His *Traits and Stories of the Irish Peasantry* are probably unequalled in true depiction of the lives, trials and amours of the Irish people of the novelist's time. He for many years enjoyed a crown pension of £200.
- Carlike, The Rev. Prebendary W.** (b. 1847), is Rector of St. Mary-at-Hill, and founder of the Church Army, which was started in 1882, and has upwards of 800 trained workers, the organisation involving an expenditure in mission work, distributions and relief of £170,000 a year. Mr. Carlike is an indefatigable worker in this cause.
- Carlike, Bishop of.** (See **Diddle**.)
- Carlyle, Thomas** (1795-1881), was educated at Edinburgh University, and, after passing through some years of teaching drudgery, settled in London in 1824 and began the career of a serious man of letters; but, marrying Jane Welsh in 1826, returned to Scotland and spent the next few years on a farm at Craigenputtock, coming to London again in 1834. Meanwhile he had written much that had attracted serious attention in the highest literary circles, and was generally regarded as equipped for future literary greatness. His *Sartor Resartus* was published in 1833-1834. In 1837 he gave a series of historical lectures in London, and in 1839 his *Charmian* appeared. From that time forward his pen never relaxed. His *French Revolution, Past and Present, Life and Letters of Oliver Cromwell, Latter-Day Pamphlets* and *Frederick the Great* were works of noble conception, of undoubted brilliance, and lofty aspiration.
- Carmen Sylva** (b. 1843), the pen name of the Queen of Rumania, who has achieved no small fame as a poetess, and for good deeds and noble charities.
- Carnegie, Andrew** (b. 1835; in Dunfermline, Scotland), emigrated to America with his father in 1848, and after passing through much menial employment became connected with the Pennsylvania Railroad, as Divisional Superintendent at Pittsburgh, and ultimately established the Carnegie iron works, from which he retired in 1901 with a fortune of many millions. His munificent gifts for Free Libraries, educational work, and charitable objects generally are well known. In 1912, at the opening of the Palace of Peace at the Hague, of which he bore the cost, he was the recipient of many honours. His Scotch seat is Skibo Castle, Sutherlandshire.
- Carnot, General Lazare** (1753-1823), was a prominent figure in the French Revolution, and member of the Committee of Public Safety under Robespierre. Later on was Minister of War under Napoleon, while the latter was consul.
- Carnot, Marie Françoise S.** (1829-1894), grandson of the last-named. Elected to the French National Assembly in 1879 and in 1887 became President of the Republic. Was assassinated by an Anarchist at Lyons in 1894.
- Caroline, Queen**, wife of George IV. (1768-1821), was married to her husband in 1795 while he was

Prince of Wales. The Royal couple lived together only a very short time. When George succeeded to the throne in 1830 the Queen took steps to assert her position, and the King retaliated by having a Bill introduced to dissolve the marriage; the result was the famous trial before the House of Lords, when Lord Brougham distinguished himself by a most eloquent defence of the Queen. The Bill was passed by a narrow majority, but public feeling was too strong on the side of the Queen to admit of its being enforced, and she died the following year.

Carpenier, William Benjamin (1813-1885), an eminent doctor and scientist, whose *Principles of Physiology* is a standard text-book, and whose deep-sea dredging expeditions yielded rich results.

Carrington, Earl of. (See **Lincolnshire, Marquess of.**)

Carson, Rt. Hon. Sir E., M.P. (b. 1854), has had a highly successful career first at the Irish and then at the English Bar, being called to the former in 1877 and to the latter in 1893. Was elected M.P. for Dublin University in 1902; in 1904 was made Solicitor-General and knighted. Was before that first Solicitor-General and then Attorney-General in Ireland. From 1910 to the outbreak of the war in 1914 led a semi-militant organisation in Ulster against the Home Rule Bill.

Cartier, Jacques, the famous 15th century navigator, born at St. Malo, whose exploration of Canada, and especially of the gulf and river of St. Lawrence, proved of great geographical importance.

Cartwright, Edmund, D.D. (1743-1823), was rector of Goadly Marwood, and while visiting Buxton had his attention drawn to certain mechanical problems, and set to work and invented the power loom, and later on also invented a wool-counting machine. Although these inventions were ultimately developed into fortune-making instruments, they benefited their inventor but little, and in 1809 Parliament made him a grant of £10,000. In 1904 a Cartwright Memorial Hall was opened at Bradford, the gift of Lord Masham, in commemoration of Cartwright's achievements.

Caruso, Signor, the celebrated tenor, was born in Florence, and made his first operatic appearance in his native city. His success has been unbounded. Besides being a great singer, he is a man of many activities, and, among other things, is a clever caricaturist.

Casabianca, Louis (1754-1798), captain of the French flagship *L'Orient* at the battle of the Nile. He and his ten-year-old son died together in the burning ship, refusing to quit the vessel.

Cassel, Rt. Hon. Sir Ernest, G.C.B., P.C., etc. (b. 1852), one of King Edward VII.'s personal friends, and a great financier. Endowed, in his Majesty's name, a sanatorium for convalescents at a cost of £200,000. He made a gift of a similar amount for the benefit of poor Germans in England and poor English in Germany.

Cassius, Longinus, a distinguished Roman general who opposed the Dictatorship of Julius Caesar, and took part in his murder. He died in 42 B.C., after being defeated by Mark Antony.

Castlereagh, Lord (1769-1822), British Minister of War and Foreign Secretary during the Napoleonic wars, who incurred much unpopularity because of the disastrous condition of home affairs. Succeeded to the Marquessate of Londonderry in 1821, and ended his life by suicide the following year.

Catherine, St., was the name borne by a celebrated virgin of Alexandria, who was put to death in 307 for professing Christianity, being, according to some accounts, tortured on a spiked wheel before execution, though other authorities aver that the intended torture was miraculously prevented. From this we get the term "St. Catherine's wheel." Her festival is on November 25th.

Catherine of Aragon (1489-1536) first wife of Henry VIII., having previously been the wife of Arthur, Henry's elder brother, who died shortly after the marriage. She was the daughter of Ferdinand and Isabella of Spain. The king divorced her in 1536.

Catherine II., Empress of Russia (1729-1796), wife of Peter III., who was murdered; succeeding him, she proved herself a capable ruler for a time, but ultimately gave way to licentious excesses, which almost ruined Russia by her heavy cost. She was called the "Semiramis of the North."

Catherine de' Medici (1519-1589), wife of Henry II. of France, and a woman of commanding power and influence, especially during her Regency, which continued while her son Charles IX. was in his minority. Her antagonism to the Protestants led to the Massacre of St. Bartholomew. In spite of her cruelty, she was an able woman, and showed a great appreciation of art and literature.

Catiline, Lucius Sergius (108-62 B.C.), made himself notorious for the conspiracy he plotted, but failed to carry to success, against the Consul Cicero. He was impeached before the Senate, expelled from Rome, and ultimately slain in battle.

Cato, Marcus Porcius (234-150 B.C.), a Roman statesman, soldier, and writer, of strict virtue, simplicity and wisdom, who strongly condemned the luxury of his time. He was surnamed "the Censor." He wrote a history, still extant in fragments.

Cato, Marcus Porcius, the Younger (95-46 B.C.), great-grandson of the last-named; after some military experience was elected Tribune, and on the outbreak of the Civil War in 49 sided with Pompey. Being in danger of capture, he retired to his tent, read portions of Plato's *Phaedo*, and then slew himself rather than be taken by the enemy.

Cattermole, George (1800-1868), a noted book-illustrator and water-colour artist, whose drawings for Scott's novels, Shakespeare's plays, and other works were marked by much delicacy.

Catullus, Gaius Valerius (87-54 B.C.), an elegant Roman poet, whose lyrics to Lesbia are amongst the finest compositions of the kind in literature.

Cavaignac, Eugene Louis (1802-1857), a prominent French general of Republican principles who, on the outbreak of the Revolution of 1848, was made Dictator of Paris, and unsuccessfully opposed Louis Napoleon for the office of President. After that he lived in retirement, and refused to take the oath to the Emperor after the Coup d'Etat.

Cavendish, Lord Frederick Charles (1835-1889), adopted a political career, and gave promise of future eminence, but in 1889, after being appointed Chief Secretary for Ireland, was assassinated along with Mr. Burke in Phoenix Park.

Cavendish, Sir Thomas (1757-1902), an adventurous English navigator who, in addition to adding considerably to the geographical knowledge of his time, made many daring attacks upon the Spaniards and secured much booty. He died at sea.

Cavour, Count di (1810-1861), a distinguished Italian statesman, who, as Premier and adviser to Victor Emmanuel, did much to secure the unification of Italy.

Cawdor, Earl (1847-1911), an Ecclesiastical Commissioner 1895-1905, chairman of the Great Western Railway, and First Lord of the Admiralty, 1905.

Caxton, William (1422-1491), was born in Kent and employed in commerce for a time. While visiting Flanders he obtained an insight into the then new invention of printing, and afterwards set up a printing-press of his own at Westminster, where he published a number of black letter books.

Cecil, Lord Hugh, M.P. (b. 1863), son of late Marquis of Salisbury, was educated at Eton and Oxford, and represented Greenwich in Parliament 1895-1906, proving himself a clever debater and a Free Trader. He was elected M.P. for Oxford University in 1910.

Cecil, Lord Robert, M.P. (b. 1864), fourth son of the third Marquis of Salisbury, whose private Secretary he was. Took an active part in the Home Rule and Welsh Disestablishment discussions, and was a prominent member of the Marconi Committee. Sat for East Marylebone from 1906 to 1910. Returned for Hitchin, 1911.

Cecilia, St., the patron saint of music. Was a Christian martyr of the 3rd century. She is said to have been the first to introduce instrumental with

vocal music into Christian worship. Her festival day is November 22nd.

Cardie, a Saxon who invaded Wessex in the early part of the 6th century, and made himself ruler of that kingdom, becoming ancestor of the English Royal line. He conquered the Isle of Wight in 530.

Cervantes (1547-1616), famous throughout the world as the author of *Don Quixote*. He had a most adventurous career, taking part in many military expeditions, and not turning to literature until his retirement from the profession of arms. In spite of the great success of his work, he died in poverty.

Chad, St., was Bishop of York and subsequently of Mercia in the 7th century, and won much renown for his piety and learning.

Chalmers, Sir Mackenzie Dalzell, K.C.B., C.S.I. (b. 1847), was permanent Under-Secretary of State for the Home Department 1903-8. Educated at King's College, London, and Oxford, and is a son of Dr. F. S. C. Chalmers. Called to the Bar 1869 and has served the offices of Revising Barrister, Counsel to the Board of Trade, County Court Judge, law member of the Council of the Viceroy of India, and Chief Justice of Gibraltar.

Chalmers, Thomas, (1759-1847), a Scottish Free Church Minister and philosopher who made a great name as preacher and writer on theology.

Chamberlain, Rt. Hon. Joseph (1836-1914), was born at Camberwell Grove, London. Made a fortune in screw manufacture in Birmingham, after which he did much active municipal work at Birmingham. In 1876 he entered Parliament, and became a national political figure. At first he was an enthusiastic Liberal with Republican tendencies, and served various offices under Mr. Gladstone. When the Home Rule split occurred, he became the most active member of the Liberal Unionist party. In 1895 he accepted office as Secretary of State for the Colonies under Lord Salisbury, and in that post won a great reputation, notwithstanding the fact that during his term of office he had the Boer War to contend with, and that outside his own party he was regarded as being the chief author of the trouble. In May, 1903, he caused great sensation by suddenly advocating a scheme of fiscal reform, involving a partial return to Protection. This policy, for the better advocacy of which he resigned the Colonial Secretaryship, was adopted as one of the leading planks of the Unionist platform.

Mr. Chamberlain was incapacitated by illness from parliamentary duties for some years prior to his death.

Chamberlain, Rt. Hon. J. Austen, M.P. (b. 1863), eldest son of Mr. Joseph Chamberlain, was educated at Rugby and Cambridge, and has represented East Worcestershire since 1892. Has filled the positions of Civil Lord of the Admiralty, Financial Secretary to the Treasury and Postmaster-General, and in 1905 became Chancellor of the Exchequer, which position he sustained until the Liberals came into power at the end of 1905.

Chambers, Robert (1802-1871), the younger of the brothers William and Robert Chambers, the well-known publishers of popular literature and founders of *Chambers's Journal*. Early showed literary gifts and, besides being a chief contributor to the *Journal* and other publications issued by the firm, was the author of *Vestiges of Creation*, a work published anonymously that went through many editions before its author's name was known.

Chambers, William (1800-1889), brother of the last-named. Was the business genius of the firm, and by his high character and public spirit was much esteemed by his fellow citizens, becoming Lord Provost of Edinburgh, and living to receive the offer of a baronetcy, which he died before he was able to accept.

Chambers, Sir William (1726-1793), a British architect, who rebuilt Somerset House in 1775.

Chambers, Henri Charles, Comte de (1850-1893), son of the Duc de Perri, was regarded as the Bourbon claimant to the French throne after the overthrow of Napoleon III., and there were times when success seemed almost within his grasp, but he allowed opportunities to pass, and lived in retirement during the later years of his life.

Champlain, Samuel de, a French navigator who founded Quebec in 1608, and in the following year discovered the lake known by his name.

Chancellor, Richard, the trade pioneer and seaman, who in 1753 made his way to Moscow and negotiated a trading treaty for England with Russia, and led to the formation of the Muscovy Company.

Channing, William Ellery (1780-1842), an American Unitarian minister and writer, whose efforts in the cause of slavery abolition were greatly appreciated, and whose sermons and writings displayed great power and earnestness. His nephew (also called William Ellery) was a gifted journalist, poet, and general writer (1818-1901).

Chantrey, Sir Francis (1781-1841), a renowned English sculptor who contributed many fine statues to Westminster Abbey and St. Paul's. He was made an R.A. in 1818, and received a knighthood in 1836. He left a considerable fortune to the Royal Academy, to take effect after Lady Chantrey's death, and to be appropriated in the purchase of works of art for the encouragement of sculpture and painting.

Chaplin, Rt. Hon. Henry, M.P. (b. 1842), entered Parliament in 1868 and sat as a Lincolnshire county member for thirty-eight years; during which period he successfully filled the offices of Chancellor of the Duchy of Lancaster, President of the Board of Agriculture, and of the Local Government Board. Has been a consistent Protectionist from the first, and advocated Mr. Chamberlain's subsequent Fiscal Policy long before that gentleman had any thought of abandoning Free Trade. Mr. Chaplin has perhaps won more renown as a sportsman than as a politician. He lost his old seat in 1906, but has sat for Wimbledon since 1907.

Chapman, George (1559-1634), an Elizabethan dramatist, who acquired more fame by his translation of Homer than by his plays. Keats's sonnet on reading Chapman's "Homer" is a splendid tribute to the old dramatist.

Charlemagne (742-814), the celebrated ruler, general, and statesman, who from being King of the Franks became Emperor of the Romans, and governed an empire comprising Gaul, Italy, and large parts of Spain and Germany. His rule was as wise as it was powerful.

Charles Edward (Stuart), the "Young Pretender," as he came to be called (1745-1788), grandson of James II., and the hero of 1745, lived in exile after Culloden, and his later career was mainly one of dissipation.

Charles I. (1600-1649), succeeded his father James I. as King of England in 1625, and from the first was in more or less conflict with Parliament. His monetary demands, and unjust taxation led to the violent opposition which resulted in the Civil War, the story of which is known to every reader of history. He was beheaded in front of the Banqueting House at Whitehall, Jan. 30, 1649.

Charles II. (1630-1685). Was in command of the Royalist forces in the West during the Civil War, and escaped to the Continent after Naseby. Subsequently he became the King at the Restoration, and, following upon the sober quietude of the Commonwealth period, formed an acceptable change to the people at large until, by his excesses, of one kind and another, he proved his unkingliness of character. He contrived to keep himself fairly popular, however, despite his extreme selfishness.

Charles V. (1500-1558) was the dominating European figure for many years, being Emperor of Germany and King of Spain, at a time when his tactful policy enabled him to guard the interests of both Catholics and Protestants with considerable success.

Charles XII. of Sweden (1682-1718) was a brave but impulsive monarch whose rule was distinguished for a fearless and often foolhardy policy of war, in the execution of which he sometimes sustained severe defeat. Peter the Great was victorious over him at Poltava, and he was killed at the siege of Frederickshall, Norway.

Charlotte, Princess Augusta (1706-1817), only daughter of George IV., married Leopold I. of Belgium in 1816 and died the following year.

Chassepot, Antoine, was the inventor of the breech-loading rifle bearing his name, and used by the French army against the Germans in 1870-1871, but now long superseded.

Chateaubriand, François René (1768-1848), had an adventurous and somewhat eccentric political career, but in the midst of it all he contrived to write a number of stories, poems and essays, which give him a prominent place in French literature. His *Atala* and *The Martyrs* are works of genius.

Chatham, William Pitt, Earl of (1708-1778), had a long and distinguished career as a statesman, and was the most eloquent Parliamantarian of his time. In the long conflict with France that preceded the American War of Independence, Chatham showed great resourcefulness and vigour, but his patriotic efforts were of little avail against the obstinacy of the King and his party, and he ultimately retired from contention, only making a last appearance in the House of Lords to urge a greater resistance to the American Colonists, and, after a powerful speech, fell back in an apoplectic fit and died a few weeks later, being buried in Westminster Abbey.

Chatterton, Thomas (1752-1770), "the marvellous boy who perished in his pride," was the son of a Bristol sexton, and astonished the world as a youth in his teens by copying a number of MSS. poems, ballads and records as having been unearthed by him from an old monument chest in the Church of St. Mary, Redcliffe. These writings were afterwards proved to be the composition of Chatterton himself, and at once gave him a position as a poet. He went to London, but met with such ill success that in his despair he poisoned himself.

Chaucer, Geoffrey (littera 1340-1400), known as the "Father of English poetry." Achieved immortality by his "Canterbury Tales," supposed to be related by different classes of pilgrims, and giving a most graphic description of the life and characters of his time. He was buried in Westminster Abbey.

Chelmsford, Bishop of. (See **Watts-Ditchfield, The Rt. Rev. J. E.**)

Cherubini, Maria L. Zenobi, C. S. (1760-1842) an Italian musical composer who spent the best part of his life in Paris, and there wrote operas, Masses, and other compositions distinct with melodic grace and fervour of expression.

Chesler, John. (See **Jayne.**)

Chesfield, Earl of (1604-1733), the fourth Earl, and a statesman of note. His fame rests, however, upon his *Letters to his Son*, which for purity of style and grace of expression have seldom been excelled, though the moral they point is not always one that modern ideas would endorse.

Chesterton, G. K. (b. 1874), one of the most active of our younger writers. Contributes a weekly essay to the *Illustrated London News* and keeps himself in evidence in many literary and journalistic quarters; handles social questions, art, politics, and criticism with equal dexterity and audacity. Has published studies of the lives and works of Robert Browning and Charles Dickens.

Cheyne, Rev. T. K., D.Litt. (b. 1841), Fellow of Balliol College, and in 1885 appointed Oriel Professor at Oxford and Canon of Rochester. Was a member of the Old Testament Revision Company, and is a well-known and prolific writer on Biblical subjects. One of his latest works, published in 1907, was *Traditions and Beliefs of Ancient Israel*.

Chillingworth, William (1602-1644), a divine whose *Religion of Protestants* was an influential book. Had a rather curious career, in later life being converted to Romanism from Protestantism, and then turning to Protestantism again and joining the Royal forces on the breaking out of the Civil War, when he was taken prisoner and died.

Chilton, Viscount (formerly the Right Hon. A. Akers-Douglas) (b. 1851). Conservative statesman, who served in turn as Parliamentary Secretary to the Treasury, First Commissioner of Works, and Home Secretary. Was also an efficient Party Whip. Raised to the Peerage, 1912.

China, Dowager Empress of (1835-1908), was a slave child, afterwards found her way into the

Emperor's harem, and after a time was promoted to the position of leading wife. On the Emperor's death she became Regent, an office which she filled with much administrative ability until the termination of the late Emperor's minority in 1899. In 1898 she dethroned him, however, and ruled in his stead up to November, 1908, when they both died suddenly.

Chippendale, Thomas, a celebrated designer of furniture whose examples are now highly prized and fetch big prices. He was a native of Worcester-shire (born in 1706), but made his name in London, having a shop in St. Martin's Lane.

Chisol, Sir Valentine (b. 1852), director of the foreign department of the *Times*, 1899-1912, and a writer of special weight and authority on Eastern subjects.

Chisholm, Hugh, editor of the "Encyclopædia Britannica" (b. 1866), educated at Felsed and Oxford (Corpus Christi), is on the editorial staff of the *Times*, and a frequent contributor to the chief reviews.

Choate, the Hon. Joseph Hodges (b. 1832), an eminent American lawyer and politician, who was United States Ambassador to Great Britain from 1896 to 1905, and filled the position with great distinction. Mr. Choate is a cousin of Rufus Choate, a great American lawyer (1795-1858) who succeeded Daniel Webster as a Senator in 1842.

Chopin, Frédéric F. (b. at Warsaw, 1809, d. in Paris, 1840). A celebrated composer and pianist, who settled in Paris in 1831 and immediately took up a prominent position, and in the next few years gave to the world some of the most beautifully fascinating compositions for the piano ever written. He lived a life of romance, and died of consumption at 39.

Christie, Sir W. H. M. (b. 1845), was educated at Trinity College, Cambridge, of which he became a Fellow. In 1875 was appointed Chief Assistant at the Royal Observatory, and was Astronomer Royal from 1881 to 1910. Has written a *Manual of Elementary Astronomy*, and is the inventor of valuable improvements in instruments of astral observation. Made K.C.B. in 1904.

Christopher, St. was a martyr of the 3rd century, to whom great feats of strength were attributed; he belongs both to the Roman and Greek Churches. His festival day in the latter is July 25th and in the latter May 13th.

Chrysostom, St. John (347-407), a prominent father and saint of the Greek Church who was made Archbishop of Constantinople, and was famous for his eloquent preaching and persuasive writing.

Churchill, Lord Randolph (1849-1895) was the second son of the sixth Duke of Marlborough. Entered Parliament in 1874 and four years later became prominent on the Conservative side for his scathing attacks on what he called the "Old Gang" of his own Party, and was one of Mr. Gladstone's most severe critics. In 1878 he became Secretary for India, and in the following year was Chancellor of the Exchequer and leader of the House of Commons, but after a few months of brilliant work resigned on some difference of opinion with his colleagues, and never again held office. After 1891 failing health diminished his powers, and he died in 1895, without having quite fulfilled his splendid promise.

Churchill, Rt. Hon. Winston S., M.P., First Lord of the Admiralty 1911-15 (b. 1874), son of the last-named, has since his nineteenth year been a prominent public figure. He went through the Spanish Campaign in Cuba. Was with the British force during the Indian frontier troubles of 1897-1898, served in the Sudan Campaign, and during the Boer War had many dramatic adventures and wrote some excellent letters to the papers. During the last few years has been a prominent figure in Parliament, and worked heartily for the Conservatives until Mr. Chamberlain brought out his Fiscal proposals, when he declared against them in the most emphatic manner, and eventually joined the Liberal ranks. In 1905 was appointed Under-Secretary for the Colonies, and has since been a leading member of the Liberal Government in the House. In 1908 was made President of the Board of Trade, and, losing his seat at Manchester, was returned for Dundee. Became

Home Secretary in succession to Lord Gladstone on the latter being appointed to the Governor-Generalship of South Africa in 1910. Made a Privy Councillor in 1907. Has proved a resourceful and indefatigable First Lord.

Cibber, Colley (1671-1757), a London actor and dramatist of great repute in his day. "The Careless Husband" and "Love's Last Shift" are considered the best of his comedies. He was Poet Laureate from 1730 to his death.

Cicero, Marcus Tullius (106-43 B.C.), a great Roman Republican orator and philosopher, whose works won him great fame and are assured of immortality. His younger brother, Quintus Tullius Cicero (102-43 B.C.), was a Roman soldier of some note. Both were slain.

Cid, the name given to the famous Spanish knight, Don Rodrigo Diaz, Count of Rivas (1026-1099), whose exploits in battle and adventure made him the national hero. He drove the Moors out of Spain before he had completed his twentieth year.

Cimabue, Giovanni (1240-1302), a celebrated Florentine painter, master of Giotto, and the leader of the movement which led to the formation of what is called the Florentine school. His frescoes are of great beauty.

Cincinnatus, Lucius Quinctius (510-439 B.C.), a noble Roman of simple life who was chosen Dictator while following agricultural pursuits, and led the Roman army against the Arimians and quickly defeated them; then, after only sixteen days of Dictatorship, he returned to his farm. He was called upon to fill the office a second time, twenty years later, at the age of 80, but died shortly afterwards.

Clare, John (1793-1864), a humble Northamptonshire peasant poet, whose "Poems of Rural Life and Scenery" and "The Village Minstrel" contain some very beautiful sentiments and depictions. His later years were spent in a lunatic asylum.

Clarendon, Edward Hyde, 1st Earl of (1609-1674), a statesman of great ability who filled the office of Lord High Chancellor under Charles II., and for a time was in high favour, but, refusing to pander to Charles's whims, was dismissed and went to live in retirement. His *History of the Rebellion* is a valuable work, having the advantage of being written by one who was a witness of, and often an important figure in, the events described. His daughter Anne was the wife of the Duke of York, afterwards James II., and it was her daughter who became Queen Anne. Clarendon died in exile at Rouen.

Clarendon, George Wm. Fredk. Villiers, 4th Earl of, (1800-1870), an English diplomatist and statesman; Minister to Spain 1833-1839, Lord Privy Seal in 1840, and subsequently Lord Lieutenant of Ireland, Plenipotentiary in Paris, and three times Foreign Secretary under Palmerston, Russell, and Gladstone respectively.

Clark, Sir Andrew Bart. (1826-1897), one of the most distinguished doctors of his day, who became physician to the London Hospital in 1854, and soon afterwards acquired one of the largest practices in fashionable London, and was a great authority on lung diseases. Sir Andrew was a Scotsman.

Clarke, Sir Edward, K.C., F.C. (b. 1841), one of the most eminent counsel of the day. Entered Parliament in 1880, and was Solicitor-General from 1886 to 1892. As the General Election in 1906 he was returned for the City of London, with the Hon. A. Gibbs, the latter shortly afterwards retiring in favour of the Rt. Hon. A. J. Balfour, who had been defeated at Manchester. Sir Edward eventually resigned his seat. He received his early education at the City of London College and evening classes of King's College, London. Retired from the Bar, 1914.

Clarke, Sir George Sydenham. (See Sydenham, Lord.)

Clarkson, Thomas (1760-1846), was one of the leaders of the Negro Emancipation movement, to which he devoted the main part of his life.

Claude de Lorraine (1600-1682), the most famous landscape painter of his century. His real name was

Claude Gellée, and he was born at Chamagne in the Vosges, going from France to Rome as a lad, and there laying the foundation of his world-wide celebrity. He lived in Rome most of his life.

Claudius I. (to B.C.-A.D. 54), Emperor of Rome, who succeeded his nephew, Caligula. He was the grandson of Tiberius Claudius Nero, erected many imposing buildings in Rome, and visited Britain. In his later years he became the tool of favourites, and was poisoned by his wife, Agrippina.

Clay, Frederic (1840-1889), an English musical composer of light operas of a very tuneful character. Best known by his "Princess Toto" and "The Merry Duchess."

Clay, Henry (1777-1850), an American orator and politician, three times candidate for the Presidency of the United States, and long Speaker in Congress. Served also as Peace Commissioner at Ghent, and was author of the Compromise Tariff of 1833.

Clemenceau, Georges Eugene (b. 1841), a prominent French statesman and editor of strong Radical tendencies who supported General Boulanger for a time and then bitterly opposed him. Is still a leading exponent of French Radicalism, though he sacrificed his independent position to become Premier and Minister of the Interior in October, 1906, after he had had a large hand in the making and unmaking of governments for over three decades. He held the Premiership until 1909. He is a great orator, and was a sturdy defender of Dreyfus.

Clemens, Samuel ("Mark Twain") (1835-1910). After the Civil War drifted into journalism, making himself popular as a humorist in 1859 by his *Innocent Abroad*, the result of a trip to Europe. From that time he was actively employed in producing works of humour and editing. Among his other works may be mentioned *A Tramp Abroad*, *Tom Sawyer*, *Huckleberry Finn*, and *Pudd'nhead Wilson*. Visited England in 1907 and was made a D.C.L. of Oxford.

Clement, St., Bishop of Rome in the 1st century, and according to tradition, the third prelate of the Holy See after St. Peter. He was a prominent Presbyterian of the Christian congregation, and is by some identified with the Clement mentioned by St. Paul as his fellow labourer.

Cleon flourished in the 5th century B.C., and from being an Athenian demagogue became a successful general. He fell at Amphipolis, 429 B.C.

Cleopatra (69-30 A.C.), the famous Egyptian Queen whose beauty fascinated Julius Caesar, whom she accompanied to Rome. After Caesar's death, she returned to Egypt and subdued Antony as she had subdued Caesar, and on Antony's death ended her life by poison, the tradition is, by applying an asp to her bosom.

Cleveland, Grover (1837-1908), President of the United States from 1885 to 1889 and from 1893 to 1897. A strong Democratic statesman whose commencement of his second Presidency convened an extra session of Congress, which repealed the purchasing clause of the Sherman Silver Bill.

Clifford, Rev. John (b. 1836), worked in a lace factory as a boy, entered the General Baptist College in 1855, qualified for the ministry, and became pastor of Praed St. Church, Paddington, afterwards taking degrees at London University. Westbourne Park Chapel, opened in 1877, was the next scene of his ministrations, and he still preaches there. Is an ardent political Nonconformist. Has written numerous religious works, and been twice President of the Baptist Union, and also President of the National Council of Free Evangelical Churches.

Clinton, Sir Henry (1738-1795), was one of the generals commanding British troops in the American War of Independence and fought at Bunker's Hill, succeeding Howe as Commander-in-Chief. Was afterwards Governor of Gibraltar, where he died.

Clive, Robert, Lord (1725-1761), went out to India as a clerk in the service of the East India Company when, and during the diplomatic difficulties which arose between England and France attracted the attention of his superiors by some able suggestions for the curbing of the French influence. In the war that

followed he was given a command and displayed such remarkable military genius that he virtually became Commander-in-Chief. In the troubles that followed with the native rulers, he was equally resourceful, and succeeded in laying the foundation of the British Empire in India on a secure basis. On his return to England in 1760 he was raised to the peerage. His latter years were marked by mental disturbance and ultimately he committed suicide.

Clotilda, St. (475-545), was the wife of Clovis, King of the Franks. She converted the king to Christianity and lived so good a life that she was canonised after her death.

Clough, Arthur Hugh (1819-1861), an English poet of great earnestness of purpose and breadth of mind. His best known poems are "The Bothie" and "The Tragedy of Dipsychus." Matthew Arnold's "Thyrsis" is dedicated to his memory.

Clovis (465-511) was the founder of the Merovingian line of French kings, and a convert to Christianity. He defeated the Burgundians and West Goths, and fixed his court at Paris.

Clyde, Colin Campbell, Lord (1793-1863), a British general who served in the Peninsular and Crimean wars, and made a great reputation as commander-in-Chief in India during the Mutiny, after which he was raised to the peerage and granted a pension of £2,000 a year.

Cobbe, Frances Power (1822-1904), a talented and powerful writer on a wide range of social and religious subjects, including women's rights and vivisection. She had strong convictions and the full courage of them. She was a native of Dublin.

Cobbett, William (1762-1835), a politician and controversialist, who, through the medium of his *Political Register*, attacked both Radical and Tory in turn, and by mercurial personalities frequently got himself into trouble. In 1832 he entered Parliament as member for Oldham, and by his trenchant speeches and writings always kept himself full in the public eye.

Cobden, Richard (1804-1865), the son of a Sussex farmer, who afterwards became a commercial traveller, and during the Corn Law Agitation came into great prominence as an advocate of Free Trade. He devoted himself completely to this cause, that for some years he entirely neglected his business affairs and in recognition of his services a subscription of £20,000 was raised for and presented to him. He entered Parliament in 1847, and except for an interval of two years remained a member till his death. In 1860 he negotiated a commercial treaty with France which was of great benefit to the trade of this country. Titles and other honours were offered to him, but declined.

Cockburn, Sir Alexander J. (1802-1880), after a most successful career as a barrister and M.P., twice filling the office of Attorney-General, he became Chief Justice of the Common Pleas in 1855, and Chief Justice of the Queen's Bench three years later, holding that high office with distinction for twenty-four years. He represented the British Government at Geneva on the Alabama arbitration, and dissented from the award.

Cocker, Edward (1631-1695), a famous arithmetician, whose arithmetic went through 12 editions. "According to Cocker" is still a popular phrase.

Codrington, Admiral Sir Edward (1770-1851), a British admiral who saw much active service and greatly distinguished himself. He commanded a ship at the Battle of Trafalgar, was engaged in the American War of 1812-14, and had command of the allied fleets at Navarino.

Coke, Sir Edward (1552-1634), an eminent English judge, and author of the legal classic, *Coke upon Littleton*. He served as Speaker of the House of Commons and as Attorney-General before he became Chief Justice, and was the merciless prosecutor of Sir Walter Raleigh and of the Gunpowder plotters; but made a fine fight for English freedom in Parliament against Buckingham, towards the close of that ill-fated Royal favourite's career.

Colbert, Jean Baptiste (1619-1683), a great French statesman and financier, who achieved much

for his country in advancing the arts and sciences and promoting commercial and industrial development. His son (also called Jean Baptiste) was Marquis de Seignelay and Minister of Marine.

Colenso, John William (1812-1883), was Bishop of Natal from 1853 to the time of his death, and became noted for his criticisms on the Pentateuch, concerning which a fierce controversy raged for some years. Colenso was condemned by a tribunal of South African Bishops, which he refused to recognise, and continued in his position with the general approval of the English Church.

Coleridge, Samuel Taylor (1772-1834), one of the great poets of the early part of the 19th century, whose "Ancient Mariner" and a few other poems stand unsurpassed for poetic beauty and originality.

Coleridge-Taylor, S. (1875-1912), musical composer, who was trained at the Royal College of Music, and in 1898 had an "Orchestral Ballade" performed at the Gloucester Festival. The following year he produced his cantata, "Hiawatha's Wedding Feast," and in 1912 composed the music for Alfred Noyes's "Peace Poem."

Colet, John (1467-1529), was Dean of St. Paul's and founder of St. Paul's School. Among his pupils were Milton, Chubb, Haller, and Pepy.

Colling, Gaspard de (1817-1879), a famous French admiral, soldier, and statesman, and one of the leaders of the Protestant party, who fell a victim in the Massacre of St. Bartholomew. His father (same name) was Marshal of France.

Collings, Rt. Hon. Jesse (b. 1831), was a successful Birmingham merchant until 1870, when he retired, filling the office of Mayor of Birmingham the same year. Entered Parliament in 1880, and was Parliamentary Secretary to the Local Government Board in 1887, after his Small Holdings Amendment to the Address had caused the resignation of Lord Salisbury's Government. From 1895 to 1902 was Under-Secretary to the Home Office. Retired from Parliament, 1914.

Collingwood, Cuthbert, Lord (1750-1810), was one of Nelson's famous commanders, taking part in most of the leading engagements of the period, and being second in command at Trafalgar, having a peerage conferred upon him for his services. He was native of Newcastle and was a vicar at St. Paul's.

Collins, Rt. Hon. Lord (1842-1911) was Lord of Appeal in 1907, previously a Judge of the High Court, and Master of the Rolls; was arbitrator on the Venezuela Boundary Question and a Lord Justice of Appeal.

Collins, Mortimer (1827-1876), poet, novelist, and miscellaneous writer, and at one time mathematical master at Elizabeth College, Guernsey.

Collins, William (1721-1759), the author of the *Odes to the Passions, Oriental Eclogues, &c.*

Collins, William (1788-1847), noted landscape and figure painter, and father of Wilkie Collins.

Collins, W. Wilkie (1824-1889), the novelist, was for many years associated with Charles Dickens, and wrote some of his best stories for *Household Words* and *All the Year Round*, including *The Dead Secret*, *The Woman in White*, and *No Name*.

Colman, George (1732-1794), a dramatist of considerable versatility, whose "Jealous Wife" and "The Clandestine Marriage" (the latter written in conjunction with Garrick) long held the stage.

Colman, George, the younger (1760-1831), son of the foregoing and also a dramatist of considerable repute. He wrote "The Poor Gentleman," "The Heir-at-Law," and other pieces, and was an exacting examiner of plays under the Lord Chamberlain.

Colonna, Vittoria (1400-1547), an Italian poetess of noble family, who after her husband's death devoted her life to celebrating his virtues in poetry of great power.

Colt, Samuel (1814-1862), of Hartford, Connecticut, invented the revolver and patented it in 1835. It was some time before its utility was recognised, but after being used with great effect in the war with Mexico it was universally adopted.

Columba, St. (521-597), the founder of the monastery

of Iona, was a native of Ireland. From his lonely island shrine he made frequent missionary journeys to the Highlands of Scotland, where he made many converts and was greatly revered.

Columbus, Christopher (1497-1506), the famous navigator, who after much adventure, struggle and trial, succeeded in prevailing upon Ferdinand and Isabella of Spain to bear the expense of an expedition of discovery, and set out on his first voyage in 1492. He first discovered the Bahamas, Cuba, and other West India Islands, and, on his third voyage in 1498, landed on the lowlands near the mouth of the Orinoco in South America—this being the first actual debarkation, probably, by any voyager in the New World below the equator.

Combe, Andrew (1797-1847), a celebrated physician, who was the author of several works on phrenology and physiological science, and was appointed physician to Queen Victoria in 1838.

Combe, George (1788-1857), elder brother of the above; an eminent philosopher and author, who first introduced phrenology into Britain. Both the brothers Combe were born in Edinburgh.

Combe, William (1741-1823), a clever and witty poet, the author of "The Tour of Dr. Syntax"; he was an adventurer, and passed forty-three years within the King's Bench Prison, as a debtor.

Combes, M. Emile (b. 1839), a leading French statesman, who after spending some years in the medical profession, turned to political life and made a prominent position for himself. In 1885 he was made Senator; in 1891 was Minister of Public Instruction, and in 1902 became Premier of France.

Comte, Auguste (1798-1857), a French philosopher and founder of the "Positive" school of philosophy. He has exercised great influence upon modern political economy, and his system of philosophy was warily taken up in this country.

Condé, Louis II. (1691-1686), called the Great Condé, was a distinguished military commander, engaged at first in the war of the Fronde on the side of Anne of Austria, and at a later period opposed to her. Subsequently he entered the service of Spain. In 1699 he made his peace with the Court of France, and was appointed Governor of Burgundy.

Congreve, William (1670-1739), was a famous Restoration dramatist, whose comedies of manners reflect the grossness of his age only too closely, but are redeemed by the brilliancy of wit. He was buried in Westminster Abbey.

Congreve, Sir William (1774-1838), invented the Congreve rocket, which gave him fame and fortune. He was a lieutenant-colonel in the British Army, and retired in 1816.

Connaught and Strathearn, H.R.H. the Duke of (b. 1850), third son of Queen Victoria. Entered the army, and held a command in the Egyptian Expedition of 1882. Was made Field-Marshal in 1902. Was Commander-in-Chief at Aldershot from 1893 to 1898, and in 1904 was made Inspector-General of the Forces. In 1907 was appointed Field-Marshal Commanding in Chief the Mediterranean Forces, but retired from that post in 1909. In 1910 he visited South Africa to open the Parliament of the new South African Confederation; and since 1911 has been Governor-General of Canada. Spent the summer of 1913 in England.

Conrad, Joseph (b. 1857), is a novelist and master in the merchant service, who has written some fine sea stories, strong in plot, and full of the true salt flavour. He is a Pole, but has for many years resided when on land in England. His first novel of note was *Almayer's Folly*, 1895.

Constable, John, R.A. (1776-1837), was a native of East Bergholt, Suffolk, and became one of the greatest of English landscape painters. He had long to wait for recognition, but ultimately attained high honour, and exerted a strong influence in the development of landscape art.

Constant, Benjamin (1845-1909), a famous French painter of Oriental subjects and portraits. He was "Prisoner" in Morocco, "The Harem" and "The Emir's Favourite," are among his more celebrated pictures.

Constantine, the Great (272-337), Emperor of Rome from 305 to the time of his death. He espoused Christianity with much fervour, and showed great daring as a commander, extending the Roman Empire eastward to Byzantium, which was afterwards called Constantinople in his memory.

Conway, Hugh (1847-1885) a novelist who sprang into sudden fame in 1884 by a shilling novel entitled *Called Back*, and followed this with *Dark Days*, which well sustained his reputation. His death in the following year ended a promising career.

Conway, Sir Martin, M.A., F.S.A., F.R.G.S. (b. 1856), an intrepid mountain climber and explorer, having climbed the Himalayas (23,000 ft.), Aconcagua (23,000 ft.), and the Swiss Alps at all the more difficult points. A prolific writer on mountaineering.

Cook, Sir Edward Tysan, M.A. (b. 1857), an eminent journalist and author, who has edited in turn the *Pall Mall Gazette*, the *Westminster Gazette*, and the *Daily News*. Has written a *Handbook to the National Gallery*, *Sketches in Russia*, and other able works on art, has edited a complete edition of Ruskin's works, and in 1911 published a *Life of the great critic*. Knighted in 1912.

Cook, Eliza (1818-1896), an English poetess, and editress of *Eliza Cook's Journal*.

Cook, Captain James (1728-1779), an adventurous navigator, whose *Voyages Round the World* is a classic. He made many discoveries in the name of Great Britain, including the Sandwich Islands. He was murdered at Hawaii by natives. Statue erected to his memory at Whitby in 1912.

Cooke, Thomas Foster (1786-1864), an English actor noted for his romantic impersonations of "William" in "Black-Eyed Susan" and "Long Tom Coffin" in "The Pilot."

Cooke, Sir William Forthgill (1866-79), an English electrician, associated with Wheatstone in the perfection of the telegraph.

Cooke, Sir Austley (1768-1841), one of the greatest surgeons of his time, and the author of several important medical text books. Was elected President of the College of Surgeons in 1827.

Cooper, James Fenimore (1783-1851), was a very popular American novelist, who from about 1820 to the time of his death produced a succession of stirring stories of adventure, which enjoyed much popularity, among them *The Spy*, *The Last of the Mohicans*, *The Red Rover*, and *The Deer Slayer*.

Cooper, Thomas (1805-1896), poet, lecturer, and Chartist advocate; once a prominent sceptic, but later a Baptist preacher. His *Purgatory of Suicide* attracted considerable attention.

Cooper, Thomas Sidney (1803-1902), a highly gifted animal painter who began to exhibit in the Royal Academy in 1833 and was represented on its walls so late as 1897. Elected R.A. in 1867. His pictures of cattle and sheep are always masterly.

Cooke, Sir Eyre (1720-1783), a distinguished Anglo-Indian general, who brilliantly defeated Hyder Ali at Porto Novo in 1781.

Copernicus, Nicolaus (1473-1543), the famous astronomer who propounded the astronomical system which bears his name. He was a Prussian doctor and canon of the chapter of Frauenburg.

Coppée, François (b. 1842), one of the most popular of modern French writers, who as poet, novelist and dramatist, has been successful.

Coquelin, Benoît C. (1841-1899), eminent French actor ("Coquelin aîné"), and Coquelin, Ernest ("Coquelin cadet"), his younger brother (1848-1909), were leading lights of the Théâtre Français.

Corday, Charlotte (1768-1793), a member of a noble Norman family, who conceiving a bitter hatred against Marat, whom she regarded as the author of the terrors of the French Revolution, assassinated him, and was afterwards guillotined.

Corselli, Marie, a novelist whose works have a very extensive circulation and cover a wide field of observation. Since the publication of her first novel, *A Romance of Two Worlds*, in 1886, she has constantly been before the public. *Barabbas*, *The Sorrows of Satan*, *The Master Christian*, and *The Treasures of Heaven*; and *A Romance of Riches* are

perhaps her most characteristic works. She lives at Stratford-on-Avon.

Coriolanus, Caius Marcius, the hero of one of Shakespeare's plays, who, after conquering Corioli, was condemned to exile by the Roman Senate, took refuge with the Volscians, and led their army against the Romans, but was prevailed upon to retire by the entreaties of his mother and wife. He lived in the first half of the 5th century B.C.

Cornellie, Pierre (1606-1684), the French tragic dramatist, whose "Cid," "Polyeucte," "Le Menteur," and other plays marked a new era in French dramatic production.

Cornwallis, Marquis (1733-1805), has a place in history because of his position as Commander of the British forces which surrendered to the Americans at Yorktown in 1781, and ended the War of Independence; and as Commander-in-Chief in India during the time that Tipu Sultan was giving so much trouble. Was twice Governor-General of India.

Cortot, Jean Baptiste (1795-1875), a French landscape painter, whose works are considered to rank with those of Claude and Turner.

Correggio, Antonio Allegri da (1494-1534), the great Italian painter of the Lombard School, whose "Ecce Homo" is in the British National Gallery.

Cortés (or **Cortez, Hernando**) (1485-1547), a Spanish adventurer who earned great renown by capturing Mexico for Spain, and held that country in subjection for ten years. Later on he was employed in an expedition to Algiers.

Cort, Henry (1740-1800), was a native of Lancaster, and settled in Hampshire in 1775, and, by his invention of the "puddling" process for converting pig-iron into malleable metal, entirely revolutionised the iron manufacture. The Government took up his invention for the dockyards at Portsmouth, and it was expected that Cort would make a large fortune, but Mr. Jellison ruined him by a series of frauds, and Cort ultimately retired to Hampstead, and lived on a Government pension of £300 a year.

Costa, Sir Michael (1810-1884), a composer and conductor of note, who came from Italy to England in 1830, and thenceforward to his death was a prominent member of the English musical world. As conductor of the Handel and other Festivals he was of great service, and his oratorios "Eli" and "Naaman" showed distinctly qualities without any special inspiration. He was knighted in 1860.

Courtney of Penwith, Rt. Hon. Leonard H., 1st Baron (b. 1832), was educated for the Bar, and sat for 24 years in Parliament, retiring on the Boer War question. Was Under-Secretary of State for the Home Department 1886-1887, and subsequently served in the Colonial Office and as Financial Secretary to the Treasury. He acted as Chairman of Committees and Deputy Speaker from 1886 to 1892. Was raised to the peerage in 1905.

Courtney, William (b. 1829), an editor, author, and critic of eminence, whose books on philosophical and literary subjects are of great merit. Is editor of the *Fortnightly Review* and on the staff of the *Daily Telegraph*.

Cousin, Victor (1792-1867), a celebrated French philosopher who founded what is called the Eclectic school of Modern Philosophy. His writings traverse nearly the whole field of philosophy. He was made a peer of France, filled certain Government offices, and spent his last years in retirement in the Sorbonne.

Cousins, Samuel (1801-1887), the greatest mezzotint engraver of his day, whose plates after Reynolds, Millais, Landseer, and Hogarth reach the highest point of this kind of art work. He was elected R.A. in 1855.

Coverdale, Miles (1488-1568), one of the early English Reformers, was born in Yorkshire, and afterwards became a monk of Norwich and later Bishop of Exeter. He collaborated with Tyndale in translating the Bible; the Psalms still used in the Prayer Book were taken from his translation.

Cowdrey, Lord of Mithurst, formerly Sir Wernham D. Pearson (b. 1856), one of the most famous of living contractors and engineers, and president of the firm of S. Pearson and Son, Ltd.

His firm constructed the Blackwall Tunnel, the East River Tunnel, New York, the National Harbour at Dover, and numerous other important public works, railways, harbours, etc., in Great Britain, Mexico, and elsewhere. He represented Colchester in Parliament from 1895 to 1910, and in the last-named year was raised to the peerage.

Cowan, Sir Frederic H. (b. 1829), an English composer with a very graceful turn for melody, who has contributed many cantatas, operettas, anthems and ballads to the stock of English modern music.

Cowen, Joseph (1831-1900), was for a long time a prominent figure in English politics. He was a vigorous speaker, took an intense interest in movements for the good of the people, and was also an ardent disciple of Mazzini. Was owner of the *Newcastle Daily Chronicle*, and a mine owner.

Cowley, Abraham (1618-1667) a celebrated English poet of the Charles I. and II. period, and a loyal supporter of the Stuarts. Much of his poetry is of great beauty. After the Restoration he had a pension of £300, and was buried in Westminster Abbey.

Cowper, William (1731-1800), an English poet imbued with much purity of sentiment and a remarkable poetic talent. His "Task" is one of the great poems of the 18th century; received a pension of £300 a year from George III.

Cox, David (1783-1859), an eminent landscape painter—son of a Birmingham blacksmith—whose pictures display genius of a very high order, and are thoroughly English in spirit and treatment.

Cox, Harold (b. 1800), was for several years, secretary of the Cobden Club, and has written largely on Free Trade and the economic side of political questions; was elected Liberal member for Preston in 1905, but lost his seat in 1910. Is editor of the *Edinburgh Review*.

Coxwell, Henry Tracy (1800-1900), an enterprising aeronaut who made 700 balloon ascents, and in company with Mr. Glaisher, the astronomer, made the highest recorded ascent of 7 miles in 1862.

Covens-Hardy, Rt. Hon. Sir H. M., Master of the Rolls since 1907 (b. 1838), was M.P. for N. Norfolk from 1885 to 1899. Judge of the Chancery Division, 1890-1901. Lord Justice of Appeal, 1901-1907. Chairman of Hist. MSS. Comm.

Crabbe, George (1754-1832), a poet of rural life and scenes noted for his laud pictures and characterisation no less than for the soundness of his sentiments. After enduring many struggles and privations he obtained the patronage of Burke and was promoted to a curacy at Alderburgh.

Craik, Diana Maria (1820-1897), a well-known English novelist who under her maiden name of Miss Mulock wrote *John Halifax, Gentleman*, *A Life for a Life*, and other novels, all distinguished by depth of feeling and clever characterisation.

Craik, George Lillie (1798-1866), a vigorous writer who, in conjunction with Charles Knight, issued a number of historical and literary works of value. From 1819 to his death he was Professor of History and English Literature in Queen's College, Belfast.

Cranbrook, Earl of (1814-1905), entered Parliament in 1835 as Mr. Gathorne Hardy, and quickly made a name for himself as a Conservative politician and statesman. Was President of the Poor Law Board in 1866, Home Secretary in 1867, Secretary for War in 1874, Secretary for India in 1878, and President of the Council 1885-1892.

Crane, Walter (b. 1845), first President of the Arts and Crafts Exhibition Society, and holder of the Albert Gold Medal. Has painted many notable pictures, and his works on decorative art are of great value.

Cranmer, Thomas (1489-1536), Archbishop of Canterbury under Henry VIII. and Edward VI.; an ardent promoter of the Reformation, but on Mary's accession at first consented to return to the old faith, but when called upon to make public avowal of his recantation, refused, and was burnt at the stake.

Cranshaw, Richard (1612-1649), an English poet whose works indicate much eloquence of diction and purity of thought. Known chiefly by his "Steps to the Temple" and "Delights of the Muses."

Crawford, 27th Earl of (b. 1871), succeeded his father in Jan., 1913. As Lord Balcarres won a considerable reputation in the House of Commons, succeeding Lord St. Aldrich as Chief Conservative Whip in 1911. A trustee of the National Portrait Gallery.

Crawford, F. Marion (1854-1909), an American novelist who obtained considerable eminence by his stories of Italian life, including *A Roman Singer*, *Sarcinesca*, *A Cigarette Maker's Romance*, and *Sant' Ilario*. Resided in Italy, where he was born.

Cressay, Sir Edward S. (1812-1898), author of *The Fifteen Decisive Battles of the World* and other historical works; was a barrister and Professor of History at London University. From 1860 to 1873 he was Chief Justice of Ceylon.

Craigton, Mandell (1841-1901), Bishop of London. Was educated at Durham Grammar School and Oxford. In 1895 was appointed Dixie Professor of Ecclesiastical History at Cambridge; in 1891 made Canon of Windsor, and in the same year appointed to the See of Peterborough, and succeeded Dr. Temple as Bishop of London in 1897.

Cramer, Sir W. R. (1838-1908), an ardent advocate of International Arbitration and founder of the Inter-Parliamentary Union. For over thirty years he was secretary of the International Arbitration Union, and in 1902 was awarded the Nobel Peace Prize, which he devoted to the furtherance of the cause with which his name was so long identified.

Creswick, Thomas, K.A. (1811-1865), was one of the most prominent landscape painters of his day, as well as a book illustrator. He is represented by several works in the National Gallery and South Kensington Museum.

Crews, Marquess of (b. 1858), was Lord President of the Council from 1905 to 1908, and in the latter year became Colonial Secretary, Lord Privy Seal, and Liberal Leader in the House of Lords. Made Secretary for India in 1910. He was Lord-Lieutenant of Ireland from 1902 to 1905. Married Lady Margaret Primrose, Lord Rosebery's daughter, as his second wife in 1899.

Crichton, James (1759-1822), a Scotsman, who earned considerable renown for his gifts of learning and general accomplishments and was called "The Admirable Crichton." He was assassinated when only twenty-two years of age in Mantua under romantic circumstances.

Crispi, Francesco (1819-1901), a noted Italian statesman, who aided Garibaldi, and was his supporter throughout. Was Premier for many years, and active in his country. He was immensely popular, and active to the last.

Crispin, St., a saint of the Roman Church and patron of shoemakers. In the 3rd century he and his brother, natives of Rome, settled in Soissons, France, and there preached Christianity, supporting themselves by shoemaking. Suffered martyrdom in 287, by being thrown into a cauldron of molten lead; commemorated on Oct. 25.

Crockett, S. R. (1806-1914) was for a number of years a Scottish Free Church Minister at Penicuik, and in 1893 made a great success with his story *The Shetland Minister*. For many years he was one of the most prolific of the Scottish novelists, producing, among other stories which have had great vogue, *The Laid Sunbonnet* and *The Standard Bearer*.

Croesus, the last King of Lydia, who reigned fourteen years, and acquired such immense wealth that his name has ever since been proverbial. He was a wise king, whose memory still survives in his wise sayings. Solon was his friend, and it was Solon's name that he uttered three while standing before the pyre on which Cyrus had condemned him to be burnt. This touched Cyrus, who spared his life and made him his companion. He succeeded his father Alyattes on the Lydian throne 600 B.C.

Croft, William (1678-1727), a musician (born in Warwickshire) whose antient and other sacred compositions are much esteemed. Was organist in Westminster Abbey, and was buried there.

Crofts, Ernest, R.A. (1847-1921), was keeper of the Royal Academy, and one of the most noted painters of battle pictures. His first Academy picture was

exhibited in 1874, "A Retreat." Among his other best known works are "The Morning of Waterloo," "Cromwell at Marston Moor," and "Queen Elizabeth Opening the first Royal Exchange," one of the Royal Exchange frescoes.

Croker, John Wilson (1780-1857), was one of the founders of the *Quarterly Review*, and a controversialist of note. Was in Parliament for some years, and was Secretary to the Admiralty.

Crome, John (1769-1821), from being a humble house-painter became eminent as a painter of landscape. His "Mousehold Meath," a characteristic example, is in the National Gallery. He was a native of Norwich.

Cromer, Earl (b. 1841), a diplomatist who won celebrity in the post of British Comptroller-General in Egypt from 1881 to 1907. It was a stupendous task that he had imposed upon him, but he resolutely devoted himself to it, with the result that Egypt was lifted from financial difficulty and internal disorder to a condition of prosperity. He was Sir Evelyn Baring up to 1892, when he was made Baron Cromer, becoming Earl in 1901. Retiring in 1907 because of ill-health, he received a grant of £50,000. On Oct. 28, 1907, was presented with the Freedom of the City of London. In 1908 published *Modern Egypt and Ancient Modern Imperialism* in 1910. An original member of the Order of Merit.

Crompton, Samuel (1753-1827), was a poor cotton worker at Bolton, and invented the spinning mule, which greatly increased the power of cotton production. Was awarded a Parliamentary grant of £5,000, but died in poverty at Hall-in-the-Wood.

Cromwell, Oliver (1599-1658), Lord Protector of England from 1653 to his death. At one time contemplated emigrating to America, but, entering Parliament, and becoming enthusiastic in the popular cause, obtained recognition as one of the Parliamentary leaders, and ultimately, on the outbreak of the Civil War, became General of the Roundheads. How he gained battle after battle, and after the execution of Charles I. was installed at the head of the Commonwealth, is familiar history.

Cromwell, Richard (1628-1712), son of the foregoing, and his successor in the Protectorate, which he was only able to sustain for a few months.

Cromwell, Thomas, Earl of Essex (1478-1540), an English statesman, originally a priest of Wolsley. Rose to high office and in 1537 began the suppression of the monasteries. Later was beheaded.

Crookes, Professor Sir William (b. 1832), President of the Royal Society since Nov. 1913. An eminent British scientist, whose discoveries in chemistry and electricity have been of the greatest importance. Is a past president of the British Association, the author of many books on chemical subjects. The discoverer of thallium and inventor of the radiometer.

Crooks, Will (b. 1852), a prominent East London labour leader and Member for Woolwich 1903-1910, and re-elected 1911; Mayor of Poplar 1901.

Crossley, Sir Francis, Bart. (1817-1872), was a successful carpet manufacturer of Halifax, and a man of great public spirit and philanthropy. He sat in Parliament as M.P. for Halifax, and gave a People's Park to the town.

Cruden, Alexander (1701-1770) was an eccentric Aberdonian who settled in London as a bookseller, and became the author of the famous *Concordance to the Holy Scriptures*.

Cruikshank, George (1792-1878), a celebrated book illustrator who was for a time associated with Charles Dickens, and later on illustrated numerous works of other novelists of his day, showing great humour and power of character-delineation. In his later years he was an enthusiastic temperance supporter.

Culme-Seymour, Admiral the Rt. Hon. Sir Michael, Bart., P.C., G.C.B. (b. 1835), entered the Navy in 1850, and saw much active service in various seas during the next ten years. Was appointed private secretary to the First Lord of the Admiralty in 1874, and passed through the three admiral degrees between 1882 and 1893, and has commanded successively the

Pacific, Channel, and Mediterranean Squadrons, and was Commander-in-Chief at Portsmouth 1897-1901. In 1902 was appointed Vice-Admiral.

Gunnard, Sir Samuel (1787-1868), the founder of the Cunard Line of steamers, was a native of Nova Scotia. In 1840 he obtained a government contract for the mail service between Liverpool and Halifax, Boston and Quebec, and showed such ability of organisation that in a few years, aided by Mr. George Burns (afterwards Lord Inverclyde), he succeeded in establishing the first Atlantic steamship service.

Junningham, Sir Alexander (1814-1893), an English military engineer and archaeologist, son of Allan Cunningham the poet. Served in India for twenty-one years, and wrote several valuable works on Oriental subjects.

Junningham, Allan (1784-1842), a well-known poet and prose author, whose songs were greatly admired by Sir Walter Scott. In his early life he was a stone-mason.

Curie, Prof. Pierre (1859-1905), and **Madame Marie** (b. 1867), arcuamates that have been deservedly prominent during recent years as those of the joint discoverers of radium. M. Curie was a Frenchman, but his widow is a Pole; they have both been indefatigable scientific investigators, holding important professorial appointments in France. Madame Curie succeeded in separating radium from barium extracted from several tons of pitch-blende.

Curran, John Philpot (1750-1877), an Irish barrister and orator, whose defence of Wolfe Tone brought him into fame, and thenceforward he became identified with the Irish popular cause and had a brilliant career.

Curwen, John (1816-1880), was a Nonconformist minister of musical gifts, who in 1841 introduced the Tonic-Solfa system, and devoted the best part of the remainder of his life to its advocacy. The system was widely adopted, and still has many adherents.

Currie, Sir Donald, G.C.M.G. (1825-1909), was the founder of the Castle Line of steamships, and became head of the combined Union-Castle Line. Was in Parliament from 1880 to 1900, and knighted in 1887. In 1904 gave £30,000 for a Medical School at University College, London, and £20,000 additional for a Nurses' Home to the London Hospital.

Currie, Lord (1834-1906), a distinguished diplomatist who, as Sir Philip Currie, carried out successfully many important tasks and embassies in different capitals, and was raised to the peerage after 45 years in the public service at home and abroad in connection with the conduct of foreign affairs.

Curzon of Kedleston, Earl (b. 1859), Governor-General of India 1899-1905 (reappointed 1904). Entered Parliament in 1886, and, having filled numerous minor offices with distinction, made a vigorous Imperial-minded Viceroy. In 1904 returned to England for a brief holiday, which was saddened by the serious illness of Lady Curzon at Warner Castle, where Lord Curzon was temporarily residing as Warden of the Cinque Ports. Some friction which arose respecting military control caused Lord Curzon to seek relief from the heavy cares of the Viceroyalty before his second term of office had been far proceeded with; and having received the Prince and Princess of Wales (their present Majesties), on their tour in India, he and Lady Curzon returned home, and the latter shortly afterwards died. In March, 1907, he was elected Chancellor of Oxford University, and early in 1908 elected an Irish representative peer; made earl in 1911.

Cuthbert, St. (635-687), a famous monk who became prior of Melrose, and afterwards of Lindisfarne. For a time he lived in seclusion on one of the Faroe Islands, but from 664 was Bishop of Hexham.

Cuvier, Baron (1759-1829), a French naturalist who founded a system of classification in zoology, and originated the science of comparative anatomy. He was a voluminous and able writer, and was held in high esteem by Napoleon I., Louis XVIII., and Louis Philippe in turn, the last-named monarch conferring a peerage upon him.

Cuyper, Albert (1655-1691), a famous Dutch landscape painter, several of whose works are in the National Gallery.

Cymbeline was the father of Caractacus, and remembered chiefly as the central figure of one of Shakespeare's plays.

Cyprian, St., was an eminent ecclesiastic of the 3rd century, who was made Bishop of Carthage, and wrote several notable treatises on matters of Christian doctrine. He was beheaded in 258, at an advanced age, and the present English calendar commemorates him on Sept. 26.

Cyrus the Great founded the Persian monarchy in the 6th century B.C. and greatly distinguished himself by his conquests of Media, Assyria, Babylon, parts of India, Arabia, and Asia Minor, and was eventually slain in battle. It is believed, with the Messagates on the river Jaxartes.

Czerny, Karl (1791-1857), an Austrian pianist and composer, many of whose pieces enjoy much popularity with music students.

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Daguerre, Louis J. M. (1789-1851), a French artist, who acquired fame as the inventor of the earliest photographic process, and then devoted himself to scene-painting, and became part proprietor of the Diorama in Paris. Daguerre's perfected process of obtaining permanent pictures by sun-action was communicated to the French Academy in 1839.

Daimler, Gottlieb (1834-1890), inventor with Otto of the Otto Gas Engine, and in his later years eminent as the inventor of the motor-car that is called after him.

Dale, Sir David (1829-1906), was a distinguished worker in various fields of advancement, especially in connection with promoting conciliation and arbitration in industrial pursuits. He was a colliery owner and director of the North-Eastern Railway Co.

Dale, Rev. R. W. (1829-1895), a Congregationalist minister who made a great name in Birmingham for his eloquent preaching and public services, was for a number of years editor of *The Congregationalist*, and served as chairman of the Congregational Union 1886-1890.

D'Alembert, J. (1717-1783), a Parisian mathematician and philosopher who achieved great eminence by his numerous scientific works, including *The Theory of the Winds* and *The Precision of the Equinoxes*.

Dalhousie, Marquis of (1812-1860). The tenth Earl and first Marquis of Dalhousie was one of the most famous of India's Governor-Generals. He controlled the affairs of India during a period of great difficulty, and annexed the Punjab after the second Sikh War; later on also annexing Nagpur, Jhambhi, Pegu and other States. He left India in 1856, and the following year the Mutiny broke out.

Dalton, John (1766-1844), a famous chemist and mathematician—son of a Cumberland weaver—who in 1803 published his *New System of Chemical Philosophy*, in which the "Atomic Theory" was first propounded. He made many other contributions to scientific knowledge, and received a Government pension of £300.

Damen, Father Joseph (1840-1889), a Belgian missionary who, going out to Honolulu in 1864, and witnessing the terrible sufferings of the lepers confined on the Island of Molokai, obtained permission to take spiritual charge of the Government settlement, and remained there working nobly for this wretched community, until in 1889, he himself was stricken with leprosy and died.

Damiens, Robert Francois, the Frenchman who in 1757 made an unsuccessful attempt to assassinate Louis XV., and was afterwards put to horrible tortures and executed.

Damocles, the flatterer and favourite of Dionysius of Syracuse. The legend related by Cicero concerning him is that one day after expressing envy of Dionysius, he was invited to a banquet, where he found himself sitting beneath a naked sword suspended by a single hair. Hence the familiar simile, "the sword of Damocles." The incident is referred to the first half of the 4th century B.C.

Dampier, William (1652-1729), an adventurous privateering English navigator, who discovered a number of small islands off the coast of Australia, and published *A Voyage Round the World*.

Dandolo, Enrico (1795-1865), was elected Doge of Venice when seventy-seven, and ten years later, when almost blind, joined the Crusades, and succeeded in planting the standard of St. Mark on the walls of Constantinople.

D'Annunzio, Gabriele (b. 1864), the Italian poet, dramatist and novelist, and one of the most remarkable literary men in Europe. Is known in this country by translations of his "Triumph of Death," and "La Gioconda." The author's real name is Gaetano Rapisarda.

Dante Alighieri (1265-1321), the greatest of Italian poets, whose "La Divina Commedia" is world-famous, and has been translated repeatedly into all languages. Gustave Doré executed his most memorable illustrations to this celebrated work.

Danton, Georges J. (1759-1794), a famous member of the National Convention at the period of the first French Revolution. Was made President of the Committee of Public Safety, but Robespierre attacked and supplanted him. Danton being consigned to the guillotine shortly afterwards.

D'Arblay, Frances (1752-1840), made a great sensation while quite young and unmarried, under her name of Frances Burney, by her novel *Evelina*, which opened the doors of Society to her and gained her the friendship of Dr. Johnson. She married M. D'Arblay, a French officer. Her *Diary*, published after her death, is a valuable picture of her time.

Darius was the name borne by three Persian kings. The first reigned from 521 to 485 B.C., and was defeated by the Greeks at Marathon. The second was a natural son of Artaxerxes Longimanus, and having obtained the crown by the murder of his brother, reigned from 424 to 405 B.C. The third Darius was the last of the Persian kings, reigning only from 336 to 331 B.C., when Alexander the Great invaded his kingdom and defeated him in two great battles. Darius was soon afterwards assassinated.

Darling, Grace (1815-1842). By the performance of her heroic deed in putting off in a small boat from the lighthouse on one of the Farne Islands, of which her father was keeper, to the rescue of the shipwrecked crew of the *Forfarshire*, whose lives she saved, she made herself an enduring name. She was only 23 years of age at the time, and died four years later of consumption.

Darnley, Earl of (1546-1567), was married to Mary Queen of Scots—as her second husband—in 1565. Two years later, after Mary had entered into an intrigue with Bothwell, he was murdered.

Darwin, Charles Robert (1809-1882), the distinguished scientist, whose *Origin of Species* first clearly formulated and elaborated the theory of evolution. His first work (1829) described a five years' cruise in the *Beagle*, which the Government had sent out for scientific purposes. His *Origin of Species* appeared in 1859, and, though defended and supported by the scientific thought of the time generally, was much attacked by theologians. In 1871 Darwin issued his *Descent of Man*, a still further elaboration of the evolution theory. His other principal works were *The Expression of Emotion in Man and Animals* (1872), *Insectivorous Plants* (1878), *Different Forms of Flowers* (1877), and *Hormes* (1881). He was buried in Westminster Abbey.

Darwin, Sir George H. (1845-1911), son of the foregoing, and Plumian Professor of Astronomy and Experimental Philosophy at Cambridge. President of the British Association, 1905, when he opened the bridge over the Victoria Falls of the Zambezi.

Darwin, Erasmus (1731-1802), grandfather of Charles Darwin, the Naturalist, was an English physician, practising at Derby, and a poet of considerable repute, whose "Loves of the Plants" was exceedingly popular.

Darwin, Sir Francis, M.A., F.R.S. (b. 1848), President of the British Association meeting of 1908. Third son of Charles Darwin, and biographer of his

father. An eminent authority on botany, and author of numerous works on that science. Knighted 1873.

D'Aubigne, Jean, H. M. (1798-1872), a Genevan pastor and professor, whose *History of the Reformation* holds high rank amongst the historical works of the 19th century.

Daudet, Alphonse (1840-1897), the celebrated French humorist and novelist, all of whose works have been translated into English, and achieved much popularity. His best known works are *Le Nabab*, *Les Rois en Exil*, *Sapho*, and the "Tartarin" series.

Davenant, Sir William (1605-1668), a dramatist and poet of much note in his time, who filled the office of Poet Laureate in succession to Ben Jonson. He was buried in Westminster Abbey.

Davay of Farnhurst, Rt. Hon. Sir Horace, Lord (1833-1907), was Solicitor-General in 1866, Lord Justice of Appeal 1893, and Lord of Appeal in Ordinary 1894. A great Chancery lawyer when at the Bar, and distinguished himself by his antagonism to street betting.

David I. (1124-1153) was King of Scotland and uncle of Matilda, daughter of Henry I., and took up arms against Stephen on his repudiation of Matilda's claims to the English crown.

David, I. (1244-1371), King of Scotland from 1329 to 1370. He was the son of Robert Bruce, and in conflict with the English army at Neville's Cross, in 1346, was defeated and made prisoner by Queen Philippa.

David, Jacques Louis (1748-1825), a celebrated French painter of classic and historic subjects, who was an ardent supporter of the Revolutionary movement. Many examples of his work are to be seen at Versailles and at the Louvre.

David, St., whose festival falls on March 1st, lived in the 6th century in Wales, and founded various monasteries. Is the patron saint of the Principality.

Davidson, John (1857-1909), born at Barrihead, Went to London in 1880, and, after a course of journalism, began to attract attention by his verse, and published various volumes disclosing a marked poetic gift, together with the power of treating ordinary subjects in a vivid and illuminating manner. Much sensation was caused by his mysterious disappearance in 1909. His body was discovered some time afterwards, and he is supposed to have committed suicide in a fit of despondency.

Davidson, Dr. Randall T. (b. 1848), Archbishop of Canterbury from 1903. Previously Dean of Windsor 1883-1891, Bishop of Rochester 1891-1895, and Bishop of Winchester 1895-1903. Was for a long period Domestic Chaplain and Clerk of the Closet to Queen Victoria, and married in 1878 the daughter of Archbishop Tait, whose private secretary he had been, and whose biography he wrote.

De Vinci, Leonardo. (See *Leonardo Da Vinci*.)

Davis, Jefferson (1808-1889), an American statesman, who on the breaking out of the Civil War, was made President of the Confederate States. After the war he was a prisoner in the hands of the Federals, put on his trial for treason, and subjected to much indignity, but was ultimately discharged and wrote (1881) *The Rise and Fall of the Confederate Government*.

Davis, John (1550-1605), one of the great Elizabethan explorers and discoverers of Davis' Strait, the channel between the Atlantic and Arctic Oceans on the west of Greenland. Invented the backstaff, or Davis' quadrant.

Davitt, Michael (1846-1906), after a hard-working and precarious bringing up this ardent Irish Nationalist attracted much notice by the bitter speeches he made on behalf of the Fenian Brotherhood, and in 1870 was sentenced to fifteen years penal servitude for treason-felony, but was released on ticket of leave in 1877. Was one of the founders of the Irish Land League, 1879. In 1881 was sent back to penal servitude, but released again in the following year. Was elected to Parliament while a prisoner at Portland but disqualified. Succeeded in entering Parliament in 1892, and resigned in 1899.

Davy, Sir Humphry (1778-1829), the inventor of the safety-lamp. Was an eminent chemist, whose researches and discoveries were of great scientific importance. Was the first to employ the electric current in chemical decomposition, and discovered nitric oxide or laughing gas. Began life as an apothecary's apprentice.

Deák, Ferencs (1803-1876), a distinguished Hungarian statesman who filled many high offices, and was leader of the Moderate party of the Diet.

Deakin, Alfred (b. 1836), first Attorney-General of the Commonwealth of Australia, 1901-3; Prime Minister, 1903-4, 1905-8, 1909-10; leader Federal Opposition, 1910-13. Refused a knighthood; was prominent at the Colonial Conference of 1907.

Deane, Sir Henry Barge (b. 1846), Judge of the Probate, Divorce, and Admiralty Division, since 1905. Recorder of Margate, 1885-1905.

Decamps, A. G. (1803-1860), an eminent French painter, who produced numerous historical paintings of great value.

Decius, Roman Emperor from 249 to 251, notorious for his cruel persecution of the Christians.

Defoe, Daniel (1660-1731), the son of a London butcher who, after a very varied business career, became a novelist and novelist, obtaining world-wide fame by his *Robinson Crusoe*, written when he was nearly sixty years of age. This was followed by several other novels, all of great merit, though not free from serious defects of taste.

Delacroix, Ferdinand (1798-1863), a French painter of great imaginative and dramatic force, and one of the chief ornaments of the romantic school.

Delane, J. T. (1817-1879), the famous editor of *The Times*, who, though he did not write himself, made his paper the greatest journal in the world. He was in position from 1847 to 1877.

De la Ramé, Louise. (See "Ouida.")

Delarocche, Paul (Hippolyte) (1797-1856), an eminent French historical painter, examples of whose work are to be found in many galleries.

Delcassé, Theophile (b. 1815), the eminent French statesman, entered the Chamber in 1848, and in 1853 was Under-Secretary for the Colonies. In 1868 was appointed to the Foreign Office, where his position he filled with great success. In 1903 he accompanied the French fleet on a visit to England. Resigned in 1905 on the Moroccan difficulty. Ambassador to Russia, 1903, and in 1911 became Foreign Minister once more.

Delibes, C. P. L. (1836-1891), a French composer of much graceful and refined music, including two or three operas, numerous operettas, and some exquisite ballet music of very delicate texture.

Delolme, J. L. (1741-1806), a Swiss politician and author, who resided some years in England, and wrote a work on *The Constitution of England*, which was a leading legal text from 1847 to 1877.

Democritus (460-370 B.C.), the Greek philosopher to whom the conception of the Atomic theory is attributed. His cheerful disposition led to his being styled "the laughing philosopher," and the tradition tells that he put his eyes in order to prevent being distracted in his speculations.

De Morgan, Augustus (1806-1871), a mathematician of great eminence, who held the position of Professor of Mathematics at University College, London, for over thirty years.

De Morgan, William (b. 1826), son of the preceding, was engaged in artistic pursuits until 1866, when he surprised the novel-reading world by a remarkably clever story of humour, character, and observation entitled *Joseph Vance*. His later novels include *Abce-for-Short* (1907), *Somehow Good* (1908), and *I Phen Ghost Meets Ghost* (1914).

Demosthenes (385-322 B.C.), the famous Grecian orator, statesman and warrior. Sixty-one of his orations were preserved, and are regarded as perhaps the finest examples of their kind.

D'Enghien, Eugène (1772-1804), a Bourbon prince, whom Napoleon suspected of complicity in the Pichegru conspiracy for the Bourbon restoration, and had him shot in Paris in the same year that he himself was crowned Emperor.

Denham, Sir John (1615-1669), a Royalist poet, whose descriptive poem "Cooper's Hill" achieved much popularity. Was knighted by Charles II., and honoured with burial in Westminster Abbey.

Denis, St., the patron saint of France, over whose grave the abbey of St. Denis was erected. He lived in the 3rd century, being beheaded, according to legend, at Paris in 272.

Denman, Lord, P.C., K.C.V.O., Governor-General of Australia 1911-14 (b. 1874). Was Lord-in-Waiting to the King, 1907-11, and Deputy Speaker of the House of Lords.

Dentatus, M. Curius (d. 270 B.C.), the Roman consul, who in 260 B.C. drove Pyrrhus out of Italy, and afterwards lived a simple life in the capital.

Depew, Chauncey M. (b. 1844), a well-known American lawyer, senator and railway magnate, who first came into prominence as the legal adviser of the Vanderbilts, especially as regards the New York Central and Hudson River Railroad Companies.

De Quincey, Thomas (1785-1859), an eminent essayist and critic, the friend of Coleridge, Wordsworth, and Southey. His "Confessions of an Opium Eater" is a British classic.

Deby, Edward Stanley, 14th Earl of (1799-1850), was an eminent statesman who served as Prime Minister in the Government of 1852, 1858, and 1866. From a Whig he blossomed into a staunch Tory and had little sympathy with democratic Toryism.

De Reszke, Jean (b. 1853) and **De Reszke, Edouard** (b. 1856), two famous operatic singers, the first a tenor, the second a baritone, who achieved high fame and immense fortunes by their singing in various parts of the world. They are Poles.

Derwentwater, Earl of (1769-1779), the leader of the English Jacobite movement for placing the Pretender on the English throne. The rising took place in 1745, but was completely crushed by the Battle of Preston, and Derwentwater was beheaded.

Descartes, René (1596-1650), the famous French philosopher, mathematician, and author, Cartesian philosophy, the basis of which is up in the words "Cogito, ergo, sum" ("I think, therefore I exist"), well known.

Desmoulins, Camille (1760-1793), was one of the foremost of the French Revolutionary leaders, and from the destruction of the Bastille to the days of the Terror was unflinching in his onslaughts upon the aristocrats and the priesthood. He fell under the dagger of Robespierre, however, and was sent to the guillotine along with Danton.

Detaille, Jean B. Edouard (1848-1912), a French battle painter, who produced numerous thrilling pictures of scenes in the Franco-Prussian War.

Deutsch, Emmanuel (1820-1873), a German Orientalist, who resided for the best part of his life in England, filling the position of Assistant Librarian in the British Museum, and making many acceptable contributions to Oriental Literature.

Devonport, Lord (b. 1850), formerly Sir Hudson Kearsley, M.P. and Parliamentary Secretary of the Board of Trade, 1905-06, has been Chairman of the Port of London Authority (without salary) since 1909; in 1912 in handling the Dockers' Strike showed great firmness in the face of much strong personal attack.

Devonshire, Spencer Compton Cavendish, 8th Duke (b. 1833-1908). Entered parliament in 1877, as the Marquis of Hartington, and speedily made a name as a Liberal politician, being Under-Secretary for War in 1864, War Secretary in 1869, Postmaster-General in 1868, Chief Secretary for Ireland, 1871, Secretary for India, 1880. War Secretary, 1882. Separated from Mr. Gladstone on the Home Rule question, and in 1895 entered Lord Salisbury's third Ministry as President of the Council, which position he held up to the time of Mr. Chamberlain's declaration of Fiscal Policy, when he declared himself a Free Trader. He succeeded his father as Duke of Devonshire in 1901.

Devonshire, Victor Christian William Cavendish, 9th Duke (b. 1868), nephew to the above, whom he succeeded in 1908. Was M.P.

for Derbyshire W. 1891-1908, and has been Treasurer of the Royal Institution, Financial Secretary to the Treasury, and Junior Conservative Whip.

Dewar, Professor Sir James (b. 1842), a prominent chemist, and a native of Kincardine. In 1877 was appointed Fullerton Professor of Chemistry at the Royal Institution, and in 1888, jointly with Sir Frederick Abel, invented cordite. He has attracted great notice by his experiments with liquid gases, in 1884 illustrated the liquefaction of oxygen and air by means of special apparatus, and in 1891 obtained liquid oxygen by the fount.

Dewey, Admiral George (b. 1827), was a comparatively unknown American naval commander until his opportunity came in 1898 during the Spanish-American War, when he captured and destroyed the Spanish Fleet in Manila Bay.

De Witt, Jan (1625-1672). An eminent Dutch statesman, who carried on war with England and later negotiated the Triple Alliance, but was overthrown by the Orange Party and murdered—with his brother Cornelius—by the mob.

De Witte, Bergius (b. 1840), a Russian Statesman of great ability; became Minister of Ways in 1892 and Minister of Finance in 1893, retired from office when the War Party gained the ascendancy, and opposed the war with Japan.

Diaz, Porfirio (b. 1830), ex-President of Mexico. In the Revolt against the French authority in 1857 he greatly distinguished himself, and in the Insurrection of 1875 against Juárez, he led his party to victory, and was elected President in 1877; a position which he held until deposed by the revolution of 1911.

Dickin, Charles (1746-1814), actor, dramatist and popular entertainer; gained great popularity by his sea songs, written at the time when the British Navy was engaged with the power of France.

Dicklin, Sir T. J. C. (b. 1851), a C.E. (b. 1851), Dean of the Court of Appeal, was educated at Cambridge, afterwards was called to the Bar, enjoyed a large Chancery practice, and was made K.C. in 1901. Has filled the Chanceryships in turn of Rouncester, Exeter, and Durham, and was appointed to his present post in 1903.

Dick, Thomas, L.L.D. (1774-1857), a Scotch minister and scientist, whose astronomical writings, intended to support Christian teaching, were greatly read. His principal work was the *Christian Philosophy*.

Dickens, Charles (1812-1870), the most popular novelist of the 19th century. Although very humble beginnings worked himself up by sheer genius to the high position in the world of letters. His literary output was enormous. From the time of the publication of the *Pickwick Papers* down to his death in 1870, covering a period of thirty years, he produced over a hundred novels, all possessing the original Dickensian characteristics, yet each wonderfully different from the rest, and his popularity continues undiminished. He did so much for the cultivation of the true sentiment of Christmas, that, whenever that season comes round, his name is recalled with honour and homage, and in several issues of *Pears' Annual* his Christmas writings have been revived with ample accompaniments, not only of the original illustrations, but with the addition of personal contributions by eminent later artists. As a reader of his own works Dickens claimed a marvellous dramatic gift, and in that capacity at home and in America made highly successful tours. He was buried in Westminster Abbey.

Dicksee, Frank, R.A. (b. 1854), well known as the painter of numerous pictures, which rank high amongst the productions of our time, including "Barrenness," "Romeo and Juliet," and "The Funeral of a King." First exhibited in the Academy in 1896. Was made R.A. in 1901.

Diderot, Denis (1713-1784), the famous French philosopher and editor of the *Dictionnaire Encyclopédique*, which occupied him thirty years.

Digby, Sir Everard (1591-1606), was concerned in the Gunpowder Plot, for complicity in which he was executed.

Digby, Sir Kenelm (1603-1665), son of Sir Everard Digby, was a scientist of great repute, who filled many diplomatic posts under Charles I.

Diggle, Rt. Rev. John William, Bishop of Carlisle since 1904 (b. 1847), was educated at Manchester Grammar School and Oxford; ordained 1871; Vicar of Mossley Hill, Liverpool, 1875-1896; Canon of Carlisle, 1896; and Archdeacon of Birmingham, 1903-1904. Is author of *Bishop Fraser's Lancashire Life*, and other works.

Dillon, Rt. Hon. Sir Charles W., M.P. (1843-1911), was a prominent member of the Liberal Party, who entered Parliament in 1868, and was made Under-Secretary for Foreign Affairs in Mr. Gladstone's Government of 1880. From 1882 to 1885 was President of the Local Government Board, and supported Mr. Gladstone generally on all public questions, including Home Rule. Was one of the best informed men in the House on Army and Navy matters and Foreign affairs. Wrote numerous books, and was the proprietor of the *Athenaeum*.

Dillon, John, M.P. (b. 1851), a prominent member of the Irish Nationalist Party, who did good service to his side under Parnell and suffered imprisonment in respect of the famous "Plan of Campaign."

Dinwiddie, Robert (1692-1770), a Scotch diplomatist who from 1752 to 1758 was Governor of Virginia. It was at his suggestion that the territory of Ohio was annexed.

Diocletian (A.D. 245-313), Roman Emperor from 284 to 305. Inaugurated the system of partnership Emperors, dividing the Empire into four sections, administered by himself in the East, Maximian in Italy and Africa, Constantius in Britain, Gaul, etc., and Galerius in Illyria. Abolished in 305. Was a great persecutor of the Christians.

Diogenes (412-322 B.C.), the celebrated Greek cynic philosopher who is said to have lived in a tub, wearing the coarsest clothing and eating on the plainest food. Many of his sayings have been preserved, and serve for occasional quotation.

Dionysius. Two of the tyrants of Syracuse bore this name. The first was a great soldier and statesman, as well as a poet and philosopher, and lived from 430-367 B.C. The second Dionysius was his son and successor, but was of such a cruel disposition that he was driven from the throne and died in obscurity in 357.

Disraeli, Benjamin. (See *Beaconsfield*.)

D'Israeli, Isaac (1756-1818), the father of Benjamin. Was an interesting worker in a special literary field, and produced some exceedingly interesting volumes dealing with authors and their writings. His best known work is his *Curiosities of Literature*.

Dixon, W. Hepworth (1821-1879), was editor of the *Athenaeum* for many years and wrote several historical works and books of travel.

Dobell, Sydney (1824-1871), an English poet, who between 1850 and 1853 published three volumes of verse—"The Roman," "Baldie," and "England in Time of War," which contained many poems of real beauty and imaginative force. He was a Cheltenham wine-merchant.

Dobson, Henry Austin, L.L.D. (b. 1810), was in the Civil Service from 1850 to 1861, and is the author of several dainty volumes of society verse and some equally dainty prose works, dealing chiefly with the 18th century.

Dodd, Dr. William (1720-1777), a clergyman who attracted much notice by a volume entitled *Beauties of Shakespeare*, and won unfortunate notoriety later by being condemned and executed for forging the signature of the Earl of Chesterfield, his former pupil, to a bond for £4,200.

Doddridge, Philip (1702-1751), a popular Non-conformist preacher and writer, now best remembered by many beautiful hymns which rank high in all English collections, and also by his work on *The Rise and Progress of Religion in the Soul*.

Dodgson, C. L. (1812-1898), a writer and Professor of Mathematics at Oxford, who, under the pseudonym of Lewis Carroll, achieved lasting fame by his *Alice's Adventures in Wonderland*, one of the most delightful books for children ever written.

Dods, Marcus, D.D. (1834-1909), one of the best known of modern Biblical scholars and expositors, who was before the public as an author from about 1860. From 1899 to 1907 he was United Free Church Professor of New Testament Theology, Edinburgh, and in 1907 Principal of New College, Edinburgh.

Dolci, Carlo (1616-1686), the famous Florentine painter, examples of whose Madonnas and saints are to be found in most national collections.

Dollinger, J. J. I. von (1799-1890), a German theologian and historian whose writings caused great controversy, his opposition to the doctrine of Papal Infallibility being much discussed.

Dominic, St. (1170-1221), founder of the Order of Dominicans, or Black Friars, who devoted much energy to the conversion of the Albigenses, but meeting with small success, instituted a policy of persecution after the manner of the later Inquisition.

Domitian (51-96), a Roman emperor who, after many cruel and tyrannical acts, aroused the enmity of the people and was finally assassinated.

Donald, Robert (b. 1861), a journalist of note, who has gathered his experience in many quarters at home and abroad, and is an authority on municipal work, trusts, and London life and labour. Is editor of the *Daily Chronicle*, *Lloyd's Newspaper*, and the *Municipal Year Book*.

Donatello (1386-1466), the famous Italian sculptor, whose works are to be seen chiefly at Florence, though several examples are at South Kensington.

Donizetti, G. (1797-1848), the Italian composer to whom we owe the operas of "Lucia di Lammermoor," "La Fille du Régiment," "La Favorita," and others.

Donne, John (1573-1631), a clergyman and religious writer whose poems are still held in esteem.

Dore, Gustave (1833-1893), the well-known French artist, famous for his colossal scriptural paintings and his powerful illustrations to the works of Dante, Milton, and Tennyson.

D'Orosy, Count Alfred (1798-1892), a Society dandy who married into the Blessington family, and later on, at Kensington Gore, with Lady Blessington formed a literary coterie, which for a time was of great influence. The Count was a versatile man, but of such extravagant habits that he ultimately became bankrupt, and retired to Paris, where Louis Napoleon did something to help him, and only a few days prior to his death had appointed him Director of Fine Arts.

Douglas, Archibald (1449-1514), ancestor of Lord Darnley, husband of Mary Queen of Scots. He retired to a monastery in late life at Galloway, and died there.

Douglas, Sir James (1286-1330), known as Black Douglas, was a noted Scottish raider, and held a commander's post at the Battle of Bannockburn. Travelling through Spain to Palestine to deposit Bruce's heart at Jerusalem, he was attacked and killed.

Doulton, Sir Henry (1800-1867), the inventor of Doulton ware, and one of the leading potters of modern times. His factories and works at Lambeth and Rowley Regis ran among the great industrial establishments of the country.

Dow, Gerard (1613-1695), a great Dutch painter, follower and pupil of Rembrandt, whose works display a remarkable fidelity to nature.

Dowden, Edward, M.A. (1843-1913). Well known for his critical and other writings, mainly dealing with the lives and works of the poets, and showing keen insight and appreciation, together with much beauty of style. Was Professor of Literature at Trinity College, Dublin, for 37 years.

Doyle, Sir A. Conan (b. 1859), the novelist who reached the point of highest popularity in his present-day detective sketches, in which "Sherlock Holmes" is the central figure. Served as Senior Physician of the Langman Field Hospital in the South African War, of which campaign he wrote a history. Has also written plays.

Doyle, Richard (1824-1883), an artist of much humor and fancy, who was exceedingly popular while on the staff of *Punch*, from 1842 to 1860. He also illustrated some of Thackeray's works, and the familiar cover of *Punch* is his work.

Drake, Sir Francis (1540-1596), the great admiral of Queen Elizabeth's time, who made many adventurous voyages, bent partly on discovery and partly on plunder. He was a leading figure—under Lord Howard—in the attack on and destruction of the Spanish Armada in 1588.

Drayton, Michael (1563-1631), author of *Polyolbion*, a poetic description of various parts of England, and of great interest for its topographical pictures and references. He was Poet Laureate, and was buried in Westminster Abbey.

Dreyfus, General Alfred, a French officer, condemned by a military secret tribunal on a charge of divulging secrets in 1894 to a foreign power, and condemned to imprisonment for life on Devil's Island, in French Guiana. At a sensational new trial in 1899 he was again found guilty, and sentenced to a mitigated term of incarceration for ten years; but strenuous efforts on his behalf secured a pardon later. In 1906 he was entirely exonerated and reinstated in the army, with the rank of General, and made a Chevalier of the Legion of Honour.

Drummond, Henry (1817-1897), a Scottish religious writer, who endeared himself to the Christian community by his two works, *Natural Law in the Spiritual World* and *The Ascent of Man*. Although no formidable antagonist to Darwinism, his writings possess great charm.

Drummond, James (1675-1790), took a leading part in the Jacobite rebellion of 1715, and, escaping with the Pretender, spent the remainder of his life in exile at St. Germain.

Drummond, William (1785-1849), a Scottish poet—lord of Hawthornden—whose works dealt largely with political matters, but revealed considerable poetic power. Ben Jonson walked from London to Scotland to pay him his respects.

Dryden, John (1631-1700), one of the most vigorous and prolific of English poets and writers, and a popular dramatist. He excelled in satire, and drew some powerful pictures of the statesmen of his day. His translation of Virgil ranks with Pope's translation of the "Iliad." He was buried in Westminster Abbey. Originally a Parliamentarian he went over to the Royalists, and was laureate and historiographer-royal, 1670-88.

Du Barry, Countess (1741-1793), the favourite of Louis XV., who exercised great influence over the King, but after his death, and the breaking out of the Revolution, took refuge in England for a time. Being tempted to return to Paris in 1793 she was arrested and guillotined.

Dublin, Roman Catholic Archbishop of. (See Walsh.)

Du Chailu, Paul (1837-1904), a noted African traveller who was chief of General Gordon's staff in 1874, and wrote many valuable books of travels, his studies of the gorilla being especially interesting.

Dudley, Earl of (b. 1866), Governor-General of the Australian Commonwealth since 1908, was Lord-Lieutenant of Ireland, 1902-1905, in which position he showed a tactful sympathy which made him highly popular. Previously he had been for a short period Parliamentary Secretary to the Board of Trade. He was in sympathy with the Devolution Policy, and Chairman of the Commission on Congestion in Ireland.

Dufferin and Ava, Marquis of (1826-1902), was a diplomatist of great experience, a writer of undoubted brilliance, and filled many high offices with distinction and success, including those of Governor-General of Canada, Viceroy of India, and Ambassador to France, Russia and Turkey.

Dugdale, Sir William (1603-1686), the English antiquary famed for his *Monasticon Anglicanum*. Was knighted by Charles II.

Du Guesclin, Constable of France (1314-1380), achieved great fame in the wars with Edward III, and the Black Prince, ultimately driving the English out of France.

Dumas, Alexandre (1802-1870), the famous French novelist and dramatist, who published more volumes than any man of his time, the greater part of them of high merit. In the field of historical

romance he showed wonderful power and resource, and his thrilling story *Monte Cristo* is one of the great novels of the 19th century.

Dumas, Alexandre, fils (1824-1895), was the son of the last-named, and attained almost equal fame with his father, both as novelist and dramatist. His stories and dramas dealt mainly with the current time, and were often written round some striking social question. His *La Dame aux Camélias* was his most famous novel.

Du Maurier, George (1834-1896), one of the best known of the *Punch* artists during a long period, and author of the novels of *Peter Ibbotson*, *Trilby*, and *The Martian*. His pictorial satires of Society follies were sometimes scathing, and he owed a good deal to his early Parisian associations.

Dumouriez, Charles François (1739-1823), a celebrated French general, who, in the early period of the Revolution (1789-1793), distinguished himself in opposing the armies of Austria and Prussia.

Dunbar, William (1450-1525), a distinguished Scottish poet, author of "The Thistle and the Rose," and many other poetic pieces of a quaint fancy.

Duncan, Adam, Viscount Camperdown (1731-1804), won great renown and his title by a brilliant victory over the Dutch in 1797 off Camperdown.

Dundonald, Thomas Cochrane, 10th Earl (1775-1860), a British admiral who was dispersed and disgraced on a charge of fraudulently disseminating false reports, and subsequently commanded the Chilian, Brazilian, and Greek navies in turn. After being under a cloud for eighteen years, he was exonerated from all allegations made against him, and restored to his former rank and honours.

Dundonald, Lord (b. 1827), a distinguished English general who served in the Nile Expedition of 1884-1885, and in the Relief of Khartoum; also held a cavalry command in the South African War, and was afterwards in command of the Canadian Militia. His lordship is the 12th Earl, and like his ancestor last mentioned, and also the 9th Earl, is a man of invention and scientific attainments.

Dunn, J. Nicol (b. 1856), has had a large and varied journalistic experience, first in Scotland and afterwards in London. He was editor of *Black and White*, 1895-1897. Subsequently edited the *Morning Post*, later the *Manchester Courier*, and in 1911 accepted an editorial position in *S. Africa*.

Dunne, F. P. (b. 1857), an American humourist who has gained a wide reputation for his "Mr. Dooley" papers, which have been appearing for several years and contain much shrewd comment on the topics of the time. "Mr. Dooley" is an Irish-American saloon-keeper, who retails his views in conversation with "Mr. Hennessy," his customer and compatriot.

Dunrobin, Earl of (b. 1841), has had a very active career in many parts of the world. Was war correspondent during the Siege of Paris, and served in the South African War. Made two attempts to win the America (yachting) Cup, but without success. More recently he has been associated with the Irish Reform Association, of which he is chairman. In 1907 published *The Outlook in Ireland*.

Duns Scotus (c. 1225-1286), a famous scholastic, who was, according to tradition, born at Duns, in Berwickshire, and became a Franciscan friar and theological professor at Oxford. Later he was, it seems, regent of the University of Paris. He was the great doctrinal opponent of Thomas Aquinas.

Dunstan, St. (c. 924-988), the famous Abbot of Glastonbury and Archbishop of Canterbury, who lived through the reign of five kings, and exercised great political influence.

Dupleix, Joseph François (1697-1763), was governor of the French East Indian possessions at the time when Clive was guiding the fortunes of the East India Company, and after Clive's victory at Plassey Dupleix's day was over. He returned to France, and fell into disgrace and poverty.

Durand, Right Hon. Sir H. Mortimer (b. 1850), at one time political secretary to Lord Roberts, and filled many diplomatic positions, being Ambassador to Spain until 1904, when he was appointed to the post of British Ambassador at Washington. Sir

Mortimer's Indian and Afghan experiences are extensive, and he writes well on Oriental affairs.

Durham, John George Lambton, Earl of (1792-1840), a statesman who did great public service by undertaking the readjustment of administrative grievances in Canada in 1836, his wise suggestions served for the foundation of the self-governing principle in the Dominion.

Dürer, Albert (1471-1528), the great German painter and engraver, and friend of Luther. Many of his engravings are in the British Museum. Of Nuremberg birth, he may be regarded as the founder of the German school and the inventor of etching.

Duse, Eleanora (b. Venice, 1861), an Italian tragedienne of world-wide reputation, whose impersonations of various classic parts have greatly impressed the critical audiences of London, Paris, and New York. She has frequently performed for short seasons in London.

Duval Glaude (1649-1690), a notorious highwayman who, coming to England from Normandy in the Duchess of Richmond's service, took to "the road," and for a few years successfully evaded capture. He was hanged at Tyburn.

Dvořák, Antonín (1847-1904), the eminent Bohemian composer. Combined with a striking originality, his compositions show fine musical qualities. Made himself popular in this country by his "Stabat Mater" in 1880, and his cantata "The Spectre's Bride."

Dyer, Sir W. T. Thistleton (b. 1843), a great authority on flora and plant lore, and son-in-law of Sir Joseph Hooker, the botanist. Was for twenty years prior to 1905 Director of Kew Gardens. Has written learnedly on the flora of Middlesex and of Africa, and held, prior to going to Kew, first the Professorship of Natural History at the Royal Agricultural College, Cirencester, and then the Professorship of Botany at the Royal College of Science for Ireland.

Dyson, F. W., F.R.S. (b. 1868), Astronomer Royal since 1910. Was previously (1905-10) Astronomer Royal for Scotland.

E

Eadmer was the name of an English monk and historian, who lived in the latter part of the 11th century and commencement of the 12th. He was the friend of Anselm at Canterbury, and wrote the life of the latter, of Dunstan, and others, besides being the author of the *Historia Novorum*.

East, Sir Alfred, A.R.A. (1849-1913), a landscape painter whose works are deservedly popular, many of his paintings being distributed over the leading galleries of Europe.

Eastlake, Sir Charles L. (1793-1865), an eminent English painter who was made R.A. in 1820, and twenty years later became President of the Academy. His works were mostly of a religious character, and were much admired in their day. He was keeper of the National Gallery, 1843-1847.

Ebers, Georg M. (1837-1898), a well-known novelist and Egyptologist, who attained a world-wide reputation by his principal novels, especially *An Egyptian Princess*. Was Professor of the Leipzig University in 1870, and died in Bavaria.

Eck, Johann von (1486-1543), was one of the most vigorous opponents of the Reformation in Germany, and in pamphlets and public discussions showed great activity and resourcefulness, denouncing Luther with exceeding bitterness.

Eddy, Mrs. Mary Baker (1822-1911), founder of the "Christian Scientists," was the author of a work entitled *Science and Health*, which almost ranks as a sacred book with the millions of her adherents. There are said to be nearly 700 Christian Science Churches, and Mrs. Eddy was understood to possess in subscribed funds some millions of pounds. Mrs. Twain published a bitter attack upon her in 1907.

Edgar, King of England from 959 to 975, was a monarch of enlightened ideas, who under the influence of Dunstan was able to carry out many useful reforms.

Edgar Atheling, as grandson of Edmund Ironside, was the lawful heir of Edward the Confessor, but in the confusion of the Norman invasion he was unable to maintain his claim.

Edgeworth, Maria (1767-1849), a well-known authoress, whose stories of Irish life, *Castle Rackrent*, *The Absentees*, etc., were remarkable for their rich humour and tenderness. She also wrote, in collaboration with her father, Richard Lovell Edgeworth, on educational subjects, and, independently, a number of books for children.

Edison, Thomas Alva (b. 1847), the American inventor, who after an adventurous boyhood became a telegraph operator, and had his attention directed to electrical problems. Established himself in New York in 1869, and invented an improved printing telegraph. In 1876 set up an elaborate laboratory and factory at Menlo Park, New Jersey, from which place he has sent out many clever and some startling inventions, including a system of duplex telegraphy, afterwards improved into quadruplex and sextuplex transmission, the phonograph, and a method of preparing carbon filaments for the electric lamp.

Edmund Ironside (985-1016), the son of Ethelred, after years of contention with the Danes, made a compact with Canute to divide England between them, but dying shortly afterwards the kingdom was settled on Canute.

Edmund, Martyr and Saint, the last king of the East Angles, began to reign in 855, and was killed by the Danes in 870.

Edmund, St. (circa 1170-1240), Archbishop of Canterbury, championed the English Church against Papal encroachment; died in France; canonised 1247.

Edward the Confessor (circa 1004-1066), the Anglo-Saxon king who immediately preceded—save for the brief reign of Harold of less than a year—the Norman Conquest, and founded Westminster Abbey, where a smaller church, then dilapidated, had previously for a period, had a precarious existence. He was a religious-minded mystic, and was canonised in 1162, and given the shrine in the Abbey of his origination, which yet remains fairly intact, despite the ravages of Time and disturbing hands.

Edward the Elder was the son of Alfred, and succeeded him as King of the West Saxons in 901. He was successful in overcoming the Danes, and became overlord of the Northern counties.

Edward the Martyr (963-979) became king in succession to Edgar, but, although supported by Dunstan, was not able to prevail against his step-mother Elfrida, who had him murdered.

Edward I. (1239-1307) was king of England from 1272 to 1307. Took part in the Crusades, completed the conquest of Wales, overcame Scottish opposition—executing Wallace and receiving the submission of Bruce—and promulgated many wise laws. He was nicknamed "Longshanks."

Edward II. (1284-1327), the son of Edward I., succeeded his father when the latter died at Burgh-on-Sands in 1272. Suffered defeat at the hands of the Scotch at Bannockburn, and on account of his arbitrary disposition, cruelty, and lavish concessions to favourites, was deposed in 1327, and afterwards murdered at Berkeley Castle.

Edward III. (1312-1377) was one of the ablest of English monarchs who, although much taken up with long and bitter wars with France and Scotland, did much for the commercial interests of the nation, and was the means of introducing large numbers of Flemings into the country, who laid the foundation of the English textile manufactures. He married Philippa of Hainault, and was the father of Edward the Black Prince.

Edward IV. (1441-1483) attempted unsuccessfully to regain the lost English possessions in France, and resorted to many despotic expedients for obtaining supplies, but it stands to his credit that he entered into trading treaties with the commercial merchants of the Continent which were of benefit to his people.

Edward V. (1470-1483)—son of Edward IV. and Elizabeth Woodville—was the unfortunate king who was put to death in the Tower of London, and succeeded by Richard III., his unscrupulous uncle,

who had made himself "Protector" and assumed the Crown a little more than two months after the death of Edward IV., publishing the demise of the young King and his brother the Duke of York as having occurred in prison. The bones of the murdered boys were many years afterwards taken to Westminster Abbey for final burial.

Edward VI. (1537-1553) succeeded his father, Henry VIII., when in his tenth year, and died in his sixteenth year. The Reformation, under the Regency of Somerset first, and then of Northumberland, made considerable progress during his brief reign. He was induced during his last illness to name Lady Jane Grey his successor, with results disastrous to that unfortunate personage and many others concerned.

Edward VII. (1841-1901). His late Majesty was privately educated; afterwards passed through a course in succession at Edinburgh, Oxford, and Cambridge; travelled in Italy and Spain in 1860, visited the United States and Canada in 1860; and made a tour of the Holy Land in 1862. Was married to Princess Alexandra of Denmark in 1863. Undertook a tour to Egypt in 1869. Suffered from a severe attack of typhoid in 1871. Visited India in 1875, and from that time onward was constantly in the public eye, taking part in all kinds of functions. Succeeded to the throne on the death of Queen Victoria, Jan. 22, 1901. His Civil List was fixed at £400,000 a year. The Coronation which had been planned for June 22, 1902, had to be postponed in consequence of the King's sudden illness, but eventually took place on the 9th of August in the same year. The incidents of the King's nine years' reign are too familiar to need repetition. His Majesty was a powerful factor in the preservation of the peace of Europe, his friendly intercourse with the heads of the French, German, and other nations earning for him the title of "Edward the Peacemaker."

Edwards, John Penson (1823-1901), was for many years proprietor of the *Echo* and other London papers, and after acquiring a fortune devoted himself to public affairs and philanthropy. He was M.P. for Salisbury from 1880 to 1884. In the founding and development of free libraries and art galleries, as in many other charitable directions, he performed great and substantial service.

Edwards, Jonathan (1703-1758), was an American metaphysician who obtained a high reputation by his *Treatise on the Freedom of the Will*. He wrote many other books of a religious nature, and attained great eminence as a preacher. His son, Jonathan Edwards the younger (1745-1801), was an American Congregational clergyman of some eminence.

Edwin, King of Northumbria, killed in battle at Hatfield Chase, Yorkshire, in 634. He was baptised into the Christian faith at York in 667, and built a church there. He was canonised later.

Edwy was an Anglo-Saxon king, son of Edmund I. He succeeded his uncle, Edred, in 955, and died in 984, when under twenty years of age, after having undergone considerable cruelty at the hands of ecclesiastics who resented his wedding with a relative, Elgiva, who was put to death.

Egbert was a descendant of Cerdic, king of the West Saxons, and reigned from 802 to 839 in Wessex; in his latter years became the first king of all England. In 835 he had to drive the Northmen away from Cornwall.

Elagabalus was the Emperor of Rome from 218 to 217, and after a despicably wicked reign of less than four years was put to death by his soldiers.

Eldon, Earl of (1751-1838), was Lord Chancellor from 1801 to 1827 after a distinguished career at the Bar and in Parliament. He was a man of high integrity, whose father, William Scott, was a Tyneside coal-ster. John Scott was the third son, and went to Newcastle Grammar School. He applied himself so assiduously to general study and afterwards to the law, that he rose to the Wootton, being created in turn Viscount Encombe and Earl of Eldon. Another brother became a celebrated jurist also, and as Baron Stowell is noted for his decisions in international law.

Eleanor, Queen of Edward I. (d. 1290), was a woman of great piety and devotion. After her death the king had memorial crosses erected at the twelve places where her body rested on its way from Grant-ham to Westminster.

Elgar, Sir Edward (b. 1858), studied music, and settled at Malvern as teacher and composer. Since 1892 has composed many notable cantatas and other works, which have been performed at various festivals, achieving a high reputation by his "Caractacus," given at Leeds in 1898, "The Dream of Gerontius," produced in 1900, "The Apostles," performed at Birmingham in 1903, and "The Kingdom," given at the Birmingham Festival of 1906. In March, 1904, he was honoured with a three days' festival at Covent Garden, and knighted in 1904.

Elgin, James Bruce, 6th Earl of (1817-1883), a prominent English statesman, who filled in succession the important posts of Governor of Jamaica, Governor-General of Canada, and Governor-General of India, and also served in China and Japan with distinction.

Elgin, Thomas Bruce, 7th Earl of (1766-1841), a British diplomatist who brought to England from Athens the famous "Elgin marbles," now in the British Museum.

Elgin and Kincardine, Victor Alexander Bruce, 6th Earl of (b. 1849), Liberal statesman, Treasurer of Royal Household and First Commissioner of Works, 1886; Viceroy of India, 1894-1899; Colonial Secretary, 1905-1908.

Elmhurst, Master of. (See Murray, Lord.)

Eliot, Sir Charles (b. 1864), was appointed in 1888 third Secretary to the British Embassy at St. Petersburg, and later served at Tangier, Constantinople and Belgrade. In 1898 he was made a C.B. and transferred to Washington. Was on the Sanoa Commission and created a K.C.M.G. in 1900. More recently was Consul-General for the East Africa Protectorate, and since 1904 has been First Principal of the University of Hong-Kong.

Eliot, George, the pen name of Marian Evans, who between 1857 and her death in 1880, produced some of the most memorable novels of the 19th century, including *Adam Bede*, *The Mill on the Floss*, *Silas Marner*, *Middlemarch*, and *Daniel Deronda*.

Eliot, Sir John (1692-1693), was one of the leaders of the House of Commons opposition to the demands of Charles I., and with nine others was committed to the Tower, where he died in 1693.

Elizabeth, Queen (1533-1568), came to the throne in 1558 at the age of twenty-five, and reigned forty-five years. Was a fervid Protestant, a sincere lover of her country, a masterful and enlightened ruler—fickle as far as her favourites were concerned—and added distinction to a distinguished period. The defeat of the Spanish Armada, the execution of Mary Stuart, the naval supremacy of England, the extension of her colonies, and the glory of a great new literature of which Shakespeare was the brightest ornament, are features that associated with her reign.

Elizabeth, St. of Hungary (1207-1231), was daughter of Andrew II. of Hungary, and wife of Louis IV., Landgrave of Thuringia. Becoming a widow, she forsook the pomp of courts, and lived in retirement and poverty, dying at twenty-four, and afterwards being canonised.

Elizabeth Stuart, Queen of Bohemia (1596-1662), daughter of James I., and mother of the Prince Rupert and Princess Sophia (mother of George I.). She died a widow in London.

Elizabeth, Queen of France (1437-1492), Queen of Edward IV. of England, and mother of Edward V., to which ill-fated Prince she gave birth whilst within the shelter of sanctuary at Westminster.

Elliot, Ebenezer (1781-1849), the famous "Corn Law Rhymers," whose poems did much for the success of the Anti-Corn Law Agitation.

Ellis, Rt. Hon. John Edward, P.C., M.P. (1841-1911), was a prominent Liberal politician who was appointed Under-Secretary for India at the close of 1902 in Sir Henry Campbell-Bannerman's Government, but after one year's service resigned because of ill-health.

Elphinstone, Mountstuart (1779-1859), an Indian Administrator of great ability, who from 1819-1829 was Governor of Bombay. One of the chief founders of our Anglo-Indian Empire.

Emerson, Ralph Waldo (1803-1882), the American essayist and philosopher. His *Conduct of Life*, *Representative Men*, and *Essays*, are in their way, the most brilliant things that American literature has produced.

Emmyn Pasha (1840-1892), a noted African explorer of Jewish parentage and German birth. Was associated with Gordon Pasha in the pacification of the Soudan, and showed marked ability in the government of the equatorial provinces. He was menaced by the Mahdi and cut off from Egypt in 1883, but relieved by Stanley in 1889. Returning to Africa in 1890, he was eventually murdered by Arabs.

Emmet, Robert (1778-1804), the enthusiastic youth, who led the rebellion in Ireland in 1803, and was tried and executed in the same year for high treason. He is one of Ireland's patriotic heroes, and has been immortalised in song and story.

Emmott, Baron (formerly Rt. Hon. Alfred Emmott (M.P.), Chairman of Ways and Means, 1906-1911) (b. 1858). Raised to the peerage and made Under-Secretary for the Colonies (1911).

Ennius, Quintus (239-169 B.C.), the Roman epic poet and friend of Scipio Africanus the Elder.

Epictetus of Hierapolis, the Stoic philosopher who lived in the 1st century, and was a moral teacher of great repute and influence.

Epicurus (342-270 B.C.), the founder of the Epicurean philosophy, which taught that Virtue should be followed, because it leads to happiness, which is the highest good.

Erasmus Desiderius (1466-1536), the great Dutch philosopher and scholar, of whom it was said that he "laid the egg which Luther hatched." He was a formidable controversialist, and exerted great influence upon the advanced thought of his time.

Erastus, Thomas (1524-1583), was a German theologian who proclaimed a policy of Church restriction, which developed into what is known as Erastianism.

Ericsson, John (1803-1889), a distinguished Swedish engineer who entered into competition with George Stephenson in the first famous trial of locomotives. Later he settled in the United States, and devoted himself with much success to marine engineering.

Erskine, Thomas, 1st Lord (1750-1823), the eminent English lawyer, who after a brilliant success at the Bar was made Lord Chancellor in 1806.

Escher, Reginald Balol Brett, 2nd Viscount, G.C.B. (b. 1852), sat on the Royal Commission of Inquiry into the South African War, was chairman of the Army Organisation Committee, and edited, with Mr. A. C. Benson, the *Letters of Queen Victoria*. Deputy-Governor and Constable of Windsor Castle.

Essex, Robert Devereux, 2nd Earl of (1567-1601), became Queen Elizabeth's favourite after the death of Leicester, and for a time held many important posts, but, offending the Queen by certain actions in Ireland, was suddenly deprived of his honours and committed to prison. Later on, being liberated, he was implicated in a rebellious movement, for which he suffered death on Tower Hill.

Ethelbert, King of Kent at the close of the 6th century and commencement of the 7th. Famous for having accepted Christianity on the entreaty of St. Augustine. Published the first code of written laws in English. Ethelbert was afterwards canonised.

Ethelred I. was the Anglo-Saxon king who reigned from 866-871, and defeated the Danes at Ashdown.

Ethelred II., King of England from 979-1016, received the surname of "the Unready," because of his slowness to take action against the Danes, with whom he was more or less in conflict during the whole period of his reign.

Ethelwulf was the Anglo-Saxon sovereign who succeeded his father Egbert in 837. Died in 857, and was buried at Winchester.

Etty, William (1787-1829), a famous English R.A., who contributed to the Royal Academy some of its most admired pictures between 1820 and the time of

- his death. Among his famous pictures are "The Coral Finders," "Cleopatra," "Joan of Arc" (a series), and "Youth at the Frow and Pleasure at the Helm."
- Eucleid**, the famous Greek mathematician, who lived in the 3rd century B.C., and whose Elements of Geometry are as sure of Immortality as the "Iliad."
- Eugene, Prince** (1863-1935), a celebrated Austrian general who became associated with the Duke of Marlborough in the War of the Spanish Succession. A brilliant commander and capable statesman.
- Eugenie, ex-Empress of the French** (b. 1806), was the daughter of Count Montijo of Granada, and on the mother's side of Scottish descent. She married Napoleon III. in 1853, and for many years kept a brilliant court. On the outbreak of the Franco-Prussian War her husband and only son proceeded to the seat of war with great flourish of trumpets, but after Sedan the Empress had to make her escape from Paris in disguise, and took up her abode in England, where she was subsequently joined by Louis Napoleon. They resided at Chislehurst for a time, and there her husband died. Her son went out to the Zulu War in 1879, and was killed by a party of Zulus. When in England the Empress resided at Farnborough Hill, Hants.
- Euripides** (480-406 B.C.) was the greatest of Greek tragic poets. He wrote seventy-five plays, eighteen of which have been preserved, the most famous being "Alcestis," "Medea," "Iphigenia," and "Orestes."
- Eusebius** (264-340), an ecclesiastical historian of rare industry, whose works are still held in great esteem. His *Chronicon* is a history of the world down to his own time, while his *Ecclesiastical History* traces the chief events of the Christian Church over the same period. He was a native of Caesarea.
- Evans, Rt. Hon. Sir Samuel, M.C.** (b. 1859), President of the Probate, Divorce and Admiralty Courts since 1910. Was Solicitor-General, 1908-1910.
- Evelyn, John** (1620-1706), an English gentleman who wrote several scientific works, but is best known by his *Diary*, which covers a good part of the reigns of Charles I., Charles II., and James II., and is valuable for its shrewd pictures of the period.
- Eversley, Rt. Hon. G. J. Shaw-Lefevre, 1st Baron** (b. 1832), long one of the most active and prominent members of the Liberal side of the House of Commons. Served in turn as Civil Lord of the Admiralty, Secretary to the Board of Trade, Under-Secretary Home Department, Secretary to the Admiralty, First Commissioner of Works, Postmaster-General, and President of the Local Government Board. Introduced sixpenny telegrams.
- Ewald, Georg Heinrich August** (1803-1875), an eminent German scholar and theologian, whose studies in Biblical literature gained him great fame. He wrote on the *Poetical Books of the Old Testament* and a *History of the People of Israel*.
- Ewing, Frederick Hewitt** (1821-1895), was a native of Ecclefield, Yorkshire, and made a name as a writer of children's stories, many of which won very wide popularity, among them *The Land of Lost Toys*.
- Eyck, Jan Van** (1380-1440), a famous Flemish painter whose works are distinguished for their brilliance of colour and finish.
- Eyre, Edward John** (1815-1901), from being a traveller and explorer entered the Diplomatic Service, and became successively Lieutenant-Governor of New Zealand, Governor of the West Indies, and Jamaica, being appointed to the latter position in 1862. In 1865 a rebellion broke out among the natives, and this movement was repressed with a strong hand by Governor Eyre. Afterwards charges of cruelty were brought against him, and an inquiry was instituted, resulting in his acquittal.
- F
- Faber, Frederick William** (1812-1863), the hymn-writer and oratorian, was educated at Shrewsbury and Oxford for the English Church, but under the influence of Cardinal Newman went over to the Church of Rome, and founded the Wilfridian Brotherhood at Birmingham, subsequently taking them over to the Brompton Oratory. His hymns are remarkable for their lofty spirituality and beauty of form.
- Fabius Maximus** (d. 203 B.C.), the Roman Consul and Dictator, saved Rome from conquest by Hannibal by deliberate and well-planned strategic evasion of battle which in the end, after eight years of vain effort, caused Hannibal to withdraw his forces to Tarentum. There in 209 B.C. Fabius overcame the Carthaginian general, and Rome was safe. The term "Fabian Policy" is derived from Fabius's tactics.
- Faer, Thomas, R.A.** (1826-1900), one of the most successful of Victorian painters, won a great reputation for his Scottish subjects, especially those dealing with humble life, such as "The Miserable Barn," "Auld Robin Gray," etc.
- Fahrenheit, G. D.** (1686-1736), a Dutch scientist, who introduced quicksilver in the construction of thermometers, and laid down the Fahrenheit thermometric scale still used.
- Fairbairn, Dr. Andrew M.** (1838-1919), a famous theologian and member of the Welsh Church Commission. Head of Mansfield College, Oxford, from its foundation in 1886 to his retirement in 1908. Wrote and lectured extensively in Britain and America, and actively interested himself in educational legislation. Was Chairman of the Congregational Union in 1883.
- Fairbairn, Sir William** (1780-1874), mechanical engineer and inventor, born at Kelso, Roxburghshire, in very humble life, and worked for some years in various parts of the country as an engine-wright. Set up business in Manchester as an engineer, and, by the introduction of numerous mechanical improvements, and especially by the first utilisation of iron in shipbuilding, became eminent and wealthy, and was made a baronet in 1860.
- Fairfax, Edward** (1580-1635), son of a Yorkshire baronet, and translator of *Tasso*.
- Fairfax, Thomas, 3rd Lord** (1612-1671), a prominent leader of the Parliamentary army during the Civil War, who greatly distinguished himself at Marston Moor and Naseby; refused to march against the Scots in 1650; and lived to have a hand in effecting the restoration.
- Falconer, William** (1732-1759), a Scottish poet born in Edinburgh, who wrote the "Shipwreck," a stirring poem of many beauties, in which he described his own experiences on an East Indian voyage.
- Falkland, Viscount** (1610-1643), was at first a supporter of the Parliamentary cause in the disputes between the popular representatives and Charles I., but refused to co-operate with them in their later demands, and later fought for the king. Was killed at the first battle of Newbury.
- Fallicher, Clement Armand**, President of France, 1906-13 (b. 1841). At the time of his election, to succeed M. Loubet as the head of the Republic, M. Fallicher, who is a barrister of Gascon birth, was President of the Senate, a difficult position which he had sustained with dignity for some years. For a brief period in 1883 he was Premier, and in political leaning favoured the Republican Party.
- Faraday, Michael** (1791-1867), the eminent chemist, who was Professor of Chemistry in the Royal Institution, and acquired deserved fame for his brilliant experiments in connection with electricity, and his able and clearly-written scientific books. He was originally a bookbinder.
- Farrar, Frederic William** (1831-1903), Dean of Canterbury. Was a well-known divine and author, some of whose writings attained a large circulation, and exercised a considerable influence. His most popular publications were *The Life of Christ*, *The Life and Works of St. Paul*, and *Early Days of Christianity*.
- Farnwell, Rt. Hon. Sir George**, Judge of the High Court, 1890-1905; Lord Justice and Privy Councillor in 1905. Resigned Lord Justiceship, 1913. Was Chairman of the Boer War Stores Commission.

- Faure, François F.** (1841-1899), was a successful shipowner at Havre. Elected to the Chamber of Deputies in 1881, he was chosen President of the French Republic in 1895, which position he held at the time of his death.
- Fawcett, Henry** (1823-1884). The son of a farmer, he was educated at Cambridge, and entered for the bar. In 1859 he had the misfortune to be blinded by a stray shot from his father's gun, and to most men this would have been a block to a career, but Fawcett stuck resolutely to his first aim. Made himself known as an earnest publicist by producing a *Manual of Political Economy* in 1865; after which he was appointed Professor of Political Economy at Cambridge. In 1865 he entered Parliament, and became one of Gladstone's most trusted lieutenants, devoting himself largely to Indian finance, and economical questions generally. Was made Postmaster-General in 1880, and was the means of introducing the Parcel Post, Postal Orders, and sixpenny telegrams.
- Fawcett, Mrs. Millicent Garrett** (b. 1847), widow of the foregoing; a woman's suffragist and educational reformer, and a very capable writer on political economy. Is hon. LL.D. degree of St. Andrew's University, and was one of the commission of ladies who went out to South Africa during the war to examine the concentration camps.
- Fawkes, Guy** (1790-1866), a Yorkshire Catholic, who with Catesby and other conspirators planned the Gunpowder Plot. Although warned of the discovery of the plot, Fawkes persisted and was captured in the cellar of the Parliament House and hanged. (See *Gunpowder Plot*, General Information section.)
- Fechter, C. A.** (1824-1899), an actor of great power, who was born in London of French parents, and after varying success on the Paris stage, came to London, where first at the Princess's Theatre and afterwards at the Lyceum, he played in a series of melodramas, which placed him in the front rank of actors. Went to the United States in 1870 and died there.
- Feckenham, John de** (1518-1595), last mitred abbot who sat in the House of Peers, a tolerant Romanist dignitary who was Queen Mary's confessor, and displeased her by pl. acting for the Protestants.
- Feneion** (1751-1795), Archbishop of Canby and a writer of great distinction. His *Telemachus* is a French classic.
- Ferdinand V.** of Castile (1452-1516), who married Isabella of Spain, and with her reigned over that country during a period of great events. He saw the Moors expelled from Spain, equipped Columbus for the discoveries which led to Spain's vast colonial possessions, and instituted the Inquisition.
- Ferguson, James** (1710-1776), a Banffshire man of great ability and inventiveness, who, from being a shepherd-boy, educated himself in astronomy, mathematics, and portrait painting, so that he was able to support his parents, and became eminent as a scientific lecturer. He was made a Fellow of the Royal Society, and had a pension granted to him by the Government.
- Fergusson, Sir William** (1808-1877), President of the Royal College of Surgeons, and for thirty years Professor of Surgery at King's College (1840-1870). Was not only eminent as a surgeon but as a writer on surgery and an inventor of surgical appliances.
- Ferre, Francisco** (1809-1899), who was executed as the chief author of the Barcelona insurrection of 1890, won much acceptance for his system of "Scientific and Rationalist education," and was responsible with Haeckel for the International League which extended the system to other lands. By many he is regarded as a martyr.
- Ferrers, Earl** (1720-1760), condemned by the House of Lords for killing his steward, and hanged.
- Ferry, Jules** (1832-1893), Journalist and statesman of France. In 1869 was elected one of the Deputies for Paris. He became, after the fall of Napoleon III., one of the most vigorous members of the National Defence Committee; served in several prominent offices in later years, being Minister of Education in 1880 and Minister of Finance in 1890.
- Fichte, Johann G.** (1762-1814); was Professor of Philosophy, first at Jena and then at Erlangen, and later Rector of the University of Berlin. His works had great influence upon the thought of his time, the Idealist philosophy he taught being marked by much purity of conception. His chief works are *The Description of Man* and *The Way to the Blessed Life*.
- Field, Cyrus W.** (1819-1892), an American who took a prominent part in the development of submarine cables. In 1866 he connected the United States with Newfoundland by cable, subsequently organising the company which established the first successful Atlantic cable in 1866.
- Fielding, Henry** (1707-1754), the celebrated English novelist, author of *Tom Jones*, *Joseph Andrews*, and *Amelia*, as well as many plays.
- Fife, Duke of** (1849-1912), husband of the Princess Royal (eldest daughter of King Edward VII.). Was vice-chancellor of the Chartered Company of South Africa, but retired after the Jameson Raid.
- Fildes, Sir Luke, R.A.** (b. 1863), first attracted notice as a black and white artist, and illustrated Dickens's *Edwin Drood*. Exhibited at the Royal Academy in 1892, and at successive exhibitions was represented by many important works, including "The Casual Ward," "The Village Wedding," and "The Doctor." Elected R.A. in 1889, and knighted in 1906. Painted the State portraits of the King and Queen.
- Finlay, Rt. Hon. Sir Robert B.** (b. 1814), entered Parliament in 1835; from 1865 to 1897 was Solicitor-General, and succeeded Sir R. Webster (Lord Alverstone) as Attorney-General in Nov. 1900. Defeated in 1906, but re-elected in 1910. Died F.C. in 1906.
- Finsen, Prof. Niels Ryberg** (1861-1904), a Danish medical scientist whose light cure for lupus obtained the approval of Queen Alexandra and the encouragement of many philanthropists. He established an institute for the practice of his system at Copenhagen, and in 1890 received an appointment as anatomical professor.
- Firdausi, Abul K. M.** (941-1000), was the great epic poet of Persia. His "Book of Kings" contains 60,000 verses, and professes to relate the history of Persia from the beginning of things.
- Firth, Mark** (1819-1880), a great Sheffield steel maker, who was at the head of the Norfolk Ordnance Works, and was celebrated for his benefactions, including the Firth College and a public park.
- Fisher, Rt. Hon. Andrew** (b. 1852), Premier of Australia 1908-9 and again from 1910 to June, 1913, when he resigned, resuming the post in Sept. 1914; Leader of the Labour Party. Is a native of Kilmurck.
- Fisher of Kilverstone, Admiral Lord** (b. 1812). Has served most posts of honour in connection with the Navy and naval administration, and was appointed Senior Naval Lord of the Admiralty in 1904. First Sea Lord and Created Peer in 1909. Was on the Special Naval Committee of 1905. In 1914 resumed position of First Sea Lord on resignation of Prince Louis of Battenberg. Resigned May, 1915.
- Fitzmaurice, Lord** (b. 1846), was Under-Secretary for Foreign Affairs, an office which he accepted for a second time (with his peerage) from Sir H. Campbell-Bannerman, from 1905 to 1908, when he was appointed Chancellor of the Duchy of Lancaster, but resigned in 1909. Is brother to Lord Lansdowne.
- Fitzroy, Robert, Vice-Admiral** (1805-1865). Attained celebrity as a meteorologist, and in 1854 was made superintendent of the Meteorological Department, and was the introducer of the system of storm warnings which has developed into our present more elaborate weather forecasts.
- Fleming, John** (1646-1719) was the first English Astronomer Royal, and a close friend of Sir Isaac Newton, whom he aided in many of his experiments.
- Fleubert, Gustave** (1821-1880), the French novelist who won distinction by several notable books, among them *Madam Bovary*, *Salammbô*, and other works of genius.
- Flaxman, John** (1755-1826), a great English sculptor who was born at York, and at twenty was employed as Modeller by Wedgwood; showing great ability as a sculptor he went to Italy, and studied

there seven years. On his return was made an R.A. and Professor of Sculpture, and thenceforward his career was one of unqualified success.

Fletcher, John (1752-1805), the famous collaborator with Beaumont in numerous plays which were popular in their day, and take high position in the dramatic literature of the country, containing sterling poetic beauties allied with much vulgarity.

Fletcher, Lazarus, F.R.S. (b. 1754), Keeper of Minerals in the British Museum since 1820 and an authority on mineralogical science generally and meteorites in particular.

Flinders, Matthew (1774-1814), an explorer and navigator, who made important discoveries in and around Australia. He sailed through the Strait which he christened Bass Strait in honour of the surgeon accompanying his expedition, and was the first to ascertain that Tasmania was an island.

Flotow, Frederick von (1812-1883), the well-known composer of opera whose "Stradella" and "Martha" enjoyed much popularity, the last-named still remaining a favourite.

Foley, John Henry (1818-1874), born in Dublin, went to London while young; studied at the Royal Academy, and attained high rank as a sculptor, becoming R.A. in 1852. His statues of Hampden and Selden in the Houses of Parliament, that of the Prince Consort on the Albert Memorial, with his equestrian statues of Sir James Outram and Lord Hardinge, being among the best examples of his work. He was buried in St. Paul's.

Foot, Samuel (1720-1777), a clever actor and comic, who in his day did much to keep London in good humour. He was the author of numerous comedies, including the "Mayor of Garrat."

Forbes-Robertson, Sir Johnston (b. 1823), actor-manager, trained as an artist, but studied under Phelps, and went on the stage, and became a leading player with the Bancroft and Ilare companies, and then successfully entered into management on his own account. Gave a farewell season at Drury Lane in 1873. The clever actress, Miss Gutteridge Elliott, was his wife.

Ford, John (1586-1640), an English dramatist of considerable power, who wrote sixteen plays, of which "Perkin Warbeck" was perhaps the greatest.

Forster-Walker, General Sir F. W. E. (1824-1910), a soldier who had a brilliant army record in the Kafir and Zulu Wars, with the Bechuanaland Expedition, in Egypt, at home in command of the Western District, in South Africa as Lieut.-General, and afterwards Commander-in-Chief and Governor at Gibraltar.

Forster, John (1812-1875), an able and fascinating writer, who loomed large in the literature of the mid-Victorian period. He will be best remembered by his *Life of Charles Dickens*, *Life of Oliver Goldsmith*, and *Biography of Sir John Eddis*.

Forster, Rt. Hon. W. E. (1818-1885), entered Parliament as member for Bradford in 1861, and immediately made his mark. Was Under-Secretary for the Colonies 1865-1866, Vice-President of the Council from 1868-1874 under Mr. Gladstone, and Chief Secretary for Ireland from 1880-1882. The measures with which his name will remain associated are the Ballot Act of 1872 and the Elementary Education Act of 1870.

Fortuny, M. J. (1838-1874), a celebrated Spanish painter, who between 1860 and 1870 produced a number of pictures which for beauty of execution and brilliancy of colour take high rank. His "Choosing a Model," "The Snake Charmer," and "Moors playing with the Vulture" show great technical resource.

Foscarini, Francesco, Doge of Venice from 1423 to 1457. A great historical character, who governed Venice with a firm hand and increased her renown. The story of his condemnation of his son, and his stern refusal to exercise the prerogative of mercy in his favour, forms the subject of Byron's tragedy "The Two Foscari." He was driven to abdication by his rival Giacomo, and died very shortly afterwards.

Foscolo, Ugo (1778-1827), a well-known Italian author, who for his political opinions had to leave the

University of Pavia, and went to London and there employed his time in literary work. He produced many admirable translations, but ultimately died in poverty at Turnham Green. His remains were taken to Florence in 1872, and buried in the Church of Santa Croce with great honour.

Foster, John (1770-1843), was an eminent essayist and lecturer; his *Evils of Popular Ignorance* was a charming book, and is still read.

Fouquier, François Chas. (1772-1837), the famous French Socialist, who propounded a system of associative enterprise for giving everyone ample means on a system of communal industry. He made some attempts to carry out his Utopian ideas, but they did not succeed. He is best known by his *Traité de l'Association Domestique Agricole*.

Fowler, Sir John (1817-1868), an eminent civil engineer, son of a Sheffield land surveyor. He figured prominently in railway engineering during the 'forties and 'fifties of last century, and engaged in many large public undertakings. With Sir Benjamin Baker he was the engineer of the Forth Bridge, and was engineer of the Metropolitan Railway.

Fox, Charles James (1748-1805), was the second son of the first Lord Holland. Entered Parliament at nineteen, and became a Lord of the Admiralty in the following year. His opposition to the Royal Marriage Bill drew down upon him the displeasure of George III. Through the whole of Pitt's Premiership he was that statesman's most formidable opponent. He favoured American Independence; opposed the war with France; was one of the impeachers of Warren Hastings; denounced the Slave Trade and advocated Parliamentary Reform. After the death of Pitt in 1805 he was made Foreign Secretary, but died a few months later, and was buried in Westminster Abbey.

Fox, George (1624-1691), was the founder of the Society of Friends. His preaching often gained him trouble and imprisonment, but his religious zeal was beyond the power of mortals to suppress.

Foxe, John (1517-1577), the English martyrologist, whose "Acts and Monuments" (*Book of Martyrs*) is one of the best known books in the language. Born at Boston in Lincolnshire, he later became a clergyman of the Anglican Church and died in London.

Frampton, Sir George, K. A., an eminent sculptor who is represented by numerous notable works in different parts of the empire, including the statues of Queen Victoria and Queen Mary for Calcutta.

France, Anatole (b. Paris, 1844), one of France's notable writers of fiction, showing a great mastery of character portrayal and satire. Most of his works are translated into English. Visited England in 1913.

Francis I. (1491-1547) was King of France from 1515 to his death. He was involved in many wars, and was taken prisoner by Charles V. of Germany at the Battle of Pavia. After friendly relations had been established between Francis and Henry VIII., the two met on the "Field of the Cloth of Gold."

Francis of Assisi, St. (1182-1226), founded the Franciscan Order of Monks and devoted himself to a holy life. He is a saint of the Roman Church, having been canonised by Pope Gregory IX., and is commemorated on October 4th.

Francis, Sir Philip (1740-1818), an English statesman of repute who served seven years as a member of the governing council of Bengal. His last years were spent in retirement, during which period it is believed he wrote the famous *Letters of Junius*.

Franklin, Benjamin (1706-1790), the famous American statesman and philosopher, who after serving an apprenticeship as a printer attracted public attention by publishing his *Poor Richard's Almanac*. He then began a series of scientific experiments, inventing amongst other things the lightning conductor. He was for ten years a member of the General Assembly; then lived in Britain as agent for his State for eighteen years; returning to America he took part in framing the Constitution of the United States.

Franklin, Sir John (1780-1847), the famous Arctic explorer, whose final expedition in command of the *Erabus* and *Terror* ended disastrously, all the mem

bers of the expedition perishing. Many attempts were made to discover Franklin, but without obtaining anything save very fragmentary knowledge concerning his fate. He was born at Spilsby.

Frederick II. (1712-1763), usually called Frederick the Great, was King of Prussia from 1740 to the time of his death, and by his masterful government and military successes greatly increased the power of his country. He was a scholarly potentate, and his published works extend to thirty volumes.

Freeman, Professor E. A. (1823-1892), Professor of Modern History at Oxford; devoted a great part of his life to the study of early English history, and his *History of the Norman Conquest* is one of the most remarkable contributions to our annals.

Fremont, Colonel John Charles (1813-1892) was an indefatigable explorer of the Far West, and especially of the Rocky Mountain regions, before railways existed out there, and was of great service in planning out suitable routes.

French, General, Sir J. D. P. (b. 1852). Entered the Navy as a youth, afterwards passed into the Army, and in the Egyptian campaign of 1884-1885 made his mark as a cavalry officer, served in the South African War with splendid success, and later was appointed to the Chief Command at Aldershot. Inspector-General of the Forces, 1907-11. Chief of Imperial Staff from 1911 to 1914 when he resigned. When war broke out in 1914 was appointed Commander-in-Chief of the British Forces.

Freze, Sir Bartle (1812-1882). Did good service in India from 1834 to 1876, filling various important offices, including that of the Governor of Bombay, and in 1875 accompanied the then Prince of Wales to Egypt, and India, after which he was made a baronet. In 1878 he went out to Cape Town as High Commissioner, but, owing to misadventure landings at home, the *Admiral* was lost about 18 months with the *France* followed, when Sir Bartle went out, but met with little success. He died in May, 1904, and was buried in St. Paul's.

Frith, W. P. R.A. (1819-1910), early showed capacity for drawing. Went to London in 1835, began exhibiting in 1840, and for the next thirty years or more was one of the most prominent exhibitors. He was made R.A. in 1853. Among his large pictures, which were immensely popular when produced, may be mentioned the "Derby Day" and the "Railway Station." Published two highly entertaining books of *Reminiscences*.

Frisher, Sir Martin (1517-1581), was the earliest of British navigators to attempt to find the North-West passage to India, and his name is commemorated in Frisher's Strait, to the south of Bathurst Island. For his services in connection with the defeat of the Spanish Armada he was knighted.

Froebel, Friedrich Wilhelm (1774-1852), was the founder of the Kindergarten system of education, the object of which is to give children opportunity in harmony with their nature, to strengthen their bodies, to exercise their senses, and lead them up to the original ground of all life, to the idea of unity with themselves.

Froissart, Jean (1337-1400), a celebrated French writer who visited England in 1372, and was the author of the *Chronique des Rois de France*, which tells us so much of the achievement of the heroes of old.

Froude, James Anthony (1818-1893), the celebrated historian and biographer of Charles I. His *History of England from the 16th to the 18th Century* is a brilliant work, and a permanent addition to literature. His *English in Ireland in the Eighteenth Century*, and his *Deanna* together with his *Short Studies on Great Subjects*, are all notable books.

Fry, C. B. (b. 1872), a well-known cricketer and educated, editor, novelist, and writer on athletics. Edited at Oxford founder of *Fry's Magazine*, and a captain of the Surrey County Cricket Club.

Fry, Elizabeth (1783-1845), a Norwich Lady who devoted much of her life to the promotion of prison reform, and achieved considerable reputation as a preacher. She belonged to the Society of Friends

and was married to a London merchant, Joseph Fry.

Fry, Mr. Hon. Sir Edward, G.C.B. (b. 1827), now retired, was a Judge in the Chancery Division of the High Court from 1877-1883, and Lord Justice of Appeal from 1883-1891. Attended the Hague Conference of 1907 as British representative, and is a member of the Permanent Court of Arbitration.

Fuller, Thomas (1608-1661), the author of *Worthies of England* and a *Church History of Britain*, two well-known and valuable works. He was Chaplain to both Charles I. and Charles II.

Fulton, Robert (1765-1815), an inventive American engineer who distinguished himself by experiments in the application of steam to navigation, and finally, in 1807, launched the *Clermont* on the Hudson, which practically solved the problem.

Furness, Lord (1823-1921), formerly Sir Christopher Furness, a well-known shipbuilder and shipowner, and for many years an active Liberal M.P.

Furnivall, Frederick James (1825-1910), a lifelong student of and writer upon literature, and founder of the Early English Text, Chaucer, Ballad New Shakespeare, the Browning, and the Shelley societies. Was a member of the British Academy.

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Gainsborough, Thomas (1727-1788), a celebrated English landscape and portrait painter, whose works are remarkable for their grace and refinement, especially his portraits. It was Gainsborough's "Duchess of Devonshire" which disappeared mysteriously from the room in which it was being exhibited in 1876, and its recovery in America some years later was not less mysterious.

Galen, Claudius (130-200 A.D.), famous physician, born at Pergamon, practised with great success at Rome, being medical adviser to the Emperor, Marcus Aurelius, and his colleague, Lucius Verus. **Galileo** (b. at Pisa 1564, d. 1642), the great Italian astronomer, who while still a youth discovered the law of pendulum vibration by seeing a lamp swinging from the roof of the cathedral in Pisa. He also constructed the first telescope, with which he made numerous astronomical discoveries.

Gell, Franz Joseph (1758-1828), the German physician who founded the science of phrenology.

Gallienus, Publius Licinius, was Roman Emperor from 260 to 268, but exercised his power with cruelty and revolting excess, and was at last slain by his own soldiers.

Gallo, Roman proconsul in Greece at the time of St. Paul's visit to Corinth, and held aloof from the dissensions which the preachings of the apostle created among the people.

Galsworthy, John (b. 1867), a novelist and dramatist of force, clarity, and originality, whose works have attracted much attention and discussion.

Galt, John (1770-1872), an admitted Scottish novelist best known by his *Annals of the Parish*.

Gallton, Sir Francis (1832-1911), an eminent seaman and traveller, whose studies in heredity and transmutation have been of great service, and whose experiments in regard to the markings of finger tips resulted in the adoption of what is known as finger print identification in police cases. Originated the study of " Eugenics," and bequeathed £25,000 to the London University for the endowment of a professorship of Eugenics. In 1903 published *Mencius of My Life*.

Galvani, Luigi (1737-1788), a distinguished Italian scientist, whose experiments during a course of lectures on anatomy at Bologna, discovered the principle of animal electricity, hence the term Galvanism.

Gama, Vasco da (1469-1524), the adventurous Portuguese navigator, who discovered the sea route to India in 1498, by doubling the Cape of Good Hope.

Gamaliel, Patriarch of the Jewish community in Palestine, and President of the Sanhedrin 80-111 A.D. He was grandson of Gamaliel the elder, at whose feet sat the Apostle Paul.

Gambetta, Leon M. (1838-1882) a French statesman

man who came into great prominence during the Siege of Paris in 1870-71. He became President of the Chamber in 1879, and in 1881 Minister of Foreign Affairs and Premier. He was at the height of his popularity when an accident caused his death.

Gapon, Father (b. 1870), the Russian priest who led the strikers in their attempt to obtain an interview with the Czar, in January, 1905. Escaped to France and England after the massacre, but later was murdered for betraying the cause.

Garcia, Manuel (1805-1906), a Spanish musician and singing-master, brother of Mutes, Malibran and Viardot, and tutor of many celebrities from Jenny Lind downwards. He published books on singing, and invented the laryngoscope.

Garcia y Iniguez, Calixto (1836-1898), Cuban insurgent general, planned the rebellion of 1868; captured and imprisoned in Spain, 1873; escaped to America, 1895; co-operated with the United States forces in the capture of Santiago, 1898.

Gardiner, Alfred G., editor of the *Daily News*, since 1902. Author of "Prophets, Priests and Kings," and "Pillars of Society"; an incisive writer of character sketches.

Gardiner, Bishop (1813-1855), was Bishop of Winchester in 1831, and Lord Chancellor under Queen Victoria. He was a bitter opponent of the Reformation. He was buried at Winchester.

Gardiner, Samuel Rawson (1838-1902), an English historian, whose works deal mainly with the period from the accession of James I. to the end of the Commonwealth. He published seventeen volumes in all, and his work shows fine sympathy, clear judgment, and a sincere love of truth.

Garfield, James A. (1831-1881), was President of the United States from March, 1881, to September of the same year, when he died from the effects of a shot received in the preceding July from a man named Gutzwiller. He had had a distinguished career as a Republican politician. Rose from a very humble position, and was a man of sterling qualities.

Garibaldi, Giuseppe (1807-1882), the famous Italian soldier and patriot. In 1834 he was condemned to death for being concerned in a plot to seize a Government vessel, but escaped to South America, and for some years was engaged in various conflicts for liberty in that hotbed of revolution. Returning to Italy in 1848, he joined the Roman Republican movement, but was ultimately compelled to fly for his life, and emigrated to New York. In 1854 he returned to Italy, and on the outbreak of war in 1859 had a command given to him, and scored several victories against the Austrians. The next year found him at the head of a great volunteer army, intent upon liberating Italy. This tremendous task he successfully carried through, earning the admiration of the world for his generalship and patriotism.

Garrick, David (1717-1779), the leading tragic actor of his time and a highly successful manager. Was buried in Westminster Abbey.

Garrison, William Lloyd (1805-1879), an eminent anti-slavery leader of America, who by his speeches and writings did much to further the cause.

Garvin, J. L. (b. 1868), editor of the *Pall Mall Gazette* and the *Observer*, and formerly editor of *The Outlook*. A trenchant writer and keen supporter of the Conservative cause.

Gascoigne, Sir William (1350-1412), the judge of Edward IV.'s days who incurred the displeasure of that monarch by declining to carry out his command to sentence to death Archbishop Scrope and Earl Mowbray, accused of fomenting rebellion.

Gaskell, Mrs. E. C. (1810-1865), an English novelist of acknowledged power, whose *Mary Barton*, *Ruth*, *Cranford*, and other stories—dealing largely with Lancashire life—achieved great popularity. Her *Life of Charlotte Brontë* was also a remarkable book.

Gaquet, Abbot (b. 1846), a learned Benedictine ecclesiastic whose knowledge of the history of monastic life is profound, and who has written extensively thereon. He is at the head of his order in England.

Gassendi, Pierre (1592-1655), a distinguished French philosopher and mathematician. Best known by his epicurean treatises and biographies of astronomers.

Garling, Richard Jordan, an American inventor (b. 1818), who invented the Garling quickfiring machine gun, and also numerous machines for saving labour in agricultural operations.

Gauss, Karl Friedrich (1777-1855), a famous German mathematician and astronomer who was appointed professor at Göttingen in 1807, which position, with that of Director of the Observatory, he held for the long period of forty-eight years.

Gautier, Theophile (1813-1872), was an eminent French critic and novelist who at one time filled the position of secretary to Balzac. His romance, *Mademoiselle de Maupin*, caused a great sensation at the time of its publication, and though of an extremely erotic tendency, possesses brilliant literary merits. He was a poet of considerable power and his writings were very numerous and varied.

Gaveston, Piers, the haughty Gascon favourite of Edward II. of England; was Vicar in Ireland; banished by Edward I. at the instance of the Barons in 1307, but returned on Edward II.'s accession, and was created Earl of Cornwall. Acted as Regent of England during the King's absence, but again so irritated the Barons as to provoke their rising, in the course of which he was captured and executed near Warwick in 1312.

Gay John (1688-1732), the English poet who penned "The Beggar's Opera" and the well-known collection of poetic fables. He was a writer of great wit and fancy, and much patronised by Society. His final years were spent in the companionship of the Duke and Duchess of Queensberry, and he was buried in Westminster Abbey.

Gay-Lussac, J. L. (1778-1831), a great French chemist, whose experiments in connection with gases and vapours were of much scientific importance. He was made Superintendent of the French Government gunpowder factories, and Chief Assayer of the Mint.

Geber, the famous Arabian alchemist, lived in the 8th century, and is believed to have made numerous discoveries valuable to chemical science. Not much is known of his life, and the vagueness of many of his acknowledged writings gave rise to the term "gibberish."

Ged, William (1690-1749), was one of the inventors of the process of stereotyping. He was a goldsmith and a native of Edinburgh, and lived for a time in York. His most important invention dates from 1725.

Geddes, Jenny, an Edinburgh vegetable-stall keeper who won fame by one characteristic incident in 1837. After Laud's introduction of a new service book into Scotch churches, Jenny was present at St. Giles' Church, and as soon as the Dean began to read out the collect from the new book she hurled her stool at his head. Serious riots followed.

Gelkie, Sir Archibald (b. 1835), has been one of the most noted geologists of our time, and has filled many important appointments, and written numerous works on geology, many of which may be regarded as standard books. Was made Secretary to the Royal Society in 1903, and presided at the centenary celebration of the Geological Society in 1907. President of the Royal Society 1904-13.

Gelkie, Professor James (b. 1839), brother of the foregoing, and his successor in the Chair of Geology at Edinburgh University in 1882. His work on *The Great Ice Age* is a notable one.

Gelon was the name of the Sicilian tyrant who, about 485 B.C., conquered Syracuse, five years later defeating the Carthaginians at Himera.

Genevieve of Brabant, St., wife of the Palatine Siegfried; flourished in the middle of the 8th century, and the heroine of a romantic medieval legend which alleges her to have lived in a cave for six years in the forest of the Ardennes, suffering under an unjust aspersion.

Genevieve, St., born at Nanterre, near Paris, in the 5th century, and devoted to a life of conversion. She is the patron saint of Paris, and is reputed to have saved the city from Attila by her prayers in 451.

Genesio, Vandal King of Spain in 419, after being

driven into Africa by the Visigoths, subdued the Roman provinces of North Africa, and afterwards crossed to Italy and sacked and pillaged Rome, doing irreparable damage to public monuments and sculptures. Hence the term "Vandalism."

Geoffrey of Anjou (1126-1170), founder of the Angevin dynasty of England, was son-in-law of Henry I. and father of Henry II., the first Angevin or Plantagenet king.

Geoffrey of Monmouth (1100-1154) was the author of the famous Old English chronicle which bears his name. He was born at Monmouth, and became Bishop of St. Asaph in 1125. His *Chronicon* is a compilation from older authors, and is notable for having contained the stories of King Arthur, King Lear, and Cymbeline.

George I. (1686-1727) was King of Great Britain from 1714 to his death, ascending the throne as direct descendant of James I. His reign saw many memorable events, including the Jacobite Rebellion, but the monarch himself, who could not speak English, cut no very dignified figure.

George II. (1683-1760), son of the last-named, was King of Great Britain from 1727 to 1760. His reign covered a prosperous period in spite of wars and rebellions, and saw the Empire extended in India and North America. The King was personally a man of limited power and achievement.

George III. (1738-1820), was the grandson of George II., and reigned from 1760 to 1820. He was a popular monarch for the most part, possessing all the domestic virtues, and of simple tastes. The war with America lasted from 1775 to 1782, when the American States gained their independence, and from 1793 to 1815 the war with France was kept up with but little interruption. On the other hand, the Empire in India was strengthened and enlarged, and the power of Great Britain on land and sea was splendidly shown.

George IV. (1762-1830) reigned from 1820 to his death, but held the position of Prince Regent for some years previously. The King's personal character, in spite of the fact that he was called "The First Gentleman in Europe," showed such a want of dignity, and such an abundance of licentiousness and frivolity, that he became very unpopular with the people.

George V., our present Majesty (b. 1859), is the second son of Edward VII. and Queen Alexandra. Entered the Navy as cadet in 1877, and spent two years on the training ship *Hibernia*, later making a three years' voyage round the world on the *Rachania*. On the death of the Duke of Clarence in 1892 he became heir to the throne. Was married to Princess Mary of Teck in 1893. On the accession of his father he became Duke of Cornwall and later Prince of Wales.

In 1901 made the tour of the Colonies with the Princess, in 1904 they visited India. Succeeded to the throne in 1901, and was crowned with great ceremony in 1911. His Majesty and Queen Mary visited India in December of that year, when at a Durbar at Delhi another splendid ceremony of crowning was gone through. Visited Berlin in 1913, with Queen Mary, for the marriage of Princess Victoria Louise, and visited Paris in April, 1914. After war broke out the King entered heart and soul into the country's cause, and in furthering the military, naval, and charitable needs of the time displayed the utmost energy and solicitude. He also visited headquarters in France, and inspected the Fleet on active service.

George, Henry (1839-1897), the American political economist who attained a great reputation by his *Progress and Poverty*, published in 1879. He advocated public ownership of land, with retention of the present landlorn system; but all land to be taxed upon its rent, with the idea of ultimately bringing about the abolition of all other taxes. Nothing made by man was to be taxed at all.

George, Lloyd. (See Lloyd George.)

George, Saint (the Sutorius saint), included, adopted by Edward III. He is believed to have been a native of Cappadocia and a vigorous champion of Christianity in the days of Diocletian, and to have suffered martyrdom at Nicomedia, 303 A.D. The dragon

which he is said to have slain symbolises the powers of evil, over which he is credited with having triumphed. He is commemorated on April 23.

Germanicus, Caesar (15 B.C.-19 A.D.), was son of Nero, commanded the army of the Rhine with great success, and on the death of Augustus would have been proclaimed his successor, but declined the honour. He died near Ephesus, under strong suspicion of having been poisoned.

Gérôme, Jean Léon (1824-1904), a famous French painter, whose works covered a great range of subjects, classical, historical, and popular. Among his best-known paintings are "The Duel after the Ball," "The Slave Market," and "The Age of Augustus."

Garvase of Tilbury was an English historical writer who flourished in the 13th century, and for his scholarship was appointed Marshal of Arles by Otto IV., for whom he wrote the work by which he is best known, *Otia Imperialis*.

Gervinus, Georg G. (1805-1871), was a noted German historian and professor, who wrote a *History of German Literature*, *A History of the Nineteenth Century*, and other works of value.

Gesner, Konrad von (1516-1565), a scholarly Swiss naturalist, and the father of the science of zoology. His most famous works were his *Historia Animalium*, a monumental production, and his *Bibliotheca Universalis*, a catalogue of all the writers then extant in Greek, Latin, and Hebrew.

Gibb, Sir George Stegmann (b. 1850), Chairman of the Road Board and a well-known expert in railway, electric, and marine affairs. Formerly, chairman of the Speyer Co., which controlled the District, Metropolitan, and Underground Electric Railways. Was on the Royal Commission on London Traffic.

Gibbon, Edward (1737-1794), the celebrated historian of the *Decline and Fall of the Roman Empire*. Represented Liskeard in Parliament for eight years. His great work is an enduring classic.

Gibbons, Grinling (1648-1720), an eminent sculptor and wood-carver, who came from Holland to England, and was patronised by Charles II.

Gibbons, Orlando (1833-1865), a noted English composer of Church music, who was organist of 'Chapel Royal.

Gibson, John (1791-1871), a prominent English sculptor, who studied under Canova and Thorwaldsen, and lived the greater part of his life at Rome. His portrait busts were highly successful, and he also produced many important classical and poetical studies, including "The Tinted Venus."

Gibson, Thomas Milner (1807-1884), was one of the prominent leaders of the Anti-Corn Law movement, and served as President of the Board of Trade under Lord Palmerston.

Giffen, Sir Robert (1837-1902), a prominent political economist and statistician who was first a solicitor's clerk, then a journalist, and later for many years at the head of the Statistical Department of the Board of Trade. Retired in 1897.

Gilbert, Alfred, R.A. (b. 1851), one of our leading sculptors, and a clever designer of gold and silver objects. Among his best-known sculptures are Perseus arming Icarus, the Shaftesbury Memorial, and the Duke of Clarence Memorial at Windsor.

Gilbert, Sir Humphrey (1830-1883), was knighted by Queen Elizabeth for his bravery in Ireland, and later on made voyages of discovery, and added Newfoundland to the British possessions. He was the step-brother of Sir Walter Raleigh, and was drowned eventually off the Azores, his memorable last words being, "We are as near to Heaven by sea as on land."

Gilbert, Sir John (1817-1887), a brilliant artist, who was successful alike with pencil, water colour at oils, and one of the most prolific artists of his time. His black and white work was prodigious in quantity and excellent in quality. His illustrations to Staunton's edition of Shakespeare are remarkable for their brightness and dramatic power. He was knighted in 1871, and made K.A. in 1876.

Gilbert, Sir William Schwanck (1836-1911): in 1861 began to contribute "Bab Ballads" to *Punch*, and a few years later commenced to write for the stage.

producing a number of light burlesques of the pattern then in vogue. He struck out a more original vein with certain fairy plays later, and also wrote a number of strongly conceived dramas and comedies. About this time also he began to collaborate with the late Sir Arthur Sullivan, starting with such slight essays as "Trial by Jury," and gradually extending to the famous Savoy series of operas, which for many years provided England and America with some of their brightest and best entertainments. "H.M.S. Pinafore," "Patience," "Iolanthe," "The Mikado," and the rest are unique, and almost beyond praise. Was knighted in 1907.

Gilbey, Sir Walter (1831-1914), a wine-grower and merchant, who largely interested himself in the improvement of horse-breeding and agriculture. Shire horses and hackneys were his practical hobby for many years.

Giles, St., the hermit saint of the 7th century—believed to have been a Greek who emigrated to France, and met with considerable honour in Great Britain. At Edinburgh is a castle dedicated to him; in Oxford, Cambridge and London churches bear his name; while throughout the country one may find some hundred others consecrated to this patron of all such as are in sickness and sorrow. So far back as the 12th century, Matilda, Queen of Henry I., founded that hospital in London which gave birth to the important parish of St. Giles-in-the-Fields.

Gillray, James (1757-1815), the eminent caricaturist of the time of George III., who produced upwards of a thousand political cartoons, some of which were highly popular, and aroused much sensation.

Giottto di Bondone (1267-1336), the famous Italian painter, sculptor, and architect, whose beautiful tower at Florence and his many works of art in various churches there, as well as the churches themselves, form splendid monuments to his memory.

Giraldus Cambrensis (1146-1222), a distinguished ecclesiastic whose *Topographia Hibernie*, *Itinerarium Cambrie*, and other works contain much valuable historical matter.

Girardin, Emile de (1806-1881), the brilliant French journalist and politician, who exercised great influence upon public opinion, both as a Republican in 1848 and as a supporter of Napoleon III.

Girouard, Sir M. F. C., K.C.M.G., High Commissioner and Commander-in-Chief of the East Africa Protectorate from 1909 to 1912, when he resigned. Was for six years Director of Soudan Railways, and after the Boer War became Railway Commissioner for the Transvaal.

Giulio Romano (1492-1546) was a pupil of Raphael, and himself a distinguished painter and architect. He built numerous palaces, and achieved important engineering works. One of his noted paintings, "The Infancy of Jupiter," is in our National Gallery.

Gladstone, Viscount of Hawarden (b. 1825), youngest son of the Liberal Prime Minister; entered Parliament as member for Louth in 1849, and became his father's private secretary. Made a Lord of the Treasury, 1881; Financial Secretary at the War Office, 1886; Under-Secretary, Home Office, 1892; First Commissioner of Works, 1894; and Home Secretary in 1905-10. In 1910 appointed Gov.-Gen. of South Africa and raised to the Peerage. Took firm stand in Rand labor troubles, of 1912. Resigned in 1914.

Gladstone, William Ewart (1809-1898), the great Liberal statesman of the latter part of the 19th century. The son of a Liverpool merchant, he studied at Eton and Oxford. Was elected, as a Tory, member for Newark in 1832. In 1834 was made a Lord of the Treasury under Peel, and in the following year became Under-Secretary for the Colonies. In 1841 Peel made him Vice-President of the Board of Trade, and in 1843 full President with Cabinet rank. In 1852 he was Chancellor of the Exchequer, having severed his connection with the Peel Party and become a member of the Coalition Ministry. In 1859 he was Lord Palmerston's Chancellor of the Exchequer, and on that nobleman's death became leader of the House of Commons under Earl Russell. In 1868 he was appointed Premier, for the first time. Passed the Irish Church Disestablish-

ment Measure in 1869, the Irish Land Act in 1870, and the Ballot Act in 1872. After 1874 he was in temporary retirement for a short period, but, stirred to indignation by the "Bulgarian Atrocities," he carried the country with him, and in 1880, at the general election, he was returned to power with an overwhelming majority. He then became Prime Minister for the second time. In 1886 he was out of office again, but returned to power in 1886 and became Prime Minister for the third time. It was then that he introduced his first "Home Rule" Bill, on which he was defeated and dissolved Parliament, and at the general election, the Conservatives had a majority, and it was not until 1892 that Mr. Gladstone was again in power. In 1893 he brought in his second Home Rule Bill, which passed the House of Commons but was defeated in the Lords. After that he resigned and took no further part in Parliamentary life. He died on the 19th May, 1898, and was buried in Westminster Abbey, his great political opponent, Lord Salisbury, being one of the pall-bearers. His body lay in state in Westminster Hall for two days and was viewed by no less than 95,000 people, who passed it in unbroken succession.

Glendower, Owen (1359-1415), a famous Welsh chieftain who proved a formidable opponent to Henry IV., and gathered around him a great following of Welshmen, whom he led with much bravery, though finally defeated in 1405.

Glennan, Lord (1830-1908), was an active politician and proprietor of the *Morning Post*, which, under his able direction, became one of the great successes of London journalism. He represented South Kensington in Parliament from 1886 to 1895. Was knighted (as Sir Algernon Borthwick) in 1880, created a baronet in 1889, and raised to the peerage in 1895. As President of the Newspaper Press Fund, and as one of the founders of the Primrose League, he did excellent service to his profession and his Party.

Gluck, C. W. (1714-1787), one of the most eminent composers of opera of the 18th century. His "Orfeo" and "Iphigénie" are his best-known works.

Godfrey de Bouillon (1061-1100) was the leader of the First Crusade, and after the conquest of Jerusalem, exchanged the title of King for that of "Protector of the Holy Sepulchre." He liberated the Holy Land, and was buried on Mount Calvary.

Godiva, Lady, was the pious and beautiful wife of Leofric, Earl of Chester and Lord of Coventry in 1040. Having appealed to her lord to remit certain impositions from the malcontents, he promised to grant her request if she would ride naked through the town. This she did, having first paved the word to have blind and slutters drawn at the appointed hour, and so obtained the people's ransom.

Godolphin, Earl of (1610-1712), was a page of honour to Charles II., and became first Lord of the Treasury under William III. during whose reign he kept up a secret correspondence with James II. in his exile at St. Germain's. Godolphin was again Premier under Queen Anne, but was dismissed in 1710 at the fall of the Marlboroughs.

Godwin, Earl of the West Saxons (900-1053), was one of the most influential noblemen of his time, and gave his daughter in marriage to Edward the Confessor, against whom he was afterwards in rebellion. Godwin's son, Harold, claimed the throne after Edward's death, but was killed at Hastings.

Godwin, William (1756-1826), a notable political writer and novelist of very advanced ideas. Is now best remembered by his novel *Caleb Williams*. His first wife was Mary Wollstonecraft, who wrote ably on the "Rights of Woman."

Goethals, Col. (b. 1859), after making a considerable success as a military engineer in the United States army was in 1907 appointed Governor-in-charge of the Panama Canal, in the carrying out of which he has shown a remarkable administrative capacity as well as a genius for constructive enterprise.

Goethe, Johann Wolfgang von (1749-1832), the most distinguished of German poets and writers. After producing the "Sorrows of Werther," and various poetical plays, he settled down in Weimar,

- received a Ministerial appointment, and began his famous dramatic poem "Faust," which in the course of years he concluded, presenting the world with one of its greatest literary works, which has been more written about than any other tragedy of modern days.
- Gouldie, Rt. Hon. Sir Geo. Paulman** (b. 1846), famous as the founder of British Nigeria. Elected President of the Royal Geographical Society in 1905. Was a Commissioner to inquire into the Boer War, and is President of National Defence Association.
- Goldsmith, Oliver** (1730-1774), the celebrated author of the *Vicar of Wakefield*, *The Deserted Village*, and *She Stoops to Conquer*. The son of a poor Irish curate, after much struggle and adventure he found his way to London in 1756, and subsequently devoted himself entirely to literature, being befriended by Dr. Johnson and held in great esteem by Reynolds, Burke, and other eminent men of the time. Of a lovable but thriftless nature he was generally in debt, died poor, and was buried in the churchyard of the Temple.
- Gooch, Sir Daniel** (1816-1889), a mechanical engineer, who learnt his business under the Stephensons, and in 1837 was made locomotive superintendent to the Great Western Railway. In 1864 he took up the problem of laying a telegraph cable across the Atlantic, after one failure, he succeeded, and was made a baronet. In 1866 he accepted the chairmanship of the Great Western Railway Company, which position he held with success up to the year of his death.
- Goodall, Frederick, R.A.** (1822-1904), was one of the most successful of English painters during the greater portion of his life, and achieved special eminence as a painter of Eastern subjects.
- Goodyear, Charles** (1800-1860), an American, discoverer of the art of vulcanising rubber, by which the utility of the material was greatly extended.
- Gordon, Adam Lindsay** (1833-1870), an Australian poet who wrote many stirring ballads and poems, his "Bush Ballads and Galloping Rhymes" being a great success. As a settler, however, he failed, and, after numerous unfortunate experiments with sheep and cattle and other things, committed suicide.
- Gordon, Charles George**, Major-General (1833-1885), a distinguished soldier, administrator, and earnest Christian, who had a most adventurous, useful, and self-sacrificing career. He saw active service in the Crimea, China, and India, and in 1873 was made Governor of the Equatorial provinces of Egypt. In 1877 he went out to the Sudan for the Egyptian Government, and in 1884 again proceeded thither on behalf of the English Government to deal once more with the difficulties which had arisen consequent on the Mahdi Rebellion. While holding Khartoum against the insurgent forces he was captured and killed.
- Gordon, Lord George** (1751-1793), was tried for treason as the instigator of the Anti-Popery riots of 1780, but acquitted on the ground that he had no treasonable intention. Some years later he was committed to Newgate for libelling Marie Antoinette and died there of fever.
- Gore, Mrs. Catherine** (1799-1861), a very prolific novelist and playwright, whose books were in great vogue at one time, but are now little read.
- Gore, Rt. Rev. Charles, M.A., D.D.**, Bishop of Oxford since 1911 (b. 1853), was educated at Oxford; Canon of Westminster, 1884-1902; Hon. Chaplain to Queen Victoria, 1898-1902; Chaplain in Ordinary to the late King, 1901; author of numerous theological books, including *Spiritual Efficiency* (1904) and *The Question of Divorce* (1911).
- Gorell, Baron; Rt. Hon. Sir John Gorell Barnes** (1848-1931), Judge of the Probate and Divorce Court, 1892-1905; President, 1905-1908; P.C., 1905; raised to the Peerage, 1909.
- Gorky, Maxim** (b. 1868), the Russian novelist and writer, whose works are remarkable for their realistic power. He first served an apprenticeship with a shoemaker, then became apprenticed to a designer, but finding little success in these lines, engaged as scullion on a packet boat in 1880. Three years later he was working in a bakehouse, and in 1886 was

- singing in the chorus of a strolling opera company. In 1889 he sold apples in the street. In 1888 attempted to commit suicide. In 1890 was copying clerk in a lawyer's office, and in 1892 was employed in a railway work-shop. In that year his first story was published, and he found his vocation. He is now perhaps the most popular of Russian authors. For his part in the disturbances in January, 1905, at St. Petersburg, when many were massacred, he suffered imprisonment.
- Gorst, Sir Eldon** (1861-1911), son of Sir John Gorst, and a financier who evinced hereditary administrative capacity in Egypt and at home. Was appointed Assistant Under-Secretary at the Foreign Office in 1904, and in 1907 succeeded Lord Cromer as British Agent and Consul-General.
- Gorst, Rt. Hon. Sir John** (b. 1835). From 1861-1863 was Civil Commissioner in New Zealand; after which he returned to England, entered Parliament, and obtained prominence as a member of the "Fourth Party." Later he filled the positions of Under-Secretary for India, Secretary of the Treasury, and Vice-President of the Education Council. A Free Trader who opposed the Fiscal policy of Mr. Chamberlain, he was of the numerous Conservative ex-Ministers to suffer defeat in the Liberal reaction of 1906.
- Gorschakoff, Prince** (1807-1881), was the most prominent Russian statesman of his time, and Foreign Minister during the Crimean War. In later years he became Chancellor of the Empire, and achieved many diplomatic victories. He resigned in 1882 and died the following year.
- Goschen, Viscount** (1831-1907). Educated at Rugby and Oxford. Entered Parliament in 1863 as Liberal Member for the City of London and for a number of years held various offices under Mr. Gladstone, from whom he separated on the Home Rule question. In 1886 he accepted office under Lord Salisbury and became Chancellor of the Exchequer, a post which he held from 1886-1892. Was First Lord of the Admiralty from 1895-1900, in which latter year he was raised to the Peerage. Was a Free Trader and a statesman of strong personality.
- Gosse, Edmund** (b. 1840), a distinguished poet and critic who has written lines of Gray, Congreve, and Dr. Donne, and his *History of 18th Century Literature and History of Modern English Literature* show great critical power and appreciation. Dr. Gosse was appointed librarian to the House of Lords in 1904, and since then has written a book on French literary men and a life of Sir Thomas Browne. In 1907 he published a work entitled *Father and Son*, being recollections of his father, the late Philip Gosse, and of his own early career. His Collected Essays (5 vols.) were issued in 1913.
- Gough, Viscount** (1779-1869), a British general who had a brilliant career, first in China, and later in India. He gained a victory over the Maharrats at Maharratpur in 1843, over the Sikhs at Sobrohan in 1845, and finally at Gujerat achieved the defeat which made the Punjab a British possession.
- Gould, Sir Francis Carruthers** (b. 1811). Perhaps the cleverest political caricaturist of the day, and has also done considerable journalistic work as assistant editor of the *Westminster Gazette*. He was for twenty years on the Stock Exchange, and for many years illustrated the Christmas number of *Truth*. His "Picture Politics," as his style of caricatures, appear mainly in the *Westminster*, but have an extensive circulation in a separate form. Knighted in 1906.
- Gould, Jay** (1836-1892), a well-known American financier and railway magnate, who acquired an enormous fortune and considerable notoriety in Wall Street speculations.
- Gounod, Charles F.** (1818-1893), the eminent French composer, who won a position of the first rank by his "Faust," produced in 1859, one of the most successful operas of the 19th century. Other famous operas of his are "Roméo et Juliette" and "Le Médecin malgré lui." He also composed much sacred music of an intensely spiritual character, including his oratorio, "The Redemption."

Gower, John (1325-1408), an English poet of the time of Chaucer, who wrote many elegant ballads and devotional poems. His "Confessio Amantis" was printed by Caxton in 1432. He was buried in St. Saviour's, Southwark.

Grace, Dr. William Gilbert (b. 1848), the most famous cricketer of his time, was born at Downend in Gloucestershire, educated for the medical profession, and for the long period of forty years held his supremacy as an exponent of the national summer game. In 1879 he was presented with £1,400 as a testimonial; and in 1895, on completing his "century of centuries" in first-class cricket, received a much larger financial recognition.

Graham, Sir James (1792-1861), a prominent Whig statesman, who filled several important Cabinet positions between 1830 and 1855.

Graham, John of Claverhouse, Viscount Dundee (1643-1689). Renowned for his sturdy adherence to the Stuarts, and headed a rebellion in Scotland against William and Mary, but was killed at the Battle of Killiecrankie. He was a stringent persecutor of the Covenanters, and suffered death at their hands at Drumclog in 1699.

Graham, Earl of, P.C., &c. (b. 1874) was Assistant Postmaster-General, and Master of the Horse. In 1912 was special Ambassador to announce King George V.'s accession to European Courts. Married the daughter of Mr. Ogden Mills.

Grant, James (1822-1887), was an eminent military novelist who achieved considerable distinction by his story *The Romaine of Ilar*. Wrote in all more than fifty historical novels, many of them concerned with Scottish subjects.

Grant, Sir James Hope (1808-1875), a distinguished British general, who saw much active service and won distinction in China and India, playing a prominent part in the crushing of the Indian Mutiny.

Grant, General Ulysses (1822-1885), the most distinguished American general of the Civil War. Became President of the United States from 1868, and was re-elected to that office in 1872.

Grantham, Sir Wm. (1853-1911) a Judge of the High Court from 1886. Represented East Surrey in Parliament from 1874 to 1885, and Croydon 1885-1886.

Granville, Earl (1815-1891). Granville George Leveson-Gower, and Earl (son of the 1st Earl), a distinguished diplomatist (in his time) was a prominent Liberal Statesman, who held many high Government positions between 1857 and 1886. He first entered Parliament in 1836, and was Colonial Secretary in Gladstone's first Ministry, and Foreign Minister from 1870 to 1874 in succession to Palmerston, again from 1880 to 1885 under Gladstone.

Grattan, Henry (1746-1820), an Irish orator and statesman who, first in the Irish Parliament, and afterwards in the Imperial Parliament, did memorable work for the cause of his country, and was presented with £5,000 by the Irish people for his services to the Irish cause.

Gray, Thomas (1716-1771), the English poet, whose "Elegy Written in a Country Churchyard" is one of the most beautiful in the language. His other poems were not numerous, but included a fine "Ode on a Distant Prospect of Eton College" and a notable "Ode to Adversity." Was a great friend of Horace Walpole's. Refused the laureateship.

Grealey, Horace (1811-1872), founder of the *New York Tribune* and a poetical writer of great power and influence. Was an unsuccessful candidate for the United States Presidency in 1872.

Green, John Richard (1837-1883), one of the most eminent of modern English historians. His *History of the English People* forms an accurate and picturesque narrative, both in the first short and later lengthier treatment, being fresh and distinctive at all points; whilst his *Making of England and Conquest of England* were both worthy works.

Greenaway, Kate (1846-1903), a gifted book illustrator and water-colour artist, whose drawings of children were full of charm and delicacy, and gained her great popularity and the warm approval of no less a critic than Ruskin.

Greene, Robert (1550-1590), an English poet and

dramatist who preceded Shakespeare, and is mainly remembered by his "Orlando Furioso."

Greenwell, Dora (1821-1882), a poetess and writer on devotional subjects, whose poems and essays were of a sweetly tender and thoughtful cast, and were much read and admired.

Greenwood, Frederick (1825-1900), first editor of the *Pall Mall Gazette* and subsequently founder of the *St. James's Gazette*. A journalist and writer of distinction and influence, whose action led to Britain obtaining the controlling interest in the Suez Canal.

Gregory, Dr. Robert (1819-1911), after having been twenty-three years Canon of St. Paul's was appointed Dean in 1861. Wrote a *History of Elementary Education*.

Gregory, St. (257-375), was founder of the Armenian Church, and spent his last years in a cave at the foot of Mount Sebuh.

Gregory the Great (540-604), first of the sixteen popes of that name, and, next to Leo I., greatest of the ancient Bishops of Rome. He was pope from 590 to his death. He arranged the Gregorian mode of chanting. Pope Gregory XIII. (1502-1585) introduced the Gregorian calendar.

Granville, George (1772-1790), was the Minister of George III., who was responsible for the introduction of the system of colonial taxation which led to the American War of Independence.

Granville, Sir Richard (1547-1591), the Elizabethan sea-captain, who with his one ship engaged a fleet of Spanish war-vessels off Flores, in 1591, for fourteen hours, and died in surrendering, an exploit celebrated in Tennyson's noble ballad, "The Revenge."

Gresham, Sir Thomas (1519-1579), was the wealthiest London merchant and financier of his time. He built the first Royal Exchange and founded Gresham College. The son of Sir Richard Gresham (Lord Mayor of London), he succeeded his father as King's Agent at Antwerp, and proved an astute money-finder for the Court in four successive reigns, ending as Queen Elizabeth's "Royal Merchant."

Greuze, Jean Baptiste (1725-1805) a French painter whose works display much delicacy and beauty of handling, especially his studies of girls.

Greville, Charles (1794-1868), author of a celebrated book of *Memoirs*, affording much insight into the political career, and social life of the long period during which he filled the position of Clerk of the Council (1822-1840).

Grey, A. H. George, 4th Earl (b. 1851). Administrator of Rhodesia, 1890-1907. Governor-General of Canada, 1904-1911. A Director of the British South Africa Company from 1898, and unveiled the Rhodes memorial in Rhodesia in 1912. An ardent Temperance Reformer.

Grey, Charles, 2nd Earl (1704-1845), a great English Whig statesman, under whose Premiership were passed the Reform Bill of 1832, the Bill abolishing slavery throughout the British Empire (1833), and the Poor Law Amendment Act of 1834.

Grey, Lady Jane (1537-1554), was the daughter of the Duke of Suffolk and great-granddaughter of Henry VII. On the death of Edward VI. she was proclaimed Queen, but only reigned for ten days, Queen Mary ousting her and maintaining the Tudor succession. Six months later Lady Jane and her husband, Lord Guildford Dudley, were executed.

Grey, Rt. Hon. Sir Edward, M.P. (b. 1862). Under-Secretary for Foreign Affairs in the Rosebery Government, and has since been a prominent leader of his party. Appointed Foreign Minister at the close of 1905, a position in which he has won universal approval for his masterly handling of the Balkan difficulties of 1912-1913, and all through the difficult strain which preceded Germany's rush into war, as well as in the arduous tasks since thrown upon him, has acquitted himself with marked ability, force and dignity.

Grey, Sir George, K.C.B. (1812-1898), an administrator of distinguished ability who was Governor of New Zealand from 1846 to 1861, from 1862 to 1865 Governor of the Cape of Good Hope, and from 1861 again Governor of New Zealand, being Premier of the colony from 1877 to 1884, and doing signal service

Grieg, Edward (1843-1907), a Norwegian musical composer, who presented the characteristics of his country's music with strong accentuation in numerous compositions of great melodic beauty.

Griffin, Gerald (1803-1840), a novelist and poet of Limerick birth, whose stories are remarkable for their forceful pictures of Irish life, and for their sympathetic vein of sentiment. It was from his story of *The Collegians* that Dion Boucicault wrote his play "The Colleen Bawn."

Grimaldi, Joseph (1779-1837), the most famous of British pantomime clowns, whose main successes were won at Sadlers' Wells in days when pantomime consisted almost entirely of what is called the harlequinade, now all but dispensed with.

Grimshorpe (Edmund Beckett), Baron (1816-1905), was long known as Sir Edmund Beckett, Bt., and at the Bar and in Parliament had a successful career. Raised to the peerage in 1866. Was a great authority on horology, and, with Professor Ayr, designed "Big Ben." He restored St. Albans Cathedral at his own cost.

Gripenburg, General Oscar C. (b. 1848), one of the leading Russian generals in the Russo-Japanese War. He saw active service in numerous campaigns in previous years, and commanded the Second Manchurian Army in 1904.

Grossmith, Arthur (1847-1912), the well-known actor and entertainer. Made his first appearance in 1870 at the Polytechnic Institution as an entertainer, and in 1877 became connected with Gilbert-Sullivan opera, continuing to appear in the principal operas of the series, and achieving uniform success in all. Later he devoted himself chiefly to humorous and musical recital. His father, George Grossmith the elder, was also a popular entertainer and lecturer, his brother, Weedon Grossmith, is an actor and artist of considerable attainments, and his son, George Grossmith, Junr., is a successful comedian.

Grote, George (1794-1871), was a London banker who devoted many years to the writing of the *History of Greece*, a work of pre-eminent merit. He was for a short period in Parliament and wrote acceptably on *Plato* and other *Companions of Socrates*. His wife (Harriet Lewin, who died in 1856) wrote his biography, and also published (in 1856) the *Life of Argyropoli*.

Grouchy, Marshal (1760-1847), a famous Napoleonic general who, at Holtzendorf, Wagram, and in the Moscow retreat rendered signal service. After Waterloo he led the defeated army back to Paris, and later lived in America for a few years, returning to France in 1819.

Grove, Sir George (1820-1900), was a distinguished engineer and bridge and lighthouse builder, but better known as an enthusiastic lover of music, the study and performance of which in England he did much to promote. He was for a number of years Secretary to the Crystal Palace, making that institution famous for its high-class musical performances. He was the first Director of the Royal College of Music, and was knighted while holding that position. His *Dictionary of Music and Musicians* is the leading work of its kind, and has recently been brought up to date and republished.

Grundy, Sydney (b. 1848), a well-known dramatist and author of numerous successful plays, including "Mammon," "A Pair of Spectacles," "Sowing the Wind," and "The Degenerates."

Guido, Reni (1575-1648), was one of the eminent Italian painters of the Bolognese school. His "Michael Vanquishing Satan," "Magdalene," and "The Massacre of the Innocents" are among the world's great pictures.

Guisot, F. (1787-1874), a French statesman and historian, who held important appointments under Louis Philippe, but spent his later years in literary work. He wrote a *History of Civilization*, a *History of Cromwell*, and also made a translation of Shakespeare.

Gull, Sir William (1816-1890), one of the most eminent physicians of his time. Professor of Physiology at the Royal Institution 1847-1849, and Physician and Lecturer at Guy's Hospital from 1847

to 1867. Was physician to the late King when, as Prince of Wales in 1872, he passed through an extremely critical illness.

Gully, Mr. Speaker. (See **Selby, Viscount.**) **Gustavus, Vasa**, King of Sweden, from 1523 to 1560, drove the Danes out of his country and gave to it a considerable degree of prosperity by his enlightened rule.

Guy, Thomas (1644-1794), founder of Guy's Hospital, was a dealer in Bibles, speculator and money-lender, who, after making a large fortune bequeathed £300,000 for the erection and endowment of the famous hospital.

Guyot, Yves (b. 1848), a French Socialist and Reformer, whose writings on political subjects have attracted much attention throughout Europe. He was Minister of Public Works in 1889, was editor of the *Siecle* 1892-1903; editor of *L'Agence Economique et Financière* since 1911.

Gwynne, Nell (1653-1687), was originally, it is said, an orange girl of provincial birth, and afterwards a sprightly London dancer and actress, who became mistress to Charles II. Her eldest son was made Duke of St. Albans.

H

Hadrian (76-138) was Emperor of Rome in succession to his uncle Trajan, and one of the greatest of Roman rulers. He visited Britain, and in A.D. 121 built the wall between Newcastle and Carlisle for protection of his dominions against the Picts and Scots.

Haeckel, Professor Ernst (b. 1833), an eminent German scientist and philosopher, and Professor of Zoology at Jena University. Has been an earnest supporter of the Evolution theory, and his writings have been popular throughout Europe. A Life of him by Holsie was published in 1907.

Haggard, Sir H. Rider (b. 1815), spent several years in South Africa in official positions in the "seventies," and returning to England began to write novels. After one or two failures made a brilliant success with *King Solomon's Mines* in 1886. This was followed by *She, Fies*, and others. He is deeply interested in agricultural subjects, on which he has written very ably, his book, *Back to the Land*, having excited much attention. Knighted 1912.

Hahnemann, S. C. (1755-1843), the German physician who founded the system of Homeopathy, to the exposition of which he devoted his life.

Hakluyt Richard (1553-1616), the first of English naval historians, by his *Divers Voyages touching the Discovery of America*, and *Principal Navigations, Voyages and Discoveries of the English Nation*, did much to help forward the colonising spirit.

Haldane, Viscount, K.C. (b. 1856), satirist Haddingtonshire 1885-1911, and after having made a name at the Bar, was appointed a Crown Counsel to inquire into the Featherstone murder in 1903. In 1901 a Vice-President of the Liberal-Imperialist League, and at the close of 1905 was made War Minister, which position he relinquished in 1912 on succeeding Lord Lorne as Lord Chancellor. Received his viscountcy in 1911. Went to Montreal in Sept., 1913, and gave an address to the American Bar Association at the McGill University. Also visited New York.

Hale, Sir Matthew (1609-1676), an eminent Judge of the Restoration period, who had been a member of Cromwell's Parliament. Is best remembered as the author of certain legal histories, which are still valued. He became Lord Chief Justice in 1671.

Halévy, Ludovic (1824-1903), a brilliant French writer who supplied Offenbach with libretti for some of his most famous comic operas; among them "La Belle Héloïse," "La Grande Duchesse," and "Barbe Bleue." In conjunction with Meilhac he wrote several notable plays, of which "Frou-frou" was perhaps the most successful.

Haliburton, Thomas Chandler (1796-1865), while Judge in Nova Scotia published a series of books of American humour under the pseudonym of "Sam Slick." Slick was portrayed as a clockmaker of a shrewd philosophy that admirably exploited some of the early 19th century Yankee's characteristics.

Halifax, Earl of (1661-1715) was an eminent statesman, who filled the office of Chancellor of the Exchequer in 1694, and established the Bank of England.

Halifax, Viscount (b. 1839), President of the English Church Union, and a strenuous worker for bridging the gulf between the Anglican and Catholic bodies of Christendom.

Hall, Marie (b. 1884), was born in Newcastle-on-Tyne, and studied the violin under several eminent teachers, including Sevcik of Prague, and on appearing in public in London in 1903 at once took up a position among the leading violinists of the time.

Hall, Rev. Newman (1816-1902), a Congregational divine, who from 1854 to 1896 preached with great acceptance at the Surrey Chapel in London, and thereafter to 1892 at Christ Church, Westminster Bridge Road, a splendid new edifice reared chiefly through his exertions.

Hallam, Henry (1779-1859), a graceful and scholarly historian who contributed several important works to the literature of his time. His *View of the State of Europe during the Middle Ages*, *Constitutional History of England*, and *Introduction to the Literature of Europe* are distinguished for their clearness of style and correctness of judgment.

Halle, Sir Charles (1819-1895), a distinguished pianist and conductor who was born in Westphalia. Went to Paris to study music in 1839, and in 1848 settled in London, where he soon became known as a piano-player of the first rank. He organised an orchestra of high-class talent, and for many years conducted it in London and the provinces. He married Madame Nonnan Neruda (d. 1911), the celebrated violinist, in 1888, and was knighted the same year.

Halley, Edmund (1656-1741), English Astronomer. Died from 1720 to his death. Discovered what is known as Halley's comet.

Halsbury, Harding Stanley Giffard, 1st Earl of (b. 1825), was a barrister in lucrative practice from 1850-1875, when he was appointed Solicitor-General. In 1885 was raised to the Peerage as Baron Halsbury, and became Lord Chancellor. Was raised to an earldom in 1898, and occupied the Woolsack in the Conservative Ministries of 1886-1892 and 1895-1905. Led the "Hardy" opposition to the Veto Bill in 1901. Chairman of the Murray-Marcou inquiry of 1904.

Hamerton, Phillip G. (1834-1894), an able and original painter and critic, who first attracted notice by his clever book *A Painter's Camp in the Highlands*. For a time he was art critic for the *Saturday Review*, and in 1890 established *The Portfolio*, a monthly art journal. He was author of two novels and some excellent studies of French painters.

Hamilton, Emma Lyon, Lady (1761-1815), was a woman of humble birth and great personal beauty who attained prominent notice by her association with Sir William Hamilton, British Ambassador at Naples, who married her, and afterwards with Lord Nelson, who conceived an infatuation for her. Romney painted her portrait frequently. She died in poverty at Calais, although Nelson had expressly directed that she should be taken care of.

Hamilton, Lieut.-Gen. Sir Ian (b. 1873), was one of the successful generals of the Boer War, and had previously had experience of active service in the Sudan and Burma. In 1901-1904 was Quarter-master-General, C. O. C-in-Chief Southern Command 1905-1906, and appointed Commander-in-Chief in the Mediterranean, 1910.

Hamilton, Lord George (b. 1845), was Secretary for India from 1896 to 1903, and had previously filled the position of First Lord of the Admiralty. He was Chairman of the London School Board 1904-1905. Is a Free Trader, and resigned on Mr. Chamberlain's Fiscal Policy. Captain of Deal Castle since 1899. He is a son of the 1st Duke of Abercorn.

Hamilton, Patrick (1594-1681), one of the Scottish Reformer martyrs, who, spending some time with Luther in Germany, returned to his native country, and was arrested and burnt at the stake as a heretic.

Hamilton, Sir William, Bart. (1788-1856), was Professor of Logic and Metaphysics in the Uni-

versity of Edinburgh from 1836 to his death. He was a profound scholar, and shed much light upon the subjects he wrote upon. His *Discussions in Philosophy* is a remarkable book, and influenced the thought of his time.

Hampton, John (1594-1643), the English patriot who opposed Charles I.'s "Ship Money" tax, and by his resistance and eloquent advocacy of the cause of the people materially helped the Parliamentary cause. He was mortally wounded while leading a regiment he had levied at Chalgrove Field. He was one of the "five Members" impeached by Charles I.

Händel, George Frederick (1685-1759), a German musical composer of great eminence, who passed most of his life in England, composing operas and musical compositions of many kinds, and ultimately achieving world-wide fame by his great series of oratorios, including "Esther," "Deborah," "Saul," "Israel in Egypt," "The Messiah," "Samson," and "Judas Maccabaeus." Undoubtedly the greatest oratorio writer the world has produced. Was buried in Westminster Abbey.

Hanway, Jonas (1712-1786), a well-known traveller and philanthropist, whose book on his travels in Persia and Russia was much read and discussed. His efforts on behalf of poor London children resulted in great good. The fact that he was the first man to walk about the streets of the metropolis with an umbrella has often been recorded.

Hannibal (247-183 B.C.), the renowned Carthaginian general, who led an army against Rome, and achieved many notable victories over superior numbers. Was defeated by Scipio at the Battle of Zama, and afterwards fell upon evil days, suffered exile, and poisoned himself to avoid being captured by his enemies.

Hannington, James (1847-1885), Bishop of Eborac, and East Africa, was not only a successful missionary but an ardent explorer, and it was while attempting to find a new route to Lake Victoria Nyanza that he was made prisoner by Mwangi and put to death.

Hansard, Luke (1752-1828), an English printer who for many years printed the Parliamentary reports which still bear his name.

Hansom, Joseph (1803-1882), a native of York and educated for an architect, but turning his attention to the question of an improved road vehicle, invented the cab which was called after him—"the gondola of London," as Beaconsfield styled it, now in its turn being superseded by the taxicab.

Harcourt, Rt. Hon. Lewis (b. 1863), son of the late Sir William Harcourt, and M.P. for Rossendale Division since 1904. Was appointed First Commissioner of Works, December, 1905, joined the Cabinet in March, 1907, and was made Colonial Secretary in 1910. A very popular Minister and successful Parliamentarian.

Harcourt, Sir William Vernon (1827-1904), a Liberal statesman. Entered Parliament in 1868 and continued, with but a short intermission, to be a member up to the time of his death. He was an enthusiastic supporter of Mr. Gladstone, whom he championed on all occasions. Was Solicitor-General in 1873, when he was knighted. Became Home Secretary in 1880, was Chancellor of the Exchequer from 1886, and again from 1892-1895. After Mr. Gladstone's retirement in 1894, he led his party in the House of Commons up to 1898. His death occurred suddenly, after he had intimated his intention of finally retiring from public life. His Finance Act of 1894 has resulted in large additions to the Revenue under the head of Death Duties.

Hardicanute (1019-1042), son of Canute the Great, was King of England from 1040 to 1042, and is unpleasantly remembered for having imposed the tax called Danegelt. He was the last Danish sovereign of this country.

Hardie, J. Keir, M.P. (b. 1856), a Radical politician and Labour representative, who acted as editor of the *Worker* and the *Labour Leader* from 1887-1904. During his early life worked in a Scottish coal-pit, but in 1882 became a journalist, and entered Parliament as member for West Ham in 1892. Founded the Independent Labour Party, and later sat for Merthyr Tydfil from 1900-1906, and onward. In 1907 made a

tour round the world, and caused considerable stir in various places in Australia, India, and South Africa by his speeches.

Hardinge, Fenshurst, Lord, formerly Sir Charles Hardinge (b. 1858), filled many important diplomatic appointments between 1880 and 1906—at Constantinople, Berlin, Washington, and St. Petersburg—and in the latter year became permanent Under-Secretary of State for Foreign Affairs. In 1910 was appointed Viceroy of India. On Dec. 23, 1912, his assassination was attempted by the throwing of a bomb as he was making his state entry into Delhi, but he was only slightly wounded.

Hardinge, Viscount (1785-1856), was Governor-General of India from 1844 to 1847, and in 1852 succeeded Wellington as Commander-in-Chief.

Hardy, Thomas (b. 1840), was educated as an architect, and practised for some time, but became known as a promising novelist in 1871 with his story *Desperate Remedies*. In 1874 his *Far from the Madding Crowd* was published, which at once made him a name. Following that, at short intervals, came a long series of powerful novels from his pen. Perhaps the most notable of his stories are *The Trumpet Major*, *The Mayor of Casterbridge*, *Jess of the D'Urbervilles*, and *Jude the Obscure*. In 1908 he completed a dramatic poem of epic dimensions entitled "The Dynasts," whose central figure is Napoleon.

Hare, Sir John (b. 1844), a well-known comedian, who was a leading figure in the first performances of the Robertsonian comedies in which he was associated with the Hancocks. From 1875 to 1900 he was in management on his own account at the Court, St. James's, Garrick, and Globe theatres in London in succession. Knighted in 1907.

Hargreaves, James (1720-1778), was a poor Lancashire-born mechanic who lived later at and died in Nottingham, and invented the spinning jenny, one of the revolutionising labour-saving contrivances of the latter half of the 18th century. It met with much opposition, however, and kept him poor, though the community afterwards reaped the advantage in a greatly improved industry.

Harley, Robert, Earl of Oxford (1661-1724), a distinguished Tory statesman—originally, however, a Whig—of the Queen Anne period, who fell into his peer after that Sovereign's death in consequence of being suspected of intriguing with the Stuarts. He served at different times as Speaker of the House of Commons, Chancellor of the Exchequer, and Lord Treasurer. "The Irish Collection" in the British Museum is a reminder of his cultured literary tastes.

Harold II. (1022-1066), the last of the Saxon Sovereigns of England, and the son of Earl Godwin, was crowned King in succession to Edward the Confessor in 1066. The coming of William the Conqueror, with his great machine, soon, however, put an end to the hopes of Harold and his followers; and the battle of Hastings terminated at once his life and Saxon way in this country.

Haroun-Al-Raschid, the famous Caliph of Bagdad (786-809), familiar to all by the references to him in the *Arabian Nights*, and memorable in history as a wise and powerful ruler, whose possessions extended from the Indus to the Nile and over a considerable part of North Africa.

Harraden, Beatrice (b. 1864), a novelist best known by her *Maids that Pass in the Night*, published in 1893. Born at Launceston, her mother was of Swedish and Spanish parentage, and her father, Mr. Samuel Harraden, a musician and scholar. Miss Harraden is a Bachelor of Arts of London University, and her published works include—besides that mentioned above—*In Varying Moods*, *The Fowler*, *Interplay*, and *Katherine Frenschman*.

Harris, George Robt. Canning, 4th Baron (b. 1821), has served his country at home as Under-Secretary for India (1855-1886) and Under-Secretary for War (1886-1889), and abroad as Governor of Bombay (1890-1895) and with the Imperial Yeomanry in South Africa in 1901. His lordship has also won considerable fame as a keen cricketer, in connection with the Kent County Club particularly.

Harrison, Benjamin (1833-1907), twenty-third President of the United States, and grandson of William Henry Harrison (1773-1841), the ninth President. Benjamin Harrison was a Brigadier-General in the Civil War, and served as President 1889-1893, failing to secure re-election in 1892.

Harrison, Frederic (b. 1831), as leader of the English Positivists, filled a prominent part in philosophical discussions, during the last quarter of the 19th century. He was a Professor of Jurisprudence under the Council of Legal Education from 1877 to 1889, and Alderman of the London County Council from 1889 to 1892. In 1907 he published *The Cress of a Layman* and *The Philosophy of Common Sense*, and in 1908 *Realities and Ideals*. Published *Autobiographic Memoirs* (1911).

Harrison, John (1623-1778), the inventor of the chronometer, for which he received the Government grant of £20,000, was a mechanician of great ingenuity, who effected many important improvements in clocks, watches, and other instruments. He was a native of Foulby in Yorkshire, and spent the last years of his life in retirement at Hampstead, where an interesting monument was erected over his grave in the parish churchyard.

Hart, Sir Robert (1826-1901), was Director of Chinese Imperial Maritime Customs at Peking, and for over half a century in the Consular and Customs service in the Celestial Empire, during which he became the most trusted Englishman in China. Retired 1901.

Harte, Francis Bret (1830-1922), the American poet and author, who leapt into popularity in the late 'sixties by his clever sketches and stories of Californian mining life, and maintained a high reputation as a writer for a considerable period. His last twenty years were spent in England.

Hartley, William (1572-1629), an English doctor and scientist who rose to great eminence both as an anatomist and physiologist, and became Physician Extraordinary to James I. He immortalised himself by discovering the circulation of the blood in 1616.

Hastings, Warren (1732-1818), at seventeen years old went out to Bengal and took a position as writer in the East India Company's service. Subsequently volunteered under Clive, and a year or two later became a Member of the Council at Calcutta. Manifesting great ability, he was advanced, from Post to Joint, and in 1773 became the first Governor-General of India. After twelve years of Governor-Generalship he returned to England, and was impeached on charges of excessive cruelty and corruption. The trial lasted seven years, and cost Hastings £70,000. He was ultimately acquitted, and the East India Company settled an annuity of £4,000 upon him, and he lived to see his plans for the security of British rule in the Orient publicly applauded.

Hatto, Archbishop of Mayence, a powerful but cruel prelate, who according to tradition was cast into the Mouse Tower still standing at Burgen on the Rhine, and there was worried to death by rats, as set forth in Southey's well-known ballad.

Hatton, J. L. (1809-1886), an English musical composer, who made a great name as a composer of songs, cantatas and glees. His "Simon the Cellarer" is perhaps his best remembered song.

Hatton, Joseph (1839-1907), a clever journalist, miscellaneous writer, and novelist, who produced a large number of readable books, his fiction including *Cybil*, *John Needham's Double*, *By Order of the Czar* and *Under the Great Seal*. His *Journalistic London*, *Reminiscences of F. L. Toole*, *The Nest Ceylon*, and *Henry Irving's Impressions of America*, exhibited a genial and graceful style.

Hatton, Sir Christopher (1540-1591), an English statesman who first attracted the attention of Queen Elizabeth by his dancing at a Court masque, and was by her appointed Lord Chancellor in 1587.

Hauptmann, Gerhart (b. 1862), one of the leading dramatic poets of Europe. A native of Silesia, he devoted himself first to agriculture, then to art, and subsequently to the drama, and has lived in Rome, Berlin, Switzerland, and the United States. Since 1885 he has produced many plays, including,

Hirsch, Baron Maurice de (1831-1896), a financier of remarkable success who amassed an immense fortune, the greater part of which he devoted to philanthropic objects, expending as much as £2,000,000 in 1891. Founded the Jewish Colonisation Association with a capital of £2,000,000, and a later endowment of £2,000,000 enabled colonies to be established in South Africa, Canada, and Asia Minor.

Hobbes, John Oliver (1867-1906), born in Boston, U.S., this lady, whose real name was Mrs. Pearl Mary Teresa Craigie, first attracted notice by her clever story *Some Emotions, and a Moral*, and subsequently kept prominently before the public with a succession of stories (and several plays) which more than bore out her early promise.

Hobbes, Thomas (1588-1633), was a famous philosophical writer, whose *Leviathan, or the Matter, Form, and Power of a Commonwealth*, appeared in 1651, and roused considerable sensation.

Hobhouse, Rt. Hon. Chas. Ed. Henry (b. 1862), Postmaster-General since April, 1914. P.C.: Chancellor of the Duchy of Lancaster, 1911-14; M.P. for East Bristol since 1900. Parly. Under-Sec. for India, 1907-8; Financial Sec. to the Treasury, 1908-11.

Hocking, Elias K. (b. 1859), a popular novelist, formerly in the Nonconformist ministry; author of *Her Beauty, The Awakening of Anarchy*, and countless other fascinating stories.

Hofer, Andreas (1767-1810), a Tyrolean patriot who led an insurrectionary movement against the French and Bavarians, but was betrayed and shot by order of Napoleon I. at Mantua.

Hogarth, William (1697-1764), the celebrated engraver and painter who satirised the follies of his time in a series of engravings instinct with character, humour and power. His "Harlot's Progress" of six engravings was published in 1732 and gained him immediate fame. In 1735 he produced his equally celebrated "Rake's Progress," a series of eight engravings. These were followed by numerous others, including "Marriage à la Mode," "Industry and Idleness," and "The March to Finchley." He was buried in Chiswick Churchyard.

Hogg, James (1770-1835), a Scottish poet of force and originality, who was known as the "Ettrick Shepherd," and assisted Scott in collecting the Border Minstrelsy.

Hogg, Quintin (1845-1909), was an educationist and philanthropist who, purchasing the old Polytechnic Institution in 1882, turned it into a popular college, providing efficient instruction in every department of education at moderate rates, and so building up an institution of great utility. He met his death by accidental asphyxiation.

Holbein, Hans (1447-1533), was born at Augsburg, and settled in London in 1530, where he succeeded in gaining the favour of Henry VIII., for whom he painted many portraits, and produced the famous "Dance of Death."

Holden, Sir Isaac (1807-1897), an inventor and manufacturer who achieved fame and fortune in connection with wool-combing inventions. He was in Parliament from 1865 almost to the time of his death, and was made a baronet in 1893. Succeeded by his son, Sir Angus Holden (1833-1912), who was M.P. for the Buckrose Division of Yorkshire for several years and became Lord Holden in 1908.

Hole, Dean Samuel Reynolds (1810-1904), educated at Newark Grammar School and Brunsen. Was Chaplain to the Archbishop of Canterbury in 1883, and Select Preacher to the University of Oxford from 1885 to 1886. In 1887 succeeded to the Deanery of Rochester. He was a busy writer from early years, and dealt with many subjects in a charming manner, but it is principally by his delightful *Book about Roses* that he will be remembered.

Hollinshed, R. (died circa 1580), was the author of *The Chronicles of England, Scotland, and Ireland*, published in 1577.

Holl, Frank (1845-1888), a noted English painter and R.A., who was the son of an artist, and between 1870 and 1880 produced some of the most admired pictures of his time. Among his best-known works are "No Tidings from the Sea,"

"Leaving Home," "Deserted," and "Ordered to the Front."

Holmes, Oliver Wendell (1809-1894), an American doctor and author of great humour and geniality, his *Autocrat of the Breakfast Table, The Professor at the Breakfast Table, and The Poet at the Breakfast Table* are works of infinite humour and quaintness. He was also the author of three novels.

Holroyd, Sir Charles (b. 1860), Director of the National Gallery and former Keeper of the Tate Collection. Himself an able artist and etcher, and a clever writer on Italian painting.

Holyoake, George Jacob (1817-1906), an eminent secularist lecturer and author, who was identified with many popular movements, especially Co-operation, of which he was the historian.

Horne, Rev. John (1722-1808), a Scottish clergyman and dramatist, whose tragedy "Douglas" attained great popularity, but cost him his benefice. A pension of £300 a year, however, atoned for this.

Homer, the most famous of all epic poets. Is supposed to have been a Greek who lived about 850 B.C., probably at Chios or Smyrna, and has generally been regarded as the author of the "Iliad" and the "Odyssey," though tradition rather than ascertained fact connects his name with those great poems.

Hone, William (1780-1842), was a writer and compiler of several most useful books of reference, including *The Every-Day Book, The Table Book, and The Year Book*, valuable for their immense fund of curious information regarding the manners and customs of former times.

Hood, Admiral (1724-1816), a successful British naval commander, who in 1793 was in command of the Mediterranean fleet, and showed great capacity in that post, taking and occupying Toulon, and capturing Corsica among other exploits.

Hood, Thomas (1790-1845), an English poet, who as a prolific writer of serious as well as humorous poems, stands in his own line unique. Of his serious verse, "The Song of the Shirt," "The Dream of Eugene Aram," and "The Bridge of Sighs," may be cited as the best examples, while his comic poems, notably those of the punning order, are unequalled.

Hook, Theodore Edward (1788-1841), an English humorist, whose breezy novels, *Gilbert Gurney and Jack Brag*, secured him a great reputation. As a young man he held for five years the position of Treasurer of Mauritius. He edited the *York Bull* newspaper, and was the original of "Mr. Wagg" in Thackeray's *Vanity Fair*.

Hooker, Richard (1554-1600), was Master of the Temple from 1585-1591, and afterwards Rector of Boscombe. Is famed for his great book on *Ecclesiastical Polity*, and, because of his exquisite choice of words, was known as "Judicious Hooker."

Hooker, Sir Joseph Dalton, G.C.S.I., C.H. (1817-1911), one of the most eminent of modern naturalists, and from 1855-1885, when he retired, was Director of the Royal Geographical Socy. Was President of the Royal Society from 1872-1877. His books on the Flora of Britain, British India, and New Zealand are standard works. Order of Merit, 1907.

Horace, or more properly **Flaccus Quintus Horatius**, (65-8 B.C.), the famous Roman satirist and poet, who was the friend of Virgil, and attained immortal fame by his "Satires," "Epodes," and "Odes," all of them distinguished for elegance of thought and dainty wit.

Horatius Coclès, a legendary Roman hero who, with two brave comrades—according to the tradition incorporated in one of Lord Macaulay's lays, gloriously held the bridge across the Tiber against the Etruscan army in the 6th century until the citizens cut it adrift, and so saved Rome.

Horsley, Samuel (1733-1806), a renowned English bishop and scholarly writer on theology.

Horsley, Sir Victor (b. 1857), educated at University College Hospital. Has achieved much distinction as a pathologist. Was Fullerian Professor from 1891-1893, and Professor of Pathology at University College from 1893-1896. He was knighted in 1902. Has championed vivisection and temperance reform.

Horton, Rev. E. F. (b. 1854), one of the most

prominent of living Congregational ministers, and a thoughtful and able writer. Has held a pastorate at Hampstead for over a quarter of a century with great acceptance. He is in much request as a preacher and lecturer, and has been President of the Congregational Union. Is M.A. and D.D.

Houdin, Jean Eugene (1805-1871), the most famous French "illusionist" and sleight-of-hand performer, who frequently appeared in this country. He was rewarded by the French Government for discovering and exposing the tricks by which Algerian priests had long kept up the pretence of miraculous powers to the natives.

Houghton, Lord (1809-1895), an English politician and poet. As Richard Monckton Milnes published a number of volumes of verse of great delicacy of thought. Was an active Liberal politician for many years, and the friend of Tennyson, Hallam, and Thackeray.

Howard, John (1726-1790), earned celebrity for his philanthropic efforts on behalf of prison reform, the pursuit of which eventually exposed him to a fatal fever attack in Russia.

Howard of Effingham, Lord, commander of the fleet which defeated the Spanish Armada, 1588, and took part in the capture of Cadiz, 1596.

Howe, Elias (1810-1867), an ingenious American who was the inventor of the first sewing machine, by which he made a great fortune.

Howe, Richard, Earl (1726-1799), the British admiral who in 1758 destroyed Cherbourg, and in 1794 won the famous victory over the French off Brest.

Howells, William Dean (b. 1837), one of the most eminent of modern American novelists and authors. His best-known works are *A Modern Instance*, *The Rose of Shiloh*, *Leah*, *The Landlord at the Lion's Head*, *A Fort Hope*, and (for English readers) *Certain Delightful English Towns*, published in 1907. He was U.S. Consul at Venice, 1861-1866.

Howitt, William (1795-1870), was a popular English author, who, independently and in conjunction with his wife, Mary Howitt, wrote many works of a popular character, such as *Homes and Haunts of the English Poets* and *Visits to Remarkable Places*.

Hubert, St., is the patron saint of huntsmen, and was himself an inveterate hunter, until a chance encounter with a stag bearing a crucifix converted him to a religious life. He died in 727 at Liège. His festival falls on November 3rd.

Hudson, George (1820-1871), rushed into prominence in the railway speculation mania of 1843-1845, and by a series of bold "moves" made large sums, becoming known as the "Railway King," and was elected M.P. for Sunderland. In later years his luck deserted him and he lost most of his wealth.

Hudson, Henry (1550-1610), was a famous English navigator who discovered the Hudson River, Hudson Strait and Bay, and his two books describing his voyages are of the greatest interest. He lost his life eventually in the region of his chief explorations, whilst searching for the North-West Passage.

Hudson, Sir Geoffrey (1619-1682), a court dwarf who was knighted by Charles I., and was only 20 inches in height when thirty years of age. He is introduced in Scott's *Peveril of the Peak*.

Huggins, Sir William (1824-1910), one of the most eminent of modern astronomers, who rose to the distinction of admission to the Order of Merit. He was President of the Royal Astronomical Society in 1876-1878, of the British Association in 1891, and of the Royal Society in 1910.

Hughes, Thomas (1822-1896), educated at Rugby, and at Oxford; practised at the Bar, and became a County Court Judge in 1882. His best-known works are *Tom Brown's School-days* and *The Scouring of the White Horse*.

Hugo, Saint (1135-1200) was a learned and pious French monk who settled in England and grew into high favour with Henry II., and became Bishop of Lincoln.

Huxley, Victor (1802-1882), the great poet, dramatist and novelist who headed the Romantic movement in France in the early part of the 19th century and made himself a name of the first eminence by his

various writings. His dramas of "Hernani," "Lucrèce Borgia," "Guy Rivas," and "Le Roy s'amuse" were in every sense great triumphs. Among his novels, *Notre Dame*, which belongs to his early period, and *Les Misérables*, *Les Travailleurs de la mer*, and *L'Homme qui rit*, belonging to his later life and written while he was living in exile, are all works of splendid genius.

Hullah, John (1823-1884), an English musical educationist who devoted his life to the spread of musical knowledge, establishing singing classes at Exeter Hall, and in many other ways popularising the art. He was also a Government Inspector of Music, and opposed Curwen's Tonic Sol-Fa system.

Humbert I. (1044-1050) was King of Italy from 1048, when he succeeded his father, Victor Emanuel. He was assassinated in July, 1050.

Humboldt, Baron Friedrich Heinrich Alexander von (1769-1859), the great German traveller and naturalist. Spent many years in the interior of South America and Mexico, and afterwards in Central Asia, and his books describing his travels and his various scientific discoveries—especially in geology and natural history—are among the most attractive works of the kind ever written.

Hume, David (1711-1776), the celebrated historian and philosopher whose *History of England* is a fascinating and comprehensive study, and long held the chief place in English historical literature. Hume's philosophical writings were no less famous, and widened the sphere of philosophical thought.

Hunt, Henry (1773-1835), a demagogue politician who was known as "Orator Hunt"; suffered imprisonment for advocating Chartism, and was later returned to Parliament.

Hunt, Leigh (1784-1859), an English poet, politician and essayist. In 1813 he was fined £500, and sentenced to two years' imprisonment for libelling the Prince Regent, and while in prison wrote one of his daintiest poems "The Story of Rimini" and other works. In later life he was a constant contributor to literature, and from 1847 enjoyed a pension of £200 a year from the Civil List.

Hunt, Wm. Holman (1827-1910), one of the three founders of the Pre-Raphaelite movement, and an artist who achieved distinction by several remarkable paintings, the chief of which is, perhaps, "The Light of the World," an allegorical work symbolising Christ knocking at the door of the human soul. Another of his great works is "The Finding of our Saviour in the Temple." Was member of the Order of Merit.

Hunter, John (1728-1793), one of the greatest surgical operators of his day, and Chief Surgeon at St. George's Hospital. His surgical museum bequeathed to the nation is of great value and interest, and now forms part of the Museum of the Royal College of Surgeons.

Huntington, Countess of (1717-1790), a rich and powerful lady who was so impressed with Whitefield's preaching that she devoted much of her fortune to establishing chapels and colleges for the promotion of the doctrines he expounded.

Huskisson, William (1770-1830), an English statesman who held office for many years under Peel and in 1828 was Secretary for Foreign Affairs. He was accidentally killed at Eccles at the opening of the Liverpool and Manchester Railway.

Huss, John (1366-1415), the celebrated Reformer, was a native of Bohemia and a steadfast advocate of the new religion. Sentenced to death or recantation, he suffered martyrdom on June 30th, 1415. His death caused a Civil War which lasted for many years.

Hutton, Richard Holt (1806-1897), an English writer who exerted considerable influence in the spheres of politics and religion. For some years he was a Unitarian minister, but afterwards connected himself with the Church of England, and from 1861 edited the *Spectator* with remarkable ability.

Huxley, Thomas Henry (1825-1895), an eminent scientist and author of numerous works covering a great range of research. After the publication of Darwin's *Origin of Species*, Huxley became an ardent evolutionist. His biological work, *Man's Place in*

Nature, and his numerous essays, were marked by great vigour and clearness of thought, and gave him a leading position. He held numerous important appointments, was President of the Royal Society in 1815, made Peary Councilor in 1822, and belonged to many learned societies.

Hyde, Edward, First Earl of Clarendon. (See Clarendon.)

Hypatia, who lived in the 4th century, was daughter of Theon of Alexandria, and attained great eminence by her lectures on philosophy. She excited the enmity of the monks, who raised an agitation against her, and she was put to death.

Hyndman, H. M. (b. 1842), the founder of the Social Democratic Federation, 1881, and of the newspaper *Justice*, has been an active propagandist and worker in the socialistic cause in many lands. Was the friend of Mazzini and Garibaldi. In 1911 published his *Record of an Adventurous Life*.

I

Ibrahim Pasha (1789-1848), an able Egyptian statesman, general, and viceroy, who, adopted by Mohammed Ali as his son, contributed largely to the success of Egyptian policy during the quarter of a century or more of his influence. His conquest of Syria was a notable feat of generalship. He died a few months after being appointed Viceroy.

Ibsen, Henrik (1828-1906), the Norwegian dramatist, whose works excited a considerable amount of interest in this country because of the singular problems they dealt with, the daring incidents upon which they hinged, and their very original characterisation. They outraged convention at every point, and occasionally their realism became exceedingly repulsive to English taste, yet there was a certain greatness about them that could not be denied. His chief works were *Her Gait*, *The Master Builder*, *A Doll's House*, and *Hedda Gabler*.

Ictinus, the architect of the Parthenon at Athens, and the temple of Apollo (c. 433 B.C.).

Idesleigh, Earl of (1818-1887), a Conservative statesman of great dignity of character and political sincerity. He was in the House of Commons from 1855 to 1885, when he was raised to the peerage. He was one of the most successful of Tory Chancellors of the Exchequer, and was Foreign Secretary from 1886 to the time of his death.

Ignatieff, Genl. Count Nicholas (b. 1832), a soldier-statesman, who won distinction in Russian diplomacy towards the close of the 19th century.

Ignatius, St., Bishop of Antioch, who suffered martyrdom at the hands of Trajan 107 A.D., being condemned to be eaten by wild beasts in the arena.

Ilbert, Sir Courtenay (b. 1841), Clerk of the House of Commons, and formerly on the Indian Council, and Parliamentary Counsel to the Treasury. An authority on Parliamentary procedure.

Illingworth, Percy Holden (1866-1915), was M.P. for the Shipley Division of W. Yorks. from 1906 to his death, and Chief Liberal Whip from 1912. Son of the late Henry Illingworth and grandson of Sir Isaac Holden. Educated Jesus College, Camb. (M.A., LL.B.).

Ins, a warrior king of Wessex who reigned in the 8th century and made many wise laws.

Inge, the Very Rev. W. Ralph, Dean of St. Paul's since 1911 (b. 1860). Ed. Eton and King's Coll. Camb. Assistant Master at Eton, 1884-1888. Lady Margaret Prof. Camb., 1907-1911. Has published some profound studies in Mysticism, and is regarded as an apostle of melancholy rather than of cheerfulness.

Ingelow, Jean (1830-1897), was an English poetess of great gifts. From the early 'sixties to her death, she was frequently before the public with poems, novels and fairy tales, all of high merit.

Ingila, Sir John (1814-1862), was a native of Nova Scotia, and a distinguished English general. During the Mutiny in India he had command of the Residency at Lucknow in succession to Sir Henry Lawrence, and held it until the arrival of Havelock.

Ingram, Rt. Rev. Arthur Foley Winnington, D.D., Bishop of London since 1901 (b. 1828).

Educated at Marlborough College and Oxford; was private chaplain to the Bishop of Lichfield from 1863 to 1869; Rector of Bethnal Green 1869, and Canon of St. Paul's 1869-1901. Among his published works are *Work in Great Cities* and *Christ and His Friends*.

Ingres, Jean A. D. (1781-1867), a great French historical painter who was elected to the Institute in 1824, and at his death was a Senator of France.

Innocent III., Pope (1216-1216), was one of the most powerful of the long line of Popes who succeeded in bringing all the monarchs of Christendom under his sway, including our own King John.

Inverclyde, John Burns, First Baron (1823-1901), was the son of Sir George Burns, who was associated with Sir Samuel Cunard in the founding of the Cunard Line of steamers. After the retirement of his father, Lord Inverclyde became head of the company and conducted its affairs with signal ability. The peerage dates from 1897.

Irton, Henry (1611-1651), the Cromwellian general, was the Protector's son-in-law. He was one of the judges at Charles's trial, and served in Ireland as Lord Deputy, dying during the siege of Limerick.

Irving, Edward (1792-1834), a Scottish Divine who from 1822 to the time of his death was one of the most notable preachers in London. Many of his views were in advance of those of his co-religionists, and towards the close of his career a charge of heresy was brought against him.

Irving, Sir Henry (1833-1905), The most prominent English actor of the close of the Victorian period. His first appearance in London was made in 1856, and his first distinct metropolitan success scored at the Vaudeville Theatre in 1870, when he appeared as Digby Grand in *The Two Roses*. From 1871 he was connected with the Lyceum Theatre, first with Mr. Bateman, and from 1879 under his own management. His record at this theatre covered a brilliant series of productions. *"The Bells"* was the first triumph, then followed *"Charles I."* and *"Eugene Aram."* and later a number of Shakespearean impersonations, in some of which—notably *"Shylock"* and *"Hamlet"*—Irving was really great. Among the original productions credited to him may be mentioned *Tennyson's "Queen Mary"* and *"Becket," Ravenswood, "Olivia," "King Arthur,"* and *"Robespierre."*

Irving, Washington (1783-1859), a writer of charming stories and miscellaneous works which won wide and well-deserved favour on both sides of the Atlantic. Among his biographical books may be mentioned *Lives of Goldsmith, Colman, Mahomed* and *Washington*. It was in his *Tales of a Traveller* and his shorter sketches, however, that he was most successful. His story of *Sleepy Hollow*, and his *Rip Van Winkle* are both miniature productions.

Isaacus, Rufus, (See Reading, Lord.)

Isabella of Castile (1451-1504), reigned jointly with Ferdinand V. her husband. During their thirty years' sway Spain was united as a single monarchy, and achieved the height of its greatness, the discovery of America, the Conquest of Granada, and the expulsion of the Moors from Spain being among the events with which Isabella was associated.

Islip, Simon (d. 1366), a noted ecclesiastic of his day, who was Archbishop of Canterbury from 1349 to the time of his death.

Islington, Lord, formerly Sir John Dickson Poynder (b. 1866), Governor of New Zealand 1910-12, M.P. for Clippenham Division, 1902-10. Made Chairman of India Public Service Commission, 1912.

Ismael Pasha (1830-1895), grandson of Mohammed Ali, was a man of modern ideas and great public spirit, whose policy rendered Egypt practically independent of Turkey, the Sultan confirming him in the position and title of Khedive in 1873. It was his adoption of the ideas of the Suez Canal that enabled that work to be successfully carried out. By reckless extravagance he involved himself in difficulties, entailing the sale of his Suez Canal

shares to England, the establishment of the dual control of England and France, and his own abdication in 1870, when his son Tewfik succeeded.

Ismay, Thomas Henry (1837-1899), was an eminent Liverpool ship-owner, and founder of the White Star Line.

Izvolaky, Baron (b. 1848), Russian Ambassador to France; was Foreign Minister in 1906. Visited London in 1908.

Ito, Prince (1838-1909), one of the most enlightened statesmen in Japan. Was four times Premier, and contributed in no small degree to the building up of his country's commercial, military, and naval greatness. Several times visited Europe, and was in London for a year when a young man of twenty-two. Assassinated in 1909.

Ivan the Great (1440-1505), the first Czar of Russia, succeeded in bringing the scattered provinces of Muscovy under one supreme governmental control, and put an end to Tartar rule. There was a good deal of the barbarian and tyrant in Ivan's composition, but he had views in advance of his time and country.

Irving, Lord (b. 1847), is a member of the well-known Guinness family of Dublin brewers, and a brother of Lord Ardilaun. A man of immense wealth, and a notable philanthropist, gave half-a-million sterling equally between Dublin and London for the building of improved dwellings for the poor, and celebrated the visit of the King and Queen to Ireland in 1903 by giving £50,000 to Irish hospitals.

Ives, John (1757-1776), a promising young numismatist who published a useful work entitled *Remarks on English Coins*, the year before his demise.

Ivory, James (1765-1842), a clever Scottish mathematician who obtained considerable recognition in his day.

Isaaks, Richard (1624-1700), a careful topographical writer, whose work *Antiquities of Exeter*, published in 1677, is still referred to.

J

Jackson, Andrew (1767-1845), an American General who was twice President of the United States, and one of the most able holders of that position.

Jackson, T. J. (1824-1893), popularly known as "Stonewall Jackson," was the most brilliant general on the Southern side in the American Civil War. Was accidentally killed by his own men at the Battle of Chancellorsville. The term "Stonewall" was applied to him because of his dogged resistance at the first Battle of Bull Run.

Jacobs, W. W. (b. in London, 1863), is a novelist of a quaint and peculiar humour, whose stories and sketches of East-end river side life and characters are unimitable. Mr. Jacobs was for some years a clerk in the Civil Service.

Jacquard, Joseph Marie (1732-1834), a French mechanic whose Jacquard loom provided a new and effective method of weaving designs in textile fabrics, and was an invention of the very first rank.

James I. of England (1566-1603) was the sixth Scottish sovereign of that name and the son of ill-fated Mary Stuart. He succeeded to the English throne in 1603 on the death of Elizabeth by virtue of his descent from Henry VII. Numerous plots were formed against him and his favourites and Government, including the Gunpowder Plot of 1605. He persecuted the Puritans, was generally in conflict with his Parliament, granted many monopolies, and saw the Authorised Version of the Bible published.

James II. (1633-1701) was King of England from 1685-1688, succeeding his brother Charles II. His reign was short, but his mistakes many. The Declaration of Indulgence, the Persecution of the Bishops, and other high-handed proceedings disgusted his people, and he ignominiously severed his connection with England by flight to France in December 1688, making way for William III. and his more vigorous rule.

James, George F. R. (1801-1860), one of the most

prolific novelists of his time. Some of his works enjoyed a good deal of popularity, but they contain little real reality, being modelled partly on Scott and partly on Dumas, without the strength of either. His *Kilnclaffer* was the first and also the best of his over 300 stories. He was appointed historiographer royal by William IV. and was British Consul in Venice at the time of his death.

James, Henry (b. 1843), an American novelist who has produced a number of notable stories, remarkable for their intellectual subtlety and careful characterisation. For the last thirty years he has resided mostly in London. His best-known novels are *The American*, *Daisy Miller*, *The Bostonians*, *The Portrait of a Lady*, and *What Maisie Saw*. In 1906 he revisited his native land, the result of which was *The American Scene* (1907). Since then he has published *Finer Grain* and *The Outcry*.

James of Hereford, Lord (1282-1291), held many distinguished positions, and in the last Salisbury Government was Chancellor of the Duchy of Lancaster. He was formerly a Gladstonian, and as such served as Solicitor-General in 1873. Attorney-General in the following year, and again from 1880-1885. He then broke with his old chief, declined the Lord Chancellorship, and became an active member of the Liberal-Unionist Party, from which, however, he separated on the Tariff Question.

Jameson, Anna (1794-1860), a writer on art subjects whose works were held in high esteem and showed an acute perception of artistic details. She wrote, among other works, *Sacred and Legendary Art. Lives of the Early Italian Painters*, and *Legends of the Madonna*.

Jameson, Sir Leander Starr (b. 1853), was for many years one of the most able men connected with South Africa, and was the close friend of Cecil Rhodes. It was he who led the famous raid on the Transvaal in December, 1895, and for that escapade suffered ten months' imprisonment in London. Previous to that was Administrator of Rhodesia. In 1904 was elected Premier of the Cape Parliament, but resigned in 1908. Was present at the Imperial Conference in 1907 in London. Retired from political life in 1912.

Januarius, Saint, was Bishop of Benevento in the 3rd century and suffered martyrdom under Diocletian, A.D. 305. His anniversary was September 19th, on which day two plaits of his blood, preserved in the Cathedral of Naples, are supposed to possess the miraculous power of liquefaction and are carried in procession.

Jaures, Jean (b. 1859), the leader of the French socialists in the Chamber of Deputies, of which he has been a member since 1895. A powerful speaker and writer, and edited a History of Socialism.

Jayne, Rt. Rev. Francis John, D.D., Bishop of Exeter 1839 (b. 1845), was educated at Rugby and Oxford; ordained, 1871; Tutor, Keble College, 1876-1879; Preacher at Whitehall, 1875-1877; Vicar of Leeds, 1880. Is a temperance reformer, and favours a modification of the Gothenburg system.

Jebb, Professor Sir R. C. (1841-1905), born at Dundee, and was M.P. for Cambridge University from 1891 up to the time of his death. In 1875 he was appointed Professor of Greek to the University of Glasgow, and in 1889 was elected Reginus Professor of Greek at Cambridge. He was the author of numerous important works, mostly on classical subjects, and was a member of the Order of Merit.

Jefferies, Richard (1848-1887), an English naturalist, who, between 1873 and the time of his death, wrote some of the most beautiful descriptions of natural scenery and the customs and habits of the rural world that we possess. His *Gamekeeper at Home* and *The Life of the Fields* are books of great power and sympathy.

Jefferson, Joseph (1829-1905), an American comedian who, from 1859 to the time of his retirement a short period prior to his demise, stood in his own line of parts unexcelled. In 1859 he produced *Rip Van Winkle*, a play in which he made well over 5,000 appearances, and which beat all stage records by earning a round million pounds.

Jefferson, President Thomas (1743-1826), took an active part in promoting the American Revolution, and drew up the Declaration of Independence. He was twice President of the United States.

Jeffrey, Francis Lord (1773-1850), was one of the founders and first editor of the *Edinburgh Review*. A writer of great culture and a lawyer of eminence, who was at one time in Parliament and became eventually a Lord Justice of the Court of Session.

Jeffreys, Judge (1648-1699), won for himself unenviable notoriety by his harsh and cruel judgments, when he held what is known as the "Bloody Assize," following the suppression of the Monmouth Rebellion. He was made Lord Chancellor, but fell into disgrace after the abdication of James II., and was committed to the Tower and there died.

Jenghiz Khan (1162-1227), the famous Mogul ruler who twice conquered China, forced the Turks into their present European confines, and effected the union of the leading Mongolian races.

Jenkins, Robert, an adventurous captain of a West Indian merchantman, whose report of an alleged attack upon his ship by Spaniards and their depriving him of his ears, which he produced in proof, led to the war against Spain in 1739.

Jenkinson, Anthony, a great Elizabethan trader and traveller, whose various expeditions to the Levant, Khiva, Bokhara, and Russia led to the formation of the English Muscovy Company and the opening up of the Levant trade.

Jenner, Edward (1749-1823), an English physician who became celebrated by his discovery of the vaccination system of alleviating smallpox, which has been of such incalculable benefit to mankind. Parliament made him grants amounting to £30,000.

Jenner, Sir William (1815-1868), for many years Physician in Ordinary to Queen Victoria, and one of the doctors attending Prince Albert in his fatal illness in 1861, and King Edward when Prince of Wales, during his attack of typhoid in 1871. Sir William was created a Baronet in 1868, and from 1881 to 1888 was President of the Royal College of Physicians.

Jerome, J. K. (b. 1856), a clever journalist and writer, who made his name as a humorist. He wrote *Three Men in a Boat*. He founded *The Idler* and *The Day*. His play "The Fawcett of the Third Floor Back" was a distinct success.

Jerome, St. (340-420), a noted theologian of the 5th century, whose Latin translation of the Scriptures ("the Vulgate") made him famous. He died at Bethlehem.

Jerrold, Blanchard (1821-1871), a journalist and author who wrote a *Life of Arthur* in 1871, and a number of plays, and succeeded by Alfred Douglas Jerrold, in the editorship of *Lloyd's Weekly*.

Jerrold, Douglas (1813-1871), dramatist and humorist, who enjoyed a long career of success by his contributions to *Punch*, including "Mrs. Caudle's Curtain Lectures"; his novels, of which *St. Giles and St. James* was his best; and his plays, of which "Black-eyed Susan" was the most popular. Edited *Lloyd's Newspaper* for five years prior to his death.

Jersey, Victor A. G. C. Villiers, 7th Earl of (b. 1845), Paymaster-General, 1889-1890, Governor of New South Wales, 1890-1891.

Jervis, Admiral Sir John, Earl of St. Vincent (1744-1823), won his earldom by his victory over the Spaniards off St. Vincent, 1797. He had previously seen active and noteworthy service at Quebec and in the West Indies.

Jessop, Rev. Canon Augustus (1821-1914), Chaplain in Ordinary to King Edward VII. from 1902-10. Rector of Searning, 1899-1911. Author of numerous works upon historical subjects, and on country life in olden times, of which he has given us some illuminating pictures full of sympathetic charm.

Jevons, Professor W. Stanley (1835-1882), a political economist and logician of great distinction, who published a number of works that did much to advance the sciences of which he was such a devoted student. Drowned at Hastings, whilst bathing.

Joachim, Dr. Joseph (1831-1907), a German violinist and composer, who came to England in 1844 and became prominent in musical circles. For many

years he was the heart and soul of a splendid series of classical quartettes at our popular concerts, and the greatest violinist of his time.

Joan of Arc (1412-1431), the remarkable girl whose heroism and devotional fervour enabled her to inspire the French soldiers with such enthusiasm that they drove the English out of Orleans, and enabled Charles to be proclaimed King at Rheims within two months of her first appearance among them. She was captured by the English in the following year, and was burned as a heretic in Rouen. Her beatification took place in 1909, and she has been an inspiring theme to many poets and writers.

John, St., the Baptist (executed A.D. 28), the forerunner of Christ.

John, St., the Evangelist, the son of Zebedee: retired to Patmos after the Crucifixion, but returned from exile to Ephesus later, and there died at a great age, probably circa A.D. 99.

John, surnamed "Lackland" (1167-1216), King of England from 1199 to his death at Newark after deposition by the Barons in 1216. One of the most detested of English monarchs, but whose reign stands out large in history because of his having granted, under compulsion, the Magna Carta, England's great bulwark of liberty.

John of Gaunt, Duke of Lancaster, son of Edward III., and father of Henry IV., was one of the most powerful English nobles, and was more or less concerned in the leading events of his time. In War Tyler's rebellion he had his palace in the Savoy destroyed and was long held in popular hatred.

Johnson, Dr. Samuel (1709-1784), the great lexicographer and writer, who for a number of years was the most prominent literary man in England. His *Dictionary* was published in 1755, before which he had attained eminence by several works, including the *Vanity of Human Wishes*. His *Rasselas* appeared in 1749, and for two years he published *The Idler*, a collection of essays after the style of the *Spectator*. His *Lives of the Poets* appeared in 1781. He was greatly honoured during his life, enjoyed a pension of £300 a year from 1762, at his death was buried in Westminster Abbey, and had the best biography in the language written upon him by James Boswell.

Johnston, Sir Harry H. (b. in London, 1858), has been a daring and successful explorer, and founded the British South African Protectorate in 1895. Was Commander-in-Chief for the Uganda Protectorate, and has led scientific expeditions into the interior of Africa. Is the author of many valuable works on travel and observation. Published in 1910 a History of the British Empire in Africa.

Jokai, Maurus (1825-1904), a distinguished Hungarian novelist, many of whose works have been translated into English, among them *A Modern Madam* and *Black Diamonds*.

Jones, Henry Arthur (b. 1851), was in commercial life for some years, and then took to play-writing, achieving his first distinct success in "The Silver King." Among his other plays may be mentioned "Saints and Sinners," "The Middleman," "The Liars," "Joseph Entangled," "The Hypocrites," and "Mary Goes First," the latter produced in 1913.

Jones, Inigo (1573-1632), a noted architect who became known as "the English Palladio," and built among other famous structures, the Banqueting Hall at Whitehall and the gateway of St. Mary's at Oxford. He was a Royalist, and suffered severely in the Civil War.

Jones, Paul (1747-1792), was a Scotsman, who early in life took to the sea, and during the American War of Independence commanded various ships on behalf of the Colonists, and was most daring in his onslaughts upon British vessels. He died in Paris.

Jonson, Ben (1573-1637), a friend of Shakespeare and one of the great poets and dramatists of his age. Was Poet Laureate from 1596. His best plays are "Every Man in his Humour," and "The Alchemist." He was buried in Westminster Abbey.

Josephine, Empress (1763-1814), was the wife of Napoleon I. until he divorced her in 1809 and married Maria Louisa. Josephine had previously been married

to Vicomte Alexandre Beauharnais, by whom she had two children.

Josephus Flavius (37-circa 95), a Jewish historian whose *History of Jewish War* and *Antiquities of the Jews* contained much valuable historical evidence bearing upon Biblical history. He was commander of the Jewish army, but was captured by Vespasian, who afterwards befriended him.

Joubert, Petrus Jacobus (1833-1900), the Boer statesman and general, who twice contested for the Presidency of the Transvaal with Krüger, and rendered good service in the field at Majuba, in the Jameson raid, and in the subsequent war, being Commandant-General in Natal.

Jowett, Professor Benjamin (1817-1893), an eminent theological writer of advanced views, who was one of the contributors to the famous *Essays and Reviews* published in 1850. Was Master of Balliol from 1870 to the time of his death, and attracted the devotion and esteem of many eminent people.

Jowett, Rev. J.H. (b. 1864), successor to Dr. Dale in the pastorate of Carr's Lane Chapel, Birmingham. A very powerful preacher, and the Chairman of the Congregational Union in 1906. In January, 1911, accepted the ministry of the Fifth Avenue Presbyterian Church, New York.

Julian (331-363), was Roman Emperor for the last two years of his life, during which period he was an avowed Pagan, though previously he had professedly been a Christian. Hence his title of "Julian the Apostate." He was slain by an arrow during an expedition against Persia.

Julius Cæsar. (See *Cæsar, Julius*.)

Junot, Androche, Duc d'Abbrantès (1771-1833). Was one of Napoleon's great generals and was brilliant, successful until defeated by Wellington at Vimiera.

Justinian I. (483-555), was the Roman Emperor of the East whose fame rests chiefly on his laws. His *Corpus Juris Civilis* remained the accepted textbook of Roman Law to the end of the 9th century, and is still the most important of all monuments of jurisprudence. He reigned from 527 to 565.

Juvénal (60-140), the famous Roman poet and rhetorician of the age of Trajan. His sixteen reburled "Satires" are the finest in classical literature.

K

Kant, Immanuel (1724-1804). German scientist and philosopher whose *Critique of Pure Reason*, published in 1781, was the subject of fierce discussion, and involved him in trouble with the Prussian Government as to his religious belief. His speculations and the transcendental theories he worked out revealed a marvellous capacity of mind, and his works were of immense influence in shaping the philosophical thought of the 18th and 19th centuries.

Matsura, Marquis (1849-1913). Japanese statesman and general, very successful in a march through Korea to Manchuria, was under Oyama Vice-Minister of War, and Prime Minister 1901-6, and in 1908. Achieved solid reforms in the Japanese army.

Kaulbach (1805-1874), an eminent German painter who was patronised by King Ludwig of Bavaria, and painted many notable works for that monarch.

Kay-Shuttleworth, Sir James (1804-1877), a native of Rochdale and a distinguished promoter of popular education. He was the first Secretary of the Committee of Council on Education (1839-1849), and devoted his life to the improvement of the condition of the people.

Kean, Charles John (1811-1868), an English actor-manager, son of the tragedian, Edmund Kean. Charles Kean married Ellen Tree, and in the 'fifties played with her in a remarkable series of spectacular revivals at the Princess's Theatre in London.

Kean, Edmund (1787-1823), one of the greatest tragic actors in the history of the British stage. For a time he carried all before him, but his later years were dimmed by excesses and he died in poverty.

Kents, John (1795-1821), the great English poet who though dying at the early age of twenty-five produced a number of poems which in richness of imagination and beauty of thought are not excelled by anything in the language. His "Odes," his two poems, "Isabella" and "The Eve of St. Agnes," together with his blank verse fragment "Hyperion," are exquisite in form and expression and marvellous as the production of one so young.

Keble, John (1792-1866), an English clergyman and poet whose "Christian Year," published in 1827 is one of the most notable works of its class. Keble College at Oxford was incorporated as a memorial to him, he having been ten years Professor of Poetry at the University.

Keene, Charles (1823-1891), one of the most talented of the *Punch* artists, who from 1851 to his death was constantly represented by drawings of irresistible humour in that journal.

Keltie, John Scott (b. 1840), Secretary Royal Geographical Society, author of *The Partition of Africa*, editor of *The Statesman's Year-Book* and of the *Geographical Journal*.

Kelvin, William Thomson, Lord (1824-1907), the famous scientist and inventor. Was born at Belfast, and after a course of study in Paris, London, and elsewhere, introduced the dynamical theory of heat in a paper read before the Royal Society of Edinburgh. Shortly afterwards he interested himself in submarine telegraphy, and invented numerous important improvements, also doing splendid work in the direction of electrical invention. Altogether he covered a vast field and earned a world-wide reputation. He was knighted in 1866 and raised to the peerage in 1892, and was a member of the Order of Merit.

Kemble, Fanny (1809-1893), was a noted actress in the early part of the 19th century. After several years of success in this country she went to America and resided there for the greater portion of her after life, devoting herself mainly to literary work. She was the daughter of Charles Kemble (1775-1854), who was also a celebrated actor, associated in many appearances with his brother John Philip Kemble and their talented sister Mrs. Siddons.

Kemble, John (1817-1857), was a distinguished writer, who studied the Anglo-Saxon period in great detail, and published *The Anglo-Saxons in England*, a work which holds a permanent place in English historical literature. He was the son of Charles Kemble, the actor.

Kemble, John Philip (1757-1823), was a famous tragedian, and for many years manager of Drury Lane Theatre in London. He was brother to Mrs. Siddons, who first played with—and overshadowed—him in 1783. He took over the management of Covent Garden in 1802, and remained in charge there till the building was destroyed by fire six years later. On the restoration of the theatre in the year following occurred the famous O. P. riots, which rendered John Philip Kemble for a while unpopular. He retired in 1817, and died subsequently at Lausanne.

Kempenfelt, Admiral Richard (1718-1782), an English naval officer who saw distinguished service, and sank with his ship the *Royal George* off Spithead, through a shifting of the guns when refitting, which caused the vessel to capsize. Some six hundred of the ship's company perished with their admiral.

Kemp, Thomas (1298-1471), a monk of the St. Augustine order, whose life was mainly spent at a monastery near Zwolle. He was the author of *The Imitation of Christ*, a work which has been translated into all languages, and forms a devotional course which is highly valued.

Ken, Thomas (1673-1711), was one of the seven bishops sent to the Tower by James II. for declining to read the *Declaration of Indulgence*. Is remembered in these days mostly by some beautiful hymns that he wrote.

Kensington, Rev. Geo. Wyndham, Bishop of Bath and Wells since 1894 (b. 1845), was vicar of All Saints' Bradford, (1876-1882), and Bishop of Adelaide from 1882-1894.

Kent, Edward Augustus, Duke of (1767-1800),

was the fourth son of George III. and father of Queen Victoria.

Kepler, Johann (1571-1630), a renowned German astronomer, who made numerous discoveries in regard to the motions of planets, which he afterwards published. The system he formulated received the name of "Kepler's Laws."

Keppel, Augustus, Viscount (1725-1785), an English admiral, second son of the second Earl of Albemarle, Commander of the Fleet at the abortive battle with the French in the Channel in 1778, for which he was court-martialled, but, being acquitted, became First Lord of the Admiralty in 1782.

Kidd, Benjamin (b. 1785), a prominent writer on social philosophy. In 1804 he published his *Social Evolution*, the result of ten years' research, and has more recently written the *Principles of Western Civilisation*. Herbert Spencer Lecturer at Oxford University, 1908.

Kidd, Captain William (circa 1660-1699), was a famous pirate who, taking advantage of an appointment to the captaincy of a British ship sent out for the suppression of piracy, engaged in numerous piratical expeditions under cover of the English flag. He was hanged at Execution Dock in London after a sensational trial at the Old Bailey for piracy and the murder of his crew.

Kingslake, A. W. (1830-1891), achieved celebrity as a writer by two works of a very different character—*Eothen*, a charming record of travel, and his *History of the Crimean War*, in eight volumes. He was in Parliament from 1857 to 1868.

Kingsley, Charles (1819-1875), an English clergyman and novelist who gained much popularity by his numerous novels, including *Hyppasia*, *Westward Ho!* and *Hereward the Wake*. He was an influential leader of Christian socialism, a poet of some ability, and a Canon, first of Chester and later of Westminster.

Kingsley, Henry (1820-1866), a younger brother of Charles Kingsley, and one of the popular novelists of his day. His *Ravenshoe* showed exceptional gifts.

Kingsley, Mary (1862-1900), niece of Charles Kingsley, was an observant traveller who wrote some notable books relating her experiences in West Africa, when that region was little known.

Kipling, Rudyard (b. 1865), poet, novelist, and miscellaneous writer. Made himself celebrated while yet a youth by some exceedingly clever and characteristic sketches of Indian life written for the most part while performing journalistic duties in India. He subsequently settled in London and produced a remarkable succession of stories, sketches, ballads, and poems, all marked by intense vigour and individuality, and now and then revealing a vein of patriotic sentiment which greatly stirred the national pulse. In 1907 he was awarded the Nobel prize.

Kitchener of Khartum, Earl (b. 1850), entered the Army in 1871, and has since had a brilliant and successful career in nearly all parts of the world where British soldiers have signalled themselves in recent years. In Cyprus, Egypt, India, and South Africa he has done memorable work, and from 1902 to 1909 was Commander-in-Chief in India. For his services against the Khalifa he was raised to the peerage, and accorded a grant of £30,000; and for his vigorous work during the campaign against the Boers received his viscounty and a further grant of £30,000. In 1912 succeeded Sir Eldon Gorst as British Agent and Consul-General in Egypt. On the outbreak of the war with Germany (Aug. 1914) he was made Secretary for War, and his splendid work in that position has won universal admiration.

Kitts, John (1804-1854), a noted English writer on Biblical subjects, whose *Cyclopædia of Biblical Literature*, *Pictorial History of Palestine*, and other kindred works have found much favour.

Kneller, Sir Godfrey (1647-1723), the most celebrated portrait painter of his day in England, who enjoyed the patronage in succession of Charles II., James I., William II., Anne, and George I. He painted the portraits of the members of the Kit-Cat Club, and was buried in Westminster Abbey.

Knight, Charles (1791-1873), was one of the most active spirits in the popularising of literature in the

first half of the 19th century. His *Penny Magazine*, *Penny Cyclopædia*, and many other cheap works of an instructive and entertaining character were sold in immense numbers. He was also the author of a popular *History of England*.

Knollys, Viscount (b. 1838), was for many years Private Secretary to King Edward VII., and held a similar position under the present King up to 1913. He was Gentleman Usher to Queen Victoria from 1868 to 1901.

Knowles, Sir James (1831-1900), founder and editor of *The Nineteenth Century and After*, before the advent of which he had edited the *Contemporary*, and been an architect.

Knowles, Sheridan (1784-1866), was a British dramatist whose plays were at one time in great vogue. The best known are "The Hunchback," "The Love Chase," and "Virginius."

Knox, John (1505-1572), the famous divine and Reformer, who stirred Scotland to mighty religious impulses in the reign of Mary Queen of Scots, whom he boldly denounced as a Papist and a Jesuit. The Regent Morton, as John Knox was laid in his grave at Edinburgh, exclaimed, "There lies he who never feared the face of man."

Knox, Rt. Rev. Edmund Archbishop, D.D., Bishop of Manchester since 1897 (b. 1827). Educated at St. Paul's School and Oxford; Fellow of Merton College 1860, vicar of Aston 1867, later hon. Canon of Worcester and Bishop Suffragan of Coventry, and Archdeacon of Birmingham.

Koch, Robert (1843-1910), the most noted bacteriologist of the time, whose discoveries in connection with the bacillus of tuberculosis have borne such good fruit. A member of the Sanitary Commission at Berlin, and Director of the Institute of Infectious Diseases, he also closely studied the cause of Asiatic cholera and of bubonic plague, with results that have greatly widened knowledge on these subjects.

Komura, Count Jutarō (1853-1911), the astute diplomatist who advised the Japanese Generalissimo during the war with China, and was Governor of Manchuria during the first Japanese occupation. Educated in the United States,

into the Ministry of Justice at Tokio at an early age, and later was the Mikado's Minister at Washington, Seoul, and Peking successively, returning to Japan to take charge of Foreign Affairs in 1900. He acted with great shrewdness through the war with Russia, and came as Ambassador to Britain at the termination of Viscount Hayashi's term of office in 1906-1908.

Kosciusko, Thaddeus (1756-1817), a Polish general and patriot who achieved great distinction in 1794 by his gallant leading of the Polish revolutionary forces against Russia. After his defeat and imprisonment he resided abroad, and died in Switzerland.

Kossuth, Louis (1802-1894), a Hungarian patriot and leader, who in the struggle for his country's freedom in 1849 was for a time successful, but ultimately had to acknowledge defeat, and fled first to Turkey and afterwards to England, where he lived for some years. He died in Turin at the age of 92, and was buried at Pesth, the occasion being made one of national demonstration.

Kotschue, A. F. F. von (1762-1819), was a popular German dramatist, many of whose plays were translated into English and performed in this country with success, amongst them "The Stranger." He was in the diplomatic service, and long resided in Russia. After a varied career, he was assassinated by a German student at Mannheim as "a betrayer of the Fatherland." He wrote nearly 300 plays.

Kropotkin, Prince Peter (b. 1842), a geographer and explorer, who after a distinguished career in Russia, his native country, was imprisoned for favouring the political action of a working men's association, but escaped to England. Since then he has written many important books on socialistic and geographical subjects.

Krugers, Paul (1824-1904), President of the Transvaal Republic from 1881-1900. Filled a conspicuous place in South African history. In the various disputes with England he showed both obstinacy and want of perception. After Majuba he altogether

underestimated Great Britain's real strength, and came to believe that in a contest with England the Transvaal would, either by itself or with assistance on which he counted, defeat Great Britain. The penalty for this mistake had to be paid. The Transvaal became a British colony along with what had before been the Orange Free State and is now the Orange River Colony. Mr. Krüger ended his days in Holland. Permission was given to transfer his remains to Pretoria and he was buried there, being accorded the honour of a public funeral.

Krupp, Alfred (1812-1887), the famous German engineer, founded the great gun factories at Essen, which are the largest in the world. By his introduction of the Bessemer plan of casting steel and the steam hammer into Germany, he brought about an important development in heavy breech-loading guns, and built up factories which employed at the time of his death 20,000 workmen, whereas the forge over which in 1848 he first obtained control at Essen was manned by but three smiths.

Kubelik, Johann (b. 1880), an Austrian violinist—the son of a market gardener at Miehle, near Prague—who from the age of twelve began to play in public, and is one of the most renowned instrumentalists of the day.

Kublai Khan (1216-1294), a famous Mogul emperor and grandson of Jenghiz Khan. He greatly extended the Mogul empire by conquest, and lived in unparalleled splendour.

Kuroki, General (b. 1845), one of the leading Japanese generals, who won much distinction in the China-Japanese War, and still more when in command of Japanese forces against Russia.

Kuropatkin, General (b. 1849), Commander of the Forces of the Czar both before and during the Russo-Japanese War. He was on the General Staff before he was made Chief of the Asiatic Bureau at St. Petersburg, and Major-General at St. Petersburg. He was Chief of Staff in the Russo-Turkish War. The failure of the Russian arms against Japan was a serious blow to his reputation, and after Mukden he was recalled.

Kuyp, Albert (1805-1891), a much esteemed Dutch landscape painter, examples of whose work are to be found in the leading European galleries.

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Lablaache, Luigi (1794-1858), a famous bass singer and actor, who for many years held a chief position in opera in the capitals of Europe, and was especially popular in London. He for some time held the position of singing tutor to Queen Victoria.

Labouchere, Rt. Hon. Henry, P.C. (b. 1831-1912), was in the diplomatic service from 1854-64. Was in Parliament in 1866, and again in 1867; then became connected with journalism; was in Paris during the Siege, and wrote the *Diary of a Besieged Resident*; subsequently joined Edmund Yates in starting *The World*, and later founded *Truth*. Represented Northampton from 1880 to 1906, and was made a Privy Councillor on his retirement. His Life was published in 1913.

La Chaise, François de (1604-1709), a Jesuit who was the favourite and Confessor of Louis XIV., and it was after him that the famous Père Lachaise cemetery in Paris was named.

Lacordaire, Jean Baptiste (1802-1861), was a leading character in the religious developments in France from 1820 onward; both as a preacher and a writer he attained great celebrity.

Lafayette, Marquis de (1757-1834), a celebrated soldier and patriot who fought on the side of the Colonists in the American War of Independence, and, afterwards returning to France, was made Commander-in-Chief of the National Guard, and during the Revolution was very active, helping later in placing Louis Philippe on the throne.

La Fontaine, Jean de (1621-1695), the celebrated French poet and fabulist. His fables have been translated into all languages, and are unique.

Lagrange, Joseph L., Comte (1735-1813), was a noted French astronomer and mathematician, who

was ennobled by Napoleon I. for his contributions to science. His work on *Analytical Mechanics* is a standard treatise.

Lalande, Joseph G. L. de (1732-1807), was a famous French astronomer and director of the Paris Observatory. He founded the Lalande yearly prize for the best astronomical work or observation and wrote a well-known treatise on astronomy.

Lamarck, Chevalier de (1744-1829). A French naturalist who devoted himself with much success to the study of zoological and botanical science. His chief work was the *Histoire Naturelle des Animaux sans Vertèbres*.

Lamartine, Alphonse (1790-1869), a French writer and statesman who was prominent in the Revolution of 1848, and was a member of the provisional government. He was an unsuccessful candidate for the Presidency in 1871 and after that took little part in political affairs. He was a prolific writer, his best known works being a *History of the Revolution of 1848* and a *History of the Girondins*.

Lamb, Charles (1775-1834), one of the most delightful of our essayists. His *Essays of Elia* are characterised by great felicity of expression, much genial humour and an ardent love both of rural life and London life. He was a clerk in the office of the East India Company for thirty-five years. In some of his writings he was assisted by his sister, Mary Lamb, to whom he was greatly devoted.

Lambert, General (1619-1692), one of the ablest of Cromwell's generals and a native of Kirkby Malham in Yorkshire. He did distinguished service at Marston Moor, Dunbar, and Worcester. At the Restoration he was ordered into exile, and spent the remainder of his life on the island of Guernsey in the peaceful occupation of gardening.

Lancaster, Joseph (1778-1838), a zealous promoter of popular education, whose system of utilising monitors was widely adopted.

Lander, Richard Lemon (1804-1834), a native of Truro, was an adventurous and promiscuous explorer, the first to trace and describe the course of the Niger. His career was cut short by a wound inflicted by natives.

Landon, Letitia Elizabeth (1792-1838), an English poetess, whose verses, written above the signature "L. E. L.," were in great favour while she lived and are still occasionally read. She died at Cape Coast Castle, where she was residing with her husband, the Governor, Mr. George Maclean, her end being occasioned by prussic acid, but whether accidentally taken or otherwise has never been fully proved.

Lander, Arnold Henry Savage (born at Florence and grandson of the poet), is an enterprising traveller and explorer. The story of his capture, imprisonment and torture in Tibet is one of the most thrilling travel-books of modern times. His *In the Forbidden Land*, *Alone with the Hermit*, *Amu*, and *Tibet and Nepal* are full of adventure and information. In 1913 published a fascinating work on travels and explorations in "unknown Brazil."

Lander, Walter Savage (1775-1864), a writer and poet of strong genius. He wrote, a fine poetic tragedy "Count Julian" in 1812, and in later life published several other volumes of poems. The work by which he is best known, however, is his "Imaginary Conversations."

Landseer, Sir Edwin (1802-1871), the most celebrated English animal painter of his time. He was elected R.A. in 1830 and knighted in 1850. Many of his pictures are well known to the public by the frequency with which they have been engraved. He designed the lions for the base of the Nelson Monument in Trafalgar Square, and was buried in St. Paul's Cathedral.

Lane, E. W. (1801-1876), an English writer to whom we owe the most popular translation of the *Arabian Nights*. He was also the author of a number of books dealing with ancient Egyptian and Arabic subjects, and was one of the most prominent Orientalists of the 19th century.

Langfranc (1005-1085), an ecclesiastic who came to England with William the Conqueror, who made him

- his chief Counsellor, Lanfranc was successively Prior of Bec, Abbot of Caen, and Archbishop of Canterbury, and rebuilt the Cathedral.
- Lang, Andrew**, (1844-1919), one of the most versatile of modern authors. A graceful writer of Society verse, a brilliant essayist, an entertaining novelist, a successful historian, an author of numerous fairy tales, and a delightful handler of folk-lore, and ancient superstitions, he covered a vast extent of literary ground. In 1907 he finished his *History of Scotland*.
- Lang, Rt. Rev. Cosmo Gordon**, D.D., Archbishop of York since 1908 (b. 1864). Educated at Glasgow University and Oxford, Fellow of All Souls', Oxford, since 1888; Vicar of Portsea, 1896-1901; Canon of St. Paul's, 1901; Bishop of Stepney, 1901-1908.
- Langhorne, Dr. John** (1735-1779), was a noted divine and writer, whose translation of *Plutarch's Lives* is still the standard English version.
- Langland, or Langley, Robert** (circa 1330-1400), author of *The Vision of Piers Plowman*, which had a remarkable influence in bringing about the Reformation. He was a Fellow of Oriel College, Oxford, but beyond that little is known of him.
- Langton, Stephen** (1157-1228), was Archbishop of Canterbury from 1213, and one of the chief instruments in forcing the Magna Carta from John. His brother, Simon Langton, who died in 1248, was also a noted ecclesiastic who sided with the barons against the King and the Pope, but attained to great influence at Court under Henry III.
- Lankester, Professor Sir Edwin Ray** (b. 1847), one of the most learned of present-day scientists, and has written innumerable books on natural history subjects. He founded in 1881 the Marine Biological Association, and was appointed Director of the Natural History Departments of the British Museum in 1898, retiring in 1906, in which year he was President of the British Association.
- Landowne, Henry, 5th Marquis of** (b. 1845), has been a prominent member of recent Conservative Governments, having served as Secretary for War from 1895 to 1900, and was Secretary for Foreign Affairs from 1900 to 1905. He was Governor-General of Canada from 1889 to 1893, and from 1898 to 1899 was Viceroy of India. He is one of the trustees of the National Gallery. Leader of the Opposition in the House of Lords after the succession of the Liberals to power in 1906.
- Lao-Tse**, one of the ancient philosophers of China, who is supposed to have flourished about 600 B.C. The work upon which his fame rests, and which forms the foundation of the Tao sect, was entitled *The Path to Virtue*.
- Laplace, Marquis de** (1749-1827), a celebrated French astronomer whose writings were of great scientific value. He is regarded as the author of the nebular hypothesis, also propounded, independently, by Kant.
- Lardner, Dionysius** (1793-1859), was for a number of years Professor of Natural Philosophy and Astronomy at University College, London, and published a *Cabinet Cyclopædia of the Arts and Sciences*, which extended to over 130 volumes.
- Lardner, Nathaniel** (1804-1908), a noted English Nonconformist divine, author of a vigorous, defence of Christianity entitled *On the Credibility of the Gospel History*. He was born and died at Hawkhurst.
- Le Rochefoucauld, F., Duc de** (1613-1680), a renowned French statesman and writer of the Louis XIV. period. His *Reflections and Moral Maxims* is a classic.
- Latimer, Hugh** (circa 1485-1555), the English Reformer, who became Bishop of Worcester under Henry VIII., but when Mary came to the throne was condemned as a heretic, and burned at the stake with Ridley "at the ditch over against Balliol College" in the city of Oxford.
- Lea, William** (1823-1843), an eminent ecclesiastic, who, after filling minor bishoprics, was made Archbishop of Canterbury in 1843. He did much to direct the policy of Charles I., and when trouble followed, he was impeached by the Long Parliament and committed to the Tower. Was tried for treason and beheaded.
- Lauderdale, Duke of** (1616-1682), the son of the first Earl of Lauderdale, was one of the famous "Cabal" Ministry, and a notable supporter of Charles II. before the Battle of Worcester, during which engagement he was taken prisoner. Later he persecuted the Covenanters, lost royal favour and died in disgrace.
- Laurier, Sir Wilfrid** (b. 1841), Premier of Canada from 1896 to 1911, and the only French-Canadian, who has held that position. An ardent Liberal Imperialist, he was instrumental in 1897 in giving the Mother Country Preferential trade with Canada. Defeated at the general election of 1911 on the Reciprocity Bill. Was a prominent figure at the Imperial Conferences of 1907 and 1911.
- Lavater, Johann Kaspar** (1742-1801), an eminent Swiss preacher, poet, and writer, whose book on physiognomy, which he endeavoured to reduce to a science, is a very remarkable production.
- Lavoisier, Antoine Laurant** (1743-1794), often called the "father of modern chemistry," was born in Paris, and was the first to establish the fact that combustion is a form of chemical action. He was a victim of the "Terror."
- Law, Rt. Hon. A. Bonar**, M.P., P.C. (b. 1858), a retired Scotch iron merchant who has been in Parliament since 1900, with short intermissions, and in 1902-5 was Parliamentary Secretary to the Board of Trade. A vigorous speaker and ardent Tariff Reformer. In Nov. 1911 succeeded Mr. Balfour as leader of the Unionist Party.
- Law, John** (1671-1729), a Scottish financier who having vainly proposed a paper currency to his own countrymen, crossed to France and succeeded in getting the French Government to take it up. Later on he projected a "Mississippi Scheme" that was taken up with avidity by French investors, but turned out a complete failure.
- Law, William** (1686-1761), author of *The Serious Call to a Devout and Holy Life*, a book which has exercised a great influence upon minds predisposed to religious work, was a native of Kingscliffe, Northampton, and a man of noted piety.
- Lawrence, Rt. Hon. Sir John Compton** (1832-1913), Judge of the High Court 1890-1912, was called to Lincoln's Inn in 1860, and represented South Lincolnshire in the Conservative interest 1880-1885, and the Stamford Division 1885-1890. He was recorder of Derby 1880-1890, and became a Justice of the King's Bench Division in the latter year.
- Lawrence, Sir Alfred Tristram** (b. 1843), Judge of the High Court, was educated at Trinity Hall, Cambridge, called to the Bar at the Middle Temple in 1869, subsequently appointed Recorder of Windsor, and in 1872 became Junior Counsel to the Admiralty. He was elevated to the Bench 1904, and received a knighthood.
- Lawrence, Lord** (1811-1879), was a younger brother of Sir Henry Lawrence (next named), the organiser of the defence of Lucknow in the Indian Mutiny. He also was highly distinguished in the Mutiny, which he did much to put down, earning for himself, by his great administrative capacity, the title of "Saviour of India." He served as Governor-General from 1863-1869 and was raised to the peerage. Was first Chairman of the London School Board. He was buried in Westminster Abbey.
- Lawrence, Sir Henry** (1805-1879), a distinguished Indian General, who after much brilliant service in the Cabul and Sutlej campaigns, and later as Chief Commissioner of the Punjab, was in prominent command at the outbreak of the Mutiny, taking charge of Lucknow, where he was one of the first to fall during the memorable siege, being fatally injured by the bursting of a shell.
- Lawrence, Sir Thomas** (1759-1830), one of the fashionable portrait painters of his day, and among the most successful in his own line of all time. Was President of the Royal Academy from 1826 to 1831, death. Knighted in 1828. Lawrence enjoyed the friendship of George IV., as Prince of Wales, and after his accession, and painted most of the

- sovereigns of Europe and many other notable personages with great charm and distinction.
- Lawson, Sir Wilfrid** (1829-1905), a popular baronet who achieved much prominence as a Liberal politician and champion of the Temperance cause. Was a witty and eloquent speaker, and a man of much personal attractiveness. He stood high amongst the leaders of the Local Option movement and was at the head of the United Kingdom Alliance for the Suppression of the Liquor Traffic.
- Layard, Sir Austin** (1817-1894), was an earnest archaeologist, who gained considerable fame by his explorations and writings upon the ruins of Nineveh and Babylon. He filled several diplomatic appointments at one time and another, and was Ambassador to Turkey when the Cession of Cyprus was concluded in 1877.
- Leader, Benjamin Williams, R.A.** (b. 1831), one of the leading British landscape painters, whose pictures are remarkable for their fidelity to Nature, beauty of treatment, and brilliant colouring.
- Lecky, Rt. Hon. W. E. Hartpole** (1838-1903), the eminent historian and member of the Order of Merit. He was in Parliament for some years, and was an opponent of Home Rule. Was made P.C. in 1897. His best-known works are *The History of Rationalism* and *The History of European Morals*.
- Lee, Nathaniel** (circa 1650-1692), an English dramatist, whose tragedies, "The Rival Queens," "Theodosius," and "Nero," were all plays of mark. He was a friend of, and on one occasion collaborated with, Dryden.
- Lee, Robert Edward** (1810-1870), was one of the ablest of the Confederate generals in the American Civil War, and Commander-in-Chief when the final surrender was made at Appomattox in 1865.
- Lee, Sir Sidney** (b. 1859), the greatest living authority on Shakespeare, and was joint editor with Sir Leslie Stephen of the *Dictionary of National Biography*, exercising undivided control over the completion of that monumental work during the last ten years of its publication. His article on King Edward VII., in a supplementary volume published in 1912 caused some sensation by a freedom of comment unusual in dealing with illustrious personages recently dead.
- Leach, John** (1817-1864), perhaps the most popular of all the *Punch* artists, whose sketches and cartoons were the life and soul of the paper for many years.
- Leibnitz, Gottfried W. von** (1646-1716), the German writer and philosopher who propounded a new system of philosophy, in which he maintained that the ultimate elements of the universe are individual centres of force or monads.
- Leicester, Robert Dudley, Earl of** (1532-1588), was the famous favourite of Queen Elizabeth, and was appointed to the command of the Land forces when the Armada threatened. He had an adventurous and chequered career, and at one time it was believed he aspired to wed the Queen. After the death of his first wife, Amy Robsart, this idea was strengthened, and gave rise to much opposition to his advancement on the part of other statesmen. His second marriage with the Countess of Essex greatly annoyed Elizabeth.
- Leichhardt, Friedrich** (b. 1823), was a native of Berlin who gained renown by his Australian explorations, more particularly in Northern Queensland. He was never heard of after April, 1848, and is supposed to have lost his life on the Cape York Peninsula.
- Leighton, Lord** (1830-1896), a successful English painter and sculptor who chiefly adhered to classical subjects and was renowned for his extreme delicacy of finish and splendour of colour. Among his more famous paintings are "Venus Disrobing," "Clytemnestra," and "The Garden of the Hesperides." He was made R.A. in 1850, and from 1878 to his death was P.R.A., being raised to the peerage only a few months before his death.
- Leighton, Robert** (1611-1684), a noted Scottish divine who was greatly revered for his piety and for a time was Bishop of Glasgow. His *Rules for a Holy Life* is a work of remarkable purity of thought.
- Leland, or Leyland, John** (circa 1560-1599), a famous English antiquary who made the tour of the Kingdom while Chaplain to Henry VIII. and thereafter wrote his well-known *Itinerary*.
- Lely, Sir Peter** (1618-1680), the famous painter to whom we owe so many of the portraits of the beauties of the Court of Charles II. now exhibited at Hampton Court. He was a German, whose proper name was Van der Faes. He came with the Prince of Orange to England in 1641, and was employed successively by Charles I., Cromwell, and Charles II.
- Lempriere, John** (1760-1824), was a Fellow of Pembroke College, Oxford, and achieved no small distinction by the compilation of a *Classical Dictionary*. He also wrote a *Universal Biography*.
- Lenham, William** (1593-1602), the Speaker of the "Long Parliament," whose refusal to answer the King's inquiry respecting the presence of the famous "Five Members," marked him as a person of strong character. At the Restoration he was a Royalist.
- Leofric, Earl of Mercia**, was a powerful Saxon noble of the 11th century, and husband of Lady Godiva. He was mainly instrumental in the election of Edward the Confessor as King.
- Leonardo da Vinci** (1452-1519), one of the greatest all-round geniuses the world has known. Famed as the painter of "The Last Supper," "The Head of Medusa," and other great works.
- Leonidas** was king of Sparta at the time of the invasion of Greece by Xerxes, 481 B.C., and led the defence of the Pass of Thermopylae, where he fell.
- Leopold I.**, King of the Belgians from 1835 to 1865, was a son of Francis, Duke of Saxe-Coburg, and uncle both of Queen Victoria and of the Prince Consort. He was a wise and enlightened ruler.
- Leopold II.** (1835-1909), King of the Belgians, son of Leopold I., whom he succeeded in 1865. Was founder and Sovereign of the Congo Free State.
- Le Sage, Alain René** (1668-1747), author of the famous stories *Gil Blas* and *Le Diable Boiteux*, also a dramatist of note. He died at Boulogne.
- Leslie, Charles Robert** (1794-1859), an eminent British painter and Academician; produced many notable pictures, including "The Play-Scene from Hamlet," "Sancha Panza and the Duchess," etc.
- Leslie, David** (d. 1682), a Scottish general who fought under Cromwell at Marston Moor, but later, went over to the Royalists. At the Restoration he was created Lord Newark.
- Lessops, Vicomte Ferdinand de** (1805-1894), an engineer of large ideas who, while Vice-Consul at Alexandria, conceived the plan of the Suez Canal, which work was completed in 1869. He afterwards projected the original Panama Canal, which failed.
- Lessing, Gotthold Ephraim** (1729-1781), a noted German critic and dramatic poet, whose most celebrated work was his "Laocoon."
- Levan, Alexander, 1st Earl of** (1580-1661), a Scottish general who won much distinction in a service of thirty years in the armies of Charles IX. and Gustavus Adolphus of Sweden. Subsequently at the head of the Wirral Covenanters, joined the standard of Charles I., distinguished himself at Marston Moor.
- Lever, Charles** (1806-1872), a novelist of force and humour, who met with great success in his depiction of Irish life and character. His *Harry Lorrequer* and *Charles O'Malley* have gone through many editions.
- Lever, Sir William Hesketh, Bart.** (b. 1851), Chairman and founder of Lever Brothers, Ltd., Port Sunlight, has for many years been prominent as a business pioneer and man of affairs, and one of the most practical exponents of the industrial partnership movement. Represented the Wirral division of Cheshire from 1906 to 1910, since the war broke out has taken an active interest in promoting recruiting and military matters generally in Cheshire and Lancashire; prevented the lease of Stafford House (now Lancaster House) to the nation for the purposes of the London Museum (p. 11). Is Grand Officer of the Belgian Order of Leopold II., and Hon. A.R.I.B.A.
- Leverrier, Urbain** (1811-1877), the French astronomer, co-discoverer with John Couch Adams of the planet Neptune.

Lewis, George Henry (1817-1878), an English writer of power and versatility, whose studies in philosophy, natural history and literature, resulted in several highly valuable works. He wrote a *History of Philosophy*, a *Life of Goethe* and *Problems of Life and Mind*. He was the first editor of the *Fortnightly Review*, and it was due to his association with George Eliot (Miss Mary Ann Evans) that she was led to write her famous novels.

Lewis, Sir George Henry (1833-1911), senior member (up to 1910, when he retired) of the firm of Lewis and Lewis, solicitors, Lily Place, who were concerned in so many celebrated cases, and represented so many famous clients, as to establish a world-wide reputation.

Lewis, Matthew Gregory (1773-1818), a writer, of London birth, who caused a great sensation in 1795 by publishing his novel, *The Monk*, a strange mixture of mystery, horror and indelicacy. It was clever, however, and made him famous. He wrote many gruesome ballads, such as "Alonzo the Brave," and was author of a number of dramas conceived in a similar vein, some of which long enjoyed popularity. He was for some years in Parliament and died at sea from yellow fever, on returning from a visit to Jamaica, where he owned property.

Liddon, Canon Henry Parry (1829-1890), one of the ablest divines of his day, whose preaching at St. Paul's from 1870 to his death was eminently distinguished and attracted large congregations. His Bampton Lectures on "The Divinity of Our Lord," delivered in 1866, gained him a front position among modern religious thinkers and exponents.

Liebig, Justus, Baron von (1803-1873), a German chemist and professor, who attained world-wide celebrity for his many discoveries in connection with applied chemistry. Among other things, he invented a famous extract of meat. He frequently visited England, where he was held in great esteem, and many of his scientific works have been translated into our language.

Lightfoot, Joseph Barber, Bishop (1826-1889), held the See of Durham from 1870 to his death, and was one of the revisers of the Authorized Version of the New Testament. He was a great Biblical scholar and commentator.

Li Hung Chang (1823-1901), an astute and enlightened Chinese statesman, who by shrewd policy rose from a humble position to be Chief Minister, and exercised almost supreme control for a number of years over the affairs of his native Empire.

Liburne, John (1618-1675), was a zealous opponent of Anglican episcopacy, and was pilloried and imprisoned for his outspoken tracts. For some years before his death he was a member of the Society of Friends. His brother, Robert Liburne (1613-1665), was an officer of the Parliamentary Army, and one of the Regicide Judges; he died in prison.

Lilly, William (1760-1841), a noted astrologer and prophetic almanac compiler, of considerable influence during the Civil War period.

Linacre, Thomas (circa 1460-1524), was an eminent doctor, and the founder of the College of Physicians. In later life he became a divine, and also published translations of Galen's works.

Lincoln, Abraham (1800-1865), was a native of Kentucky; in early life became a lawyer, and was returned to Congress in 1846 from Springfield, Illinois, and in 1861 was elected President of the United States, when he delivered his famous anti-slavery pronouncement, which led to the Civil War of 1861-1865. In 1864 he was re-elected, and in the following year was assassinated by John Wilkes Booth.

Lincolnsire, Marquess of—Charles Robert Wynn-Carrington, K.G., P.C., &c. (b. 1843), is an active supporter of Liberal measures, and Joint Hereditary Lord Great Chamberlain. From 1885-1890, Governor of N. S. Wales; 1890-1895, Lord Chamberlain; 1905-1911, President of the Board of Agriculture. Lord Privy Seal, 1911-12.

Lloyd, Jenny (1800-1871), a famous prima donna, who made a great sensation by her wonderful voice for some seasons in London and in America, from

1847 onward. She was a native of Stockholm, and as a girl had sung in the streets. She married Mr. Otto Goldschmidt, the composer, and on her retirement settled down in England.

Kindley, Lord (b. 1888), called to the Bar 1890, and for many years enjoyed a lucrative practice. In 1895 was made Justice of the Court of Common Pleas, in 1881 Lord Justice of Appeal, in 1897 Master of the Rolls, and from 1900 to 1905 was Lord of Appeal in Ordinary.

Lingard, John (1771-1851), an English scholar and priest who, for the greater part of his life, was the head of a Roman Catholic Mission at Hornby. Wrote a highly valuable *History of England* from the Roman point of view, declined a cardinalate, and was granted a Civil List pension of £200 a year.

Linnaeus, Carl von (1707-1778), a tireless Swedish doctor and scientist who became one of the most distinguished of naturalists, and the founder of modern botany. His *Sytema Naturae* was published in 1735, and other monumental works followed. He was the first to expound the true principles for defining genera and species. His published works amounted to more than 180.

Lipton, Sir Thomas J., Bart., K.C.V.O. (b. 1850), after an adventurous early career in America, started shopkeeping in his native Glasgow, and in course of a few years enlarged his operations to such an extent that he became the largest shopkeeper in the world, with establishments in every British town of importance. Is renowned for his charities, and his attempts to win the America Yachting Cup. Was knighted in 1898, and created a baronet in 1903.

Lister, Lord (1827-1912), achieved renown for his discovery of the antiseptic treatment which has accomplished so much on behalf of the science of surgery. From 1865 to 1910 he was President of the Royal Society; made a Baronet in 1881; raised to the peerage in 1897; and in 1902 was appointed one of the original members of the Order of Merit.

Liszt, Franz (1811-1886), a pianist and composer of splendid powers. As a pianist he was unequalled for many years. His best known compositions are his "Hungarian Rhapsodies."

Liverpool, Chas. Jenkinson, 1st Earl of (1770-1828), Prime Minister for nearly 15 years (1812-1817), a period which saw the French war successfully concluded and the tidings of the country over much of the troubles and unrest which followed at home. A statesman of an eminently practical turn.

Livingstone, David (1813-1873), the explorer and missionary, whose discoveries in Africa greatly advanced geographical knowledge. In 1871 considerable apprehension was felt in regard to his fate, and an expedition was sent out under H. M. Stanley, who ultimately discovered him near Lake Tanganyika. Livingstone died in 1873 in Africa, his remains being buried in Westminster Abbey.

Livy (59 B.C. A.D. 17), the distinguished Roman historian. Wrote a *History of Rome* in 142 books, 35 of which only have been preserved.

Llando, Rt. Hon. Harry Matthews, 1st Viscount (1826-1913). Conservative statesman, was at the Bar and in the House of Commons for many years, and served as Home Secretary from 1886 to 1892.

Lloyd George, Rt. Hon. D., M.P. (b. 1863), one of the most active of Liberal politicians who has represented Carnarvon since 1890. Is an effective speaker, strong and keen in debate. At the close of 1905 made President of the Board of Trade. Carried through a successful mediation between railway directors and railway employees in 1907. Chancellor of the Exchequer since 1908, and in 1909 introduced the famous Budget which was thrown out by the Lords, but passed the following year. Introduced the National Insurance Bill in 1911. In 1913 was attacked in connection with certain investments in the American Marconi Company, but the charges were declared unproved. The most arduous duties of his career have fallen to him in financing the war, in which he has shown great capacity and courage.

Locke, John (1632-1704), one of the most profound thinkers of the 17th century, and author of the remarkable *Essay on the Human Understanding*.

Lockhart, J. G. (1794-1864), a well-known writer and son-in-law of Sir Walter Scott, whose life he wrote. He was editor of the *Quarterly Review* from 1825 to 1829.

Lookyay, Sir Norman, K.C.B., F.R.S. (b. 1856), a distinguished scientist and astronomer. Elected F.R.S. in 1889, and is Director of the Solar Physics Observatory, South Kensington, and Professor of Astronomical Physics at the Royal College of Science. President of the British Association 1903-1904. Has been chief of several Government Eclipse Expeditions.

Lodge, Sir Oliver Joseph (b. 1851), Principal of Birmingham University, an inventor and scientist of note, interested in psychical research, and an advocate of compromise between science and religion. Propounded a speculative educational catechism which attracted considerable attention in 1906; published a work on *Faith and Science* in 1907. President, British Association, 1913.

London, Bishop of. (See Ingram.)

Londonberry, Chas. Stewart Vane-Tempest, 6th Marquis of (b. 1829). Conservative statesman, who has been in turn Postmaster-General, President of the Board of Education, and Lord President of the Council. A prominent figure in the Ulster anti-Home-Rule campaign 1912-14.

Long, Rt. Hon. Walter, M.P. (b. 1854). Conservative statesman, has held office successively as Parliamentary Secretary to the Local Government Board, President of the Board of Agriculture, and President of the Local Government Board.

Longfellow, H. W. (1807-1882), an American poet who produced a number of volumes of poetry of great purity of thought and beauty of language, being especially successful in tender domestic pieces. His works were almost as popular in England as in his own country.

Lorburn, Lord (b. 1846). Before being appointed to the office of Lord Chancellor in 1905 he had, as Sir R. T. Reid, filled the positions of Solicitor-General and Attorney-General, and achieved prominence at the Bar and in Parliament, representing first Hereford and then Dumfries, and acting also as Counsel to the University of Oxford. Was on the Venezuelan Boundary Arbitration Commission in 1899. Resigned the Lord Chancellorship in June 1912. In Sept., 1913, wrote a much discussed letter to the *Times* suggesting a conference on Home Rule; in 1914 was a member of the Murray-Macdonald Committee.

Lotze, Rudolph Hermann (1817-1881), a renowned German psychologist, who was Professor of Philosophy at Göttingen from 1844 to 1880, and was appointed to a similar position at Berlin shortly before his demise. He wrote much and ably on logic and metaphysics, his greatest work being his *Microcosmism*.

Loubet, Emile (b. 1838), ex-President of France, was the son of a poor farmer, studied for the law, became a successful advocate and was returned to the National Assembly in 1876. Was made Senator in 1885, filled the office of Premier in 1892, was President of the Senate in 1895, and in 1899, on the sudden death of President Faure, became President of the Republic, an exalted position which he filled with great distinction until 1906.

Louis XI. (1423-1483), has the reputation of being a monarch of extreme craftiness and strangely ruled by superstition. He was a man of great force of character, however, conducted his wars with vigour, and considerably strengthened the kingly power in France.

Louis XIV. (1638-1715) reigned over France from 1643 to his death. He was responsible for corrupting Charles II., for the persecution of the Huguenots, the repeal of the edict of Nantes, and for the war of the Spanish Succession. He was a sensual, luxury-loving king, but encouraged arts and literature.

Louis XV. (1710-1774), called the Well-Beloved. Was the most notorious of his race, and an inveterate hater of England. In the war between England and France for the possession of Canada, England was victorious, however, and Louis tried to console himself for his defeat by greater devotion to his favourites at Versailles. He left France impoverished and discontented.

Louis XVI. (1754-1793) was the apathetic and unfortunate French king who married Marie Antoinette, allowed his country to be swayed by first one statesman and then another, until at last he saw himself divested of every shred of power by the Revolutionists. How he and his Queen were subsequently imprisoned and sent to the guillotine all students of French history know.

Lover, Samuel (1797-1868), an Irish song-writer and novelist who won considerable fame. His *Handy Andy* is one of the most humorous stories of Irish life and character ever written, while many of his songs — "Molly Bawn," "The Low-Back'd Car," "Father Molloy," etc., — have a permanent place in the history of Irish minstrelsy.

Lowell, James Russell (1819-1891), an American writer and poet of singular power and humour who made his first hit with the *Biglow Papers* in 1848, and was editor of the *Atlantic Monthly* from 1857 to 1861. Was Minister to Spain, from 1877 to 1880, in which latter year he was appointed American Ambassador to London, a position which he held until 1885.

Lowther, Rt. Hon. J. W., Speaker of the House of Commons (b. 1855), was Chairman of Ways and Means from 1895 to 1905, when he was elected to his present post, M.P. for Penryn since 1886.

Loyola, Ignatius de (1491-1566), was the founder of the order of Jesuits. He was of noble birth and for a time devoted himself to arms, but after being wounded at the siege of Pampluna gave his life up to religion. After the formation of his Society he was made the First General of the Order, a position which he held for the rest of his life. Pope Gregory XV. canonised him in 1622.

Lucretius, Titus Carus (95 B.C.-52 B.C.), the Roman poet whose "De Rerum Natura" is noted for its exposition of the atomic theory of Leucippus.

Lucy, Sir Henry W. (b. 1845), a well-known journalist and author who, for a number of years, amongst other activities, as "Toby, M.P.," has wittily travestied for *Punch* the proceedings of the Legislature. He has also written numerous books of contemporary Parliamentary history and anecdote, and is the author of a clever novel entitled *Gideon Fleyce*. His *Sixty Years in the Wilderness* was published in 1909, in which year he was knighted.

Lucard, Lieut.-Col. Sir F. D. (b. 1858), has a brilliant record for services in Africa and India. Was in the Afghan War of 1879; Soudan, 1882; Burma, 1886-1887; Uganda, 1890-1892; First High Commissioner Northern Nigeria, 1900-1906; and was Governor of Hong-Kong, 1907-12; appointed Governor and Commander-in-Chief of Nigeria in 1912.

Luther, Martin (1483-1546), the great German Reformer. Was ordained a priest in 1507. Became Professor of Theology at the University of Wittenberg and until 1517 was an orthodox Roman Catholic. His first idea of revolt occurred when he saw indulgences being sold, a practice which he openly condemned. For this he was excommunicated, and summoned before the Diet at Worms, where he made a memorable defence. He then separated himself from the Roman Catholics, and began to preach the Reformed Religion, his doctrine being formulated in the confession of Augsburg. He lived to see the principles of the Reformation widely established.

Lycurgus, the Spartan legislator, who flourished about 824 B.C., and for a brief period occupied the throne, in succession to his brother Polydeutes, whose wife giving birth to a son some months after her husband's death, Lycurgus abdicated in favour of the child, and travelled abroad for many years. On his return, he found the country disorganised, and set about the work of his life, drawing up a series of laws which endured for 700 years.

Lyell, Sir Charles (1797-1875), a distinguished geologist whose researches shed great light upon geological science, and whose *Principles of Geology* placed that science on an empirical basis. Was a supporter of the Darwinian theory. Was twice President of the Geological Society, and in 1864 President of the British Association. Was knighted

in 1848, made a baronet in 1864, and was buried in Westminster Abbey.

Lyne, Hon. Sir William J., K.C.M.G. (1844-1913), native of Tasmania, settled in Queensland in 1864; from 1880 to 1887 sat for Hume (N.S.W.) and was a member of the Dibbs and Jennings Ministry; Premier 1899-1901; Minister of Trade and Customs, 1903-1904 and 1905-1907, and Treasurer, 1907. In the latter year visited the Imperial Conference.

Lyttelton, Rt. Hon. Alfred, M.P. (1857-1913), sat in Parliament for Leamington from 1895-1906, and succeeded Mr. Chamberlain as Colonial Secretary in October, 1909. As a barrister he became a K.C. and was appointed Recorder of Hereford in 1894 and Recorder of Oxford in 1895. Was M.P. for St. George's, Hanover Square, from 1910 to his death.

Lytton, Edward Bulwer, 1st Lord (1803-1873), a prominent and prolific novelist and dramatist, whose romantic stories made him famous, and included *Pelham*, *The Last Days of Pompeii*, *Ernest Maltravers*, *Harold*, and *The Caxtons*. Of his plays, "The Lady of Lyons" and "Money" still keep the stage.

I

Maartens, Maarten (b. 1858) (real name J. M. W. Van der Poorten-Schwarz), a Dutch novelist who writes in English, and is author of many stories which have attained deserved popularity, among them *The Sun of Ghosts*, *Livinghams*.

Macadam, John Loudon (1756-1836), was a Scottish engineer who invented the process of road-repairing which bears his name, and consists of covering the highway with small pieces of hard stone of small and regular size, and forming a bed of them by heavy uniform pressure. His method was widely adopted. He was made surveyor-general of the metropolitan roads, and received a Parliamentary grant, refuting a knighthood, which was, however, conferred on his son, Sir James Nicoll Macadam.

Macara, Sir C. W. Bart. (b. 1845), President of the English Federation of Master Cotton Spinners' Association, and of the Manchester Cotton Association, and a member of the Industrial Council, which he may be said to have originated. Originator of the Lifeboat Saturday movement.

Macaulay, Thomas Babington, Lord (1800-1859), the most brilliant historian of the Victorian era. His fame was assured by his *Essays* and *Lays of Ancient Rome*, and his *History* did more than confirm it. He was a son of Zachary Macaulay (1768-1838), the anti-slavery agitator, and sat in Parliament as member for Calne for some years, also serving for five years as a member of the Supreme Council of Calcutta. On his home-coming, he again entered Parliament as member for Edinburgh, and gained a new celebrity by his speeches. He at different times filled the offices of Paymaster-General and Secretary for War, and was raised to the peerage in 1857. Both Lord Macaulay and his father lie buried in Westminster Abbey.

Macbeth, according to Holinshed's *Chronicle*, was the usurping Scottish king who succeeded Duncan, whom he murdered. Macbeth was slain by Duncan's son Malcolm in 1056 after a reign of seventeen years. His history forms the subject of Shakespeare's celebrated tragedy.

MacCallum, Col. Sir H. E., G.C.M.G. (b. 1827), has filled several important diplomatic posts, including the Governorships of Newfoundland and Natal, and was appointed Governor of Ceylon 1907-14.

McCarthy, Justin (1830-1912), politician, novelist, and historian, was born in Cork, and on leaving school became connected with journalism, first in Liverpool and then in London, and from 1870 to 1896 was a prominent member of the Irish Party in Parliament, succeeding Mr. Parnell in 1890 in the leadership of the party. He is best known as a writer, however, and his *History of the United Irishmen* is at very popular work. He wrote numerous novels. Was awarded a Civil List Pension of £250 in 1903.

Macdonald, J. Ramsay, M.P. (b. 1866), sits for Leicester as Labour member; Chairman of the Independent Labour Party, 1906-9; Secretary to the Labour Party, 1909-11; Leader of the Labour Party, 1911. Editor of the *Socialist Library*.

MacKay, Charles (1814-1880), a writer of popular songs which had a great vogue as set to music and sung by Henry Russell in his entertainment descriptive of life in America, including "Cheer, boys, cheer," "To the West," "Far, far upon the Sea," and countless others. Mr. MacKay was war correspondent to *The Times* during the Civil War in the United States.

MacKay, John William (1831-1902), a Dublin Irishman who emigrated to America, went West, and in the "silver fever" of the "sixties," made tracks for Nevada, where he had the good fortune to "strike" one of the richest veins, and soon became a millionaire.

McClintock, Admiral Sir Francis (1819-1907), a well-known Arctic explorer, noted for the expeditions he took part in in search of Sir John Franklin (discovering numerous relics of his great foregoer). Later, Sir Francis filled the position of Superintendent of Portsmouth Dockyard, and was subsequently made Commander-in-Chief on the West Indian Station, being placed on the retired list in 1882.

McClure, Sir Robert (1807-1873), born at Wexford, was an Arctic explorer of note who was associated with the search for Sir John Franklin organised in 1848, and later made important discoveries along the North coast of Canada.

Macdonald, Sir Claude M. (b. 1855), British Ambassador to Japan, 1900-12; formerly Minister at Peking and commanded the Legations at the time of the siege of 1900. He was in the army before entering the Diplomatic Service, and has achieved much personal popularity in the Orient.

Macdonald, Flora (1720-1790), attracted much romantic interest by her bravery in conducting Prince "Charlie" to the Isle of Skye, when he was pursued. She afterwards married and settled in America, butting her days in Skye.

Macdonald, George (1824-1905), a novelist and poet whose stories of Scottish peasant life paved the way for a later school of workers in the same field. The best of his stories are *David Ligonrod* and *Robert Falconer*.

Macdonnell, Lord (b. 1842), spent a great part of his life in the Indian Civil Service, where he held the Chief Commissionership of the Central Provinces, afterwards serving in Bunnah; later on was Acting-Lieutenant-Governor of Bengal, and a member of the Indian Council. His last Indian post was that of Lieutenant-Governor of the North-West Province, and Chief Commissioner of Oudh; and in 1903 he was made Irish Under-Secretary, in which position he created considerable political stir by his vigorous interpretation of his duties. He retired from this post in 1905.

Macfarren, Sir George (1813-1889), was a distinguished English composer of both sacred and secular music. Among his operas may be mentioned "Don Quixote" and "The Devil's Opera." He also composed several oratorios and cantatas.

Macfarren, Prof. Walter (1820-1905), lecturer and prominent official of the Royal Academy of Music for a long period, and a composer of many sonatas, pieces, and songs of much merit.

Macchiavelli, Niccolò (1469-1527), a Florentine diplomatist and historian, whose book, *The Prince*, has maintained its celebrity through the centuries as a masterly exposition of the method of governing by artifice. He also wrote a history of Florence.

McKenna, Rt. Hon. Reginald (b. 1863), has represented North Monmouthshire since 1895. Was appointed Financial Secretary to the Treasury in 1905, and President of the Board of Education 1907 in Sir H. Campbell-Bannerman's Government and introduced the Education Bill of 1908. In 1902 became First Lord of the Admiralty, and in 1904 Home Secretary. Rowed in the Cambridge winning boat, 1887.

Mackenzie, Sir A. C., Mus. Doc. (b. 1847), 2

British composer who has been Principal of the Royal Academy of Music since 1888, and has gained fame by numerous musical compositions of a high order, including the opera of "Colomba," "The Troubadour," and "His Majesty." Among his numerous cantatas, "The Bride," "The Rose of Sharon," and "The Dream of Jubal" take high rank. Conductor Philharmonic Society.

MacKenzie, Sir Alexander (1775-1820). Born at Inverness, in early life entered the service of the Hudson Bay Company, and, succeeding in making his way from Fort Chipewyan, on Lake Athabasca, to the Northern Ocean, traced the course of the river called after him, and made very important geographical discoveries. Later on he crossed the Rocky Mountains to the Pacific near Cape Menzies, being the first white man to make the journey.

MacKenzie, Henry (1745-1831), a Scottish novelist who gained celebrity by his stories *The Man of Feeling* and *The Man of the World*.

MacKenzie, Sir Mervell (1827-1899), an eminent Scottish physician and throat specialist, and one of the founders of the Hospital for Diseases of the Throat in London. Operated on the Emperor Frederick III. of Germany when that monarch was (shortly before his accession) attacked with the cancerous ailment which proved fatal.

McKinley, William (1843-1901), the American statesman who was mainly responsible for the strong protectionist character of the American tariff laws. Became President of the United States in 1897, was re-elected in 1901, and was assassinated by an anarchist in the same year, being shot whilst attending the Buffalo Exhibition.

MacKintosh, Sir James (1765-1823), a well-known writer and politician, who from 1804 to 1812 was Recorder of Bombay, and, returning to England, entered Parliament, and at the same time occupied himself successfully in literature. His *History of England* is of considerable value.

MacKintosh, D. (1823), The son of a crofter, was apprenticed to a shoemaker, afterwards working at that trade for fourteen years. Later he served five years in the Aberdeen police force, after which he set up as a stationer and bookseller, and turned his thoughts towards the writing of history. In the course of nineteen years he wrote his *History of Civilisation in Scotland*, in four vols., a work which is highly valued. Was made honorary Doctor of Laws by the University of Aberdeen in 1888, and a Civil List pension of £50 was granted to him in 1900.

Maclean, Rt. Hon. and Most Rev. Wm. Dalrymple, D.D. (1820-1909), Archbishop of York from 1891 to 1909; educated at Cambridge; Priest, 1857; Rector of Newington, 1869-1875; Vicar of Kensington, 1875-1878; Bishop of Lichfield, 1878.

Maclean, Reid, General Sir H. Aubrey de, Military Instructor to the Sultan of Morocco for some thirty years. Represented Morocco at the Coronation of Edward VII. Captured by Raskuli in July, 1907, and not released until February, 1908, when he was ransomed. Married to Miss Prendergast, 1913.

MacLeod, Dr. Norman (1812-1879), was Chaplain to Queen Victoria from 1854. Editor of *Good Words* from 1860 to 1872, and the author of numerous books of essays, travels, and stories.

Maclean, Daniel (1805-1870), a distinguished painter and R. who produced several pictures of Shakespearean scenes of great distinction, and painted a number of frescoes in the House of Lords.

MacMahon, Marshal (1808-1893), was a French soldier (of Irish descent) who won great distinction in the Crimea, Italy, and as commander of the First Army Corps in the Franco-German War until overwhelmed at Sedan. After the fall of the Empire he recognised the French Republic, and from 1873 to 1879 was President of the Republic.

Macnamara, Rt. Hon. Dr. T. J., P.C., M.P. (b. 1831), a prominent Liberal politician, well to the fore in the House whenever education comes under discussion, as might be expected from an old teacher and the editor of *The Schoolmaster*. A capital platform speaker and zealous propagandist. Secretary to the

Local Government Board 1907-1908, and Secretary to the Admiralty since 1908.

Macpherson, James (1738-1796), a Scottish poet who gave "Ossian" to the world and thereby made himself a lasting name, though whether he was merely a translator or was the inventor of that fine series of poems is not even yet completely settled. He was buried in Westminster Abbey.

Macready, W. C. (1793-1873), a famous tragedian who was manager in turn of Covent Garden and Drury Lane Theatres in London, and was highly successful in Shakespearean and other important parts.

Maeterlinck, Maurice (b. 1860), the distinguished Belgian poet and critical writer, who during the last two decades has published numerous stories, essays, and plays remarkable for their strong spirituality and beauty of style. His principal works are *La Princesse Maleine*, *Pelidas et Melitane*, *La Sagette et la Destinée*, and *The Double Garden*.

Magee, William Connor (1821-1891), Bishop of Peterborough for twenty-three years, and Archbishop of York for a brief few weeks before his death, was a great prelate in many ways—as orator, administrator, and zealous worker.

Magellan, Ferdinand (1470-1521), a famous Portuguese navigator, and commander of the first expedition (1519) to sail round the world.

Mahan, Capt. A. T. (b. 1840), an American, and the greatest authority on naval history. His book on *The Influence of Sea Power* is a "live" discussion.

Maine, Sir Henry (1820-1888), the distinguished jurist. Was appointed Regius Professor of Civil Law at Cambridge University in 1847, and from 1852 to 1860 was Law Member of the Supreme Council of India. His works, *Early History of Institutions*, *Ancient Law*, *Popular Government*, and *International Law*, are of the highest importance.

Maitland, Mde. de (1635-1719), after being the wife of the poet Scarron, drifted into Court circles, and so to fascinated Louis XIV. that he ultimately married her. At his death she retired to a convent.

Maitland, William (1827-1873), was one of the Scottish Protestant leaders, whose aim was to bring about the union of England and Scotland. His adherence to the cause of Mary Queen of Scots, whose secretary he became, got him into trouble with the Regent Moray. He was captured at the surrender of Edinburgh Castle to the English, and died in prison.

Mailbrad, Maria (1808-1856), was one of the most famous operatic singers of her time, enjoying a world-wide reputation.

Mallock, William H. (b. 1849), was educated at Oxford, and after an extensive course of travel made his mark by a series of clever books in which the leading social and philosophical questions of the time were brilliantly discussed. *The New Republic*, *Is Life Worth Living?* and *The New Paul and Virginia* were much talked about. He is also the author of several novels, including *A Human Document*, *A Romance of the Nineteenth Century*, and *An Immortal Soul*.

Malory, Sir Thomas (circa 1450-1470), compiled the *Morte d'Arthur*, which was printed by Caxton in 1485, and relates the story of King Arthur and the Knights of the Round Table.

Malthus, Thomas R. (1766-1824), was an English clergyman and political economist, who in his essay on *The Principle of Population* proposed to limit the increase of population by discouraging marriage and otherwise. This doctrine, to which the name of Malthusianism is now always applied, raised a great storm of dissent, and was largely misconstrued or misunderstood. Malthus was Professor of History and Political Economy at Haileybury College for the last thirty years of his life.

Manderham, Bishop of. (See Knox.)

Manderley, Sir John (circa 1800-1870), *The Voyages and Travels of Sir John Manderley*, the first book of travels published in England, and probably fuller of romance than reality, was the work of this worthy, who described himself as of St. Athens.

Manning, Henry Edward, Cardinal (1808-

1808), Cardinal Archbishop of Westminster, was a prominent Anglican Churchman up to 1851, when he joined the Church of Rome and in 1865 succeeded Cardinal Wiseman at Westminster. He was a man of devout and noble life, an advocate of temperance, and of all measures calculated to benefit the poor.

Manna, Sir August (1825-1907), was born in Germany and attained eminence as a musician and conductor in Berlin and elsewhere, and in 1855 came to England and became Musical Director of the Crystal Palace, a position which he held with distinction for forty-five years. He was knighted in 1903.

Manuel, Henry Longueville (1820-1891), was a noted scholar and Anglican divine, occupying the positions of Professor of Moral Philosophy and Regius Professor of Ecclesiastical History at Oxford. He was also Dean of St. Paul's and the author of several works on logic and religion.

Marat, Jean Paul (1744-1793), one of the leading actors in the French Reign of Terror. Lived in England some years before the Revolution, and practised as a doctor, but, returning to France, joined the Revolutionists and became one of their most ferocious champions. Killed by Charlotte Corday.

Marchamley, George Whitely, Baron (b. 1853), was P. P. for Liverpool 1893-1900, and for the Finsbury D.P., for 1900-8. Parliamentary Secretary to the Treasury and Chief Liberal Whip 1905-8. Made a Privy Councillor 1907, and raised to the peerage as Lord Marchamley, 1908.

Marco Polo (1254-1324), the famous Venetian traveller and explorer, who made journeys through China, India, and other eastern countries, and published the record of his various wanderings, recounting the many wonders and marvels he had seen—a record which seemed for the most part beyond credence to his contemporaries, but now largely confirmed.

Marconi, G. (b. 1874), an ingenious Italian electrician who was educated at Leghorn and Bologna. Coming to England, he studied with Professor Preece, and in 1895 brought forward an apparatus by which he succeeded in sending wireless messages. In 1902 succeeded in transmitting trans-oceanic messages, and to-day his system is being adopted in all parts of the world. Established a public wireless telegraph service across the Atlantic in 1907. Awarded Nobel Prize for Physics, 1909. Entered into an important contract with the British Government in 1912 for establishing wireless stations at different points throughout the Empire—a contract which was revised considerably in the following year after the sittings of the Marconi Committee of Inquiry. Lost the sight of an eye in a motor accident in 1912.

Margaret, "The Maid of Norway," as she was called, was the daughter of Erik II., King of Norway, and became direct heir to the Scottish throne on the death of her grandfather, Alexander III. of Scotland, but died on her way to Scotland.

Margaret of Anjou (1420-1482), the wife of Henry VI., was the daughter of the King of Sicily, and in the Wars of the Roses was in long conflict with the Duke of York and his adherents. She was captured by the Yorkists after the Battle of Tewkesbury, but ransomed by Louis XI., and allowed to retire to the Continent.

Margaret, St. (1047-1093), wife of Malcolm Canmore, and Queen of Scotland. She was a devout Christian, and zealous in her efforts to convert her husband's people, her good deeds being held in such profound remembrance that she was canonised in 1225.

Maria Louisa (1797-1847), daughter of Francis I. of Austria, became wife of Napoleon in 1810, and bore him a son. (See **Napoleon II.**) On her husband's expatriation she returned to Vienna, and ended up a not very discreet career by marrying Count Niepperg.

Maria Theresa (1717-1780) was a woman of remarkable strength of character and ability, and succeeded her father, Charles VI., as Empress of Germany. Her right to the throne was contested, and gave rise to the famous war of the Austrian Succession, in which she was aided by England, and which lasted seven years, being ended by the Treaty of Aix-la-Chapelle on October 7th, 1748. She displayed great vigour as a ruler.

Maria Antoinette (1755-1793) was daughter of the Emperor Francis I. of Austria, and became wife of Louis XVI. of France. She entered with spirit into the gaiety of French Court life, and drew down upon herself much popular hatred in consequence. In the terrible events which followed the outbreak of the Revolution she was one of the chief sufferers, but bore her fate with dignity and resignation, and met her death on the scaffold with unflinching courage.

Marius Celsus (B.C. 155-86) was one of the most distinguished Roman generals, a tribune of the people, praetor, and six times Consul. He was Pro-prietor of Spain in 114 B.C.

Mark Antony. (See **Antony**.)

Markham, Sir Clements (b. 1830), President of the Royal Geographical Society, and one of the most eminent of modern explorers. He served in the Arctic Expedition of 1850-1857, and was geographer to the Abyssinian Expedition in 1867. He was the introducer of the quinine yielding Cinchona Tree from Peru to British India.

Marlborough, Duke of (1650-1722), the celebrated English general of the Queen Anne and William III. period. Under Charles II. he had won much commendation and a peerage for his military services, and William III. rewarded him with an earldom, but it was not until the War of the Spanish Succession that he attained his full opportunity. In that war he scored a series of splendid victories at Blenheim, Ramillies, Malplaquet, etc., and was the most renowned general in Europe. He was made Duke of Marlborough, had the estate of Woodstock and a perpetual pension of £5,000 a year conferred upon him, and the Queen built him Blenheim Palace. In his later years he lost much of his popularity. George I. however, restored him to the office of Commander-in-Chief, and on his death he was buried in Westminster Abbey. His wife, Sarah Jennings, Duchess of Marlborough (1666-1744), was the imperious and avaricious lady who dominated Queen Anne until supplanted by the pliant sovereign's later favourite, Mrs. Masham.

Marlowe, Christopher (1563-1593), one of the greatest of the Elizabethan dramatists. His principal plays are "Dr. Faustus," "Tamburlaine the Great," "Edward II.," and "The Jew of Malta." He was killed in a tavern brawl at Deptford.

Marmont, Marshal (1774-1859) was one of Napoleon's most famous generals, being made Duke of Ragusa for his distinguished services. After Napoleon's fall, he joined the Bourbons.

Maronetti, Baron Carlo (1805-1868), an Italian sculptor who lived in England for many years and produced numerous statues, including one of Queen Victoria for Glasgow, one of Lord Clyde for London, and the colossal statue of Richard I. now standing in front of the House of Lords.

Maryat, Captain Frederick (1792-1848), an exceedingly popular writer of sea stories. His *Peter Simple*, *The King's Own*, *Jacks Fairhead*, and *Midshipman Easy* are among the breeziest and most humorous sea tales in the language.

Marryat, Florence (1837-1899), a writer of many novels of considerable popularity, among them *Open Sesame* and *Written in Fire*. She edited *London Society* for four years, and was the author of a life of her father, Capt. Frederick Marryat.

Martial (43-104) was born at Bilbilis in Spain, but spent the greater part of his life in Rome, where he acquired much fame as a poet and epigrammatist.

Martin, St. (316-400), a French monk who founded the convent of Poitiers, and later was made Bishop of Tours.

Martin, Sir Theodore (1816-1900). Although he was for many years a practising solicitor and Parliamentary agent, the best part of his life was identified conspicuously with literature. His "Bon Gaultier Ballads" and numerous translations from Goethe, Dante, Heine, Schiller and others testify to his graceful poetic faculty. He also wrote lives of the Prince Consort, Princess Alice, Princess Ayrton, and Lord Lyndhurst. Several plays stand besides to his credit. His wife was Helen Faucit, a celebrated actress.

Martineau, Dr. James (1783-1850), the most prominent Unitarian minister of his time, and a writer of great power. From 1788 to 1810 he was Principal of Manchester New College, and during that period wrote the greater part of his remarkable essays, all of which were of a profoundly spiritual character, and possessed much literary charm. He was a brother of Harriet Martineau.

Martineau, Harriet (1780-1856), was a writer of great power and noble purpose. Some of her novels are still read, and her *Tales of the Poor* excited much sympathy at the time of their appearance. She was also the author of *Illustrations of Political Economy*. For many years she resided at Ambleside, in the Lake District.

Martyn, Henry (1761-1818), a missionary who devoted himself so actively to his work in India and Persia that he died worn out at the early age of 57. He translated parts of the Scripture and Prayer Book into the Persian and Hindustani languages.

Marvell, Andrew (1620-1678), poet and diplomatist, friend of Milton, assistant Latin secretary to Cromwell, and for a time represented Hull, his native town, in Parliament. His poems are characterised by much quaintness of thought, vigour, and satirical point. He was styled "the incorruptible patriot," because of his sturdy refusal of a large monetary offer made to him on behalf of King Charles II. when he was in indigent circumstances.

Mart, Karl (1818-1883), an active Socialist, who was expelled from France, and from 1845 lived mainly in England, where he identified himself with the cause of the labouring classes and was a most earnest worker. His work *Das Kapital*, is a powerful fragment, only one volume being published.

Mary of Modena (1658-1718), was the second wife of James II., and mother of the "Old Pretender," James Francis Edward Stuart.

Mary I. (1516-1558), daughter of Henry VIII. Was Queen of England from 1553 to her death. She was a strenuous Roman Catholic, and entirely reversed the religious order of things during her brief reign, persecuting, imprisoning, and burning at the stake many of the Protestant reformers, nearly three hundred persons being put to death during her short reign as heretic. She was married to Philip of Spain in 1554.

Mary II. (1662-1694), daughter of James II. Came to the English throne in 1689, having been married to her cousin, William of Orange, fifteen months previously. They reigned jointly, after assenting to the "Declaration of Rights," until her demise.

Mary, Queen of Scots (1542-1587), was a daughter of James V. of Scotland, and was married to the Dauphin of France at sixteen years of age, and lived at the French Court. On the death of her husband in 1560 she returned to Scotland, and for a time was the acknowledged Queen of the Scots. In 1565 she married Lord Darnley, and thenceforward from one cause and another her entanglements increased.

Jalous of Rizzio, the Queen's Italian secretary, Darnley had his throat cut in Holyrood Palace, in the presence of the Queen, and twelve months later Darnley himself was murdered by Bothwell, who married Mary three months afterwards. The Scottish nobles, angered by these various acts, rebelled against Mary, and she was made prisoner and confined in Loch Leven Castle, compelled to abandon Bothwell and to sign an Act of Abdication in favour of her son. Escaping to England, she sought the protection of Elizabeth, but that monarch refused to give her her freedom, and imprisoned her for the next nineteen years in various castles, and ultimately had her beheaded on a charge of conspiracy. She was buried in Peterborough Cathedral, but after her son James I. of England ascended the throne her remains were removed to Westminster Abbey.

Mascagni, Pietro (b. 1858), the Italian composer, attained sudden celebrity by his "Cavalleria Rusticana" in 1890, and has since produced a number of operas of a more ambitious character, but perhaps not up to the level of his first effort.

Masena, Duc de Rivoli (1758-1817), was of humble birth, but entered the army of the French

Republic, and made such headway that he was quickly promoted to the position of General of Division. His successes in battle made him a favourite with Napoleon. Later he joined the Bourbons.

Massingham, H. W. (b. 1850), editor of *The Nation* since its start in 1907, and a Liberal journalist of mark and influence. Has edited the *Siar* and the *Daily Chronicle*, and was for some years special Parliamentary representative of the *Daily News*, in which capacity he rendered valuable party service. Mr. Massingham is also a dramatic critic of power and insight.

Massinger, Philip (1583-1640), a dramatist of exceptional power, whose plays were highly popular in his day and later, and some of which are still occasionally performed. His cleverest play was "A New Way to Pay Old Debts," the Sir Charles Overreach of that piece being a fine bit of characterisation, in which nearly all our great actors have appeared.

Masterman, Rt. Hon. C. (b. 1853), M.P. for S.W. Bethnal Green 1911-14. Financial Secretary to the Treasury 1914-15, and Chancellor of the Duchy of Lancaster, 1914. Was defeated at Bethnal Green on seeking re-election, and also later at Ipswich. Was Parliamentary Secretary of the Local Government Board 1908-1909, and Under Secretary for the Home Department, 1909-12.

Mathew, Theobald (1790-1856), popularly known as "Father Mathew," was a native of Tipperary, and, leaving the priesthood, devoted himself to temperance mission work. The Government gave him a pension of £300 a year.

Mathews, Charles (1776-1835), was a talented comedian and entertainer who was in high favour with the public for many years, appearing at the leading London theatres and giving an entertainment, "Mathews at Home," with unbounded success.

Mathews, Charles J. (1803-1878), the son of the last named, and also a clever actor and dramatist of some ability. He married, first Madame Vestris the famous operatic artiste who was his manager, and after her death Miss Davenport, an American actress.

Matys, Quintin (1460-1530), a distinguished Flemish painter who was originally a musician. He excelled in Scriptural subjects. His "St. John the Baptist" and "St. John the Evangelist" are in Antwerp Cathedral. Windsor Castle has his "Two Misers."

Maurice, Frederick Denison (1805-1873), a leader of religious thought and social reform, his *Theological Essays* being characterised by ideas then regarded as very advanced. Held the Chair of Moral Philosophy at Cambridge in 1866.

Mawson, Douglas (b. 1882), commander of the Australian Antarctic expedition of 1911; previously of the Shackleton expedition. His party endured terrible sufferings in 1912; all died except himself. In 1913 he succeeded in establishing a scientific station on the Macquarie Islands with wireless telegraph installation, in connection with the Antarctic continent.

Maxim, Sir Hiram (b. 1840, in Maine, U.S.A.), is the inventor of the famous automatic quick-firing gun, which bears his name. He is a mathematician and scientist of great ability, and has invented apparatus in connection with aerial flight.

Maxwell, James Clerk (1831-1879), the eminent scientist and mathematician, was born at Edinburgh and educated at Edinburgh University and at Cambridge. As a writer on heat, light, electricity, and kindred subjects he displayed rare gifts.

May, Phil (1864-1923), one of the ablest of modern cartoon artists in black and white, a native of Leeds, and in his later years on the staff of *Punch*. His pictures of every-day life—especially of London—were full of character and humour.

Mazarin, Jules (1602-1661), an Italian Cardinal who became chief Minister of State under Louis XIV., and was for a number of years the practical ruler of France. He succeeded Richelieu.

Mayappa (1844-1909), the name of Byron's poem, was a real personage, and a Pole, and was tied naked on the back of a wild horse, and so sent out across the Russian desert, for an intrigue with a noble's wife. He was liberated by Cossacks and afterwards attained an honourable position.

Mazzini, Giuseppe (1805-1872), an Italian patriot, who, in his endeavours to secure the independence of Italy, incurred the disfavour of the authorities, and was compelled to leave the country. He started a newspaper called *Young Italy*, at Marseille, and in 1831 came to London, and kept up his attacks upon existing governments. In 1848 he was back in Rome, and was elected dictator of the Roman Republic. He was not allowed to hold this position long, however, for the French occupied Rome and Mazzini was driven to England again. The unification of Italy was accomplished in other ways than those advocated by Mazzini, but he lived to see Victor Emmanuel King of United Italy.

Mellon, J. L. (1813-1891), one of the most eminent of French modern painters, whose "Visit to the Burgomaster" (in the Wallace Collection), "Le Rire" (presented by Napoleon III. to the English Court, and now hanging in Buckingham Palace), and his "1814" (Napoleon's return from Moscow), are among his best known pictures.

Melancthon, Philip (1495-1560), Mend and co-worker with Luther. A man of great scholarship who drew up the famous Augsburg Confession. More moderate in his views than Luther, he survived his friend fourteen years and was of material help in solidifying the Reformation.

Melba, Madame (b. 1866), the celebrated *prima donna*, was born in Melbourne—her father being a Scotsman named Mitchell, and her mother of Spanish descent—and made her debut in 1887 at Brussels in Verdi's "Rigoletto"; since which time her career has been one of unbroken success.

Melbourne, Viscount (1779-1848), Queen Victoria's first Premier, holding office over six years, and identified with many important liberal measures.

Mendelssohn-Bartholdy, Felix (1805-1847), the celebrated German composer, whose works are of delicate spiritual, full of melodic beauty, and in the highest sense artistic. He was the grandson of Moses Mendelssohn, the philosopher, whose writings gained for him the title of "the Socrates of the Jews," and who died in Berlin in 1786. The younger Mendelssohn was Director of Concerts in Leipzig for a time, lived in Italy several years, and was a frequent visitor to England. His two quartets, "St. Paul" and "Elijah," are magnificent compositions, and he conducted the latter upon its production at Exeter Hall in London a few months before his death.

Menelek II. (b. 1869), Emperor of Abyssinia, succeeded to the throne in 1889, and proved a vigorous ruler. Is a G.C.B. and G.M.G.

Mercator, Gerhard (1512-1594), was the famous Flemish geographer who invented a celestial and a terrestrial globe, by which he introduced his famous projection, in which meridians and parallels of latitude cross each other at right angles, both being indicated by straight lines. This projection had the effect of greatly simplifying steering by compass.

Meredith, George (1828-1891), the most artistic of modern English novelists, and a poet of much originality. In 1859 he published his *Credal of Richard Feverel*, which was a brilliant and successful effort. Among his other great novels are *Evans Harrington*, *Rhoda Fleming*, *Bauchamp's Career*, *The Egoist*, *Diana of the Crossways*, and *The Amazing Marriage*. The literary and philosophical qualities are strong in all that Mr. Meredith has written. He was a member of the Order of merit.

Merry Del Val, Cardinal (b. London, 1865), Pontifical Secretary of State, was educated in England during the time that his father was secretary to the Spanish Embassy in London. Has strong ultramontane leanings and exercises great influence upon the papal policy.

Mesmer, Friedrich Anton (1734-1815), was a German doctor who founded the system of mesmerism or animal magnetism, for which he claimed such curative power that he ultimately became to be regarded as a charlatan. He lived in England for a time, but finally retired to Germany, and died there in obscurity. Mesmerism, however, was undoubtedly the father of hypnotism.

Metternich, Prince von (1773-1859), a celebrated Austrian statesman and diplomatist, who for many years managed to have guided the policy of his country. He was a powerful factor in the later career of Napoleon, its one true swarder, the arrangement for his marriage with Maria Louisa at another bringing all his influence to bear upon the combination which finally crushed the Emperor. During the commotion of 1848 he resided in England.

Meyerbeer, Giacomo (1794-1864), was born in Germany, but spent most of his life in Paris, where he produced all his great operas, which include "Robert le Diable," "Les Huguenots," "Le Prophète," and several others.

Michael Angelo Buonarroti (1474-1564), the renowned Italian painter, sculptor and architect, whose genius was such a power in beautifying the churches of Rome and Florence. Was the last and in some respects the greatest of the Italian sculptors; while his large paintings, particularly "The Last Judgment," executed for the Sistine Chapel, are no less famous.

Michel, Louise (1830-1905), a French teacher who took a very active part in the Communal rising in Paris in 1870, and was transported for life, but, being released in 1880, recommenced anarchical agitation, and was more than once thrown into prison. Refusing to accept a pardon in 1885, she took up her residence in London and continued from thence to disseminate inflammatory literature.

Michalet, Jules (1798-1874), a noted French historian and author, who, in addition to writing numerous popular general histories and one monumental sixteen-volume work on the annals of his native land, produced some remarkably clever studies of natural history and natural phenomena.

Mildon, Viscount (b. 1820), better known as the Rt. Hon. St. John Brodrick, entered Parliament in 1880, and became a prominent member of the Conservative party, being made Financial Secretary to the War Office in 1886, Under-Secretary for War in 1895, Secretary for War in 1900, and Secretary for India in 1903. He was M.P. for the Guildford Division from 1880 to 1905, when in the Liberal reaction he lost his seat. Succeeded his father as the 9th Viscount in April, 1907.

Mill, James (1773-1836), was the author of a *History of British India* and a frequent contributor to the principal reviews, his studies being chiefly concerned with political economy.

Mill, John Stuart (1806-1873), son of the last-named, achieved high reputation by his numerous works on philosophical questions, and wrote, amongst other books, *Principles of Political Economy*, *Essay on Liberty*, *Utilitarianism*, and *England and Ireland*.

Millais, Sir John Everett (1829-1896), was at one time the most prominent of the English pre-Raphaelite School of Painters, but soon cast himself free from its mannerisms, and began the production of a long series of famous pictures, becoming the most popular artist of his day. His paintings were amongst the most sought after in the Royal Academy Exhibition through a long period, and he did some very excellent black and white work in illustration of Trollope's novels, Tennyson's poems, and in many other directions. Was made R.A. in 1869. Among his numerous works we have only room to mention "The Eve of St. Agnes," "Autumn Leaves," "The Order of Release," "Effie Deane," "Chill-October" and "Bubbles," the last picture being purchased by Messrs. A. and F. Peart, who accorded it the honour of the highest artistic reproduction that the skill of the poster-printer was capable of, and spread it over the world, with the approbation of the painter. Created a baronet in 1885, and made President of the Royal Academy a few months before his death.

Miller, Hugh (1808-1896), the famous geologist who in his youth was a quarry-worker, but became editor of *The Witness*, a Church organ, in 1840. After that he published his *Old Red Sandstone*, *Footprints of the Creator*, and *The Testimony of the Rocks*. His brain gave way through overwork in 1896, and he committed suicide near Edinburgh.



Bubbles
by Sir John E. Millais Bart. P.R.A.

Millet, Jean François (1814-1875), one of the greatest of French painters of pastoral subjects; his celebrated work "The Angelus" is universally known by his numerous reproductions.

Milman, Henry Hart (1795-1860), Dean of St. Paul's from 1842 to his death, was the author of several volumes of poems, of a *History of the Jews* and a *History of Latin Christianity*, all of which are highly esteemed.

Milner, Viscount, (b. 1854), was educated at Oxford and drifted into journalism, being for some time on the staff of the *Pall Mall Gazette*. Was private secretary to Mr. Goschen (afterwards Lord Goschen) from 1887 to 1889. Under-Secretary for Finance in Egypt, 1889-1897, and Chairman of the Board of Inland Revenue 1897-1899; after which he was appointed Governor of Cape Colony, and created High Commissioner for South Africa in 1897. Was raised to the peerage in 1901, and advanced to a viscount the year following; published *The Nation and the Empire*, 1913. A Life of Lord Milner issued 1913.

Miltiades (d. 489 B.C.), one of the leaders of the Athenian army against the Persians at Marathon.

Milton, John (1608-1674), England's chief epic poet, whose "Paradise Lost" is the greatest poem of the kind in the later ages. Was Latin Secretary to the Commonwealth by Cromwell after the execution of Charles; and wrote numerous historical, political, and devotional works in addition to his poems. In 1652 he became totally blind, and at his death was buried in St. Giles's Church, Cripple-gate, London, a monument being erected to his memory in Westminster Abbey.

Minio, Gilbert, 4th Earl of (1847-1914) K.G., Viceroy of India from the retirement of Lord Curzon of Kedleston in 1905 to 1910; had previously served with success for six years as Governor-General of Canada. He was an ensign in the Scots Guards at twenty years old, and saw some soldiering thereafter in Turkey, Afghanistan, South Africa and Egypt, while he was also Chief of Staff in the N.W. Canadian Rebellion of 1885.

Mirabeau, Gabriel, Comte de (1749-1791), one of the prominent figures of the French Revolution, and a famous orator. Had he lived a few years longer he might have been strong enough to prevent some of the later excesses of the Revolution.

Mitford, Mary Russell (1787-1855), made a name for herself by her sketches of rural life entitled *Our Village*, a book which achieved immense popularity. She was also the author of several novels and some tragedies, which were acted, but did not prove any great success.

Mithridates (circa 132-63 B.C.), was King of Pontus from 120-63 B.C., and showed great capacity as a commander, conquering a great part of Asia Minor and Greece, and throwing himself into conflict with Rome itself. He was ultimately defeated by Pompey, and three years later committed suicide.

Modjeska, Madame Helena (1844-1908), a Polish actress of the highest ability, whose first appearance in English tragedy took place at San Francisco in 1867. She afterwards appeared in Shakespearean and other exacting parts in London and many other places, both in Europe and America. Educated in a convent at Cracow, her maiden name was Opiko, and she married her guardian, G. V. Modjeska, when but seventeen years old. In 1864 she was married a second time, becoming the wife of Count Chlapowski, and resided mainly in California.

Moffat, Robert (1795-1883), one of the most famous missionaries of the 19th century, whose work was chiefly confined to South Africa, where he laboured for many years with untiring zeal. He was the author of several books, and father-in-law of Dr. Livingstone.

Mohammed (570-632), the founder of the Mohammedan religion, fled from Mecca to Medina in 622, from which date the Mohammedan era opens. By his constant preaching and proclaiming of the one god he gathered around him a vast number of followers and was able to return to Mecca eight years later, an acknowledged conqueror. His world-famous "Koran"—though presented by him

as an original revelation from the Angel Gabriel—may be traced to Biblical and rabbinical sources in the main.

Mohammed V. (b. 1844), Sultan of Turkey, 3rd son of Sultan Abd-ul-Medjid, succeeded his elder brother, Abd-ul-Hamid II, in 1909.

Molière, Jean B. (1622-1673), the greatest of French comic dramatists, who, from being a poor strolling player, became the leading dramatist of his time. His greatest comedies are "Le Tartuffe," "Le Misanthrope," "Le Malade Imaginaire," and "Le Médecin malgré lui."

Moltke, Field-Marshal Count Helmuth von (1800-1891), was the reorganiser of the Prussian Army before the Franco-German war, and Chief of the Staff in that war and its great guiding genius.

Monnman, Theodor (1817-1902), was a native of Schleswig, and while living in exile at Zürich—his advanced opinions having made him objectionable to his own Government—he wrote his famous *History of Rome*, a truly monumental work, exhaustive, accurate, and powerful.

Mond, Sir Alfred, Bart. (b. 1868), managing director of Brunner, Mond and Co., and prominently associated with other industrial enterprises. M.P. for Chester, 1904-10, and since 1910 for Swansea. Is proprietor of *The English Review* and one of the proprietors of the *Westminster Gazette*. An active Liberal and Free Trader.

Monk, General George, Duke of Albemarle (1668-1750), was one of the most prominent men of the Cromwellian and Restoration periods of English history. Attached to the Royalists at the outset, he afterwards went over to the Parliamentary Party, and was entrusted with the command of the army in Scotland. At Cromwell's death he again became a Royalist and took an active part in bringing about the Restoration of Charles II., convoking a Parliament and accepting the post of General of the Forces. Charles gave him a dukedom.

Monmouth, James Duke of (1649-1685), a natural son of Charles II. Headed a rebellion against James II., but being unsuccessful at Sedgemoor was captured and subsequently executed.

Montagu, Lady Mary Wortley (1689-1762), was a strong-minded woman of literary tastes, who as the wife of Edward Wortley Montagu, Ambassador at Constantinople, had opportunities of studying Turkish life and customs, which she afterwards turned to good account in her well-known series of *Turkish Letters*, which gained her the friendship of Addison and Pope, and made her a celebrity.

Montaigne, M. de (1533-1592), a French essayist of world-wide celebrity, whose essays have been translated into every language; they are perfect in their beauty of style and felicity of expression.

Montalembert, Comte de (1820-1870), a French writer and politician who attracted much attention in 1845 by his violent opposition to Louis Napoleon. He was the author of the *Life of Elizabeth of Hungary* and several other important books.

Montcalm, General (1712-1759), commander of the French Army in Canada in the final struggle for the possession of Canada between the French and English in 1756-1759, managing his forces with great skill and gallantry at Oswego, Ticonderoga, and Quebec, suffering final overthrow and death on the plains of Abraham when Wolfe, who was himself killed, won the victory which gave Canada to England.

Montefiore, Sir Moses (1784-1885), a Jewish financier and philanthropist who devoted most of his long life to movements for the amelioration of the condition of his poorer Jewish brethren, and gave large sums. He was made a baronet in 1846.

Montespan, Marchioness de (1641-1707), was one of the favourites of Louis XIV., and from 1674 to 1679 held the chief place in the rather unstable affections of that monarch.

Montesquieu, Baron de (1689-1755), a famous French philosopher and author, whose book on the *Spirit of Laws* made a great impression, and whose *Persian Letters* was a brilliant if somewhat indelicate satire on the customs of the people of his day.

Montezuma (1466-1500) was Emperor of Mexico when Cortes invaded that country. He had lived in great state and magnificence and was accounted a wise ruler, but the conquering Spaniards made a prisoner of him, and he died from a wound received while being rescued from captivity.

Montfort, Simon de, Earl of Leicester (1216-1257), was a powerful baron, with liberal views, and a hatred of kingly tyranny. It was his bold action that forced Henry III., his brother-in-law, to grant the first English Parliament. He met his death at the Battle of Evesham.

Montgolfier, Joseph Michael and Jacques Etienne, two French brothers who, during the last twenty years of the 18th century, demonstrated the practicability of a balloon inflated by heated air, making many ascents, and may be said to be the fathers of modern aeronautics.

Montgomery, James (1771-1854), an English poet whose works were of a highly devotional spirit. His best-known poems are "The Wanderer of Switzerland" and "The West Indian."

Montrose, James Graham, Marquis of (1612-1650), devoted himself to the cause of Charles I. and gained some notable victories, but after the King's surrender lived abroad for a time. In 1650 he invaded Scotland on behalf of the Stuarts, but was defeated, captured, and put to death at Edinburgh.

Moody, Dwight L. (1837-1890), the American revivalist preacher, associated for many years in mission work on both sides of the Atlantic with Ira D. Sankey, the "American Singing Pilgrim."

Moore, Sir John (1761-1809), a British general who served in Holland, Egypt, and in the Peninsula, where he found himself hedged in between two great French armies, led by Napoleon and Soult, and effected one of the finest retreats recorded in history, reaching Corunna successfully. Soult came up just as the British forces were about to embark and a desperate battle ensued. Soult being forced back while the British troops safely took ship. It was a victory, however, that was dearly paid for, Sir John Moore himself being slain.

Moore, Thomas (1779-1852), Ireland's greatest poet, the author of "Irish Melodies," "Lalla Rookh," "The Epicurean," and many other works. He enjoyed immense popularity both in England and Ireland. Was the friend and biographer of Lord Byron.

More, Hannah (1745-1823), was the authoress of many stories and essays, mostly of a religious character, but highly successful. She is said to have earned £30,000 by her writings.

More, Sir Thomas (1480-1535), succeeded Wolsey as Lord Chancellor under Henry VIII., but fell into disgrace by refusing to take the oath of Supremacy, and was ultimately executed. His *Utopia* is one of the world's noted books, describing an imaginary country, ruled on ideal principles.

Morgan, J. Pierpont (1837-1917), one of the great financiers of the world, with banking concerns in New York and London. Among the gigantic undertakings which he controlled were the Steel Trust, the Atlantic Steamship Combine, and others of nearly equal magnitude. He bought many famous pictures (including Gainsborough's "Duchess of Devonshire"), and was a devoted Churchman and a man of noble charity. The catalogue of his works of art, privately issued in 1906, is one of the costliest and most beautiful books ever printed.

Morland, George (1763-1804), a painter whose pictures of English rural life were remarkable for their fidelity and breadth of treatment, and are much valued. He was a wayward genius who entered fully into the spirit of the rollicking scenes of the country alehouse and village pastimes, and, in spite of much fine achievement, wasted what might have been a great artistic career.

Morley, Viscount, of Blackbury, Lord President of the Council since 1910; Secretary for India from 1905 to 1910, when he resigned (b. 1859), author and statesman. He edited the *Morning Star* from 1879 to 1883, edited the *Fortnightly Review*, was editor of the *Pall Mall Gazette* 1880-1883,

and in the last-named year entered Parliament, and was at once appointed Chief Secretary for Ireland with a seat in the Cabinet. His chief, Mr. Gladstone, was defeated in 1886, but returned to power in 1892, when Lord Morley again accepted the Irish Secretaryship. After 1892 he and his party remained out of office, but the political loss was the public's gain. He was appointed a member of the Order of Merit in 1902, and in 1903 his *Life of Gladstone* was the chief book of the year. His other works include monographs on Voltaire (1873), Rousseau (1873), Diderot and the Encyclopædists (1878), Burke (1879), Walpole (1888), Cromwell (1900), and *The Life of Cobden* (1881). Mr. Carnegie presented the late Lord Acton's Library to Lord Morley, who gave it to Cambridge University. Lord Morley visited the United States in 1904, and on the Liberals coming into power under Sir H. Campbell-Bannerman at the close of the year following, he became Secretary for India. He died the Lords Veto Bill through the Upper House in 1911.

Morris, Sir Lewis (1833-1907), a distinguished Welsh poet. His best-known works are "The Epic of Hades," which John Bright highly praised, and "Songs of Two Worlds."

Morris, William (1834-1896), the poet of the "Earthly Paradise." Was also a Socialist and an art designer who did much for the improvement of domestic decoration.

Morse, Samuel Finley B. (1791-1872), an American artist and designer, who became the inventor of the Morse system of electric telegraphs, and of the Morse Code of Signals. He was the son of Jedediah Morse (1761-1826), a Congregationalist divine, geographer, and compiler of useful gazetteers.

Mosheim, Johann von (1694-1755), was a noted German theologian and historian, whose works were translated into most European languages.

Motley, J. Lothrop (1814-1877), historian and diplomatist. His chief work, *History of the Dutch Republic*, the result of ten years of persistent labour. He was United States Minister to Vienna in 1861, and in 1870 Ambassador to England.

Moulton, Fletcher, 1st Baron, P.C., F.R.S. (b. 1844). Educated at Cambridge; Senior Wrangler; Fellow of Christ's College; Q.C., 1885; sat in House of Commons for Clapham Division, 1885-1886, 1890-1891, 1894-1895; Appointed Justice of Appeal, 1905; Lord of Appeal in Ordinary since Aug. 1912.

Mount Stephen, Lord (1820), formerly President of the Canadian Pacific Railway; gave a large sum to various London hospitals in 1902, and helped the King's Hospital Fund three years later with an endowment of something like £15,000 per annum.

Mozart, Wolfgang Amadeus (1756-1791), the celebrated Austrian composer. Showed musical talent while very young, and performed in various capitals of Europe when only eight years of age. At twenty-five he accepted the position of musical composer to the Imperial Court of Vienna, and then began to write operas, producing in 1781 the "Nozze di Figaro," "Don Giovanni," and "Die Zauberflöte." He also wrote some beautiful Masses and a Requiem of unsurpassed beauty.

Mudie, Charles Edward (1818-1890), the founder, in 1842, of Mudie's Library, which revolutionised the reading opportunities of the middle classes, giving the command of the best new books of all kinds at a moderate yearly subscription, entailing orders to publishers for thousands of copies of leading works on publication.

Müller, George (1805-1868), was born in Prussia and removed to London in 1829, associating himself with Mission work; ultimately settling in Bristol, where he founded an Orphanage which cost £115,000, and is supported by voluntary contributions.

Müller, Friedrich Maximilian (1823-1900), usually known as Max Müller, came to England from Germany in 1846, and became Professor of Modern Languages at Oxford. He was a chief authority on Oriental manuscripts, and his books on philological subjects are standard works.

Mulready, William (1786-1864), an English painter and R.A. who was eminent in his day as a

painter of homely subjects. His "Choosing the Wedding Gown" is familiar to most people, from having been frequently engraved.

Munkacsy, Michael von (1844-1900), a celebrated Hungarian painter who, working on a large scale and revealing powers of striking dramatic treatment, achieved marked success in historical subjects.

Murat, Joachim (1771-1815), one of Napoleon's most famous marshals, who married the Emperor's sister Caroline, and was made King of the Two Sicilies. He afterwards commanded under Napoleon, but was defeated and lost his throne. Later he was captured, tried by court-martial and shot.

Murchison, Sir Roderick (1792-1871), an eminent geologist, whose researches and writings did much to popularise the science. He was President of the British Association in 1846, and of the Royal Geographical Society from 1867 to 1870.

Murdoch, William (1754-1839), was a distinguished engineer and inventor, who for a considerable time was associated with Boulton and Watt at Birmingham, and was of great assistance to Watt in working out the steam-engine on a practical basis. He was also one of the first to introduce gas lighting.

Murillo, Bartolomé Estéban (1617-1682), one of the greatest Spanish painters. His chief works are altar-pieces and religious subjects. He also painted a number of marvellous studies of peasant life. Some 200 of his pictures are in England.

Murray, Lord, of Elibank (b. 1870), eldest son of Viscount Elibank. As Master of Elibank sat in the House of Commons for Peebles and Selkirk from 1905 to 1910, and from 1910 to Aug. 1912 for Midlothian W. Comptroller of H.M.'s Household and Scottish Liberal Whip, 1906; Under-Secretary of State for India, 1909-10; and Parliamentary Secretary to the Treasury and Chief Liberal Whip, 1910-12. His acceptance of a position in the firm of S. Pearson & Son, Ltd., of which Lord Cowdray is the head, led to the resignation of his Parliamentary seat and his elevation to the peerage. Committee sat, 1914, to inquire into his Marconi speculations, and found nothing to his dishonour.

Murray, Dr. Sir James Augustus (b. 1837), the distinguished philologist, and editor of the New English Dictionary, the most exhaustive work of the kind hitherto published. Was for some years an assistant master at Mill Hill School.

Murray, Lindley (1745-1826) was an American educationist of Quaker stock, who migrated from his native country to England after the Declaration of Independence. He lived for some years in a cottage a little way outside of York city, and wrote numerous educational works, including the famous volume which for a long period was the standard grammar of the English language.

Musset, Louis Alfred de (1810-1857), was the French writer of distinction whose essays and romances did much to develop the imaginative side of the literature of his native land. His brother Paul (1804-1880) was also a novelist of note.

N

Nadir Shah (1688-1747) became King of Persia in 1736, and distinguished himself by some remarkable conquests, including a victory over the Great Mogul and the capture of Delhi. He was assassinated by his nephew after a short but brilliant reign.

Nairne, Lady Caroline (1770-1835), a Scottish poetess who wrote several highly popular songs, including "Caller Hurrin," "The Land of the Leal," and "The Laird o' Cockpen."

Nana Sahib (1821-1859), the Indian prince who led the rebels at Cawnpore on the outbreak of the Indian Mutiny, and was responsible for the terrible massacre there. He managed to escape, and his subsequent career is unknown.

Nansen, Fridtjof (born 1861), the Norwegian explorer who, after two or three expeditions across Greenland, in 1893 started out on his famous North Polar expedition, on which he was away three years, reaching the highest altitude thereto attained—

86 deg. 24 min. N.—a feat since eclipsed by the Duke of the Abruzzi and by Peary. He published a fascinating narrative of his exploration under the title of *Farthest North*.

Napier, Sir Charles James (1726-1823), a British general who distinguished himself in the Peninsular War, and afterwards in India, succeeding Lord Gough as Commander-in-Chief there in 1819.

Napier, Sir William (1785-1860), the historian of *The Peninsular War* and of *The Conquest of Sicily*, and an officer of distinction in the wars of which he wrote, was brother to Sir Charles James Napier, and held seven decorations for gallantry in battle.

Napier of Magdala, Field-Marshal Lord (1810-1890), an eminent engineer officer, who did splendid service in the Indian Mutiny at the Relief of Lucknow. In 1868 he commanded the Abyssinian Expedition, and conducted the successful storming of Magdala. Was Commander-in-Chief in India in 1870, and afterwards Governor of Gibraltar.

Napoleon I. (1769-1821) was born at Ajaccio in Corsica. Sent to France to receive a military education and was a captain at the age of twenty. In 1794 served in Italy with such distinction that he won a generalship, and next year was appointed Commander-in-Chief. A series of most brilliant successes followed. He defeated the Austrian forces in 1797, conducted an expedition to Syria and Egypt in 1798, returned in 1799 to find himself the most popular man in France, and in November of that year he proclaimed himself First Consul. In 1800 he was again in Italy and once more victorious. In 1804 he was made Emperor, and the following year was in the field against England, Russia and Austria, achieving a splendid series of victories at Austerlitz and elsewhere, and practically became Dictator of Europe, distributing kingdoms amongst his brothers in the most profuse manner, Joseph becoming King of Naples, Louis King of Holland, and Jerome King of Westphalia. In 1809, after divorcing his first wife, Josephine, he married Maria Louisa of Austria. Subsequently he made serious blunders. His invasion of Russia was disastrous, the Peninsular War went against him, and in 1814 the Allies entered Paris and forced him to abdicate. He was sent to Elba, but made his escape in the following year, gathered his old army about him and went forth to meet the English and Prussian armies. He was finally completely defeated at Waterloo on the 18th June, 1815, and exiled to St. Helena, where he died six years later. His remains were removed to Paris in 1840, and rest in a magnificent tomb.

Napoleon II. (1811-1832) was the son of Napoleon I. and Maria Louisa. Was born in Paris and proclaimed King of Rome, but died of consumption when only twenty-one, being known at the time of his demise as the Duke of Reichstadt.

Napoleon III. (1808-1871) was the son of Louis Bonaparte, King of Holland, and of Hortense, daughter of the Empress Josephine. According to the Napoleonic idea he became heir to the throne of France on the death of the Duke of Reichstadt. Made an attempt to create a popular movement in his favour in 1836 at Strasburg, but was taken prisoner and deported to the United States. In 1840 he made a second attempt at Boulogne. Was again captured and sentenced to imprisonment for life in the Castle of Ham. Six years later he escaped, disguised as a workman, and lived in London until the Revolution of 1848, when he was elected to the National Assembly and a few months later became President of the Republic. In 1851 by his famous *coup d'état* he obtained complete control of the Government and restored the Empire in 1852, becoming Napoleon III. Married Eugénie de Montijo in 1853. In 1854 there was the Crimean War, when France and England were allies. In 1859 followed the war with Austria. In 1863 the occupation of Mexico came, and in 1870 the Franco-Prussian War, which carried the Second Empire down, and compelled Louis Napoleon to take refuge once more in England. He died at Chislehurst in Kent.

Napoleon, Victor, Prince (b. 1862) is son of the late Prince Napoleon and Princess Clotilde. Since 1891 he

- has posed as the head of the House of Bonaparte. He is exiled from France and lives mostly at Brussels.
- Nares, Sir George** (b. 1831), a retired British admiral, who took a conspicuous part in Arctic exploration between 1830 and 1875, and commanded the *Challenger* expedition of 1875.
- Nash, John** (1752-1835), was a successful London architect of the Regency days, the designer of Regent Street, Buckingham Palace, and of Regent's Park and the commanding terraces that border it.
- Nash, Richard** (1674-1762), was a man of fashion who as "Beau Nash" held great sway at Bath for many years, being "master of the ceremonies" there and social dictator.
- Nasmyth, James** (1808-1890), the inventor of the steam-hammer, was a native of Edinburgh, but in early manhood settled in Manchester, and there brought out his famous new tool, which became indispensable in all large iron and engineering works, and realised a fortune for the inventor.
- Nathan, Lt.-Col. Sir Matthew, K.C.M.G.** (b. 1802), served with distinction in the Nile, Lushai and other expeditions as an officer of the Royal Engineers, and promoted major in 1868, Governor of the Gold Coast, 1900-1905, Governor of Hong-Kong, 1905-1907, Natal, 1907-1909, Secretary-General Post Office, 1909-11, and Chairman of the Board of Inland Revenue since 1911.
- Neander, Johann, A. W.** (1780-1850), the German theologian and historian who wrote *A Universal History of a Christian Religion*, in 5 vols., besides several other works.
- Necker, Jacques** (1732-1804), the father of Madame de Staël. Was Director-General of Finance to Louis XVI. from 1777 to 1787, and made strenuous efforts to effect economies in the royal expenditure, which brought him into disfavour and he retired to Switzerland. In 1788, however, he was recalled and appointed Comptroller-General, but failing to obtain assent to his proposals, he relinquished the position.
- Nelson, Horatio, Viscount** (1758-1805), the great English naval commander; son of a Norfolk clergyman. Went to sea at twelve years of age, and was post-captain at twenty-one. In 1793 he was captain of the *Agamemnon*, and proved his capacity and daring against the French. He lost his right eye at the siege of Calvi in 1794, and his right arm at the siege of Santa Cruz in 1797. In 1798 he achieved a great victory over the French in Aboukir Bay, in recognition of which he was created a Baron and granted a pension of £2,000 a year. He was victorious at Copenhagen in 1801, after which he was promoted to the rank of Viscount. In 1805 occurred the famous Battle of Trafalgar, in which the French fleet was destroyed and Nelson was killed. He was buried in St. Paul's Cathedral, and having no son to succeed him the peerage was transferred to his brother, who became Earl Nelson, with a perpetual pension of £3,500 a year and a gift of £100,000 for the purchase of an estate. *A Life of Nelson*, by Lord Charles Beresford, formed the issue of *Pears' Annual* for 1905.
- Nero, Claudius Cæsar** (A.D. 37-68), the notorious Roman Emperor, whose reign of fourteen years was rendered infamous by his cruelty and licentiousness. Finally, he was driven from his palace and put an end to his life.
- Nerva**, who became Emperor of Rome when old, reigned from 96 to 98 A.D., and in that short period introduced valuable reforms, aided by his adopted son, Trajan, who succeeded him.
- Nestorius**, founder of the Nestorian sect, was Patriarch of Constantinople in the 5th century, but was deposed for heresy on refusing to accept the divinity of the Virgin.
- Neville, Sir Ralph** (b. 1848), one of the Judges of the Chancery Division, was in Parliament from 1887 to 1895, and is chairman of the Garden City Association.
- Newcomen, Thomas** (1663-1719), was one of the first to put a steam-engine into practical operation, and in 1705 patented his invention, which was the pumping-engine used in Cornish mines down to the adoption of Watt's engine. He was originally a locksmith in Dartmouth, his native place.
- Newman, Cardinal** (1801-1890). Educated at Oxford, he was incumbent of St. Mary's there from 1828 to 1843, taking an active part in the religious discussions of the time, gradually showing a tendency to adopt Roman Catholic views, and ultimately allying himself with the Romanists, resigning his living and settling at Edgbaston, Birmingham, as the head of a community of the Order of St. Philip Neri. Here he remained for the rest of his career, devoting himself to an almost monastic life, but from time to time employing his pen in the production of religious works, displaying great controversial power, beauty of thought, and charm of style. In his *Apologia pro Vita Sua* he described the development of his religious thought, and in other writings attained considerable distinction. He was the author of the beautiful hymn "Lead, kindly Light," and of the "Dream of Gerontius." In 1879 he was made a Cardinal.
- Newnes, Sir George, Bart.** (1851-1910), a well-known publisher and periodical proprietor, founder of *Tu-Bus*, the *Strand Magazine*, and many other monthlies; also of the *Westminster Gazette*. Was in Parliament from 1885 to 1895 and from 1900 to 1910.
- Newton, Sir Isaac** (1642-1727), great mathematician and philosopher. Was educated at Cambridge, greatly distinguished himself, and became M.P. for the University in 1688. In 1696 was appointed Warden of the Mint, and in 1699 became Master of that institution. Was President of the Royal Society 1703. Was knighted in 1705. His scientific discoveries were of the utmost importance, including the law of gravitation and the method of fluxions, while he also effected considerable improvements in the telescope. His numerous philosophical works are wonderfully lucid expositions.
- Ney, Marshal Michel** (1769-1815), was one of Napoleon's most noteworthy generals. After the Emperor's abdication Ney submitted to the Bourbons, but took up arms again for his old chief, and fought for him at Waterloo; attempting to escape to Switzerland, he was captured, tried, condemned, and shot in the Garden of the Luxembourg.
- Nicholas I., Czar of Russia** (1796-1855). The son of the Emperor Paul, he succeeded to the throne in 1825, and was a vigorous ruler and man of great ability. He was generally friendly towards England, until the Crimean War made him a bitter enemy.
- Nicholas II., Czar of Russia** (b. 1868), son of the Emperor Alexander III., and of the sister of Queen Alexandra. Came to the throne in 1894, and has had a reign full of trouble abroad and at home. He has been quite unable, however well intentioned, to curb either the grand ducal party, the bureaucrats, or the anarchists.
- Nicholas, St.**, Bishop of Myra and patron saint of Russia, flourished in the 4th century, and is popularly associated with Christmas under the corrupted name of Santa Claus.
- Nickson, Rt. Rev. G. D.D.**, Bishop of Bristol since Feb., 1914 (b. 1804). Educ. Trin. Coll., Dublin; Corpus Christi Coll., Camb. Bp. of Jarrow, 1906-14; Examining Chaplain to Bp. of Durham, 1901-8.
- Nicholl, Sir W. Robertson**, b. 1851 in Aberdeenshire and in 1874 was ordained to the Free Church ministry. Ten years later he became editor of the *Express*, and in 1880 was appointed editor of the *British Weekly*. Dr. Nicholl is a prolific author, and has written much and ably on religious and literary subjects. He also edited the *Bookman*, the *Woman at Home*, and the *British Monthly*.
- Nicolson, Rt. Hon. Sir Arthur, P.C.** (b. 1849). Educated at Rugby and Oxford. Entered the diplomatic service in 1874, and held positions at various embassies—Berlin, Peking, Constantinople, Athens, Teheran, etc., and was ambassador at St. Petersburg from 1906 to 1910. Made G.C.M.G. in 1907. In 1910 he succeeded Sir Charles Hardinge as Permanent Under-Secretary for Foreign Affairs. Has written a *History of the German Constitution*.
- Niebuhr, B. G.** (1776-1831), was Professor of Roman History in the University of Berlin, and afterwards at Bonn. He obtained a world-wide reputation for his *History of Rome*.

Nightingale, Florence (1820-1910) was a noted figure in the Crimean War, where she organised a band of nurses which did great service in relieving the sufferings of the soldiers. Her system was adopted and developed in all parts of the world, and she was honoured with a testimonial of £50,000, which she applied to the founding of the Nightingale Home for Nurses. The German Emperor conferred an order upon her in 1907, and in 1908 she received the freedom of the City of London. Order of Merit, 1907.

Nilsson, Christine (b. 1843), the once famous prima donna, was born of humble Swedish parents, and her first efforts at singing in public were made at fairs in her own country while yet she was but a child. A wealthy gentleman, attracted by her fine voice, paid the cost of her musical education in Paris, and in 1864 she made her *début* in that city, and at once was acclaimed a great singer. She became Countess de Miranda in 1887.

Nithsdale, Earl of (1676-1744), a Jacobite Scottish nobleman who took part in the rising of 1715, and was taken prisoner at the Battle of Preston. Condemned to death, he escaped from the Tower in woman's clothes and escaped to the Continent, dying at Rome nearly thirty years later.

Nobel, Dr. Alfred B. (1833-1896), the inventor of dynamite, was a Swedish engineer and chemist who amassed a large fortune, a great portion of which at his death in 1896 he set apart as a fund for annual prizes to such persons as during each year shall have contributed most materially to the benefit of mankind. There are five of these prizes, each worth about £8,000, and they are given in the following departments: physics, chemistry, physiology or medicine, literature, and peace promotion.

Nogi, General Count (1849-1912), a Japanese soldier who achieved great distinction by his able and successful conduct of the siege of Port Arthur. He was a man of great simplicity of character, a poet, and a statesman, and startled the world when on the day of the funeral of the late Emperor of Japan he committed suicide, his wife sacrificing her life at the same time—an old-time Japanese patriotic custom now seldom followed.

Nollekens, J. (1737-1823), a Royal Academician who produced numerous sculptures during a long and successful career, and was said to have realised £200,000 by the exercise of his art.

Nordau, Max (b. 1849), an author and physician, who is a native of Budapest, and settled in Paris in 1880, where he has since resided and been an active literary force. His best-known works are *Degeneration* and *The Drives Must Die*.

Nordenfeldt, (b. 1844) was born in Sweden and as the inventor of the Nordenfeldt machine gun, the submarine boat, and certain improved torpedoes has achieved a wide reputation.

Nordica, Madame (1859-1914), an eminent vocalist and operatic artist. She is a native of America. Her first operatic appearance in London was made in 1889. Her greatest rôle was that of Margaret.

Norfolk, Duke of (b. 1817), is Premier Duke and Hereditary Earl Marshal of England. He has filled many public positions both in and out of Parliament, and served in the South African campaign as captain in the Imperial Yeomanry. From 1895 to 1900 he was Postmaster-General.

Norman, Sir Henry (b. 1858), educated at Harvard, Leipzig, and in France. Was an active journalist for many years, being connected at different times with the *East Mail Gazette*, the *Daily Chronicle* and other papers, and in 1902 founded the *World's Work*. He represented Wolverhampton South in Parliament from 1900 to 1910 and has sat for Blackburn since 1910. Knighted in 1906.

Norman Neruda, Madame (Lady Hallé), Violinist to Queen Alexandra. (See *Halle, Sir C.*)

North, Lord (1733-1792), was Premier from 1770 to 1782, and responsible in great part for the American War of Independence.

Northcliffe, Alfred C. Harmsworth, 1st Baron (b. 1865), one of the most prominent men in

modern journalism, and owner of a controlling interest in the *Times*. Started *Answers* in 1888 with his brother, Cecil Harmsworth, now M.P. for the Dromwich Division. In 1894 the Harmsworths purchased the *Evening News*, of which they soon made a valuable property. In 1896 the *Daily Mail* was started, and became very successful. Lord Northcliffe, as the head of the publishing company which runs the various Harmsworth publications and papers, has shown immense business aptitude. Was rewarded with a baronetcy in 1912 and elevated to the peerage in 1905. Has made his papers prominent during the war by a strong war policy.

Northcote, Lord (1846-1912), son of the first Earl of Idlesleigh (q.v.) and Governor-General of the Commonwealth of Australia, 1903-1908.

Norton, The Hon. Mrs. (1808-1898), was a granddaughter of Sheridan, a poetess, and a novelist whose beauty and literary gifts won her renown.

Nostradamus, Michel de (1503-1566), a notorious astrologer and physician, who attracted French Society by his many predictions, and enriched himself by trading upon popular credulity.

Novalis (1777-1801), a Saxon poet, who enriched his country's literature by a number of poetic romances of great beauty. He has been styled the "German Goethe," his real name was von Hardenberg.

Numa Pompilius was, according to tradition, the second King of Rome and the founder of Roman Ceremonial Law. He is said to have reigned thirty-nine years in absolute peace in the 7th century before the Christian era.

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Oates, Titus (1700-1705), a notorious informer against Roman Catholics in the reign of Charles II. who was given a substantial pension for having, it was believed, exposed a plot against the King, but in the following year, on being discovered to have committed perjury and forgery, which involved the prosecution, condemnation, and execution of a number of persons who were not guilty, he himself was imprisoned and sentenced to imprisonment for life. When William III. came to the throne, however, he was pardoned and again granted a life annuity.

Oberlin, J. F. (1740-1820), an Alsatian clergyman famed for his philanthropy and remarkable services to the people of Waldkirch, whom he instructed in agriculture, industries, and other pursuits, and was decorated with the Legion of Honour by Louis XVI.

O'Brien, William (b. 1852). For years a prominent Nationalist leader, editor of *United Irishman*, founder of the All for Ireland League, imprisoned for over two years. Published his *Recollections* in 1902. Retired from Parliament in 1907; re-elected 1910, estranged from the Redmondites. Resigned again in 1914, but re-elected unopposed.

O'Brien, William Smith (1803-1861), was a noted Irish public agitator, who sat in Parliament for a time. In 1848 he led an unsuccessful insurrectionary movement of the "Young Ireland" party which was quickly suppressed, he himself being arrested, tried for high treason, and sentenced to death. He was not executed, however, but subjected to transportation and received his freedom in 1856.

Ockham, William of (c. 1270-1340), was an English scholar and philosopher who espoused the cause of Nominalism with sufficient success to create a philosophical school. He was styled "The Invincible Doctor," belonged to the Order of Franciscans, and for some time held a lectureship in the University of Paris.

O'Connell, Daniel (1775-1847), the Irish "Liberator," as he was called, was a famous orator and politician and a highly successful barrister. In Parliament he advocated the cause of Ireland with courage and audacity. His agitation for Repeal was immensely popular with his countrymen, but famine and division did much to break his party up, and he died an old man at Genoa, leaving his grave on the "Forward" monument in the land of his birth.

O'Connor, Feargus (1790-1855), an Irish lawyer

who became prominent in the Chartist agitation, and sat in Parliament for a number of years. His eccentricities, however, were a hindrance rather than help in the cause, and led to disorderly scenes in the House of Commons, and ultimately he was found to have become a hopelessly unsound mind.

O'Connor, (T. P.) (b. 1848), one of the most successful journalists and editors of recent years. Entered upon newspaper life in 1867, and after some strenuous struggling found employment in London in 1870 on the *Daily Telegraph*. Entered Parliament as an Irish Nationalist in 1880, and is there still. Sits for the Scotland Div. of Liverpool. Founded and edited successively the *Star*, *Sun*, *Weekly Sun*, *M.A.P.*, and other papers. Is an eloquent speaker and a brilliant writer, with broad sympathies and a knowledge of the world which he turns to good account.

Oversted, Hans C. (1777-1851), the Danish philosopher and scientist, whose discoveries in electrical research did much to help forward the invention of the electric telegraph. He was Professor of Natural Philosophy to the University of Copenhagen.

Offa was King of Mercia from circa 757 to 796, and had a warlike career. After considerable conquests in Wales he built an embankment from the Dee to the Wye, 100 miles long, which was called Offa's dyke, fragments of which still remain. He imposed "Peter's Pence" as a gift to the Pope for absolution.

Offenbach, Jacques (1819-1880), was a native of Cologne, but settled in Paris in 1833, and lived there for the rest of his life. He was an accomplished conductor and composer, and for a time was exceedingly popular. His burlesque operas were the cleverest things of the kind that had been written, and were played in every part of the world with great success. His chief compositions were "La Grande Duchesse," "La Belle Héloïse," "Opéra aux Tuileries," "Madame Favart," and "Genevieve de Brabant."

Oglethorpe, General (1769-1785), was the founder of Georgia, George II. having granted him a large tract of Colonial land to be used as a settlement for exiled German Protestants and English debtors.

Ohm, George Simon (1787-1854), was the discoverer of the unit of electrical resistance, which is known as "ohm." He was a native of Bavaria, and gained much fame as a physicist and mathematician.

Oku, Count (b. 1846), is the noted Japanese general who, for his services against China, in 1894, was created Baron. At the outbreak of the war with Russia in 1904 he was appointed to the command of the second army. He captured Kinchen in May, 1904, and from that time forward distinguished himself by successive victories, taking conspicuous part in the Battle of Liao-yang.

Olaf, St. (995-1066), the first Christian King and patron saint of Norway. Was on the Norwegian throne when Ethelred was King of Britain. A soldier of great prowess, defeated by Canute in 1026, and subsequently slain in battle.

Oldcastle, Sir John (1376-1417), being known as "the good Lord Cobham," having married the heiress of the peer of that name. Distinguished himself in arms under Henry IV. and V., but fell into disfavour because of the warmth with which he advocated the doctrines of Wyclif, for which he was burned to death as a heretic.

Oliphant, Laurence (1829-1888), was educated for the Bar, but drifted into authorship and journalism, and wrote several notable books. Sat in Parliament from 1865 to 1868. In 1870 published *Piccadilly*, a brilliant satirical novel. Was correspondent to *The Times* during the Franco-German War, and afterwards, and coming under the influence of Thomas Lake Harris, the American spiritualist, he became lost to the world of letters and subsequently took up the scheme for the colonisation of Palestine for the Jews, dying—after a residence for some time near Mount Carmel—at Twickenham.

Oliphant, Mrs. Margaret (1838-1897), a remarkably prolific novelist and writer, some of whose stories achieved deserved popularity, notably *The Chronicles of Carlingford*, *Salem Chapel*, and

The Marriage of Elinor. She also wrote numerous historical and critical works and biographies, besides some popular books for children.

Oliveros, Count (1587-1645), was a famous Spanish statesman, who from 1602-1643 controlled the affairs of his country, but his tyranny caused the rebellion which led to his banishment.

Omar I. (581-644) was second Caliph of the Mohammedans, and the first to be designated the Commander of the Faithful. He conquered Syria, Mesopotamia, Persia, Egypt, and Palestine, reigned from 634-644, and died at the hands of a slave.

Omar Khayyam flourished in the 11th and 12th centuries. He was the great Persian poet whose "Rubayyat" was made known to English readers by Edward FitzGerald in 1859. The mixture of mysticism and philosophy contained in this work has a peculiar charm and fascination, and numerous Omar Khayyam societies have been formed in England and America.

Omer Pasha (1806-1871), a Turkish general who distinguished himself in the Crimean War, defeated the Russians at Eupatoria in 1855, and fought against the insurgents in Circassia in 1857. He was an Austrian.

Onslow, Earl of (1853-1911), fulfilled several diplomatic and ministerial appointments, having been twice Under Secretary for the Colonies, Under-Secretary for India, and President of the Board of Agriculture. Was from 1888 to 1892 Governor of New Zealand, and in 1905 received the appointment of Chairman of Committees in the House of Lords.

Opie, Amelia (1790-1853), an English novelist and writer of sentimental stories which had considerable vogue for a period. She became a Quakeress in 1825, and was the wife of John Opie, the artist, whose *Lectures on Painting* she published after his death.

Opie, John (1761-1827), a celebrated English painter whose historical pictures were highly valued in his day. He was buried in St. Paul's Cathedral. "Peter Panzer" (Dr. Watson's introduction to London as "The Cornish Wonder," his painting of "The Murder of Kizzio" (1787) caused a great sensation.

Orchardson, Sir Wm. Q. (1845-1910), an eminent K.A. (knighted 1897), whose subject pictures and portraits gained him a high reputation. Among his best-known works are "Napoleon I. on board H.M.S. *Bellerophon*" (purchased for the nation, under the Chantry bequest), "Un Mariage de Convenience," and its sequel "Un Mariage de Conscience—After." He was born in Edinburgh. His son Charles (b. 1871) is a subject painter of ability who has also distinguished himself in portraiture.

O'Reil, Max (1848-1903), the pen-name of Paul Blouet, a French writer, journalist, and teacher of French, whose *Jeh Bull and His Island* was one of the most popular books of the time.

Orléans, Duc d' (b. 1869), is the chief of the Bourbon-Orléans family and eldest son of the late Comte de Paris. He was married to the Archduchess Marie Dorothea of Austria in 1896. In 1896 he was exiled from France, and a subsequent year in Paris subjected him to second captivity. He has served as a soldier in India, and has a house at Wood Norton.

Orsini, Felice (1819-1858), an Italian patriot and revolutionist who, being convicted of an attempt with explosive bombs in 1858 upon the life of Napoleon III., was executed along with his fellow conspirator, Pieri, in Paris.

Oser, Sir Wm., Bart. (b. in Canada 1849), Regius Professor of Medicine, Oxford University, since 1905; has had a distinguished career and been honoured by many Universities in Canada (where he was born), the United States, and Great Britain. Is author of numerous medical works, including *A System of Medicine*, in 7 vols.

Osman I. (1259-1326) was the leader of the Tartar forces which overran the Eastern Roman provinces in 1299, eventually settling there and establishing the Ottoman rule. He was a native of Bithynia.

Osman Digna (b. 1830), a Soudanese rebel general who for many years commanded the army of the Mahdi, and showed bravery and tactical skill in opposing the Egyptian and British forces. After the defeat at Omdurman his career was at an end. He has since been a military prisoner at Halfa.

Osman Pasha (1835-1900) was a famous Turkish general who achieved renown in the war with Serbia in 1870, and in 1877 conducted the splendid defence of Plevna against the Russians.

Oswald, Sir, King of Northumbria from 652 to 672, aided by St. Aidan, established Christianity amongst his subjects. He was slain in battle with Penda, King of Mercia.

Ottley, Rear-Admiral Sir Charles L., R.N., M.V.O. (b. 1853), served with distinction in the Navy, in the many seas and numerous engagements; from 1890 to 1903 was Naval Attaché to the Maritime Courts and served in that capacity in Japan, Russia, Italy and the United States. Was Secretary of the Committee of Imperial Defence, and acted as British Naval Representative at the Hague Conference of 1907.

Otway, Thomas (1651-1688), an eminent English dramatist whose tragedy "Venice Preserved" is still occasionally performed. He died in destitution.

"Ouida" (Mlle. Louise de la Ramé), an English novelist (1840-1908), born at Bury St. Edmunds of French extraction, whose works have been highly popular. Many of her stories glow with passion and poetry, and there is always a romantic setting to them. Her best-known novels are *Under Two Flags*, *Nalka*, *Harmonie*, and *Scorcia*. In 1907, she was found to be living in straitened circumstances in an obscure Italian town. A Civil List pension of £150 was granted to her in 1907. She died in 1908.

Ouseley, Rev. Sir Frederick Gore (1825-1880) was a well-known organist and composer of music, mostly for the Church. He was also the author of several technical books on his art. His father was Sir Gore Ouseley (1770-1844), who was our Ambassador in Persia in 1810; and the brother of the latter, Sir William Ouseley (1767-1844) was a distinguished diplomatist. Another diplomatic celebrity of the family was Sir William Gore Ouseley (1797-1866), son of Sir William and cousin of Sir Frederick.

Outram, Sir James (1823-1893), a famous British General, who served with splendid distinction in India for the greater part of his life. He went through the Mutiny with conspicuous heroism and also achieved renown in the Afghan and other campaigns. His brightest hour was when in the relief, defence and capture of Lucknow, and when he died he was given a public funeral in Westminster Abbey, a striking monument being erected to his memory. On the slab covering his grave in the Nave he is described as "the Bayard of India."

Overbeck, Frederick Johann (1789-1869), a native of Lübeck, and leader of the artistic school which aimed at the revival of the pre-Renaissance style of painting scriptural subjects. Although he had a hard struggle he ultimately won success, and his frescoes and paintings are now highly valued.

Overbury, Sir Thomas (1581-1633), a man of note and influence in the time of James I. Incurring the hatred of the Court, as of Essex, and his wife, Carr, the King's favourite, by endeavouring to prevent the Countess procuring a divorce and marrying Carr, the pair obtained Overbury's confinement to the Tower, where he was afterwards found poisoned. They were found guilty of the crime, but their only punishment was banishment from Court.

Ovid (43 B.C.-A.D. 18), the famous Latin poet (Publius Ovidius Naso), whose "Metamorphoses" and "Art of Love" are among the best known examples of Roman literature of the lighter kind. He died in banishment.

Owen, Sir Richard (1804-1882), was superintendent of the Natural History department of the British Museum, and a biologist who did great service to science by his numerous works. He declined the theory of organic evolution, but where his research did not conflict with the opinions of the more modern school of scientists he was a successful and esteemed worker, and was reckoned by many the greatest paleontologist since Cuvier.

Owen, Robert (1797-1858) Socialist and philanthropist, devoted his life and fortune to the carrying out of his theories, and established socialistic colonies in Lanarkshire, Hampshire, and America, which, although at times very promising of success, had

ultimately to be abandoned. His book, *New View of Human Society*, published in 1820, aroused considerable discussion. His son, Robert Dale Owen (1820-1877), was also a social reformer, who became a spiritualist, and was for some time prominent in American politics as a slavery abolitionist.

Oxford, Bishop of. (See *Groce*.)

Oyama, Field-Marshal Prince (b. 1844), was Japanese Minister for War in 1894, and commanded the Second Army in the Japanese war with China. In the Russo-Japanese War he held the chief command, and displayed remarkable military power. He had under him about 200,000 men at the Battle of Liao-yang, where he scored a great victory; while at the Battle of Shiao he had a still greater force and attained a further triumph.

P

Paderewski, Ignace Jan (b. 1860), the celebrated pianist and composer who was born in Russian Poland. Could play the piano at three, at seven was placed under an able teacher, and in a few years made public appearances. It was not until 1890 that he made his first appearance in London.

Paganini, Niccolò (1781-1840), a famous violinist, and one of the most expert performers on that instrument who ever lived. Wherever he played he created a great sensation, and accumulated a fortune of £200,000 at the reward of his genius.

Page, Walter H. (b. 1855), United States Ambassador to Great Britain since 1913, and a member of the publishing firm of Doubleday, Page & Co., New York. Has edited *The Forum*, the *Atlantic Monthly*, and the *World's Work* (New York).

Page, Sir James (1814-1899), a great surgeon who was Assistant-Surgeon to Queen Victoria, and stood at the head of his profession in England. Was created a baronet in 1871, and President of the Royal College of Surgeons in 1875.

Palme, Thomas (1737-1809), a noted writer on political and religious subjects, whose *Notes of Man* caused great commotion when published in 1791, and led to his prosecution for blasphemy. He escaped to France, and was made a member of the National Convention. In 1794 his *Age of Reason* was published, and brought his opinions round strong opposition. From 1802 he lived in the United States.

Palestrina, Giovanni (1524-1604), a distinguished Italian musical composer, chiefly of Church music, all of which was marked by strong spiritual fervour. In 1565 he composed three Masses at the direction of the Council of Trent which set the standard of ecclesiastical music of that description.

Paley, William (1743-1805), a famous divine and writer on religion and philosophy. His *Evidences of Christianity*, and *Elements of Moral and Political Philosophy*, secured him a great reputation.

Palgrave, Sir Francis (1798-1884), a much esteemed historian, who wrote *The Rise and Progress of the English Commonwealth*, *A History of Normandy*, and *A History of the Anglo-Saxons*. He was knighted in 1832. His son, Francis Turner Palgrave (1804-1897), was a poet of devotional instincts, who was Professor of Poetry at Oxford, and edited the much-esteemed *Goblin Treasury*. Another son, William Gifford Palgrave (1826-1888), was a traveller, diplomatist, and prose writer of considerable ability.

Palissy, Bernard (1510-1580), was a distinguished French potter who after years of struggle and self-denial discovered the art of producing white enamel, after which he became famous and set up a porcelain factory in Paris, which was patronised by Royalty. Embracing the Reformed religion he narrowly escaped destruction in the massacre of St. Bartholomew. He was thrown into the Bastille in 1588, and died in that prison the year following.

Palladio, Andrea (1518-1580), the great Italian architect, who introduced the style of architecture known as Palladian, which was long considered the most perfect exposition of the art. His masterpiece is the Church of the Redemptor at Venice.

Pallas, Peter Simon (1741-1811), a German

traveller and naturalist, who was employed in the service of Catherine of Russia in various expeditions, which resulted in many important discoveries in Siberia and the Caucasus.

Palliser, Sir William (1830-1882), was for many years an active worker in the field of gun and projectile manufacture. The Palliser gun was famous in its day, and was introduced about 1870. It was of cast-iron external construction, lined with a tube of wrought iron, and served to convert the old smooth bore guns into rifled arms. Sir William also invented Palliser shot.

Palmer, Sir C. M., M.P. (1822-1907), was the founder of the great shipbuilding works at Jarrow which bear his name. He became connected with the coal industry while young, and was prompted to begin shipbuilding in order to solve the problem of conveying coals to London with greater celerity than had theretofore prevailed. He built an iron screw steamer capable of conveying 500 tons of coal to the capital, and not long afterwards had a considerable fleet of steam colliers afloat. Sir Charles may be said to have built Jarrow, and was its first mayor. The firm's works cover over 100 acres, and they now construct the heaviest class of battleships.

Palmer, Edward Henry (1840-1882), a noted linguist, who did valuable work for the Palestine Exploration Fund in 1868-1872, and later entered the service of the British Government and was employed in various negotiations with Oriental races. He was killed by natives of the Sinai Peninsula in 1882.

Palmer, John (1742-1818), originator of the mail-coach postal service in 1782. Being promoted to the Post Office secretaryship, he was the means of introducing many important reforms, and was rewarded with a grant of £50,000 and a pension of £3,000 a year. He was originally a theatrical manager at Bath.

Palmerston, Viscount (1784-1865), was a distinguished English statesman, who entered Parliament in 1807 and sat almost continuously, for one constituency or another, until his death. Before the passing of the Reform Bill he was a Conservative, but afterwards joined the Liberals, and was for the best part of his career in office. In 1807 he was a Junior Lord of the Admiralty; from 1809 to 1823 was Secretary for War. After that served many years as Foreign Secretary, became Home Secretary in 1852, and First Lord of the Treasury in 1855. In 1859, after being defeated the previous year, he was again Prime Minister and remained in that office until his death. He was buried in Westminster Abbey.

Pancras, St., the patron saint of children, was the son of a Roman noble, and came to Britain in the reign of Diocletian, where he was put to death at the age of fourteen for refusing to renounce Christianity.

Panizzi, Sir Antony (1797-1879), an Italian political exile, who in 1831 was appointed to the Assistant Librarianship and Keepership of the Printed Books of the British Museum. In 1856 he became Principal Librarian, retiring in 1866, after which he was made K.C.B. The great Reading Room was constructed from his designs.

Paoletti, Pasquale (1795-1807), a noted Corsican patriot who fought gallantly for his country's freedom, but was compelled to take refuge in England. He was buried in Old St. Pancras Churchyard, in London, but his remains were afterwards removed to Corsica.

Papin, Denis (1647-1712), a French mathematician and scientist who settled in England and made a considerable reputation in scientific circles. He invented the condensing pump, and was the first to use a safety valve. His discoveries in connection with steam power entitle him to be reckoned amongst the first to put that power to any practical test. He was, for a time, Curator of the Royal Society.

Paracelsus, Philippus A. (1493-1541), was a famous Swiss mystic and alchemist, and for a time was Professor of Physic and Surgery in the University of Basle. His skill in medicine was undoubtedly great, but he forsook the beaten track, and devoted the greater part of his life to experi-

ments in alchemy, in the course of which he made numerous important discoveries, being the first to employ laudanum and antimony in pharmacy.

Parle, Matthew of (1705-1760), a Benedictine monk of St. Albans who wrote a *History of England* from 1066 to 1259, a book which is of considerable value. He owed the name by which he became known to his early studies in the University of Paris.

Park, Mungo (1771-1806), a famous British traveller who in 1799 published an account of his *Travels in the Interior of Africa*, a work which caused a considerable sensation and was highly popular, recounting as it did many wonderful stories of adventure in a then unknown part of the world. He explored the Gambila and the Niger and was drowned in the latter river during an attack upon his canoe by hostile natives.

Parker, Sir Gilbert (b. 1826), a Canadian-born novelist who, after a journalistic career in Australia and elsewhere, went to London and soon acquired a considerable reputation as a writer of skilful stories. His earlier novels deal with French-Canadian life in a telling and picturesque manner. In later years he has changed the scene of his stories to Scotland. He was knighted in 1906, and was a member of the House of Commons for Gravesend in the Conservative interest.

Parker, Joseph (1830-1902), a popular Nonconformist preacher and author, who settled in London in 1869 at the Poultry Chapel, and became an active force in the religious work of London. He built the City Temple, and ministered there up to the time of his death. His vigorous preaching always attracted large congregations. Dr. Parker was the Chairman of the Congregational Union.

Parker, Matthew (1501-175), was Archbishop of Canterbury from 1550 until his death. He superintended the translation and production of what is called the Bishops' Bible, and also had a great part in the preparation of the Book of Common Prayer.

Parker, Theodore (1810-1860), a distinguished American Unitarian Minister and writer, who figured prominently in the anti-slavery agitation, and published a number of works on religious subjects, remarkable for their advanced opinions.

Parkes, Sir Henry (1815-1882), was born in Warwickshire, and emigrated to New South Wales in 1830. He had a struggling life for a time, but, showing much ability for the discussion of public questions, he was returned to the Legislative Council in 1854. Made a member of the Ministry in 1866, he subsequently filled the post of Premier of New South Wales five times.

Parkman, Francis (1823-1893), an American historian, born at Boston, Massachusetts, whose works mainly deal with the history of Canada. His *Pioneers of France in the New World* and *The Old Regime in Canada* are standard works.

Parnell, Charles Stewart (1846-1891), a distinguished Irish Nationalist politician, who for ten years, from 1880, was leader of his Party, and made it more powerful than it had ever been before. He succeeded in winning Mr. Gladstone's confidence, and so was largely responsible for the Home Rule policy which that statesman adopted towards the end of his Parliamentary career. Parnell suffered imprisonment more than once, and his supposed complicity in Irish political crimes led to the famous charge made against him by *The Times*, which became the subject of a memorable trial in which Parnell was acquitted, afterwards obtaining damages to the extent of £25,000. This was in 1890, and was quickly followed by a divorce trial which resulted in his being deposed from the leadership of his Party. He never recovered his lost ground, and died in 1891 a broken and disheartened man.

Parnell, Thomas (1699-1718), an Irish ecclesiastic and poet, who was held in high esteem, and wrote numerous pieces of the ballad order with no small success. His chief poem was "The Hermit."

Parr, Samuel (1747-1825), was a famous if dogmatic scholar and cleric who wrote largely on educational questions. He held the living of Hatton in Warwickshire for forty years.

Parr, Thomas (1483-1635), the most famous of English reputed centenarians, known as "Old Parr," said to have been born and to have died in the years given, but on later evidence adjudged untrustworthy, though he was certainly a celebrity for a long period prior to his death. He was buried in the South Transept of Westminster Abbey, his gravestone recording that he lived in no less than ten reigns.

Parrhasius was a famous painter of ancient Greece, of whom the story is related that he starved and tortured a man to death in order to portray with the fullest possible realistic effect the final phases of mortal agony. He lived about 450 B.C.

Parria, Samuel (1653-1720), an American Congregational minister who was concerned in the prosecution and execution of twenty persons for alleged witchcraft at Salem in Massachusetts in and about the year 1692, and was afterwards dismissed from his church for his share in these atrocious so-called judicial murders.

Parr, Sir Hubert Hastings, Bart. (b. 1849). Professor of Music at Oxford and Director of the Royal College of Music. A prolific composer of numerous odes, cantatas, and other musical works, and a notable writer on musical subjects, his *Studies of Great Composers* and *Art of Music* being amongst the chief works of their class in modern literature.

Parry, Rear-Admiral Sir William Edward (1799-1855), an Arctic explorer and naval commander of great distinction, who undertook several expeditions to the Polar regions and made numerous important discoveries. He was knighted and appointed Governor of Greenwich Hospital.

Parsons, Hon. Sir C. A. (b. 1854), is head of the electrical and engineering works of C. A. Parsons and Co., and of the Parsons Marine Steam Turbine Co., Ltd., Newcastle-on-Tyne, and inventor of the steam turbine which has effected a remarkable improvement in the propulsion of war and mercantile vessels. Is a C.B. and F.R.S.

Partridge, Bernard (b. 1864), was educated at Stonyhurst and began life as a stained glass designer, afterwards working at book illustrations, then for a time was on the stage; but since 1891 has been one of the chief artists on the staff of *Punch*.

Passoul, Blaise (1693-1662), a noted French philosopher.

Lectures exhibit remarkable genius, and have been translated into all European languages. He was a distinguished mathematician, and invented an ingenious arithmetical machine, besides making many brilliant experiments in hydrostatics and pneumatics.

Pasteur, Louis (1822-1895), an eminent French chemist and scientist, whose researches in connection with hydropathia, bacteriology, and the specific germs of cholera and other diseases, have been of immense benefit to human kind. He was elected a member of the Academy of France in 1882, and in his later years the Pasteur Institute founded by him in Paris attained universal celebrity.

Paterculus, Calvus V., was an eminent Roman historian under Augustus and Tiberius. Such fragments of his work as have been preserved are held in high esteem, though his narrative does not extend later than A.D. 30.

Paterson, William (1604-1710), a Scottish financier who founded the Bank of England, and originated the famous Darien colonisation scheme, which resulted disastrously.

Paterson, William R. M.A. (b. 1871), a novelist of considerable gifts, who writes as "Benjamin Swift." His *Newsies of A. Street* (1907), *The Death Man* (1908), and *Lady of the V.* (1913), are excellent examples.

Pattmore, Coventry (1823-1896), was a much appreciated poet of the Victorian era, whose "Angel in the Home" rank's deservedly high among modern poetic achievements.

Paton, Sir Neal (1821-1911), sculptor, historical artist, archaeologist, and poet, was a native of Dunfermline. In 1846 he gained the premium in the Westminster Hall competition for his fresco "The Spirit of Religion." He became later Limner for Scotland to Queen Victoria, and devoted himself mainly to fairy and sacred subjects, and won great

success by his well-known pictures "The Pursuit of Pleasure" and "Mors Janua Vitae."

Patrik, St. (circa 373-462), the patron saint of Ireland, concerning whom many miraculous stories are related, such as his reputed extermination of serpents from the island. He carried out a Christian mission, extending probably over about forty years, amongst the Irish with great success, was consecrated bishop in 447, wrote a *Confession* and an *Epistle*, and upon dying at an advanced age was buried at Downpatrick. St. Patrick's day is March 17th.

Patterson, John Coleridge (1827-1891), after a brilliant career at Oxford took holy orders and became greatly interested in mission work, being for some years associated with Bishop Selwyn in religious work in the South Seas. In 1861 he became Bishop of Melanesia, where for ten years he served with signal success, but falling in with a savage band on one of the Santa Cruz islands was murdered.

Patti, Adelina (Pavonesse Cederström), was born in Madrid in 1843. Went to America while very young, and first appeared in 1859 in "Lucia di Lammermoor," in New York. Her marvellous voice and brilliant execution made her immediately famous. She went to England in 1861, and from that time for many years was the most popular prima donna of the time, appearing in London, Paris, Berlin, Rome, Vienna, etc., with triumphant success. Of late years she has practically lived in retirement at her castle-home, Craig y Nos, in Wales, only occasionally reappearing at concerts. Had a tremendous reputation at a "farewell" concert in the Albert Hall, London, in 1906.

Pattison, Dorothy Windlow (1832-1898), a sister of Mark Pattison, who devoted a great part of her life to hospital work in Walsby, where she was known as "Sister Dora," and was revered for her saintly life and devotion to the sick poor.

Pattison, Mark (1813-1884), was connected with Lincoln College, Oxford, from 1839 until his death, and gave much time to literary work, writing, amongst other books, *A Life of Isaac Casaubon*, *A Life of Milton*, and his own *Memoirs*. He married Emilia Francis Strong in 1861, she afterwards becoming Lady Thike. His sermons exhibited a tendency to rationalism, and his contribution to the famous *Essays and Reviews*, in 1860, made him thereafter a man of intellectual mark.

Paul, Herbert (b. 1853). Educated at Oxford. Sat in Parliament from 1882 to 1895 for South Edinburgh, and for Northampton from 1906 to 1910, and has written much on the Liberal side of politics, besides producing a very able *History of Modern England*. His *Life of Froude* was published in 1906.

Paul I. (1754-1801) was Emperor of Russia for the last five years of his life. His overbearing temper and despotic acts caused him to be hated by the nobles, who put him to death by strangling.

Paulus, Heinrich E. G. (1764-1851), the celebrated German theologian and scholar. Was a native of Leonberg, and, besides filling professional positions at the Universities of Jena, Würzburg, and Heidelberg, wrote numerous rationalistic works.

Pausanias was a successful Spartan general who captured Byzantium from the Persians, 479 B.C. He was subsequently accused of treason, and, taking refuge in a temple, was allowed to starve to death.

Paxton, Sir Joseph (1803-1865), was head gardener to the Duke of Devonshire at Chatsworth, and, having acquired a great reputation for his effective building of glass structures, was employed to design the fabric of the first great exhibition in London in 1851, subsequently set up at Sydenham as the Crystal Palace. Was knighted in 1857, and sat in Parliament for Coventry from 1854 to 1864.

Payn, James (1830-1898), a prolific and popular novelist, who edited *Chambers's Journal* for sixteen years, and the *Cornhill Magazine* from 1860 to 1866. He was a racy story-teller and possessed a fund of quick humour. His most popular stories were *Lost Sir Marmaduke* and *Martha's Revenge*.

Peabody, George (1795-1860), an American merchant who lived for the greater part of his life in London, and, acquiring a large fortune, bequeathed

immense sums for philanthropic purposes in England and the United States. His gifts to London alone amounted to half a million sterling, and were the means of establishing important colonies of improved dwellings for the working classes.

Pearson, Cyr. I. Arthur (b. 1866), managing director of C. Arthur Pearson, Ltd., and *Pearson's Weekly*, *Pearson's Magazine*, and other well-known papers and publications.

Pearson, John (1613-1686), was a Royalist divine of note in the early days of the Civil War, but lived in obscurity during the Commonwealth. At the Restoration he came into favour again, and was appointed Chaplain to the King. Later he was made Bishop of Chester. He was the author of numerous works, including *An Exposition of the Creed*.

Pearson, John Loughborough (d. 1907), an able architect, pupil of Sir Gilbert Scott, and his successor in the surveyorship of Westminster Abbey, where both are buried. Pearson's most conspicuous work was Truro Cathedral.

Pearson, Sir Westman D. (See Cowdray, Lord.)

Peary, Rear-Admiral Robert Edward (b. 1856), an American Arctic explorer who went to Greenland in 1894, and in 1895-1896 conducted a sledging expedition towards the Pole. In 1893, 1895, and 1898 Peary was again in the Arctic region; and in 1900-1902, in the course of a further protracted attempt, he reached the highest latitude thereto attained on the Western Hemisphere. Again, in 1905, he left New York on board the specially equipped expedition ship *Roosevelt*, and the following spring succeeded in touching 87 degs. 6 min. N. latitude. On April 6th, 1909, however, he succeeded in actually reaching the Pole, and visited England in May, 1910. His book describing his later experiences in the Arctic regions is the most interesting of all the books hitherto written on the subject, and is valuable for its splendid series of illustrations from photographs of the actual scenes described. It may be added that the claim of Dr. Cook to have preceded Commander Peary in the discovery of the Pole has been abandoned, although at first so boldly asserted and maintained.

Peel, Sir Robert (1788-1850), a prominent British statesman who entered Parliament at twenty-one years of age, and immediately exhibited great capacity, being appointed Under-Secretary for the Colonies in the following year. From 1812 to 1818 he was Secretary for Ireland; and in 1822 he became Home Secretary, introducing, whilst fulfilling that office, the new police service associated with his name. In 1834 Peel was for four months Prime Minister, and in 1841 again occupied the same exalted position. It was then that the Anti-Corn Law agitation became formidable, and Peel abandoned his former Protectionist attitude, and carried his Repeal measure eventually in 1846. He was thrown from his horse in Hyde Park on June 25th, 1850, and succumbed to his injuries three days later.

Peel, Arthur Wellesley, 1st Viscount (1783-1812), the youngest son of Sir Robert Peel, the famous Prime Minister just mentioned. Sat in Parliament for Warwick from 1805 and held various minor Government offices until 1824, when he was elected Speaker of the House of Commons, a position which he occupied with dignity and distinction until 1805.

Peale, George (1791-1867), was one of the distinguished company of Elizabethan dramatists, and is best remembered by his "Old Wives' Tale," "Edward I.," and "David and Bethsabe."

Pelagius, a monk of the 5th century, believed to be a native of Britain, who introduced a doctrine that the human will could turn to God without being impelled by Divine Grace, which came to be known as Pelagianism, and was denounced by St. Augustine.

Pellissier, Marshal (1794-1864), was an able and energetic French general, who commanded the First Corps of the Imperial Army in the Crimean War, and after the close of the campaign was created Duc de Malakoff. He was Governor of Algeria at the time of his death.

Pellico, Silvio (1788-1854), an Italian poet and

revolutionist who was imprisoned by the Austrian Government for conspiracy from 1820 to 1830. The story of his prison life, which he afterwards wrote, became a very popular book.

Pemberton, Max (b. 1859), a clever novelist of Birmingham birth, who, after concluding his education at Cambridge entered journalism, and wrote for the magazines. Was made editor of *Cassell's* in 1892, and of *Cassell's Magazine* in 1896. He has written many capital stories, including *The Iron Pirate*, *The Gold Wolf*, and *Beatrice of Venice*; and has won success as a writer of reviews for the music-halls.

Penda, pagan King of Mercia (A.D. 630-655), a fierce, warlike ruler, who gave battle to the Christian forces of Northumbria and East Anglia, defeating and slaying Edwin and Oswald of Northumbria, and Anna of East Anglia. Oswald of Northumbria overcame and killed him in 655.

Penn, William (1644-1718), was born in London and was the son of a British Admiral. After finishing his education at Oxford he became a Quaker, and wrote some powerful pamphlets supporting his new faith, suffering imprisonment twice because of his opinions. Inheriting a considerable estate from his father, he devoted himself more keenly than ever to good works, and in 1682, having obtained a special grant from King Charles II. went to America, and founded Pennsylvania, which under his enlightened rule became a prosperous colony. He returned to England two years later, and had difficulties with the Government, but ultimately settled them and spent the last six years of his life, prostrated by paralysis, at his country seat in Berkshire. He is buried in the Friends' burial ground near Beaconsfield, Bucks.

Pepin (714-768), surnamed "le Bref," i.e. "the Short," was the first Carolingian king of France, and father of Charlemagne.

Pepys, Samuel (1633-1703) was Secretary to the Admiralty during the reigns of Charles II. and James II, but his chief claim to remembrance is his famous *Diary*, which affords a series of interesting pictures of the life of his period.

Perceval, Spencer (1762-1812), was Prime Minister from 1809 to 1812 after having filled other prominent posts in previous Tory Ministries. He was assassinated in the Lobby of the House of Commons by a man named Bellingham. Perceval was an opponent of Catholic Emancipation; his monument in Westminster Abbey is sculptured with a realistic representation by Westmacott of his murder.

Perceval, John, D.D., Bishop of Hereford since 1805 (b. 1834), educated at Oxford, ordained 1860, Head Master of Clifton College from 1862-1878, Canon of Bristol 1882-1887, Head Master of Rugby 1887-1895.

Percy, Bishop Thomas (1729-1811) was an English divine and antiquary, who enriched our literature by an accidental discovery of a large folio of MSS. of ballads, which, with considerable additions, were afterwards published as "Reliques of Ancient English Poetry." He was himself the author of several ballads which became popular, including "The Hermit of Warwick."

Perdiccas was one of Alexander the Great's ablest generals. He attained great distinction under that monarch, but after Alexander's death he began to scheme against the new king, Arrhidæus, and, being sent to Egypt against Ptolemy, was defeated and put to death by his own soldiers, B.C. 321.

Pericles was Tyrant of Corinth from 625-625 B.C., and one of the Seven Sages of Greece.

Pericles (495-429 B.C.), the distinguished Athenian statesman, general, and orator, who raised Athens to the point of its fullest prosperity, not only doing much to beautify the city but making it the centre of civilisation. He fell a victim to the plague.

Perkin, Sir W. H. (1837-1907), discoverer of the mauve dye-stuff, and founder of the industry in coal-tar colours, the jubilee of which was celebrated in 1905, when it was demonstrated that there are now some 700 separate colouring matters obtained from tar products.

Perks, Sir Robert William (b. 1849), represented the Louth Division 1892-1920. Is one of the

- most prominent Wesleyan laymen of the time, and a leading promoter of recent Methodist movements, such as the Methodist Twentieth Century Million Fund, and the acquisition of the Westminster Aquarium site for a large central Methodist building. A great contractor, connected with many large undertakings, yet withal an active politician.
- Perpetua, St.**, an African Christian martyr who suffered death at Carthage, refusing to renounce her faith although entreated to do so by her father, who appealed to her at her trial holding in his arms her own child.
- Persigny, Duc de** (1808-1872), was one of Napoleon the Third's most trusted Ministers, and was largely responsible for the *coup d'état* of 1871. He was for some years French Ambassador in England, and it was in England that he took refuge after Sedan.
- Persius Flaccus** (A.D. 34-62), a famous Stoic philosopher, whose six satires are among the most treasured products of Roman literature.
- Pertinax, Helvius** (A.D. 126-133), was Roman Consul in A.D. 179, and later commanded the Roman legions in Britain. On the death of Commodus he was induced to accept the purple, but was only Emperor for about five months, the Praetorian guards attacking and killing him.
- Perugino, Pietro** (1446-1521), a great Italian artist, excelling in religious subjects, and the painter of numerous fine frescoes, including some in the Sistine Chapel at Rome. Raphael was his pupil.
- Pestalozzi, Johann H.** (1746-1827), was a rich and writer, who devoted his fortune to benevolent works, especially in connection with the education of poor children.
- Peter the Great** (1672-1725), became sole Czar of Russia in 1689, and showed great ability and energy of character, devoting himself largely to the re-organization of his army and navy. He spent some months at Deptford studying shipbuilding. He founded St. Petersburg in 1703, and conquered Livonia, Finland, Pomerania, etc. Among the prisoners taken by him at the Battle of Poltava was Catherine, the wife of a Swedish soldier who had been killed. Peter took her to St. Petersburg, and ultimately made her his wife, and by her cleverness she did much to strengthen his power.
- Peter, the Hermit** (1097-1191) was the main instrument of the agitation which brought about the first Crusade. He was a French monk, of great eloquence and earnestness, and lived to see Jerusalem in the hands of the Christians. He died at the Monastery of Huy, in Belgium.
- Petrarch, Francesco** (1304-1374), the famous Italian poet, whose odes and sonnets "To Laura" are of marvellous beauty and fervour, and have been translated into all languages. He filled several important positions in the Church.
- Phalaris** was a tyrant of Agrigento in Sicily, in the 6th century B.C. and after a cruel reign of sixteen years, the nobles rose against him and he and his mother were burned in the famous brazen bull in which he had made many human sacrifices.
- Phelps, Samuel** (1804-1878), a Shakespearean actor and manager of celebrity, who from 1844 to 1851 managed the Old Theatre, where he revived most of the poet's tragedies, plays and comedies, securing both competent acting and effective pictorial settings.
- Phidias**, the famous Greek sculptor, flourished from about 470 to 430 B.C. His productions of his chisel were pronounced to be the finest ever achieved, but nothing now remains to attest his genius except the sculptures in the British Museum that were obtained from the ruins of the Parthenon, widely known as the "Elgin Marbles."
- Philip II. of France** (1180-1223), was a prominent figure in the third Crusade in which, for a time, he associated himself with our Richard I. Later he returned and intrigued with John against Richard, and after John succeeded to the English throne, Philip made war against England and wrested from her nearly all her French possessions, the Channel Islands and Guienne alone being saved.
- Philip II. of Macedonia**, trained in military arts

- in Greece, when he came to the throne instilled martial ideas into his subjects, and entered upon a career of conquest that did not end until he had become master of Greece. It was against his designs that Demosthenes directed his celebrated "Philippics." He was assassinated when about to set out upon a Persian campaign, which was afterwards so victoriously carried out by his son and successor, Alexander (q.v.).
- Philip II. of Spain** (1527-1598), succeeded his father the Emperor Charles V., and was engaged in numerous wars, including his famous attempt to invade England with the Spanish Armada. He was four times married, his second wife being Queen Mary of England. After her death, he was the consistent enemy of this country.
- Philip V. of Spain** (1683-1746), founded the Bourbon dynasty in Spain, and was the son of the Dauphin of Louis XIV. and Maria Theresa of Spain. His uncle, Charles II. of Spain bequeathed the kingdom to him, and this led to the war of the Spanish Succession, which ultimately confirmed him in his kingship.
- Phillips, Ambrose** (1675-1749), was accounted a considerable poet in his day, and is remembered by Steele and Addison. Best known by his "Pastorals."
- Phillips, John** (1696-1768), was Archdeacon of Salop, and made a literary reputation by "The Splendid Shilling," which *The Tatler* declared to be "the best burlesque poem in the British language."
- Phillips, Stephen**, dramatist and poet, of power and distinction. His "Paolo and Francis," "Herod" and "Ulysses," all were welcomed as containing work of a high order, and his "Nero" confirmed the verdict.
- Philo Judaeus**, a Hellenistic Jewish philosopher who attracted much note by his teaching, and his intercession for the Jews before the Emperor Caligula at Rome in A.D. 40. He was a native of Alexandria, and by his writings sought to make the philosophy of Plato harmonise with the Bible.
- Philostratus, Flavius**, the Greek rhetorician spent the greater part of his life in Rome, and wrote numerous biographical and historical works of much value. He flourished in the first part of the 3rd century of the Christian era.
- Piazzi, Giuseppe** (1746-1826), an Italian astronomer, who in 1789 established an observatory at Palermo, and employed himself in making a list of the stars. He was the discoverer of the planet Ceres, the first known of the asteroids.
- Piccolomini, Ottavio** (1509-1566), was of Italian birth, and entered the service of Ferdinand II. of Austria, attaining high command under Wallenstein, at whose death Piccolomini was awarded a great portion of the dead general's estates. He afterwards highly distinguished himself in several campaigns.
- Pinch, Sir Thomas** (1758-1815), one of the ablest generals of his day, was a native of Fenwickshire, and greatly distinguished himself in the Peninsular War under Wellington, and was killed while resisting a desperate charge of French cavalry.
- Pinchbeck, Christopher** (1690-1732), a London watchmaker who, by inventing an alloy of copper and zinc, produced a cheap metallic substance which has something of the appearance of gold, and is much used in the manufacture of cheap jewellery. Hence the term "pinchbeck" as a sign of imitation or inferiority.
- Pindar** (c. 522-442 B.C.), the eminent lyric poet of ancient Greece, most of whose famous odes were written to celebrate the personages and events of his time.
- Pinero, Sir Arthur Wing** (b. 1855), an able English dramatist and former actor, of Portuguese descent. After some years of experience as an actor he took to play writing. "The Squire," produced in 1876, was his first real success. This was followed by "The Schoolmistress," "Daddy Dick," "Sweet Lavender," and others, which achieved remarkable popularity. Then Mr. Pinero came under the influence of Ibsen, and wrote "The Second Mrs. Tanqueray." Among his later plays may be mentioned "Mrs. and "His House in Order."

Pitman, Sir Isaac (1813-1897), founded the Pitman system of phonographic shorthand, which became widely adopted, and has practically superseded other systems in commercial and general use. He was knighted in 1864.

Pitt, William (1759-1806), was the second son of the Earl of Chatham. Entered Parliament at twenty-one, and by his brilliant oratory captivated the House of Commons. In 1782, when only twenty-three, he became Chancellor of the Exchequer, and in the following year was made Premier, and held that office for seventeen years, through the trying period of the French Revolution, when war with France was almost continuous. He was undoubtedly one of the most brilliant statesmen that England has produced, and his death at the early age of forty-six was a great loss to the country. He was buried in Westminster Abbey. (See also **Chatham**.)

Plus IX. (1792-1830) held his holy office during the troubled period of Italian Revolution and the War for Independence, when he had to contend against Austria, France, and Sardinia. After failing to bring about the Papal supremacy of the Italian States he was deprived of his temporal power in 1829, and saw Victor Emmanuel crowned King of Italy. In the same year the Vatican Council pronounced for Papal Infallibility.

Plus X. Giuseppe Sarto, Pope (b. 1835), was a poor Italian priest until about forty years of age. Afterwards became known as an eloquent preacher, and was made Vicar-General of Treviso College. Later was made Bishop of Mantua, created Cardinal in 1893, and elected Pope in 1903.

Pizarro, Francisco (1471-1541), was an adventurous Spaniard who, after Columbus's discoveries in the New World, equipped an expedition and set out for South America, conquering Peru for the Emperor Charles V. Pizarro's career in Peru was characterised by excessive cruelty, and in the end he was killed by his own soldiers.

Plaudes Maximus lived in the 14th century, and was a Greek monk of Constantinople. He was a somewhat voluminous writer, but his fame rests chiefly on the *Greek Anthology* which he compiled.

Plato (429-347 B.C.), the renowned Greek philosopher who taught at Athens, and greatly distinguished himself by his lectures and writings. His *Dialogues* and his *Republic* are among the greatest works of the ancients and embody a philosophical system which has served for admiration and discussion in all time was Aristotle.

He was Socrates's disciple and Aristotle's teacher.

Plautus, Titus M. (254-184 B.C.), the Roman comic poet and comedy-writer. Was a prolific author, and such portions of his work as survive are of considerable interest.

Playfair, John (1748-1819), was a native of Forfarshire, and entered the ministry, but it was as a mathematician and geologist that he attained distinction, his book on the Plutonism theory of the earth, his *Elements of Geometry* and *Outlines of Natural Philosophy* being important contributions to the sciences of which they treat. His brother, William Playfair (1759-1823), was an ingenious draughtsman and inventor, employed by Boulton and Watt at Birmingham, and a fertile writer on political and historical subjects, and the projector of a clever commercial atlas.

Playfair, Lyon, 1st Lord (1819-1898), a distinguished chemist and liberal politician, who was professor at Edinburgh University in 1848 and entered Parliament in 1868. He was appointed Postmaster-General in 1874, and for some time served as Deputy Speaker of the House of Commons, being raised to the peerage in 1892.

Pleyel, Ignaz (1757-1837), was an Austrian who became eminent as a composer and spent the last years of his life in Paris, where he established a pianoforte manufactory, which became highly successful.

Plimsoll, Samuel (1824-1898), was a native of Bristol, and while M.P. for Derby got up an agitation on behalf of merchant sailors, procuring the passing of the Merchant Shipping Act of 1876,

which by defining a line above which no ship must sink in the water when loaded has ever since made the overloading of ships illegal. The line is known as the Plimsoll Mark.

Pliny was the name of two Romans of distinction, known as Pliny the elder, and Pliny the younger. The first was a naturalist of high reputation who perished in the eruption of Vesuvius A.D. 79, when Pompeii was buried; the second, his nephew, achieved renown by a series of historical *Letters*, and died A.D. 113.

Plunket, Baron (1764-1854), was a distinguished Irish lawyer and Member of Parliament who was Lord Chancellor of Ireland from 1830 to 1841. He was, whilst at the Bar, one of Emmet's prosecutors, and opposed Pitt's scheme for the Union, but his work in the cause of Catholic Emancipation was both splendid and successful.

Plunkett, Rt. Hon. Sir Horace (b. 1854), ex-Vice-President of the Department of Agriculture and Technical Instruction for Ireland. Has done good work for the reform of farming conditions in Ireland. He is the youngest son of Baron Dunany and was in Parliament from 1892 to 1900.

Plutarch (circa 50-120) was the famous writer of biography who lived for a great portion of his life in Rome, though born in Greece. His *Lives* form one of the world's most famous literary productions, and have provided material for hundreds of plays and dramas, including some of the best of Shakespeare's.

Pobledonostzeff, Constantine (b. 1827), Procurator of the Holy Synod in Russia, and a statesman whose strenuous efforts to strengthen autocracy made him one of the most notable personages for many years in the Czar's dominion.

Pocahontas, the daughter of an Indian Chief. When Captain John Smith and his party landed in Virginia in 1607, they would have been murdered but for the intercession of Pocahontas, who subsequently married one of the settlers, and accompanied him to England, where she died in 1617.

Poe, Edgar Allan (1809-1849), was an American poet of unique genius, author of "The Raven," "The Bells," and other poems of haunting melody and dainty fancy. He lost his parents when very young, was adopted by a Richmond merchant named John Allan, who had him educated, but with whom he afterwards quarrelled when he devoted himself to journalism and authorship. His "Tales of Mystery" are thrilling examples of a kind of literature which has been much indulged in in later times, but seldom with equal success. The Poe centenary celebration of 1909 extended to many lands.

Pole, Reginald (1500-1558), was Cardinal Archbishop of Canterbury under Queen Mary, having succeeded Cranmer, and was the Queen's most trusted adviser. He was a legate-president of the Council of Trent, and was accounted largely responsible for the Protestant persecutions in the reign of Queen Mary.

Pollio, Calus Asinius (76 B.C.-A.D. 6), gained fame as one of Caesar's generals, and after Caesar's death was made Governor of Transpadana Gaul. Afterwards he served as Consul. He was the patron and protector of Virgil and Horace.

Pollock, Rt. Hon. Sir Frederick, P.C. (b. 1845). Educated at Cambridge, and called to Bar 1871. In 1882-1883 was Professor of Jurisprudence at University College, London, and from 1881 to 1890 Professor of Common Law in the Inns of Court. Has written largely on legal subjects, some of his books being accepted text-books on their respective subjects. He has also written *A Life of Shizuoka*, an introduction to the *History of the Science of Politics*, and some interesting books on mountaineering.

Pollok, Robert (1798-1827) was a native of Renfrewshire, and in 1817, when he was dying of consumption, he published the long blank verse poem, "The Course of Time," which, though not poetry of the highest order, contains many beautiful passages, and attained great popularity.

Polo, Marco. (See **Marco Polo**.)

Polybius (204-122 B.C.), the Greek historian, who

wrote a history in over forty books; but only the first five and certain fragments of the rest have come down to us.

Polyeaspe (circa 69-155) was Bishop of Smyrna, and said to have been the friend and disciple of the Apostle John. On a visit to Rome he was seized by the Proconsul and put to death in the amphitheatre.

Polyeetus (155-170 B.C.) was a Greek architect and sculptor and the friend and fellow-pupil of Phidias, whom he almost equalled in skill. He was a citizen of Argos. His statue of Doryphorus became known in the world of art as the "Canon of Polyeetus," as the perfect athletic type of the human figure.

Pompador, Madame Jeanne (1721-1764) was for a long time the favourite of Louis XV. of France, over whom she exercised great influence.

Pompey the Great (106-48 B.C.), distinguished himself as a general while young, and ultimately became, with Cæsar and Crassus, triumvir. Was afterwards thrown into the struggle with Cæsar, which only ended with the latter's death. Pompey was assassinated after the Battle of Pharsalia.

Pope, Alexander (1688-1744), the celebrated 18th century poet and translator of "Homer." Was the son of a London draper, and while but a boy showed great poetic gifts. In 1711 he published his famous "Essay on Criticism"; in 1712 "The Rape of the Lock"; and in 1713 " Windsor Forest and other Poems." His finest work was "Essay on Man," and his most sensational his "Dunciad," a literary satire upon the smaller literary men of his time.

Porson, Richard (1759-1808), the famous scholar who became Regius Professor of Greek at the University of Cambridge, and two years before his death was made Librarian to the London Institution.

Porter, Jane (1776-1850), an English novelist whose *Traditions of Warwick* and *The Scottish Chiefs* were powerful romances, and were deservedly popular. By Walter Scott was an especial admirer of them.

Porteus, Captain John, was commander of the Edinburgh guard in 1736, when a riot took place caused by the public sympathy with certain smugglers who were supposed to have been hardly dealt with. At the execution of one of the smugglers, a mob assembled and began to throw stones, when Porteus ordered his soldiers to fire, and they killed several persons and wounded a large number. Porteus was tried and condemned to death for this act, but reprieved. This so enraged the populace that they dragged him out of prison and hanged him on a dyer's signpost in the Gray-market, none of the lynchmen ever having been brought to justice.

Potter, Paulus (1775-1851) a Dutch painter whose wonderfully clever animal pictures won him wide celebrity. His *chef d'œuvre* is his famous "Bull," now in the museum at The Hague.

Pounds, John (1705-1830), a shoemaker of Portsmouth, who, witnessing the deplorable condition of so many of the poorest class of children, started a school in his own neighbourhood where such children were taught, fed, and clothed. From this effort sprang the Ragged School Union, which wrought great good in London and other large cities, and was liberally supported by Lord Shaftesbury and other philanthropists.

Poussin, Gaspar (1613-1675), a French artist, originally called Dughet, who was the brother-in-law of Nicolas Poussin, and achieved great eminence as a landscape painter. He long lived in Rome, and the Campagna found in him a faithful depicter.

Poussin, Nicolas (1594-1665), an eminent French painter who was patronized by Louis XIII., and produced many notable works, some of which are in our National Gallery. Gaspar Dughet (Poussin) studied under Nicolas, and married his sister.

Powers, Hiram (1805-1873), was an American sculptor of high reputation, whose "Greek Slave" was one of the conspicuous art works of the 1851 Exhibition. He died in Florence.

Poynter, Sir John (1816 in Paris), President of the Royal Academy since 1896. Has had a highly successful career as a painter. At first his work was mainly of a decorative character, but gradually he

developed exceptional talent as a painter of classical subjects. His "Perseus and Andromeda," "Atalanta's Race," "Nausicaa and Her Maidens," are all great pictures. Made A.R.A. in 1860, and R.A. in 1876. Was Director of the National Gallery from 1894 to 1905.

Præd, W. M. (1802-1839), was born in London, educated at Cambridge, and made a brilliant reputation as a writer of Society verse in which he has never been excelled.

Praxiteles, a great Greek sculptor who lived in the 4th century B.C. His statues—especially his Aphrodite at Cnidus—were in some respects timed beyond all others, but few remain to testify to his genius.

Preese, Sir William Henry (1824-1913), was connected with the Electric Telegraph Service from 1853, and conspicuously engaged in connection with all the developments in telegraphy which have since taken place. He was associated with Marconi in his wireless telegraphic schemes and introduced the block system into England.

Prescott, William Hickling (1796-1859), one of the best known of American historians, whose *History of Ferdinand and Isabella*, *Conquest of Mexico*, *Conquest of Peru*, and *History of Philip II.*, are among the most picturesquely written and reliable of modern historical works.

Prentiss, Sir Joseph (1826-), made a high reputation as a geologist, and from 1874 to 1888 was Professor of Geology at Oxford. His work on the *Antiquity of Man* is a very important contribution to science.

Priestley, Joseph (1733-1804), was born at Leeds, and studied for the Nonconformist ministry, becoming a Unitarian pastor in Birmingham in 1780. Here he began those scientific studies which proved to be of such signal importance. He was the discoverer of oxygen and other gases, and wrote *A History of Electricity*. He was also a great advocate of freedom and progress, and having expressed approval of the French Revolution, a Birmingham mob set fire to his house, destroying his valuable library and scientific apparatus. Some time afterwards he removed to America, where he died.

Prim, Marshal Juan, Count de Rens (1814-1870), a Spanish statesman and general, who passed through a time of turbulence and execution in his attempt to maintain Isabella on the throne of Spain. He was able and fearless in the field, and brought the same characteristics to bear on his state and diplomatic life. He was an ardent supporter of Isabella's despotic acts, and was instrumental in bringing about the deposition of the Queen and the election of the then Duke of Aosta as King of Spain. Before the new king arrived, however, Prim was assassinated.

Prinsep, Valentine C. (1838-1904), an able artist, Royal Academician, and Professor of Painting. Made R.A. in 1861, and exhibited many fine pictures. Was also the author of novels and a notable book of Indian impressions.

Prior, Matthew (1664-1721), a well-known poet and wit who acquired celebrity by writing "The City Mouse and Country Mouse," and a number of other poems appropriate to the humour of the time. He rose to great favour, being some years in Parliament, and also representing the English Government as Ambassador at The Hague and elsewhere. He was buried in Westminster Abbey.

Probus, Marcus Aurelius, became Roman Emperor in 276, after a successful career in the army. His despotic rule brought him into disfavour, and in 282 a revolt occurred in the army, and he was slain by his own soldiers.

Procter, Bryan Waller (1789-1874), made a considerable name as a poet between 1815 and his death, his verses being mostly of a patriotic character. He was a Commissioner of Lunacy for thirty years. He wrote under the name of "Barry Cornwall." His daughter, Adelaide Anne Procter (1825-1864), produced some pretty verse, including a popular volume entitled *Legends and Lyrics*, published in 1853.

Proctor, Richard Anthony (1837-1888), an assiduous astronomer, and voluminous writer and popular lecturer on the subject. His practical work

In measuring the rotation of Mars and charting the stars of Argelander's catalogue was notable.

Propertius, Sextus, the Roman elegiac poet. Was a native of Umbria, and flourished in the 1st century B.C.

Protagoras, was a celebrated Greek philosopher, who flourished at the beginning of the 4th century B.C. He incurred much enmity by his refusal to accept the story of the "Gods," and he was drowned while attempting to escape from his persecutors.

Proudhon, Pierre Joseph (1809-1865), was a French political economist of extreme views, whose *What is Property? Confessions of a Revolutionist*, and other works were much read in his day.

Prudentius, Aurelius Clemens (348-410), a Spaniard who wrote a considerable number of Latin poems breathing the Christian spirit.

Prudhon, Pierre Paul (1758-1823), a French historical and portrait painter of considerable celebrity, whose picture "Divine Justice and Vengeance pursuing Crime," at the Louvre, is a notable work.

Frynne, William (1600-1669), was a violent pamphleteer of the days of Charles I. and Cromwell, and for his plain speaking several times found himself in prison or condemned to the pillory. At the Restoration he was made Keeper of the Records at the Tower.

Ptolemy, Claudius Ptolemaeus, a famous astronomer of Alexandria, who flourished between 130 and 161. He founded the Ptolemaic system, which taught that the earth was stationary and the heavenly bodies revolved around it.

Puccini, Giacomo (b. 1858), a composer of light opera, some of which have achieved great success, notably *La Bohème*, *Madame Butterfly*, and *Manon Lescaut*. Is a native of Milan. He came to London in 1911 to superintend the production of his *La Fanciulla del West* (The Girl of the Golden West).

Pugin, Augustus (1769-1842), a French architect who settled in London and wrote several able text-books on architecture. Was succeeded by his son, Augustus W. Pugin (1811-1852), who designed a number of fine Gothic edifices in various parts of the country, and wrote several books on architectural subjects. Edward Welby Pugin, son of the latter (b. 1853), also attained architectural celebrity in England and on the Continent alike.

Purcell, Henry (1628-1695), was a celebrated organist and composer, who did much to improve the musical service of the Church. Was organist of Westminster Abbey, and the most famous member of a family of notable musicians.

Pusey, Edward Bouverie (1800-1882), a famous Anglican cleric, who was Regius Professor of Hebrew and Canon of Christ Church, Oxford, from 1828 to his death. From 1833-1840 he published *Tracts for the Times*, which inaugurated the Tractarian movement that developed into what became known as Puseyism. At the most active point of his career, Dr. Pusey was associated with John Keble, John Henry Newman, and other deep theological thinkers.

Pym, John (1684-1643), a prominent statesman in the reign of Charles I. He was one of the five members whom Charles attempted to seize before the outbreak of the Civil War, and would doubtless have been a great figure in that conflict had he not died suddenly before the strife was fully developed. He was one of the managers of Buckingham's impeachment, advocated the Petition of Right, and in the Long Parliament was a vigorous assailant of Strafford and Laud.

Pythagoras (circa 582-500 B.C.), a great Greek philosopher, who taught the doctrine of the transmigration of souls, and also a system of astronomy similar to that of Copernicus.

Q

Quain, Sir Richard (1816-1898), a native of Mallow, a physician of great eminence, and one of the ablest of modern writers on pathological subjects, contributing largely to the *British Pharmacopæia*, and editing the *Dictionary of Medicine*.

Quaritch, Bernard (1819-1899), a famous dealer in

rare books, who was a native of Germany but settled in London, and became naturalised in 1847. His knowledge of scarce and valuable books was unique. His shop in Piccadilly was a storehouse of literary treasures.

Quarles, Francis (1592-1644), author of the celebrated *Divine Emblems*, a book of religious poetry that is an English classic.

Quiller-Couch, Sir A. T. (b. 1863), a well-known novelist and essayist, who as "Q" has published many delightful stories, including "Dead Man's Rock," "Troy Town," and "The Splendid Spur." Appointed Professor of Poetry at Oxford in 1912.

Quin James (1693-1768), the immediate predecessor of Garrick as the leading English actor. For over twenty years he was without rival, but after Garrick made his appearance in 1711 the popularity of the older actor waned, and he retired in 1751.

R

Rabelais, François (1483-1552), the great French satirist, first adopted the career of a monk, then studied medicine, and settled at Lyons as a doctor, and it was there that he published his *Gargantua and Pantagruel*, one of the wittiest and withal the coarsest books in any language.

Rachel, Madame (1821-1858), the most famous French actress of her time. Was born of poor parents of Jewish race, and sang in the streets of Lyons and Paris before her genius was discovered, and she was able to adapt the stage as a profession. In tragedy—and particularly in the part of Adeline Lecouvreur—she was probably unsurpassed. She died of consumption, and left behind her a large fortune.

Racine, Jean (1639-1699), a distinguished French tragic dramatist, best known by his "Andromache," "Phèdre," and "Athalie."

Radcliffe, Mrs. Ann (1764-1823), was a celebrated author in her day, and wrote some highly sensational novels in which the mysterious and supernatural were leading elements. Her best-known work is *The Mysteries of Udolpho*.

Radcliffe, John (1650-1714), a famous physician who attended three English monarchs—William III., Queen Mary, and Queen Anne—and was highly esteemed in his profession. He amassed a considerable fortune, £40,000 of which he devoted to the founding of the Radcliffe Library in Oxford.

Radetzky, Count (1766-1859), a famous Austrian Field-Marshal, who fought in most of the campaigns of his country and period against the Turks and the French, and in 1848, when eighty-two, led the Austrian troops to a series of victories in Italy.

Raeburn, Sir Henry (1750-1823), was a famous Scottish portrait painter, and friend and pupil of Sir Joshua Reynolds. Was made R.A. in 1815 and knighted in 1822.

Rae, John (1813-1893), an arctic explorer, who was a member of the Franklin Search Expedition of 1848, and in 1854 made the discovery that King William's Land was an island. In later years he directed an expedition for surveying proposed submarine telegraph lines between England and America by way of Iceland and Greenland.

Raffles, Sir Thomas Stamford (1781-1841), an eminent naturalist, who, while filling Government appointments at Java and Sumatra, between 1805 and 1824, penned many valuable papers on botanical and zoological subjects as the result of his observations. He was the founder and first President of the Zoological Society of London. Knighted in 1818.

Raglan, Field-Marshal Lord (1788-1855), was a great soldier and the son of the 6th Duke of Beaufort, and served in the Peninsular War, losing his right arm at Waterloo. Made a peer in 1829, and in 1854 was Commander-in-Chief of the British forces in the Crimea. He died before Sebastopol.

Ralke, Robert (1735-1811), was a Gloucester printer and newspaper proprietor, of high moral qualities, whose name is mainly remembered as a practical propounder of the Sunday School system.

Raimondi, Marco Antonio (circa 1480-1530), was a renowned engraver, who engraved many of Raphael's works. He was a native of Bologna and resided there for the greater part of his life.

Rainy, Rev. Dr. Robert (1806-1904), Principal of New College, Edinburgh, was long the leading ecclesiastical personality of Scotland, and was the author of numerous theological works, including *The Bible and Criticism* and a history of *The Ancient Catholic Church*.

Raisuli, a notable Moorish brigand, who exercises great power over the people, and in their behalf sometimes exacts concessions from the Sultan. In 1907 he captured Kairi Maclean, and held him to ransom until Feb. 1908, when a large sum was paid for his liberation.

Raleigh, Sir Walter (1552-1603), a scholar, courier, soldier, sailor, and statesman, who filled a prominent part in the history of his time. In 1584 Queen Elizabeth granted him a patent for the discovery and settlement of unknown countries in the far West. The colonisation of Virginia followed. He is said to have introduced into this country both the potato plant and tobacco. At one time he was in great favour at Court, but quarrelled with the Queen, and suffered in fortune as a consequence. When James I. came to the throne, Raleigh was supposed to be implicated in a conspiracy against that monarch, and was sentenced to death. After that he was a prisoner in the Tower of London for twelve years, and there he wrote his *History of the World*, and other works. In 1616 James set him at liberty in order to head an expedition to Guiana in the hope of finding gold, but being unsuccessful he was again imprisoned on his return, and finally beheaded in Old Palace Yard.

Raleigh, Sir Walter, M.A., Professor of English Literature at Oxford, and author of many volumes on eminent men of letters, including books on Milton, Wordsworth, and others. His work on Shakespeare, 1907, is his highest achievement.

Ramsay, Allan (1686-1758), the Scottish pastoral poet, who wrote *The Gentle Shepherd*, which made him famous. For the latter portion of his life he was a bookseller in Edinburgh. He had a son, also called Allan (1713-1734), who was a successful portrait painter, and died in 1734.

Ramsay, Prof. Dr. William M. (b. 1851), has been engaged for nearly thirty years, since his boyhood in fact, in the study of ancient geography in Asia Minor, and has flooded the theme with new light. Received the Victorian Research medal in 1906.

Ramsay, Sir William (b. 1852, at Glasgow), Professor of Chemistry at University College, London, 1897-1912. His scientific discoveries have been of the first importance. In conjunction with Lord Rayleigh he has discovered argon, thereto an unknown constituent of the air, and he has since detected other new atmospheric gases, including helium, krypton, and xenon. Helium, a constituent of certain minerals, was also discovered and explained by him. Sir William is the author of scientific disquisitions respecting these and other subjects, and was awarded the Nobel prize in chemistry in 1904. President of the British Association, 1912.

Ramusio, Giovanni B. (1485-1557), attained considerable fame as a geographer and editor of *Voyages and Travels*. He lived at Venice for many years and for a time held the position of Secretary to the Council of Ten.

Ranjit Singh, or Runjeet Singh (1780-1839), a prominent Sikh chief who for many years was the dominating power in the Punjab, retaining friendly relations with the British. At his death the Sikhs rushed into conflict with the English, with the result that the Punjab was ultimately annexed.

Ranjitsinhji, Kumar Shri (b. 1872), Jam of Nawagar, spent many years in this country before succeeding to the title, and was a popular cricketer, associated with English and Sussex county cricket, and attained exceptional success as a batsman in the "hundreds."

Ranke, Leopold von (1795-1886), a renowned German historian whose chief work is *A History of the Pope*. He also wrote a *History of England in the Sixteenth and Seventeenth Centuries*.

Raphael, Sanzio (1483-1520), the distinguished Italian painter whose works excel all others in their beauty of expression and inspired treatment. He lived a considerable period in Rome, where he painted his famous frescoes for the Vatican and St. Peter's, and also the celebrated cartoons designed for the tapestries of the Papal chapel, which afterwards were brought to England, and are now at the Victoria and Albert Museum. His last painting was "The Transfiguration." Examples of his work are to be found in most of the great European collections, including our own National Gallery.

Rapin de Thoyras, Paul de (1624-1725), was a French Protestant who took refuge in England after the Edict of Nantes in 1685, but subsequently settled in Holland, where he wrote his *History of England*, which, on its appearance in 1724, was highly esteemed.

Rask, Rasmus C. (1787-1832), a Danish philologist of distinction who compiled an Anglo-Saxon grammar, a Friar grammar, and other works.

Rauch, Christian Daniel (1777-1857), a noted German sculptor who executed a number of very celebrated statues which adorn some of the chief cities of his country.

Raumer, Friedrich L. G. von (1781-1873), was the author of one of the most important histories of Europe from the end of the 15th century, and also of *A Handbook to the History of Literature*. At one time he filled the position of German Ambassador to Paris.

Ravenscroft, Edward, an English dramatist of the 17th century, who wrote many able plays, beginning with "The Careless Lovers" (1673) and ending with "The Italian Husband" (1697).

Ravenscroft, Thomas (1592-1640), was one of the earliest English composers of psalm tunes, of which he published a collection in 1611. Many of his hymn tunes are still sung in the churches.

Rawlinson, Rev. Canon George (1812-1902), an Anglican cleric who wrote numerous learned volumes dealing with the ancient history of Egypt and other eastern countries, besides various theological works. He was Camden Professor of Ancient History and Canon of Canterbury.

Rawlinson, Sir Henry (1810-1895), diplomatist, soldier and Orientalist, brother of the last-named. Saw some service in Persia as a representative of the East India Company, and afterwards became political agent at Candahar. He performed a like service in Turkish Arabia later on, and began to take a deep interest in ancient cuneiform inscriptions. For a number of years he superintended successive explorations in Assyria and Babylon, accumulating a valuable collection of antiquities, which he disposed of to the British Museum. He was a member of the Indian Council in 1868. Sat in Parliament for some years, and published a number of admirable works on Persian, Babylonian, and Assyrian history. He was created a baron in 1891.

Rawson, Admiral Sir Harry (1843-1910), entered the Navy in 1857, and saw a good deal of active service during the next quarter of a century. He was commander of the Channel Squadron from 1895 to 1901, and was appointed Governor of New South Wales in 1902. When in command on the Cape Station in 1895, organised punitive expeditions against Mharuk, and in 1896 bombarded the palace of the Sultan of Zanzibar.

Ray, John (1691-1705), an English naturalist, whose services in collecting specimens and classifying them was of great assistance to science. His *History of Birds* and *History of Fishes* are of much value.

Rayleigh, Baron (b. 1842), one of the most eminent of British physicists, who succeeded Professor Tyndall in the Chair of Natural Philosophy at the Royal Institution. Has made important investigations in many branches of science, being the most distinguished authority on sound vibrations, and was the co-discoverer with Sir William Ramsay of argon. He was made a member of the Order of Merit in 1902, and in 1904 was awarded the Nobel prize for physics. Scientific Adviser to Trinity House since 1896.

Reade, Charles (1814-1884), holds high rank

amongst the Victorian novelists. His first story, *Teg Wifington*, was published in 1852. *It is Never Too Late to Mend*, *Griffith Gault*, and *The Cloister and the Hearth*, are his best-known novels. He also wrote a number of plays.

Reading, Lord (Sir Rufus Isaacs), Lord Chief Justice since Oct. 1913 (b. 1860). Was one of the ablest advocates of the day. Made Q.C. in 1888, and was M.P. for Reading from 1904 to his elevation to the Bench. Solicitor-General 1910. Attorney-General 1910-1913.

Reaumur, René A. F. de (1683-1757), an eminent French chemist, who invented the thermometer which bears his name. It was under his supervision, tendency that steel was first manufactured in France.

Reay, Baron (b. 1839), is an able and versatile public man and a clever linguist. He is President of the Royal Asiatic Society and of University College, and has filled the positions of Governor of Bombay, Under-Secretary for India, and Chairman of the London School Board. He was made a Privy Councillor in 1906.

Recamier, Madame (1777-1840), was a noted society woman of the days of Napoleon, her salon being the resort of most of the celebrities of the time, from the Emperor downwards.

Reccorde, Robert (1510-1558), was physician to Edward VI. and Queen Mary, but his chief claim to remembrance lies in his various mathematical works, which were much valued in their day. They dealt with arithmetic, geometry, and algebra.

Redmond, John, M.P. (b. 1831), has been leader of the Irish Nationalist Party since the retirement of Mr. Justin McCarthy in 1906. Is a fine speaker, and an out-and-out Home Ruler. Has been specially prominent during the later phases of the parliamentary fight for Home Rule, showing high qualities of leadership combined with a wise restraint.

Reed, Sir Edward J. (1837-1909), a naval engineer of eminence in his time, and a politician who was under Mr. Gladstone in 1886 for a short time as Lord of the Treasury, but succeeded to the Unionist Party later, and then retired from Parliamentary life. He was Chief Constructor to the Navy from 1863 to 1870; and a writer of some distinction.

Reeves, Sims (1812-1900), was the most celebrated English tenor of his time, and from 1811 to 1861 was more or less before the public. In the English ballad opera that were in vogue in the early part of his career he won enormous success.

Regnault, Henri Victor (1810-1878), a French scientist who made highly successful experiments in regard to the physical properties of bodies and their relation to heat. He was for a considerable period director of the Imperial Porcelain factory at Sèvres, and was the author of *A Course of Chemistry*, which became a standard text-book. His son, Alexandre G. H. Regnault (1843-1891), an artist of high ability, excelling in historical subject pictures. He was killed in the Franco-German War.

Regnault, Jean Baptiste, Baron (1754-1829), a talented French genre painter, who produced also some noted historical pictures. His "Three Graces," in the Louvre, is one of his best paintings.

Regulus, Marcus Attilius, was a famous Roman who was twice Consul (267 and 266 B.C.), and led the Roman armies against the Carthaginians. Being captured he was held prisoner for five years, and then permitted to go to Rome with an embassy and submit certain proposals, promising to return to Carthage if they were not accepted. Arrived at Rome, he prevailed upon the Senate to decline the proposals, and then returned to Carthage and was put to death.

Rehman, Ada (b. 1860), the well-known American actress, is a native of Limerick, but accompanied her parents to America when very young. At sixteen she made her first appearance on the stage, and rapidly advanced to a leading position. For some years she was Augustin Daly's principal actress, and was equally popular on both sides of the Atlantic.

Reich, Dr. Emil (1859-1901), was lecturer on History at London University, and the author of *The Foundations of Modern Europe*. A Hungarian, he

was for many years settled in this country, and previously travelled extensively. He published his *General History* in 1907.

Reid, Rt. Hon. Sir G. H. (b. 1845, in Renfrewshire), went to New South Wales, and entered himself for the Bar at Sydney. He was elected a Member of the Legislature of that colony in 1880, and three years later was Minister of Education. In 1894 he became Premier and Colonial Treasurer, and in 1904 was made Prime Minister of the Federal Parliament of Australia, and led the Free Trade Party. In 1910 he was appointed High Commissioner in England of the Australian Commonwealth.

Reid, Captain Mayne (1819-1883), was a novelist of exceptional power in writing stories of adventure, the scenes of which were chiefly laid in the Far West. The best known of his stories are *The Scalp Hunters*, *The Rifle Rangers* and *The Headless Horseman*. Reid saw active service in the American Army during the Mexican war.

Reid, Thomas (1710-1766), an eminent Aberdeen professor, who wrote several books on metaphysical subjects, including *Essays on the Intellectual Powers of Man*, and *An Inquiry into the Human Mind on the Principle of Common Sense*.

Reid, Sir T. Wemyss (1842-1905), was connected with journalism for many years. Edited the *Leeds Mercury* from 1870 to 1885, when he became General Manager in the publishing house of Colwell and Company, and was knighted in 1894. Wrote two novels, *Gladly, Fane* and *Maulwurf's Millions*, and the lives of W. E. Forster and Lord Houghton.

Reid, The Hon. Whitelaw (1817-1912). When a very young man became connected with journalism as a correspondent during the Civil War. Joining the *New York Tribune* in 1868, he became editor-in-chief in 1872. Has represented the United States as Ambassador to France, and in 1905 succeeded Mr. Choate as Ambassador in England, where he died in Dec. 1912, his body being conveyed to America in a British ship of war.

Réjane, Madame (b. 1857), a talented French actress. She has frequently appeared with success in London, her great part being Madame Sans-Gêne in Sardou's drama of that title.

Rembrandt, Van Rhyen (1606-1669), one of the greatest of the Dutch school of painters, who produced many remarkably successful portraits, as well as numerous figure subjects, all of them distinguished by their masterly qualities. He was an etcher of high ability also, and a number of his works are in the British national collections.

Renan, Ernest (1823-1892), a noted French author who wrote much upon religious subjects, and won special fame by his *Life of Jesus*, published in 1863. He also wrote the *Lives of St. Paul* and the *Apostles*, and was made a member of the Academy of France.

René of Anjou (1409-1480), was for a time King of Naples, but his claim to the throne being opposed he retired into private life and devoted himself with success to the pursuit of art and literature.

Rennie, John (1761-1821), a Scottish civil engineer who designed and carried out many important public works. He was the constructor of the Waterloo and Southwark and new London bridges over the Thames, the London Docks, the East and West India Docks, the Plymouth breakwater, and many other works at Liverpool, Lenth, Dublin, Hull, and elsewhere. His two sons, Sir John Rennie (1794-1874) and George Rennie (1797-1860), displayed much of their father's constructive talent, and were concerned in many important engineering enterprises.

Retz, Cardinal (1614-1670), was a native of Montmirail, and adopting the church as a profession quickly rose to eminence, and became a violent political partisan, directing his efforts mainly against Mazarin.

Reuter, Baron P. J. de (1821-1899), was the pioneer of telegraphic press services, and from about 1849 until some years later this news agency stood almost alone in its foreign service. He was established in London in 1851, and was created a Baron of the Duchy of Saxe-Coburg and Gotha twenty years later. His eldest son, Augustus Julius

Clemens Herbert de Reuter, second Baron (b. 1852), is now Managing Director of Reuter's Telegram Company, which is his second son, Baron George de Reuter (1863-1908), was a scholarly barrister who displayed considerable interest in geographical study and foreign affairs.

Revelstoke, Baron (b. 1863), is a Director of the Bank of England, and partner in the banking house of Baring Bros. and Co., Ltd. He came into the barony at the death of his father, the first Lord Revelstoke, in 1897, and was called to the Privy Council in 1902.

Revere, Paul (1735-1818), is celebrated in song and story because of his famous midnight "ride" from Boston to Concord to apprise the American troops of the proposed advance next day of the English, thus preparing them for the battles of Concord and Lexington which followed.

Reynolds, Sir Joshua (1723-1792), was the first President of the Royal Academy and the most eminent English painter of his time. He devoted the greater part of his talent to portrait painting, and his easel furnished fine examples of contemporary Royal and noble people. There is a monument to his memory, by Flaxman, in St. Paul's Cathedral, where he lies buried.

Rhodes, Rt. Hon. Cecil John (1853-1902); born at Bishop Stortford. Went to South Africa in 1871, and with his brother Herbert entered upon a diamond-mining enterprise at Kimberley, quickly acquiring a considerable fortune. He was made a member of the Cape Legislature in 1881, and became Premier in 1890. He was at the head of the British South Africa Chartered Company, and, as a result of certain little wars, a vast amount of territory was annexed, the holding of the great incorporation obtaining in due course the name of Rhodesia. Mr. Rhodes, who was made a Privy Councillor in 1895, was elected Cape Premier for the second time a year later; then followed the Jameson Raid, which led to his abandonment of politics. When the war with the Boers broke out, Mr. Rhodes was detained in Kimberley during the siege, and he did not live to see the campaign closed. By his will he left the bulk of his fortune for the founding of scholarships, devised upon an Imperial plan, at Oxford.

Ricardo, David (1772-1823), a celebrated English political economist of Hebrew descent, whose *Principles of Political Economy*, published in 1817, gained him a high place among the exponents of the science. He was in Parliament for the last five years of his life.

Richard I. (1157-1199) was King of England from 1189 to his death. He laid heavy burdens upon the people in order to equip an army for the third Crusade. At first he was victorious, and did such valiant deeds that he received the name of "Cœur de Lion." Being ultimately defeated, he signed a truce with Saladin, and on his way back to England was shipwrecked. Disguised as a pilgrim, he was identified in Austria, and handed over to the Emperor of Germany, who confined him in a remote castle. A large sum was demanded and paid for his ransom, and after over a year of duration he returned to England, and was crowned at Winchester. Later he was engaged in a war with France, and was mortally wounded by a bolt from a crossbow while besieging the castle of Chalus in Normandy.

Richard II. (1367-1400), son of the "Black Prince," succeeded his grandfather, Edward III., in 1377, when but ten years old, a Regency being appointed during his minority. In the Wat Tyler rising of 1381, the King confronted the rioters and promised them redress, an undertaking which he did not fulfil. For a time he was greatly under the influence of his uncle, Thomas, Duke of Gloucester, but on coming of age dismissed him, and ruled with some approach to dignity for the next seven years. After 1396 he developed a highly tyrannical disposition and banished or put to death many of the leading statesmen, practising any treachery himself from Parliamentary control. The opposition against him came to a head in 1399, when Bolingbroke defeated him, and he was made prisoner and died—probably by violence—in Pontefract Castle.

Richard III. (1452-1485) made himself King of England in 1483 by a succession of wicked acts and intrigues, removing obstacles from his path by murder without compunction whenever he deemed such a course desirable. He was not, however, permitted to have peaceful possession of the throne; a strong party in favour of Henry Tudor, Earl of Richmond, springing into the battle between the rival forces at Bosworth Field he was slain.

Richards, Brinley (1810-1885), a Welsh composer and musician of note, who was for many years a professor at the Royal Academy of Music. Among his many songs none has achieved more success than "God Bless the Prince of Wales," the Welsh National Anthem.

Richardson, Sir Benjamin (1828-1896), an eminent physician and writer on health. He was one of the most zealous champions of temperance of the time, and a man of unbounded energy. He invented a protective mask for workers who ran risks from inhaling dust of various kinds, and also introduced the lethal chamber for the painless destruction of dogs.

Richardson, Sir John (1787-1865), was a Scottish physician and Arctic explorer, who accompanied Franklin in his earlier expeditions, and later commanded one of the expeditions sent out in search of his ill-fated former chief. He was knighted in 1846.

Richardson, Samuel (1689-1761), was a successful London printer, who, when over fifty years of age, published his first novel *Pamela*, which achieved such a success that four editions of it were sold in the first year. His *Clarissa Harlowe* appeared in 1749, and was followed by *Sir Charles Grandison* in 1753. All these works, though somewhat prolix and tame as to incident, were conceived in a noble spirit, and gave to their author merited celebrity.

Richelieu, Cardinal Duc de (1585-1642), the eminent French ecclesiastical and statesman, who was Minister of Louis XIII. for cardinal viceroy. He was practically Master of France during the best part of his Cardinalate. Detesting the Protestants, he did his utmost to render them powerless, and was himself practically in command of the French Army at the Siege of La Rochelle. With the Huguenot humiliated, he next set himself to destroy the power of Austria, the supreme in Europe, and this led to the Thirty Years' War. His grand nephew, Duc Louis de Richelieu (1666-1728), was a Marshal of France and a soldier of distinction in his day; while the Marshal's grandson, Duc Armand de Richelieu (1766-1822), was an astute politician who cut a considerable figure in the service of both Russia and his native France.

Richmond, Sir W. D., R.A. (b. 1814), a painter who has produced many important pictures and portraits. The interior decoration of St. Paul's Cathedral owes much to his genius. He was Slade Professor at Oxford from 1876 to 1878.

Richter, Eugen (b. 1838), a German politician of prominence, and a leading journalist, who has thrown much energy and ability into the championship of the cause of the people.

Richter, Dr. Hans (b. 1843), conductor of the famous Richter Concerts for many years, from 1879; holds a high place among modern musical conductors. In 1871 was conductor of the Hungarian National Opera at Budapest. In 1875 became conductor of the Vienna Opera. In 1885 was appointed conductor of the Birmingham Festival, and from 1903 to 1911 conducted the Hans Orchestra with much success.

Richter, Jean Paul (1774-1825), a famous German author, who produced numerous books of romance, essays, and other writings, which Carlyle did much to popularise in this country.

Riddell, Mrs. J. H. (b. 1822), a novelist whose writings achieved considerable popularity. Her first mark was made with *The Ruling Passion* in 1856, and of her other stories *George Geth* (1865) stands out prominently.

Ridge, W. Post, a humorous writer and prolific novelist of the modern school, who goes for his subjects to the poorer quarters of London mostly.

He is a Kent man, and first attracted attention with his *A Clever Wife and Minor Dialogues* in 1805. Among his best-known tales since published are *Three Women* and *Mr. Frank Carverell*, *Mord Em'ly*, *A Son of the State*, and *Telling Stories*.

Ridgway, Rt. Hon. Sir West (b. 1857), has been a soldier and a British political agent abroad; seen arduous special service in India and on the frontier, been Under-Secretary for Ireland, Governor of the Isle of Man, and Governor of Ceylon.

Ridley, Matthew White, 1st Viscount (1824-1904), was a useful Conservative statesman who, having served in minor Ministerial capacities, and made an admirable Whip, was rewarded with Cabinet rank and the Home Secretaryship in 1895; and, having fulfilled that post creditably, went to the Upper House with a Viscounty in 1900.

Ridley, Nicholas (1500-1555), was Bishop of Rochester in 1547 and Bishop of London in 1550. He took an active part in the Reformation, and in the persecution which Mary instituted against the Protestants, was first subjected to imprisonment in the Tower, and then burned at the stake along with Latimer.

Riel, Louis (1844-1885), a French Canadian who instigated and led the Red River rebellion of 1869-1870, and later the rising of French half-breeds in Manitoba, when he was captured, tried, and executed.

Rienzi, Cola di (1312-1354), a Roman patriot of humble birth who inflamed the people against their rulers, and aroused such enthusiasm that they proclaimed him "Tribune." During the seven months that he was permitted to exercise supreme power, he proved himself the true friend of the poor. Ultimately, however, his enemies proved too strong for him, and he was imprisoned for three years at Avignon. Returning to Rome after gaining his freedom, he was murdered in the Capitol.

Rigg, Rev. Dr. James H. (1821-1909), was principal of the Wesleyan Training College, West-thon, deacons, and exercised a commanding influence in the Methodist communion, twice occupying the Presidential position in Conference. Was one of the original members of the London School Board.

Ripon, Marquis of (1827-1909), sat in the House of Commons as Lord Goderich from 1862 to 1869, when he succeeded to the Earldom of Ripon. An ad-^{mi}nistrator in minor Ministerial appointments, until he, in 1863, became Secretary for War, and in 1866 Secretary for India. In Mr. Gladstone's first Government of 1868 he was Lord President of the Council. In 1871 he was Chairman of the Alexandra Claims Commission, and was raised to the marquessate. In 1880 went to India as Viceroy. In 1886 was First Lord of the Admiralty, and from 1892 to 1895 Colonial Secretary. At the close of 1905 Lord Ripon, still an active spokesman of Liberalism, became Lord Privy Seal, holding the position up to 1908, when he retired.

Ritchie, Anne Isabella, Lady (b. 1838), is the eldest daughter of Thackeray, the novelist, and herself a novelist of some note. Her most popular tales are *The Story of Elizabeth* (published in 1863), *The Village on the Cliff*, and *Old Kensington*. She has also written several interesting books of reminiscences. Sir Richmond Ritchie, her husband, was Secretary to the Political Department of the India Office 1902-1910, and permanent Under-Secretary of State, India Office, from 1910 to his death in 1912.

Ritchie, Rt. Hon. C. T., 1st Lord Ritchie of Dundee (1838-1906), entered Parliament in 1874, and subsequently in Conservative Governments held various Ministerial appointments. Was Secretary to the Admiralty in 1885; President of the Local Government Board in 1886; President of the Board of Trade, 1895-1900; Home Secretary, 1900-1902; and Chancellor of the Exchequer, 1902-1903. Resigned on the Free Trade question in 1905, and afterwards was given a peerage.

Ritter, Karl (1779-1859), the celebrated German geographer, was for many years Professor of History at Frankfurt, and later Professor of Geography at

Berlin. He is best known by his *Geography in its Relations to Nature and History*.

Riviere, Britton, R.A. (b. 1840), a famous painter of animal subjects, whose range is as wide as his skill is great, specially excelling in the depiction of the fiercer beasts in incidents of life and action. "A Roman Holiday," "Daniel in the Lions' Den," and "The Miracle of the Swine," are among his best known works.

Rizzio, David (1540-1566), was the Italian secretary of Mary Queen of Scots and an accomplished musician. Suspected of a too great attachment to Mary, he was murdered by Darnley and his friends in the Queen's presence in the Palace of Holyrood.

Robbia, Luca Della (1400-1482), a famous Florentine sculptor, many of whose works are still to be seen in his native city, and include a sculptured tomb of Federighi, Bishop of Fiesole, in the Church of San Francisco. He was the introducer of enamelled terra-cotta work.

Robert of Gloucester, a celebrated rhyming chronicler of the second half of the 13th century, who wrote a history of England based on the older work of Geoffrey of Monmouth. He also wrote a number of Lives of the Saints.

Roberts, David (1796-1864), a celebrated English painter who travelled in the Holy Land and Spain, and afterwards published a clever series of sketches of scenes in those countries. His best work, however, took the form of somewhat large canvases, in which prominent architectural effects were picturesquely dealt with. He was elected R.A. in 1841.

Roberts, Field-Marshal Earl (b. 1832), the most distinguished of living British soldiers. Was born in India, and at an early age was serving with the Bengal Artillery. In the Indian Mutiny he proved his capacity on many occasions. Was at the relief of Lucknow, and assisted in the siege and capture of Delhi. Again saw active service with the Abyssinian Expedition of 1867-1868, and with that to Lushai of 1871-1872. In 1878-1879 was entrusted with the command of the Kuram Field Force, and made his historic march from Kabul to Kandahar in 1880. In 1886 had command of the army in Burma. In 1892 was raised to the peerage as Baron Roberts of Kandahar. In 1893 he returned to England from India, and two years later was appointed to succeed Lord Wolsey in the Irish command. In 1900, after the many disasters which befell the English forces in South Africa, he was despatched as Commander-in-Chief, and in the course of a few months entirely changed the aspect of affairs, relieved the beleaguered places, and won complete victories over the Boers. He then handed over the command to Lord Kitchener, returning to England to succeed Lord Wolsey as Commander-in-Chief of the British army. He received a grant of £100,000. Is deeply interested in a scheme for compulsory National Service, which he strongly advocates.

Robertson, Rt. Rev. Dr. Archibald, Bishop of Exeter (b. 1852, at Edinburgh). Educated at Oxford, and became Principal of Bishop Hatfield's Hall, Durham, in 1873. In 1879 was appointed Principal of King's College, receiving the appointment of the See of Exeter in 1903.

Robertson, F. W. (1816-1885), was a remarkable preacher, and from 1848 to his death had pastoral charge of Trinity Chapel, Brighton. He attracted the friendship of many eminent men, and the sermons of his which were published after his death are full of beautiful thoughts beautifully expressed.

Robertson, T. W. (1829-1871), was a highly successful dramatist who, between 1866 and 1870, produced a remarkable series of Society plays at the Prince of Wales's Theatre, Tottenham Court Road, in those days presided over by Marie Wilton and Mr. Bancroft (afterwards Sir Squire and Lady Bancroft). This series, beginning with "Caste," included "Society," "Guns," "School," "Play," "M.P.," and others, each of which enjoyed a long run. Robertson was also the author of "David Garrick," written for Sothorn in 1864. Madge Robertson (Mrs. Kendal), the actress (b. 1849), is a sister of "Tom."

Robertson, William (1727-1793), was a Scottish

divine and historian. His *History of Scotland during the Reigns of Queen Mary and James VI.*, *History of the Emperor Charles V.*, and *History of America* are works of high merit.

Robespierre, Maximilien (1758-1794), was a country advocate until the outbreak of the French Revolution, when he went to Paris and became an enthusiastic leader of the Jacobin Party, and was made a Member of the Assembly. In the Reign of Terror he was the ruling mind, and as President of the Committee of Public Safety he sent vast numbers to the guillotine. Then came the reaction; a counter-movement was set on foot by Tallien and others. He was denounced in the Assembly, and trying to escape, was shot and subsequently guillotined while in a dying state.

Robinson, Dean Armitage (b. 1859), has had a highly successful career in the Church, was domestic Chaplain to the Bishop of Durham in 1883, became Rector of St. Margaret's, Westminster, in 1899, was Dean of Westminster (1902), and since 1912 has been Dean of Wells.

Robinson, Sir Joseph B. (b. 1845 in South Africa). Started working and farming in early manhood, and in 1867 acquired a large tract of territory, bordering the Vaal River, where he was fortunate enough to discover diamonds. In this and other speculations he has made an immense fortune. Was Mayor of Kimberley in 1880.

Robinson, Sir J. R. (1818-1903), a genial and much esteemed London journalist, who was manager or manager and editor of the *Daily News* for close upon half a century; received his knighthood in 1893 and retired two years before his death.

Rob Roy (1671-1734), a noted Highland outlaw who levied blackmail on the farmers and rich people of the country-side in return for certain protective services, supposed or actual. He belonged to the clan MacGregor, and, as everybody knows, was the hero of Scott's novel bearing his name.

Robson, Lord W. S., K.C., P.C. (b. 1853). Entered Parliament in 1885 as a Liberal, and proved himself an able Party debater. Was appointed Recorder of Newcastle in 1895, and given the Solicitor-Generalship in Sir H. Campbell-Bannerman's Ministry at the close of 1902. Became Attorney-General in succession to Sir J. Lawson Walton in 1908. Made a Lord of Appeal in 1910, and resigned on account of ill-health in 1912.

Robson, Amy, daughter of Sir John Robson, and wife of Robert Dudley, afterward Earl of Leicester. While living in seclusion at Cumnor Place under the charge of Anthony Forster, she met her death either by accident or foul play, by the latter according to common belief, Elizabeth's favourite having reason to wish her out of the way. She was discovered dead at the bottom of an old staircase.

Roche, Earl of (1647-1686). Poet, wit, and profligate. Enjoyed a great reputation for epigrammatic verse and repute at the Court of Charles II., and was a man of undoubted brilliance, and might have achieved much had he been possessed by worthier ambitions.

Rockefeller, John D. (b. 1850), said to be the richest man in the world, was born on a small farm in New York State, and there worked until sixteen. Migrated to Cleveland, and found employment in an office for a few years. About this time the oil trade was in a disorganised condition, owing to the reckless trading and crude methods of refining. Rockefeller saw what was wrong, and resolved upon trying to remedy it. Later he began oil-refining, and entered into the business with such vigour of purpose, and made so many improvements, that he became a millionaire in a very few years. From the exertions of himself and associates, grew the Standard Oil Trust, beginning with a capital of £200,000 in 1870, and increasing and extending at such a rate that in 1892 the capital had reached twenty-two millions sterling.

Rockingham, Marquis of (1730-1782), a Whig statesman who was English Prime Minister in 1765, when, by repealing the Stamp Act, he showed a

disposition to conciliate the American colonists. Pitt, however, came into office the following year; and Rockingham, who had persistently opposed Lord North's policy, accepted office again in 1782, when the American War was the one serious question of the day, and he was anxious to bring it to a just termination, but he died before this could be accomplished.

Rodin, Auguste (b. 1841), the most celebrated French sculptor of the time, possessing a bold and original genius. His numerous statues and his fine historic monument for the city of Calais commemorating the bravery of Eustache de Saint-Pierre have brought Rodin well-deserved fame.

Rodney, George Brydges, Baron (1719-1792), a British admiral who, after serving in various parts of the world with distinction, commanded the British fleet in the battle with that of Spain in 1780 off Cape St. Vincent, winning a gallant victory. In 1782 he defeated the French fleet off St. Lucia, and was given a peerage and a pension of £2,000 a year.

Roebuck, John Arthur (1800-1879), a Radical politician, who was in Parliament from 1832 to the time of his death, except for a very short period. Was bold and able debater, though at no time a reliable party man, because of his independent and sometimes eccentric attitude on public questions. In 1855 his proposal for an Inquiry into the mismanagement of the Crimean War resulted in the downfall of Lord Aberdeen's Ministry. He obtained the sobriquet of "Trar' em."

Roger of Wendover, who died in 1237, was a monk of St. Albans, and later Prior of Bevoise. He wrote a history of the world under the title of *Flowers of History*, which has been of great value for its antiquarian lore.

Rogers, Henry (1806-1877), a thoughtful essayist and scholar, and author of *The Eclipse of Faith*, which attracted great attention in religious circles on its publication.

Rogers, The Rev. J. Guinness, D.D. (1822-1911). For many years an active Nonconformist leader. Was minister of Clapham Congregational Church for thirty-five years, chairman of the Congregational Mission in 1894, and the author of numerous able books on religious subjects. His autobiography, published in 1904, is an important work.

Rogers, James E. Thorold (1821-1900), Professor of Political Economy at Oxford 1862-1868, and for some time in Parliament as an advanced Liberal. His books, *History of Agriculture and Prices in England*, *Six Centuries of Work and Wages*, and *The Economic Interpretation of History*, were all notable productions.

Rogers, John (1509-1555), was a friend of Tyndale's, and worked with him in compiling the English version of the Bible published in 1537. After Mary's accession he was arrested for preaching a sermon against Romanism, and ultimately burned at the stake in Smithfield, being the first of the many martyrs of the reign.

Rogers, Samuel (1763-1855), the banker-poet who wrote "The Pleasures of Memory," "Italy," and other works which contain much graceful thought sympathetically expressed. His writings procured for him the friendship of the leading literary men of his time.

Roland, Madame (1753-1793), was one of the leading figures of the French Revolution. Her husband, Jean Marie Roland de la Platière (1734-1793), who was one of the Ministers during the Girondist period, escaped from Paris on the disruption of his Party, but his wife remained behind, and was sent to the guillotine. During her incarceration she wrote an *Appeal to Posterity*, remarkable for its beauty of sentiment and patriotic enthusiasm. Her husband committed suicide on receiving the news of her execution.

Rollin, Charles (1661-1741), a distinguished French historian who enjoyed great renown in his time, as the author of *Ancient History*, *Roman History*, and other works. He was a Jansenist, and to that fact owed the deprivation of important appointments.

Rollis, Sir Albert (b. 1842), was for many years

engaged as solicitor in Hull, of which borough he was several times mayor. He entered Parliament in 1886 as member for South Islington, and became a prominent debater when commercial and municipal matters were under discussion. He is a member of a firm of shipowners, as well as a lawyer, and was knighted in 1886. He has received several foreign orders of distinction.

Romaine, William (1712-1795), was a popular Church of England clergyman and preacher, and the author of the *Life of Faith*, *The Triumph of Faith*, etc., works which were at one time much read.

Romanes, George John (1828-1894), a Canadian naturalist who lived mostly in England and while at Oxford attracted attention by his studies in natural history, his works on *Mental Evolution in Animals* and *Animal Intelligence* being distinguished for a remarkable closeness of observation.

Romilly, Sir Samuel (1757-1818), a famous English lawyer who was Solicitor-General in 1806 and for many years had a distinguished career both in Parliament and at the Bar. He effected many improvements in the Criminal Law. His death occurred in painful circumstances, he putting an end to his life whilst suffering from brain fever.

Romney, George (1734-1802) was born in North Lancashire, studied portrait painting in a Kendal artist, and for a few years obtained a living by local portrait painting. Going to London in 1762, his talent gained him speedy recognition, and, after studying for a couple of years in Rome, he set up as a portrait-painter in Cavendish Square, and became highly successful. His portraits are among the finest examples of that kind of art that England has produced, and to-day realise large prices.

Ronge, Johannes (1813-1887), an eminent German ecclesiastic, who caused a considerable sensation in 1844, by declaring the Holy Coat of Treves to be an imposture. He lived in London from 1848 to 1861, when he returned to Germany and there died.

Ronsard, Pierre de (1524-1585), a famous French poet whose elegant "Odes," "Amours," and other imitations of ancient authors earned him great popularity in his own day, and a special place in his country's literature.

Röntgen, Professor Conrad William (b. 1845), the eminent German physicist—Director of the Würzburg University Laboratory, and since 1899 Professor at Munich—whose discovery of the Röntgen rays in 1895 created such a world-wide sensation and has proved of such inestimable value in surgical practice and other directions. Besides his X-rays discovery, he has made other important laboratory investigations, resulting in the solution of difficult chemical problems.

Rooke, Admiral Sir George (1650-1709), was one of the most notable seamen of his time, and for his spirited attack on the French fleet before La Hogue in 1692 was knighted. He further distinguished himself at Malaya in 1704, and the same year with Sir Cloudesley Shovel captured Gibraltar.

Roosevelt, Theodore (b. 1858), President of the United States of America from the death of Mr. McKinley in 1901 until 1909. Was educated at Harvard, and spent some years in the Far West hunting and shooting; then he returned to New York, became a Member of the State Legislature in 1881, and soon made a name for himself. Was nominated for Mayor in New York City in 1886, but defeated by the Tammanyites. He then returned to the West again for a year or two. In 1889 was made a Member of the National Civil Service Commission, a position which he held for six years. In 1895 became one of the Police Commissioners in New York, and in 1897 was appointed Assistant Secretary of the Navy, a position which he resigned on the outbreak of the war with Spain, organised a regiment of Rough Riders, and commanded that body in Cuba. After the war was elected Governor of New York State, and in 1900, when McKinley was elected President he was carried as Vice-President. On the assassination of McKinley he succeeded to the Presidency, and in 1904 was re-elected to the position. For his efforts in promoting peace was

awarded the Nobel Prize in 1906. In 1909 went on a big game shooting expedition to South Africa; returning in 1910 he made the tour of the chief capitals of Europe, making vigorous speeches. In 1912 became candidate for the presidency in opposition to Taft and Woodrow Wilson, as an Independent Progressive candidate. A petulant fanatic attempted to assassinate him on October 14 at Milwaukee, and with the bullet in his breast he made a speech of over an hour. Was defeated at the election. In 1914 explored the wilderness of Brazil and discovered a large river.

Root, Hon. Elihu (b. 1845), prominent American statesman. Secretary of War 1890-1904, Secretary of State 1905, in succession to Col. Hay. Visited South America and Mexico in 1907.

Rosa, Salvador. (See **Salvador Rosa**.)

Rosas, Don Juan Manuel (1793-1877), was the first President of the Argentine Republic, attaining that position after much desperate fighting as Commander-in-Chief of the Army. He remained President from 1853 to 1859, when a sudden Revolution caused him to quit the country, and he retired to a small farm near Southampton and there died.

Roscoe, Rt. Hon. Sir Henry Enfield, P.C. (b. 1833), grandson of William Roscoe the historian, and a great modern chemist. He has written largely on chemical subjects, was Vice-Chancellor of London University from 1896 to 1902, and President of the British Association in 1887. An ardent Liberal politician, he sat in Parliament for some years for Manchester, and has been a member of several important Royal Commissions.

Roscoe, William (1753-1831), the well-known historian whose *Life of Lorenzo de Medici* became one of our standard histories. He was also a poet of considerable ability.

Rosebery, Earl of (b. 1847), has been an active Liberal politician and statesman. He succeeded to the title in 1868, and in 1869 was Mr. Gladstone's Under-Secretary in the Home Department. This post he resigned in 1883, and afterwards made a trip round the world with his wife, who was a daughter of Baron Meyer de Rothschild. In 1884 he was made First Commissioner of Works, with a seat in the Cabinet. In 1886 he became Foreign Secretary. In 1892 he accepted the Chairmanship of the London County Council, and was again in charge at the Foreign Office in Mr. Gladstone's later Ministry. When Mr. Gladstone resigned in 1894 he became Premier, but resigned in the following year, and in 1896 gave up the Liberal leadership. Since then he has held somewhat aloof from his Party, although from time to time giving speeches of remarkable power on the topics of the day. Is a free Trader.

Rosmead, Lord (1824-1897), was best known as Sir Hercules Robinson. He held at one time and another numerous Colonial Governorships, including those of Ceylon and New South Wales, and succeeded Sir Bartle Frere in 1880 as High Commissioner of South Africa. In the difficulties with President Kruger he showed conspicuous tact, and in 1895 went to South Africa a second time, when the unfortunate Jameson Raid occurred, and matters became so unpleasant that he returned to England, being raised to the peerage as Baron Rosmead.

Ross, Sir James (1800-1862), achieved distinction as an Arctic explorer, accompanying his uncle, Sir John Ross, and Captain Parry on their expeditions. He was commander of the expedition of 1839-1843, and to him belongs the credit of the discovery of the North Magnetic Pole in 1831.

Ross, Sir John (1777-1856), the eminent explorer (uncle of the foregoing). He made several voyages to the Polar regions, and wrote some interesting and valuable works describing his adventures and discoveries. He was British Consul at Stockholm for some years, and on receiving his knighthood Parliament granted him a sum of £5,000.

Rosse, William Parsons, Lord Earl of (1800-1867), was an astronomer of considerable note who contributed greatly to the advancement of science by erecting in his Irish park at Birr Castle, King's County, the largest telescope that had up to that

time been constructed. It cost £30,000, and afforded the means of discovering and defining the spiral nebulae. From 1848 to 1854 he was President of the Royal Society.

Rossetti, Dante G. (1828-1882), was the son of Gabriele Rossetti (1793-1854), an exiled Italian author who settled in London in 1824. Dante showed great talent as a painter from boyhood, and became one of the Pre-Raphaelite Brotherhood, formed in 1848. From about 1850 he produced a great number of pictures remarkable for their extreme beauty of drawing, splendour of colouring, and poetic force. Among his best-known paintings are his "Ecce Ancilla Domini," "Song of Solomon," "Beatrice," "Lilith," and "Dante's Dream." He also distinguished himself as a poet; his two volumes, published in 1870 and 1881, respectively, reflect many of the characteristics of his paintings.

Rossetti, W. M. (b. 1829), brother of Dante G. Rossetti, and a cultured critic; has edited numerous editions of the poets and written much on art. He held an appointment at the Board of Inland Revenue for a quarter of a century.

Rossini, Gioacchino Antonio (1792-1868), one of the most brilliant of modern Italian composers, who devoted his genius principally to opera. His first opera, "Tancredi," was produced at Venice when he was twenty-one. It was followed, after a short interval by "Il Barbiere di Siviglia," "La Cenerentola," "Otello," "Mosè in Egitto"—this latter an oratorio—"La Donna del Lago," "Semiramide," and "Guillaume Tell." All these appeared between 1816 and 1829. Though mostly staid in style, and calling for exceptionally brilliant execution, Rossini's operas were amongst the most popular works of the 19th century, and earned the composer fame and fortune. He also wrote a "Statut Mater" in 1824, and a "Messe Solennelle" in 1826.

Rostand, Edmond (b. 1868), dramatist and member of the French Academy. Jumped into fame by his *Cereno de Bergerac*, 1898. The chief dramatic sensation of 1913 was his *Chantrelle*. His works are marked by great originality of conception and boldness of treatment. Made a Commander of the Legion of Honour in 1911.

Rothschild, Lord, P.C. (b. 1840), was in Parliament as Baron (of the Austrian Empire) Rothschild, from 1865 to 1885, representing Aylesbury. In the last-named year he was raised to the British peerage. He is the head of the famous Rothschild banking house in England, and was appointed chairman of the Old Age Pension Committee by Parliament.

Rothschild, Alfred Charles de (b. 1842), a member of the Rothschild firm; has been a Director of the Bank of England, is a Trustee of the National Gallery and of the Wallace Collection. He is a well-known art connoisseur and sportsman.

Rothschild, Anselm Meyer (1743-1812), was born at Frankfort-on-the-Maine, and after some experience in a law office, set up for himself first as a money lender, then as a banker. By his splendid genius for finance he acquired a large fortune. His son, Nathan Meyer Rothschild (1777-1836), took charge of the London house, and conducted its affairs with great success, and was made an Austrian Baron in 1822. He was succeeded by his eldest son, Baron Lionel de Rothschild (1808-1879), who was the first Jewish member of the House of Commons. Of this latter, Lord Rothschild and Mr. Alfred Rothschild are sons.

Roubillac, L. F. (1665-1753), was a French sculptor who lived in London from 1720 to the time of his death, and during that period contributed many monuments to Westminster Abbey. His statue of Sir Isaac Newton at Trinity College, Cambridge, is one of his finest productions.

Rousseau, Jean Jacques (1712-1778), was born at Geneva, and after a hard and wandering life, made the acquaintance of Madame D. Warens, with whom he resided for ten years as secretary and companion. In 1748 he proceeded to Paris, where, after a time, he made the acquaintance of Diderot, and wrote under his encouragement. Meanwhile Rousseau had been studying social questions with

great ardour, and in 1759 published his romance, *Julie, ou la Nouvelle Héloïse*, which was followed in 1762 by *Émile*. These two works contained so much that was at variance with convention, and so opposed to all ideas of moral restraint, that they called forth the condemnation of the orthodox, and Rousseau was obliged to leave France for a time. It was while in England that he wrote his remarkable *Confessions*, and his celebrated *La Contrat Social*. He gave to France a new field of thought, and laid down principles of government and conduct which bore fruit in the French Revolution.

Rowe, Nicholas (1673-1718), was a prominent dramatist who became Poet Laureate, and whose plays, "Jane Shore" and "The Fair Penitent," were highly popular. Was buried in Westminster Abbey.

Rizzò, Madame Marie, an eminent prima donna, who has now retired from the stage and established an academy for the teaching of singing in Paris and London, her Paris season being in the winter and her London season in the spring and summer. The successful career of this accomplished artiste is well known. She studied under Auber and Moser at the Paris Conservatoire, gaining the first prize for singing and the gold medal. Her first operatic engagement was at the Opéra Comique in 1870, and in the same year she received decorations and diplomas for her nursing services among the wounded, and for the money she raised for the Soldiers' Fund by singing. She first appeared in England in 1872, achieving a pronounced success at the opera houses. Her first visit to America was in 1877. She has had many honours conferred upon her, and is a teacher of the very first rank. Her Paris studio is at 37, Rue Joubert, the London address is c/o Messrs. Novello, Music Publishers, Wardour Street, W.

Rubens, Sir Peter Paul (1577-1640), one of the most notable of Flemish painters, who, after studying in Italy, established himself at Antwerp, where he produced a number of historical and religious works which made him a great reputation. From 1620 to 1623 he was employed by Marie de Medici on a series of pictures for the Luxembourg Palace, and was in England in 1629 painting for Charles I., who knighted him. He died at Antwerp.

Rubinstein, Anton E. (1830-1894), a famous Russian pianist and composer. Was the most expert performer on the piano of his time.

Ruddiman, Thomas (1674-1757), an eminent Scottish classical scholar, whose *Rudiments of the Latin Tongue* was a standard school book for a long period. Ruddiman was librarian to the Faculty of Advocates in Edinburgh for nearly half a century.

Rumford, Sir Benjamin Thompson, Count von (1753-1814), was an American natural philosopher and statesman, who sided with the Royal party on the outbreak of the War of Independence, and later on settled in Bavaria, accepted service under the King, and was made Count. He was in London in 1795, and afterwards resided in Paris. He was associated with the founding of the Royal Institution of Great Britain.

Runciman, Rt. Hon. Walter, M.P. (b. 1870), a son of Sir Walter Runciman, of Newcastle. An active Liberal, who represented Oldham in Parliament in 1899-1900, and has sat for Dewsbury since 1902. Was Parliamentary Secretary to the Local Government Board 1905; Financial Secretary to the Treasury 1907; President of the Board of Education, 1908-1911; and President of Board of Agriculture since 1911.

Rupert, Prince (1619-1682), was a nephew of Charles I. and son of Frederick V., Elector of Bavaria. During the Civil War he fought gallantly on the Royalist side and at the Restoration rose into favour at Court, and was made Governor of Windsor.

Ruskin, John (1819-1900), art critic and philosopher, was the son of a wealthy London wine merchant. His *Modern Painters* exhibited a masterly perception of the principles of art and a boundless gift of literary expression. Other volumes appeared at intervals until 1860. Meanwhile he had published

The Seven Lamps of Architecture and *The Stones of Venice*, two memorable works which considerably enhanced the author's fame. Always taking a deep interest in economic questions, Ruskin delivered and published numerous lectures on a wide range of subjects—art, pleasure, religion, war, work, and so forth; and he was acknowledged to be one of the greatest thinkers of the time. Often his views were impracticable and even eccentric, but behind them there was always evident a sincere desire to promote the well-being of the people.

Russell, Sir E. R. (b. 1834), became connected with the *Liverpool Daily Post* in 1860; was in Parliament from 1885 to 1887, and has shown great ability as a dramatic critic and political writer. He was knighted in 1893.

Russell, George Wm. Erskine, L.L.D. (b. 1853), held various appointments in the Gladstone Governments between 1885 and 1895, and is the author of several bright books of gossip and reminiscences. His *Collections and Recollections*, *Milestones on the Road of Life*, and *Seeing and Hearing* have been widely read.

Russell, John, 1st Earl (1792-1878), was the third son of the 6th Duke of Bedford. Entered Parliament as Lord John Russell on attaining his majority, and, ranging himself on the Liberal side, showed great capacity for affairs. He it was who introduced the first great measure of Reform, which was passed in 1832. He was leader of the House of Commons and Home Secretary under Lord Melbourne from 1835 until 1839; in which latter year he was appointed Secretary for the Colonies. Then from 1841 to 1846 he was in Opposition; but, on the defeat of Peel on the Corn Law question, was made Prime Minister, remaining in power until 1852. In Lord Aberdeen's Ministry he was Foreign Secretary, and afterwards Lord President of the Council. When Palmerston took up the reins of Government in 1855, Lord John Russell became Colonial Secretary, and later on Foreign Secretary. In 1861 he was raised to the peerage, and from 1865 to 1866 was once more Prime Minister. He also wrote lives of Thomas Moore and Charles James Fox.

Russell, Rt. Hon. Thomas W., M.P. (b. 1841), represented Tyrone from 1880 to 1910, and from 1905 to 1906 was Secretary to the Local Government Board. Is an ardent temperance man, and was a warm supporter of the Irish Land Purchase Scheme brought forward in 1906. In 1907 was appointed Vice-President of the Irish Department of Agriculture and Technical Instruction, and made a Privy Councillor in 1908.

Russell, William, Lord (1639-1683), remembered in history as having suffered execution for a trumped up charge of being connected with the "Rye House Plot."

Russell, William Clark (1844-1911), was son of Henry Russell, the once popular concert singer and song composer (1813-34). From 1875 Mr. Clark Russell was known as one of the most popular writers of sea stories, and also wrote lives of Nelson and Collingwood.

Russell, Sir William Howard (1821-1907), became a journalist in Ireland while a young man; went to London in 1842; obtained an engagement on the *Times*, and represented that paper as special correspondent in the Crimean War, greatly distinguishing himself by the boldness and correctness of his letters. He also served the *Times* in India, during the Mutiny, in the American Civil War, as well as during the Franco-Prussian War of 1870. He was knighted in 1895, and edited and owned the *Army and Navy Gazette* for a long period.

Russell of Killowen, Charles Russell, 1st Baron (1832-1900). Was born at Newry and trained for the law, beginning to practise as a solicitor in Belfast in 1854. Two years later he entered for the Bar, was called in 1859, and joined the Northern Circuit. He soon distinguished himself by his ability as an advocate, and in the course of a few years achieved a leading position. He was made Q.C. in 1872, and in 1880 entered Parliament. Was Attorney-General under Mr. Gladstone in the

administrations of 1886 and 1892. In the Parnell Commission was leading counsel for Mr. Parnell, and his conduct of that case was masterly. In 1894 he was made a Lord of Appeal, and in the same year succeeded Lord Coleridge as Lord Chief Justice.

Russell, Earl of. (See Nicholas II.)
Rutland, John Manners, 7th Duke of (1818-1906), a great figure in Conservative politics in his day, and long known in the House of Commons as Lord John Manners until he succeeded in 1888 to the dukedom. Was a Cabinet Minister in 1895 as First Commissioner of Works, and later served two further terms in the same office, and was also Postmaster-General and Chancellor of the Duchy of Lancaster.

Ruydaal, Jacob, a famed Dutch landscape painter of the 17th century, who confined himself mostly to the scenes of his native land, preferring unbraced shades and wide, tree-covered expanses, which he depicted with rare fidelity. A soft melancholy gloom is his pervading note.

Ruyter, Admiral, the Dutch admiral who in 1677 invaded England with a fleet of Dutch war vessels, advancing up the Thames and Medway and setting fire to considerable shipping. He soon saw fit to retreat, and more serious trouble was averted.

Rymer, Thomas (circa 1639-1713), a famous antiquary who for some years filled the position of Historiographer-Royal. His *Treaties* fill twenty volumes, and are highly prized. The British Museum possesses over fifty of Rymer's MS volumes.

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Sacchi, Andrea (1598-1661), a renowned Italian painter who left behind him a number of pictures of religious subjects which are much valued, his chief work being the "St. Rocco surrounded by his Companions," now at the Vatican.

Sacheverell, Henry (1672-1724), an English clergyman who attacked the Dissenters and their Whig supporters so fiercely in a sermon delivered in 1709 that he was impeached before the House of Lords, and suspended from preaching for three years; while the sermon, which was entitled "Perils from False Brethren," and had an enormous sale, was burned by the common hangman. Later, Queen Anne presented him to the Rectory of St. Andrew's, Holborn.

Sachs, Hans (1464-1576), the German shoemaker of Reformation times, was an earnest worker in the Protestant cause, and wrote over 5,000 different pieces, poetry and prose, all marked by strong individuality and religious fervour. He was born and died at Nuremberg, where his grave is to be seen.

Sackville, Charles, 6th Earl of Dorset (1637-1705), was a poet and wit who held a place of favour under the last two Stuart kings and William III. Among the numerous neat sets of verses which he wrote, the best remembered is the pretty riddle, "To All You Ladies Now on Land."

Sackville, Thomas, 1st Earl (1536-1608), was a poet and courtier high in the good graces of Queen Elizabeth. He was a prominent contributor to *The Mirror for Magistrates*, and had a hand in the writing of "Glorious," the first known English tragedy in blank verse.

Sadi, or Saadi, the Persian poet who flourished in the 13th century, and won national fame by his poems "The Garden of Roses" and "The Orchard."

St. Aldwyn, Viscount (b. 1837), better known as Sir Michael Hicks-Beach, under which name he was for a lengthened period one of the most prominent Conservative statesmen in the House of Commons, serving successively (after holding minor office) as Secretary for Ireland (twice), Colonial Secretary, Chancellor of the Exchequer (twice), and President of the Board of Trade. Opposed Mr. Chamberlain's Fiscal proposals, and founded the United Free Food League. Retired from official life in 1902, and was appointed Chairman of the Royal Commission of Ecclesiastical Discipline which reported in 1906. Was "Father" of the House of Commons upon his elevation to the peerage.

St. Arnaud, Marshal (1796-1854), was one of the generals who helped Louis Napoleon to carry out the *coup d'état*. He had previously distinguished himself in Algeria. On the outbreak of the Crimean War he commanded the French forces. After the battle of the Alma he was incapacitated by illness, and died on the way to France.

St. Audries, Baron (formerly Rt. Hon. Sir A. Acland-Hood, Bt.), late chief Conservative Whip (b. 1823). Was in the army from 1845 to 1852, and served in the Egyptian campaign, 1882, as adjutant in the Grenadier Guards. Governor of Victoria, 1889-91. M.P. for West Somerset, 1892-97.

Saint-Just, Antoine (1767-1794), one of the later leaders of the French Revolution closely associated with Robespierre in the days of the Terror, and responsible for much of its cruelty. He and Robespierre met their death on the same scaffold.

St. Pierre, Bernardin de (1737-1814), a French author; the romanticist who attained fame by his powerful story, *Paul and Virginia*.

Saint-Saens, Charles Camille (b. 1835), a distinguished French composer whose works include the operas of "Samson et Delilah" and "Henri VIII.," both of which have been performed in London. He has the gift of melody, added to a graceful classicality.

Saint-Simon, Claude, Comte de (1760-1825), was a French scientist and Socialist who had great influence upon the thought of his time. Saint-Simonism was embraced by many eminent men.

Saint-Beuve, Charles Augustin (1804-1869), was a French critic of considerable power and influence, whose "Causeries du Lundi" in the *Constitutionnel* for several years formed a clever review of the men, women, manners, and literature of the time. Among his books, *A History of French Poetry to the Sixteenth Century*, *A History of Port Royal*, and *English Portraits* are much admired.

Salisbury, George, Edward, Earl of (b. 1845), Professor of Rhetoric and English Literature, Edinburgh University, since 1895. Author of numerous critical works on literary subjects on which he is a leading authority. His volumes include *A Short History of English Literature*, *A History of Criticism*, and *A History of English Prose*.

Sala, George Augustus (1804-1895), was one of Charles Dickens's "young men," and wrote largely and entertainingly for *Household Words* and *All the Year Round*. Was the first editor of *Temple Bar*, and for a lengthy period was a leader writer and special correspondent in many lands for the *Daily Telegraph*. Also for a number of years wrote "Echoes of the Week" for the *Illustrated London News*. His best book of sketches was *Twice Round the Clock*; his best novel, *Capitaine Dangerous*.

Saladin (circa 1137-1193) was Sultan of Egypt, a conquering general, and a deadly foe of Christianity. He swept over Syria and Macedonia, and captured Jerusalem after a great victory at Tibrias. It was against Saladin that the Third Crusade was undertaken, and after his defeat by Richard I. in 1191 his power was shattered.

Sale, George (1680-1736), an English Orientalist, who is best known by his translation of the Koran.

Salisbury, Robert Arthur Talbot Gascoyne Cecil, 3rd Marquis of (1830-1905), son of the 2nd Marquis. After completing his education at Oxford, and travelling for a time at the Antipodes, he entered Parliament in 1855, being then Lord Robert Cecil. He became Lord Cranborne by the death of his elder brother in 1865, and in the following year joined Lord Derby's Ministry as Secretary for India. He succeeded to the Marquisate in 1868, and in 1874 was once more Secretary for India. In 1878 he became Foreign Secretary, and attended the Berlin Congress with Lord Beaconsfield. From 1881 he led his Party in the House of Lords, and vigorously opposed the majority of Mr. Gladstone's measures. When in 1885 the Liberals were defeated he became Prime Minister. Mr. Gladstone again held sway in the following year, but upon his being defeated on the Home Rule question, Lord Salisbury was for the

second time made Premier. In 1892 the Liberals were in power again, but in 1895 Lord Salisbury was once more Prime Minister. He continued in office until 1902, finally retiring from political life after peace was proclaimed in South Africa. His solid qualities made him a reliable and effective party leader. He was a thoroughly representative Englishman of the fine old type, his death being a great loss to his Party and the nation.

Salisbury, James Edward H. Gascoyne Cecil, 4th Marquis of (b. 1861), the eldest son of the Conservative Premier, whom he succeeded in 1903, and was known in the House of Commons as Viscount Cranborne, serving the office of Under-Secretary of Foreign Affairs. On becoming a peer he was in turn Lord Privy Seal and President of the Board of Trade, and went out to the Boer War and fought with distinction. An active churchman.

Salustius (86-34 B.C.), the Roman historian, was in turn questor and tribune. He stood high in favour with Julius Caesar, accompanied him to Africa, and was made governor of Numidia. When he subsequently returned to Rome he built himself a palace and passed the remainder of his days in luxurious retirement. It was during this period that his histories were written—*Catiline*, *Jugurtha*, and *Historiarum Libri Quinque*.

Salt, Sir Titus (1803-1876), was a Bradford wool-stapler, who, in 1835, discovered some discarded pieces of alpacas which were extremely soft and long and unsaleable. He bought these bags for a trifle, and experimenting with the fibre, produced the famous alpaca goods, and founded an enormous industry. He was made a baronet in 1866.

Salvator Rosa (1615-1731), a great Italian painter who first attracted notice by selling pictures in the streets of Naples. Being encouraged by Lanfranco, he went from Naples to Rome, and quickly became one of the most noted artists of his time. His pictures were chiefly landscape and battle-pieces.

Sambourne, Linley (1815-1891), was trained for the engineering profession, but took to drawing, and obtained a position on *Punch*. For a long time he was the second cartoonist, and on the retirement of Sir John Tenniel became principal cartoonist.

Samuel, Rt. Hon. Herbert L., P.C., M.P. (b. 1870), Postmaster-General 1910-14; President of the Local Govt. Board since 1914. Has represented the Cleveland Division (N. Riding, Yorks) since 1912. Was Under-Sec. to the Home Dept., 1905-9; Chancellor of the Duchy of Lancaster, 1909-11.

Saneroff, William (1616-1693), was a native of Suffolk and became Archbishop of Canterbury. He was one of the seven bishops sent to the Tower by James II. for opposing the "Declaration of Indulgence," and fared no better under William and Mary, being deprived of his primacy for refusing to take the oath of allegiance.

Sand, George (1804-1876), the leading French author, of his true proper name, Anne-Marie Lucile Auriant Dujon Baronesse de Sand, who, both as novelist and dramatist, achieved the highest success. Her first novel, *Rose et Blanche*, was written in collaboration with Jules Sandeau. This was followed by *Indiana*, in which she worked unaided, producing a story full of sentiment, emotion and dramatic action, and handling her theme with wonderful freshness. The story immediately made her famous, and year after year she continued to turn out novel after novel, most of them dealing with unhappy love entanglements of a kind that the English fiction convention did not sanction, but they were all instinct with power and vigour. She produced, among others, *Valentine*, *Jacques*, *Ellé et Lui*, *Manfred*, *Consuelo*, *La Petite Fadette*, and *La Menner d'Angoulême*. She was unfortunately from one point of view, but fortunate from another, in her own personal relations with men of such singular power as Alfred de Musset, Chopin and Sandeau; but she was in her way a greater artist than them all.

Sanderson, Earl Thomson (b. 1841), was Permanent Under-Secretary of State at the Foreign Office from 1894 to 1905. He was made a K.C.B. in 1893, raised to the peerage 1905. Hon. D.C.L. Oxford, 1907.

Sandys, Edwin (1519-1588), Archbishop of York in 1576. As Vice-Chancellor of Cambridge University he refused to proclaim Queen Mary, and suffered imprisonment in the Tower in consequence, but was advanced in the church under Queen Elizabeth, and was one of the translators of the *Bishop's Bible*.

Sandys, Sir Edwin (1561-1609), English politician and author, who wrote *Europe Speculum*, and assisted the Pilgrim Fathers in chartering the *Mayflower*. Son of the Archbishop, last-named, and brother of the poet, following.

Sandys, George (1578-1644), a religious poet whose works attained much favour in his day. His metrical translations of the Psalms, the Book of Job, and the Song of Solomon are instinct with poetic feeling. He was besides a great traveller, and made valuable contributions to early geography and ethnology.

Sankey, Ira David (1840-1908). The celebrated American evangelist, singer, and composer, associated with Dwight L. Moody, the revivalist (1837-1899), in mission-work in America and Great Britain for many years.

Sankey, Sir John, Kt. (The Hon. Mr. Justice Sankey), judge of the King's Bench Division since April 1914 (b. 1866); educated at Lancing Coll. and at Jesus Coll., Oxford, Chancellor of the Diocese of Liverpool from 1909.

Santley, Sir Charles (b. 1869), was educated for his vocal career in England and Italy, and made his first appearance in London in 1897. For many years he figured as our principal English baritone. The jubilee of his musical life was celebrated at the Albert Hall in 1907, in which year he was knighted.

Santos-Dumont, M. (b. 1873 in Brazil), a successful experimenter in aerial navigation, his most notable flights have been made in Paris, and at Monte Carlo. He visited London in 1909.

Sappho (flourished B.C. 610-570) was the famous lyric poetess of ancient Greece, whose romantic story of *Unrequited Love* is better known than her poetry, of which only a few samples survive.

Sarasate, Pablo (1844-1908), one of the greatest violinists of his time, was born at Pampeluna in Spain, studied in Paris and first appeared in England in 1874, from which time he was a frequent visitor to this country, and appeared in all the leading cities of Europe with great success.

Sardanapalus (properly Ashurbanipal) was the last of the great line of Assyrian monarchs. He reigned 668-606 B.C., and lived a life of luxury and licentiousness until brought face to face with revolt and disaster, when he displayed an amount of courage that he had previously been unsuspected of, and when at last he saw no possibility of standing against the besieging forces he is said to have gathered his household and treasures together in his palace at Nineveh, set fire to the pile and so perished.

Sardou, Victorien (1831-1908) began writing plays in 1854, but was at first unsuccessful. Later he obtained an introduction to Mlle. Déjazet, the famous actress, for whom he wrote some plays that proved splendid successes and placed him at the head of French dramatists. Then followed a long series of successes—"Nos Intimes," "Seraphine," "Rabagas," "Divorçons," "Fédora," and so on, from triumph to triumph. Later he turned his attention to historic subjects, and in "Théodora," "Patrie," "La Tosca," "Madame San Gène," "Robespierre," and "Dante," the last-named written specially for Sir Henry Irving. He was elected to the French Academy in 1877.

Sargent, John S. (b. 1856, at Florence). He is of American parentage and received his art education in Paris. As a portrait painter he has few equals. Was made A.R.A. in 1894 and R.A. in 1897.

Satow, Rt. Hon. Sir Ernest M. (b. 1843), has held high diplomatic posts at Tokio, Peking, and in Morocco, and was one of the British representatives at the Hague Conference of 1907.

Saunderson, Nicholas (1684-1739), a celebrated blind mathematician, who acquired such a mastery of his study that he was elected Lucasian Professor of Mathematics, and published a treatise on *Fluxions and Elements of Algebra* in a vol.

Saurin, Jacques (1677-1730), a noted Huguenot preacher, who was minister of a London church early in the 18th century, and afterwards went to Holland and took charge of a Protestant church at The Hague. He published several volumes of sermons of a deeply devotional character.

Savage, Richard (1656-1743), was said to be the natural son of the Countess of Macclesfield, but was brought up without knowing the secret of his birth, and when at last he discovered it his mother declined to help him. He was, however, possessed of considerable ability, and for a time maintained himself by literary work, producing plays, comedies, and poems. In 1727 he was condemned to death for having killed a man in a coffee-house quarrel, but obtained a pardon and a small pension from Queen Caroline and afterwards was under the protection of Lord Tyrconnel. With that peer, however, he subsequently quarrelled, and after enduring much privation died at last in a debtors' prison at Bristol.

Savonarola, Girolamo (1452-1498), the great Florentine preacher and Reformer, who was a monk of the Dominican order. He denounced the follies and luxuries of his time, especially attacking Pope Alexander VI. He was held in great regard by Lorenzo de Medici, and after that noble's death attempted to reorganise a Florentine Republic, but the Pope dealt out swift vengeance upon him. He was excommunicated, imprisoned, and put to a dreadful death. Savonarola was one of the most learned men of his time, and his works have been translated into nearly all languages. George Eliot's *Romola* contains a fine estimate of his character, and his life by Villari is a great biography.

Saxe, Count Hermann, Marshal of France (1666-1750), was one of the most prominent generals of the allied armies commanded by the Duke of Marlborough and Prince Eugene, but went to the French side after the Peace of Utrecht. Rose into high favour with Louis XV, who made him Marshal, and later on he commanded the French army in Flanders, achieving many notable victories.

Sayce, Rev. Archibald, D.D. (b. 1846). Educated at Oxford, receiving the appointment of Deputy Professor of Comparative Philology in 1898. His work on the *Principle of Comparative Philology* is a hard book. He was a member of the Old Testament Revision Committee, and received the appointment of Professor of Assyriology at Oxford in 1897. Professor Sayce's writings are marvels of profundity, and his books almost innumerable. Published *The Archaeology of Cuneiform Inscriptions* in 1907.

Scaliger, Julius Cæsar (1474-1558), was a celebrated Italian physician and scholar who settled in France, and was appointed physician to the Bishop of Agen. He wrote commentaries on the classical authors, which were remarkable for their perspicuity and scholarship. His son, Joseph, Joseph Scaliger (1540-1609), was also a very learned Protestant scholar, and the founder of modern chronology.

Scarlatti, Alessandro (1659-1757), a distinguished Italian composer, who was for some years Musical Director to the Court of Naples, then went to Rome, but later on returned to Naples, remaining there until his death. He composed an immense number of operas, masses, cantatas, and oratorios, etc., and much of his music is still performed. His son, Domenico Scarlatti (1685-1757), was a fine organist and performer on the harpsichord, and composed numerous sonatas and fugues, including the famous "Cat's Fugue."

Scarron, Paul (1610-1660), was a clever, reckless and popular French writer, whose burlesques and comic romances were highly esteemed. He was the husband of Madame de Maintenon, before she came under the influence of Louis XIV.

Scheffer, Ary (1795-1858), a celebrated painter, who was born in Holland, but lived for the main part of his life in Paris, and attained a great reputation for his religious pictures. His "Paolo and Francesco" is reckoned his masterpiece.

Schelling, Friedrich von (1775-1854), was Pro-

fessor of Philosophy, first at Munich and then at Berlin, and attracted much attention by the system of Idealistic Philosophy which he founded.

Schiller, J. C. Friedrich von (1759-1805), the famous German dramatist and poet. Was born at Marbach in Württemberg. Educated at the Military Academy at Stuttgart, and intended for a soldier, he evinced an irresistible desire for literary fame, and in 1782 had his first play, "The Robbers," successfully produced at the Mannheim Theatre, to which he was subsequently appointed dramatic composer. He left Mannheim for Leipzig in 1785. Later he proceeded to Dresden, where he completed his "Don Carlos"; and in 1789 he was at the University of Jena as Professor of History. While engaged in this capacity he wrote his *History of the Thirty Years' War*, and made the acquaintance of Goethe, at whose suggestion he removed to Weimar, and during the next ten years produced his greatest works—"Wallenstein," "Mary Stuart," "The Maid of Orleans," and "William Tell." He died at the early age of forty-six.

Schlegel, August Wilhelm von (1767-1845), was a famous German critic who for a number of years held the post of Professor of History in the University of Bonn. He is best known in this country by translations of his *Lectures on Dramatic Art and Literature*, which are remarkable for their appreciation of Shakespeare and their scholarly handling of the drama in all its leading phases. He spent many years with Madame de Staël.

Schlegel, Karl W. F. von (1772-1829), was the younger brother of August W. von Schlegel, and a famous critic and writer. His *Lectures on the Philosophy of Life* and on the *Philosophy of History* display great learning and critical power.

Schliemann, Heinrich (1822-1906), was a celebrated German traveller and archaeologist, whose excavations at Athens and Mycenæ resulted in the discovery of a number of royal tombs.

Schomberg, Friedrich von (1649-1700), a Protestant marshal of France, who, after the revocation of the Edict of Nantes, quitted France, entered the service of William III. and commanded at the battle of the Boyne, where he was killed.

Schopenhauer, Arthur (1788-1860), was a German philosopher of a pessimistic cast of mind, whose speculations have been much written about in recent years and may be almost said to have given rise to a special school of philosophy. His mysticism partakes somewhat of the higher Buddhism, and to a certain class of minds is undoubtedly fascinating. His chief works are *The World, Considered as Will and Idea*, and *The Two Fundamental Problems of Ethics*.

Schubert, Franz P. (1797-1828), one of the most eminent of German musical composers, whose songs and symphonies are among the most inspired of musical compositions, full of melodic beauty, and instinct with emotional power. He also wrote operas, *Misérables*, and cantatas, all of which reached a high level of merit.

Schumann, Robert (1810-1856), a famous German composer and musical critic, who did much to help forward the advanced school of German music. He was the author of numerous fantasias, songs, and orchestral compositions, and attained a prominent position among modern composers. His wife, Clara Schumann (1819-1896), was a noted pianist and interpreter of Chopin, and also a composer of meritorious music.

Schuster, Sir Felix, Bt. (b. 1853), member of the Council of India since 1900, and an influential City banker. An authority on finance, alone climbing, and music, to each of which he is devoted.

Scipio, Emilianus (circa 185-129 B.C.), known as Scipio Africanus Minor. Was Roman Consul in 147 B.C., and conducted the Siege of Carthage, ultimately capturing the city, and thereby closing the Punic Wars. He was afterwards one of the political leaders of the aristocratic section, but quarrelled with his party and was assassinated.

Scipio, Lucius Cornelius (circa 234-183 B.C.), known as Scipio Asiaticus, was brother of the next

named, and distinguished himself by his victories in Asia, afterwards falling into disgrace for having accepted bribes from Antiochus.

Scipio, Publius Cornelius (circa 232-183 B.C.), the greatest of the Scipios, known as Scipio Africanus the elder. He commanded the army in Spain at twenty-four, defeated the Carthaginians, both in Spain and in Africa, gaining a complete victory over Hannibal at Zama.

Scott, Sir G. Gilbert (1811-1878), was one of the most eminent architects of his day, and gained special fame for his restorations of Gothic churches. He was the designer of the Albert Memorial and the Martyrs' Memorial at Oxford; also architect, in association with Mr. Digby Wyatt, of the Foreign Offices at Westminster. He was elected A.R.A. in 1858 and R.A. in 1860, and knighted after the completion of the Albert Memorial.

Scott, Rear-Admiral Sir Percy (b. 1853), the gallant fighter and resourceful genius who invented the carriage which got the 47 inch guns about so readily in South Africa, and who has effected many improvements in naval gun-fire, devising the night-signalling system now in use. He has smelt a lot of powder, borne himself smartly always, and had command of the famous *Terrible*. Retired 1913.

Scott, Captain Robert F. (1808-1913), commanded the National Antarctic Expedition, 1900-1904, and took charge of a similar expedition in 1910. His ship, the *Terra Nova*, left England on June 1, 1910. In Jan., 1911, winter quarters were established at Cape Evans, and in the following November Scott and a select party left Hut Point for the South Pole, which they reached on Jan. 18, 1912, finding there the Amundsen records. On the return journey every member of the party perished. Seaman Edgar Evans died from concussion of the brain on Feb. 17; Capt. Oates from exposure on March 17; and on March 19 the rest of the party (Scott, Wilson and Bowers) died from starvation and exposure in a blizzard when only 11 miles from One Ton Depot.

Scott, Sir Walter (1771-1837), one of the greatest of British novelists and a distinguished poet. He was educated for the Bar. His *Minstrelsy of the Scottish Border* was published in 1802. This was followed in 1804 by "The Lay of the Last Minstrel," in 1808 by "Marmion"; "The Lady of the Lake," "Rokeby," and "The Lord of the Isles" coming afterwards in quick succession. In 1814 he published *Warley* anonymously, which obtained instant success. Other stories followed, and the Waverley novels and their author, "the great Unknown," were everywhere the subject of discussion. *Guy Raverling*, *The Antiquary*, *Old Mortality*, *Rob Roy*, and *The Heart of Midlothian* were all published before the secret of their authorship was disclosed. Scott made large sums of money by his writings, purchased Abbotsford, and was in the full tide of success when the failure of Ballantyne, his publisher, saddled him with liabilities to the extent of £150,000. Scott, who was then fifty-five, placed himself in the hands of trustees, retired into private lodgings, and within five years paid to his creditors £50,000, and before his death had satisfied all his obligations and purchased back his old estate. He was created a Baronet in 1820.

Scroggs, Sir Wm., the notorious Chief Justice of the King's Bench under Charles II. Implicated for corruption in 1680, he was deprived of office, but granted a pension. He died in 1683.

Seabury, Samuel (1729-1790), was the first bishop of the American Episcopal Church. He was a native of Connecticut and had studied medicine at Edinburgh. There was some difficulty about his consecration, the English bishops hesitating about performing the ceremony, but three Scottish bishops were found more compliant, and the consecration ultimately took place at Aberdeen.

Seaman, Owen (b. 1860), a facile rhymester and pretty wit, who succeeded Sir Francis Burnand in the editorship of *Punch* on the death of that genial knight's retirement with long-service honours in 1906.

Sebastian, St. (A.D. 257-288), a Roman Christian soldier born at Narbonne in Gaul, who was one of the martyrs who suffered death under Diocletian.

He became revered in the Church as a protector against pestilence.

Seddon, The Hon. R. J. (1845-1906), born in Lancashire, emigrated to Australia in 1863 as a mechanical engineer. Was very successful in New Zealand and entered the House of Representatives in 1870, becoming Premier in 1873.

Sedgwick, Adam (1785-1873) was Woodwardian Professor of Geology at Cambridge from 1818, and devoted himself with great success to geological studies. His *Discourses* on the studies of the University of Cambridge is his best-known book.

Seely, Sir Robert (1834-1895), for many years Professor of History at Cambridge, was a historian of note, but acquired his chief fame as a writer by his *Ecc Homo* and *Natural Religion*, which were fiercely assailed by critics of the orthodox school.

Seely, Rt. Hon. Col. J. E. B., P.C., D.S.O., M.P., Secretary for War 1912-14. Resigned after misunderstanding as to offices at Curragh and the Ulster question. Under-Secretary for War 1917-18, Under-Secretary for the Colonies 1918-19. Served with distinction in the Boer War. M.P. for Abercrombie Division, Liverpool, 1900-13, and for Ilkerton since 1914.

Selborne, Earl of (b. 1859), 11th Commissioner in South Africa in 1905 to 1910, and had previously been Conservative Under-Secretary for the Colonies and First Lord of the Admiralty.

Selby, Viscount (1835-1909). Better known formerly as Sir William Court Gully, who entered Parliament in 1886 as member for Carlisle, was elected Speaker in 1895, holding the office for ten years.

Selden, John (1584-1654), was a prominent lawyer, statesman, and author in the reign of Charles I. He sat in Parliament for some years, and espoused the popular cause in a dignified sort of way, neither approving of the Civil War nor the execution of Charles. He was held in great esteem for his writings, which comprised besides his celebrated *Table Talk*—a work on titles of honour, a history of tithes, a treatise on the idols of the Syrians, and other volumes. In 1643 he was made Keeper of the Tower Records, and three years later Parliament granted him £5,000 for his "eminent services."

Selwyn, Bishop (1809-1898) was the first Bishop of New Zealand, and ruled the see for twenty-six years. In 1867 he was appointed Bishop of Lichfield.

Semiramis, Queen of Assyria and founder of Nineveh, flourished about 822 B.C.

Seneca, Lucius A. (circa 4 B.C.-A.D. 65), the famous Roman Philosopher who was tutor to Nero, and one of that emperor's most influential advisers. Disgusted with Nero's disgraceful acts, Seneca would fain have retired into private life, but Nero distrustful of him and had him charged with conspiracy, and sentenced him to end his own life; a headstall belief which the philosopher courageously carried out.

Senefelder, Aloys (1772-1834), was the son of an actor at Munich, and himself engaged in dramatic composition. Being too poor to bear the cost of having his works printed, he turned his attention to inventing lithography, the main feature of the invention being discovered by accident. The King of Bavaria granted him a pension, and the London Society of Arts awarded him their gold medal.

Sennacherib was King of Assyria from 702 to 680 B.C. He built himself a splendid palace at Nineveh, and greatly beautified the city. According to the Scripture narrative, his great host of 195,000 men, while on the eve of attacking Palestine, was destroyed in a single night by direct Divine visitation.

Servetus, Michael (1512-1553) was a learned Spanish physician and theologian, who, though an ardent Reformer, was opposed to the doctrine of the Trinity. His books, *De Trinitatis Erroribus* and *Christianismi Restitutio*, were denounced by Calvin, and he was imprisoned and sentenced to death, but escaped. Later, however, he was arrested at the instigation of Calvin, and sent to the stake.

Sesostris, the ancient Egyptian King who—according to Greek tradition—subjugated Ethiopia, a considerable portion of Asia, and part of Europe. Much of his history is evidently legendary, but the

authorities agree in acclaiming him a famous conqueror. His heroic exploits were founded, no doubt, on the deeds of Rameses II., Thothmes, and Sethos, and date back to the 14th century B.C.

Settle, Elkanah (1648-1729), a dramatist and versifier of the Reformation Period, the last to hold the office of City Poet of the Corporation of London. He died in the Charterhouse.

Severus, Lucius S. (146-211), was Roman Emperor from 193 to his death. After many victories in the East he passed over to Britain with an army, subjugated the Caledonians, and built the famous wall from the Solway Firth to the mouth of the Tyne, which bears his name. He died at York.

Sevigne, Marie, Marquise de (1666-1696) a French epistolary writer, whose famous letters to her daughter possess great charm, and throw a flood of light on the history of her time.

Seymour, Admiral Rt. Hon. Sir Edward Hobart (b. 1840), entered the navy in 1852, saw service in the Crimea, China, and Egypt; and rose to the rank of Vice-Admiral in 1905, and full Admiral in 1907; Admiral of the Fleet 1915-16. Commanded the Allied Expedition against the Chinese in 1900, and was one of the original members of the Order of Merit.

Shackleton, Sir Ernest (b. 1874), commander of the Nimrod Farthest South expedition of 1907-1909, succeeded in getting within 90 miles of the South Pole, and made many important discoveries.

Shadwell, Thomas (1648-1692), was Poet Laureate and dramatist, and wrote a number of plays. He was buried in Westminster Abbey. "The Lancashire Witches" was one of his dramas.

Shakespeare, William (1564-1616), England's greatest poet and dramatist, was born at Stratford-on-Avon, and was the son of a tradesman of that town who must have been at one time fairly well-off, seeing that he was made an alderman, and afterwards served as High Bailiff. Later on, however, he appears to have been unfortunate and fallen into straitened circumstances. William was the eldest son, and was probably educated at the Stratford Grammar School, but very little is known of his career up to his eighteenth year when we have it on record that he married Anne Hathaway, who was eight years his senior. Five years after his marriage he went to London, and the next we hear of him is that he was connected with the Globe Theatre and appeared in sundry small parts. He first appeared before the public as a poet in 1593, with his "Venus and Adonis," following this in 1594 with "The Rape of Lucrece." Shortly afterwards he was proprietor of the Globe Theatre, and also had an interest in the Blackfriars Theatre. Then he began that remarkable career of play-writing which has since been the wonder of the world. It is impossible to name the thirty-five plays that he wrote in the exact order in which they were produced, but "Love's Labour's Lost" and "The Comedy of Errors" seem to have been among the earliest, being followed by "The Two Gentlemen of Verona," "Romeo and Juliet," "A Midsummer Night's Dream," and others, the record being made up with "King Richard III.," "King John," "The Merchant of Venice," "The Taming of the Shrew," "The Merry Wives of Windsor," "King Henry VI." (Parts I, II, and III.), "Richard II.," "Henry IV." (Part I. and II.), "Henry V.," "Much Ado About Nothing," "As You Like It," "Hamlet," "Julius Caesar," "Coriolanus," "Twelfth Night," "Macbeth," "Measure

for "Measure," "Othello," "All's Well that Ends Well," "Antony and Cleopatra," "Troilus and Cressida," "King Lear," "Timon of Athens," "Cymbeline," "Pericles," and "Titus Andronicus," though as to the last two he could only have been part author. It was evident that his plays were remunerative, inasmuch as in a few years he was able to purchase property at Stratford, and when he retired from his profession (about 1610 or 1612) he returned to his native town to live in a house which he had himself built, and was to all intents and purposes a man of substance. He died at Stratford at the age of fifty-two, and was buried in Stratford Church. In addition to his plays he wrote a volume of sonnets, which in the main are worthy of his group.

Sharp, Granville (1775-1819), slavery abolitionist and founder of the colony of Sierra Leone.

Sharp, James (1618-1679), Scottish ecclesiastic; Archbishop of St. Andrews; murdered by Covenanters for treachery to the Revolutionist cause.

Sharp, John (1624-1714), chaplain to Charles II. and James II.; Dean of Canterbury, and later Archbishop of York.

Shaw, George Bernard (b. 1856, in Dublin). Went to London in 1876 and gradually worked his way as a journalist and Fabian Socialist writer and speaker, and by a bold unconventionality came to be much talked about. He has written a number of plays, many of which are tantalisingly brilliant and effective in parts, but just as tantalisingly inefficient as dramatic enterprises. He was musical critic for the *Star* for a time, also for the *World*. He discussed the drama in the *Saturday Review* for a few years. His best plays are "Man and Superman," "Androcles and the Lion" (1913), and "Pygmalion" (1914). Published two volumes of *Dramatic Opinions* in 1907.

Shearman, Sir William, M.A. (M. Justice Shearman), appointed Judge of the King's Bench Division, April, 1914 (b. 1857). Educ. at Merchant Taylors' School, and at St. John's College, Oxford.

Sheffield, Bishop of, See Burrows, Rt. Rev. L. H.

Sheil, Richard Lalor (1797-1851), the famed Irish orator of the days of the Catholic Emancipation. He was also a dramatist of ability, and occupied the offices of Vice-President of the Board of Trade, Judge-Advocate General, Master of the Mint, and British Minister at Florence.

Shelburne, Earl of (1717-1805), was Prime Minister in 1782, and it fell to him to acknowledge the independence of the United States. His administration was short-lived, and he passed into retirement, being created Marquis of Lansdowne.

Shelley, Percy Bysshe (1792-1822), one of the most brilliant poetic geniuses of the 19th century. For the daring and unorthodox opinions which he held. His "Queen Mab" (written when he was nineteen), "Alastor," "The Revolt of Islam," "The Witch of Atlas," and "Adonais" all breathe the true spirit of poetry, securing him a place in the first rank of British poets. He showed fine dramatic gifts in the "Cenci" and "Prometheus Unbound," almost reaching sublimity in the latter masterpiece. His "Adonais" was a splendid tribute to the genius of Keats. His first wife, whom he married while very young, committed suicide. He afterwards married Mary Wollstonecraft Godwin, and formed other attachments of a complicating nature. Was always at war with his family, and finally, after spending some time with Byron and Leigh Hunt and other friends in various parts of Italy, was drowned in the Gulf of Spezia by the capsizing of a boat in a storm.

Shenstone, William (1714-1753), an English poet of country life, whose poems were marked by a graceful simplicity of style and homeliness of thought which made them great favourites. His "School-mistress" is his principal poem. He lived at a quiet retreat called "Leasowes," near Halesowen.

Shenbrooke, Lord (Robert Lowe) (1811-1892). After being educated at Winchester and Oxford and becoming fellow and tutor of University College, he went to Australia, achieved considerable success at the Sydney bar and was elected to the

Colonial Parliament. Returning to England, he entered the House of Commons as a Liberal and held various offices under Mr. Gladstone, being in turn Vice-President of the Education Department, Chancellor of the Exchequer, and Home Secretary. He was made a peer in 1880.

Sheridan, Richard Brinsley (1757-1816), the greatest British comic dramatist of modern times. Was born in Dublin, and partly educated at Harrow. Showing considerable capacity for dramatic composition, he obtained an introduction to the Covent Garden management, and it was at the Covent Garden Theatre in 1775 that his first comedy, "The Rivals," was produced, with such a gratifying result that Garrick, who was then at Drury Lane, opened negotiations with the dramatist, which ended in Sheridan becoming part (and ultimately sole) proprietor of Drury Lane. The "Duenna," a musical comedy, was produced in 1775, and ran through the winter. From 1777 Sheridan managed Drury Lane, opening with an adaptation of Vanbrugh's "Relapse." This was followed by the production of the greatest of his comedies, "The School for Scandal," which had a wonderful success. In 1779 "The Critic" was given, and after that Sheridan wrote no more plays, until 1809, when "Pizarro" was produced. In the meantime he had gained a high reputation in another sphere. In 1780 he obtained a seat in Parliament and although he only spoke on certain set occasions, he acquired a reputation for oratory which stood him in very good stead, and he filled one or two minor Ministerial offices, remaining in Parliament until 1812. He only lived four years after, his last days being clouded by ill-health and pecuniary difficulties.

Shirley, James (1556-1660), was an eminent dramatist and poet, imbued with the Elizabethan traditions. For a period of nearly twenty years he held the attention of the public with a series of plays of singular merit, the principal of which were "Love Tricks," "The Maid's Revenge," "The Gamester," and "The Tractor." The shock of the Great Fire caused the death of himself and his wife.

Shore, Jane (1460-1524), was one of the beauties of her time, and the wife of a London goldsmith. Edward IV. was attracted by her personal attractions and wit, and she became his mistress. Later she was in the keeping of Lord Hastings, and is chiefly remembered by being compelled to do penance at St. Paul's. There is a tradition that she perished in a ditch in East London, and that the circumstance gave rise to the local name Shoreditch.

Shorter, Clement K. (b. 1859), an active editor and able writer, whose clinical and literary successes have been won in the field of illustrated weeklies. Edited the *Illustrated London News* from 1891 to 1900; edited *The Spectator* from 1903 to 1910; founded *The Sphere* and *The Times* in 1910, and has since edited those papers continuously. Author of works on the Brontës, and a *Life of George Bernard Shaw*. A founder of the Omar Khayyam Club.

Shorthouse, J. H. (1824-1903), was a Birmingham manufacturer who, turning his leisure to literary account, produced a remarkable historical novel, *John Ingelman*, which evidenced a sincere spirituality and a profound appreciation of the problems of life, and is a work that will live. He also wrote other novels, but failed in them to reach the high standard of his masterpiece.

Shovel, Sir Cloudesley (1630-1707), a celebrated British admiral who originally served before the mast, but greatly distinguished himself at the Battle of Bantry Bay in 1690, and commanded at the Siege of Toulon in 1707, being lost with his ship off the Scilly Isles on his return from that expedition.

Siddons, Sarah (1755-1831), was the daughter of Roger Kemble, a theatrical manager, and appeared on the stage while a child. At eighteen she married an actor named William Siddons, of no particular merit, but to whom she was sincerely attached. She was then playing leading parts, and showed such remarkable ingenuity that her fame soon reached London, and Garrick engaged her for Drury Lane at £5 a week, but her success was not

- such as to warrant a continuation of the engagement. She returned to the provinces for further experience, and in 1782 was again engaged for Drury Lane, after an absence of eight years, and made one of the most successful triumphs in the annals of the stage. From that time she was acknowledged to be the greatest actress of her time. She left the stage in 1819, and lived in retirement for twenty years. A statue of her by Chantrey is in Westminster Abbey.
- Sidgwick, Henry** (1838-1900), Professor of Mental and Moral Science at Cambridge, was a native of Skipton, Yorkshire, and besides being an eminent educationist in the broader sense, devoted himself with special success to the cause of women's education. Newnham and Girton being largely the outcome of his efforts.
- Sidgwick, Mrs. Henry** (b. 1845), widow of the late Prof. Henry Sidgwick, and sister of the Rt. Hon. A. J. Balfour. Appointed Principal of Newnham College, Cambridge, in 1892. Is a pioneer of the higher education, and a brilliant woman.
- Sidney, or Sydney, Algernon** (1622-1683), was a son of the second Earl of Leicester, and in the Civil War won some distinction under Cromwell. Disapproving of the Protectorate, he took no active part in the work of Cromwell's Government, and after the Restoration lived abroad for some years. In 1679 he was pardoned for all offences and permitted to return to England, but in 1683 was charged with being concerned in the Rye House Plot, sentenced to death by Jeffreys on notoriously insufficient evidence, and executed.
- Sidney, Sir Philip** (1554-1586), was one of Queen Elizabeth's favourites, and a man of singular ability and bravery. While living in temporary retirement he composed his famous "Arcadia," but did not allow it to be published in his lifetime. He did not lack for literary fame, however, his *Apology for Poetry and Defence of Poetry*, as well as numerous miscellaneous pieces, all distinguished for their beauty of expression and tender sentiment, having won much favour, especially in the circle of the Court. In 1586 he was given a command in the Netherlands, and was killed at Zutphen.
- Siemens, Sir William** (1817-1883), a German-born scientist and inventor, distinguished in physics, and particularly in electricity and heat. Was elected to the Royal Society, and served as President of the British Association.
- Sieyès, Comte Emanuel J.**, commonly called Abbé Sieyès (1748-1836), was a prominent figure in the French Revolution, taking an active part in shaping the Republic, and voting for the death of the King. Later he was Ambassador to Berlin, was made a member of the Directory, was Consul under Napoleon, and on the latter obtaining supreme power, was ennobled and retired on a pension.
- Sigmund, Emperor** (1301-1337), Emperor of the Holy Roman Empire, first of the House of Luxembourg. Succeeded Margrave of Brandenburg, King of Bohemia, and Emperor of Germany; infamous for allowing John Huss to be burned at the stake after giving him a safe conduct to the Council of Constance.
- Sigourney, Mrs. Lydia H.** (1791-1865), was an American poetess who, in addition to writing short poems that were highly popular, was the author of a volume of *Pleasant Memories of Pleasant Lands*, describing in an appreciative way her experiences during a tour of Europe in 1840.
- Silius Italicus, Gaius** (flourished in the 1st century of the Christian era), a Roman poet, orator, and statesman. Wrote a long historical poem (in sixteen books) on the second Punic war.
- Simson, Charles** (1759-1836), a popular Evangelical preacher and Fellow of King's College, and from 1783 to his death vicar of Trinity, Cambridge. His sermons had an immense sale. He was one of the founders of the Church Missionary Society.
- Simson Stylites**, a Syrian monk of the 5th century, who is said to have passed thirty years of his life on a pillar near Antioch, from which he preached daily to great crowds. Tennyson wrote a poem on the subject.
- Simon, Sir John A., K.C., M.P.** (b. 1873), represented the Walthamstow Division from 1906; Solicitor-General 1910-13; Attorney-General since Oct., 1913. A cultured and effective speaker, who has achieved a high reputation both at the Bar and in Parliament.
- Simon, Jules** (1814-1896), the eminent French philosopher and statesman. His refusal to take the oath of allegiance to Louis Napoleon debarred him from a public career while the Empire lasted. By his pen, however, he succeeded in keeping his opinions before the public, and was elected to the Legislature in 1863. When he saw his country drifting into war in 1870, he raised his voice against it, but ineffectually. After the war he became Minister of Public Education; in 1875 was made a life senator and was elected to the Academy; in 1876-1877 was Premier, after which he did not hold office again. His writings include a history of the Third Government, *Duty, Natural Religion, and Liberty of Conscience*.
- Simpson, Sir James Young** (1812-1870), the discoverer of the utility of chloroform as an anæsthetic, was a native of Scotland, and one of the most accomplished experimental surgeons of the 19th century. He was Professor of Medicine and Midwifery in the University of Edinburgh from 1840, and after a long series of experiments succeeded in bringing to plain and introduce his new anæsthetic agent. He also introduced remarkable improvements in gynecology. Was made a baronet in 1866.
- Sims, G. R.** (b. 1847), one of the most active of living journalists and authors. As "Daguet" of the *Referee*, he skims lightly and pleasantly over the surface of current events from week to week; he writes short stories and long stories and sketches and poems in papers and magazines with facility and success. He is a dramatist with many successes to his credit—"Liddy of London," "Lionel Rye," "In the Ranks," and so on; and is about as all-round a ready-writer as we possess.
- Sismondi, Leonard de** (1773-1842), a Swiss historian, was one of the most industrious writers of his time, and gained a high reputation. He wrote *History of the Italian Republics, History of France, and of The Literature of Southern Europe*.
- Skeat, Prof. Walter William** (1835-1912), an eminent philologist and scholar, and founder of the English Dialect Society. Appointed Prof. of Anglo-Saxon at Cambridge in 1878, and was the author of multitudinous works dealing with early English literature, poetry, history and biography. He also achieved early distinction as a mathematician; and published *The Proverbs of Alfred* in 1907.
- Skelton, John** (1460-1529), was a lively satirist with the courage of his convictions, fearless in denunciation, and as coarse as he was prejudiced. Was tutor to Henry VIII., and for the last twenty-five years of his life was tutor to his son. He wrote "Why Came ye not to Court?" and "Colin Clout," a satirical poem against ecclesiastical abuses, which incensed Wolsey, and led to the poet's downfall.
- Skobeleff, Michael** (1845-1882), a Russian general and statesman who served his country with brilliance in expeditions to Khiva and Khokand, and during the war with Turkey in 1877-1878. As commander-in-chief took Geok-Tepe and conquered the Turkomans in 1881.
- Sluane, Sir Hans** (1660-1751), was born in county Down, Ireland, but settled in London, and became famed as a physician and naturalist. For some years he held the office of President of the Royal College of Physicians, and was elected President of the Royal Society in succession to Sir Isaac Newton. He was created a baronet in 1716. His library of 50,000 vols., and treasures in natural history and MSS., worth from £50,000 to £80,000, were offered by his will to, and bought by, the nation for £20,000, and with that nucleus the British Museum was founded.
- Smart, Christopher** (1722-1771), was an English poet, more noted for his translations of Horace than for his own poems. Johnson, Garrick, and Goldsmith, however, gave him their friendship, and he might have achieved a fair success but for his reckless habits, which brought him to poverty and mental

incapacity. His "Song to David," written in a sane interval, is a vigorous poem.

Smeston, John (1724-1792), was the son of a Leeds lawyer, and was intended for his father's profession, but showing a strong inclination to mechanical pursuits, he was placed with a London mathematical instrument maker, and in time set up in that line of business for himself. In 1753, after a course of foreign travel, he submitted plans for rebuilding Eddystone Lighthouse, which had been burned down, and his proposals were accepted. The result was the soundest and best lighthouse that the world had seen up to that time. It made him famous, and he subsequently constructed many important works in connection with harbours and canals. He was also the inventor of an improved blowing apparatus for iron-smelting.

Smiedley, Frank E. (1818-1864), a novelist of note in his day, and sometime editor of *Sharpe's London Magazine*. His *Frank Fairleigh*, *Lewis Arundel*, and *Harry Coverdale's Courtship* were among his most popular stories, some of which were illustrated by Cruikshank and "Phiz."

Smiles, Dr. Samuel (1812-1904), was in early life a medical practitioner, and subsequently editor of the *Lords Times*. Later on achieved wide popularity by his *Self-Help*, a book that has had an enormous sale. His *Lives of the Engineers* formed his most solid contribution to literature.

Smith, Adam (1722-1790), the father of the science of political economy. Was born at Kirkcaldy, educated at Glasgow and Oxford, and in 1751 was appointed Professor of Logic at Glasgow, and in 1752 Professor of Moral Philosophy. It was in 1759 that he first attracted notice as an author by the publication of his *Theory of Moral Sentiments*. In 1776 his remarkable book *The Wealth of Nations* was published, which immediately obtained the admiration of the leading literary men and statesmen of the day, and secured him the friendship of Gibbon, Hume, Burke, Reynolds, and Dugald Stewart. Smith was made a Commissioner of Customs in 1776.

Smith, Alexander (1830-1867), a Scottish writer of great promise. In 1853 he attracted much notice by a poem, "A Life Drain." He was at the time working in a Glasgow factory. The position of Secretary of the University of Edinburgh was given to him in 1854, and he devoted his leisure wholly to literary pursuits, producing in succession "City Poems," "Edwin of Deira," and other poems, and also winning much success as a prose writer, his novel *Alfred Hagart's Household* and his *Dream-things* being works of sterling merit.

Smith, Rt. Hon. F. E., P.C., K.C., M.P. (b. 1872), one of the most prominent of the younger members of the Unionist party, a slashing speaker, and decidedly a man with a career before him both as barrister and politician. M.P. for Walton Division of Liverpool since 1906.

Smith, George (1840-1876), a successful student of Assyrian antiquities, whose excavations and researches were fruitful of many important discoveries. For some years he held an appointment in the Antiquities Department of the British Museum.

Smith, Goldwin (1823-1910), historian and educationist. Born at Reading, he was educated at Eton and Oxford, and interested himself conspicuously in educational reforms. From 1858 to 1866 he was Professor of Modern History at Oxford, and during that time took a prominent part in politics as an independent Liberal. In 1868 he settled in the United States, accepting the Professorship of English and Constitutional History at Cornell University. In 1871 he removed to Canada, becoming a member of the Senate of Toronto University. Among his works may be mentioned *A Political History of the United Kingdom*, *Essays on the Question of the Day*, and *Guesses at the Riddle of Existence*.

Smith, James and Horace, made a name for themselves by producing their "Rejected Addresses." In 1812, comprising a series of burlesques in which the varied styles of the eminent poets of the

day are happily hit off. They also wrote numerous works apart, Horace being successful as a novelist, and James continuing to write poetic pieces. James, who died in 1839, was Solicitor to the Board of Ordnance. Horace was a stockbroker, and died at Turkic, the Wells in 1849.

Smith, Captain John (1780-1831), the noted seafarer and adventurer who in 1805 was the leading spirit of an expedition to Virginia, and founded Jamestown. His autobiographical writings describe a marvellous career of fighting on land and sea, of piratical exploits and sufferings in slavery, and finally his being saved from the treachery of Red Indians by Pocahontas (q.v.), and his promotion to the governorship of the colony.

Smith, Joseph (1805-1844), the founder of Mormonism, was the son of an American farmer. He claimed to be the medium of Divine communications, including *The Book of Mormon*, which became the Bible of the sect established by Smith in Utah, and included polygamy as an article of faith.

Smith, Sir Sidney (1704-1810), was a noted British admiral, who by his defence of St. Jean d'Acre. In 1799, greatly distinguished himself as a commander.

Smith, Sydney (1771-1845), was for many years a canon of the Anglican Church, first of Bristol and then of St. Paul's, and enjoyed a great reputation as a wit and writer. Before migrating to England and entering the Church he lived in Edinburgh, and in association with Jeffrey and Brougham established the *Edinburgh Review*, which he edited for a time. His writings were for the most part on religious and political subjects, but he revealed such a fund of humour and geniality that in spite of the controversial nature of his work it was immensely popular. His "Peter Hymley" letters, in support of Catholic Emancipation, were especially successful efforts. He was twenty years parish priest at Boston, on the Yorkshire Wolds, before he edited for a time, to a prebend at Bristol. His life and letters were published by his daughter, Lady Holland.

Smith, William (1769-1839), achieved a high reputation as geographer and geologist. In 1815 he published the first geological map of England and Wales and later issued a more detailed series of geological maps of English counties. He was styled the "Father of English Geology," and was granted a pension of £700 a year.

Smith, Rt. Hon. William Henry (1825-1891), a newspaper and book agent in a colossal way of business who became prominent in British politics on the Conservative side and sustained high Ministerial rank with great credit and esteem. Representing first Westminster and then the borough of the Strand in Parliament, he became successively First Lord of the Admiralty, War Secretary (twice), Secretary for Ireland, First Lord of the Treasury, and Leader of his Party in the House of Commons; and was Lord Warden of the Cinque Ports when he died at Walmer Castle. His widow, who died in 1913, was created Viscountess Hambledon in her own right, with remainder to their son, the 1st Viscount Frederick Dunsen Smith, now Viscount Hambledon.

Smith, W. Robertson (1840-1894), a distinguished Scottish theological scholar and Orientalist; appointed Hebrew Professor in the Free Church College at Aberdeen in 1870. His Biblical criticisms led to charges of heresy, which, though unsuccessful, caused his removal from the chair at Aberdeen by the Assembly. Subsequently he was concerned with the editing of the *Encyclopædia Britannica*, and held the Professorship of Arabic at Cambridge University 1889-1894. He published a number of erudite works dealing with Old Testament themes.

Smollett, Tobias (1721-1771), a famous English novelist and humorist, whose *Roderick Random*, *Peregrine Pickle*, *Count Fathom*, and *Humphrey Clinker*, abound in fun and frolic and a genial characterisation, while the pictures of sea life are inimitable. His novels rank with those of Fielding, and, like Fielding's, contain much that is coarse.

Snyders, Frans, or Franz (1590-1672), a great Flemish animal painter, who was associated with Rubens, Jordaens, and other masters, putting in the

natural history subjects to their pictures. He was also an adept at flower and fruit painting, and skilful in landscape work. He died at Antwerp.

Soane, Sir John (1753-1837), was an eminent architect who designed numerous public buildings in London and other places, and was Professor of Architecture at the Royal Academy. By his will he left his museum, library, pictures, etc. for the use of the public, and the house in which he lived at Lincoln's Inn Fields still constitutes the Sir John Soane Museum.

Sobieski, John (1624-1666), King of Poland from 1674, and heroic defender of his country from Cossacks, Tartars, and Turks.

Socrinus, Lælius (1595-1662), an Italian Protestant thinker and anti-Trinitarian, and founder with his nephew, Faustus Socinus (1599-1664), of the Socinian system of theology, which taught that salvation consisted in the acceptance of Christ's teaching, and making His example the practical rule of life.

Socrates (469-399 B.C.), the distinguished Greek philosopher. Was the son of a sculptor, and for some time followed that calling himself; but, having other ambitions, joined the army, and was present at the battle of Potidea, and also at the battle of Delium, saving the life of Alcibiades in the first, and of Xenophon in the second. Returning to Athens he devoted himself to study and began to exhort the people on public questions and the conduct of life. In 405 B.C. he was made one of the Senate of Five Hundred, and had other honours accorded him, continuing his teaching alternately with his public duties. Not long afterwards Anytus charged him with impiety and he was found guilty and sentenced to death. When the fatal day came he calmly drank the poison which terminated his career.

Solomon, Rt. Hon. Sir Richard (1850-1913), was legal adviser to the Transvaal Administration and to Lord Kitchener in 1901-1902; Attorney-General of the Transvaal 1902-7; Agent-General in London for the Transvaal 1907-10; and High Commissioner for the Union of S. Africa from 1910 to his death.

Solon (638-558 B.C.), was one of the Seven Sages of Greece, and became an eminent legislator, after having made a reputation as a poet. Being appointed archon in 594, he began the introduction of a series of reforms which greatly improved the condition of the Athenians. Solon's Laws were so highly esteemed that they were adopted by the Romans in their Twelve Tables.

Solyman (1490-1566), the celebrated Ottoman Sultan known as "the Magnificent," who won fame as a conqueror, law-giver, administrator, and patron of learning.

Somerset, Duke of (1500-1552), was Protector of England in the early part of the reign of Edward VI., and was vigorous of rule, greatly aiding the work of the Reformation. After a time he developed an arrogance that was strongly resisted and was deposed from power, ultimately being tried for felony and executed.

Somerville, Mary (1780-1879), the daughter of Admiral Sir William Fairfax, and an eminent writer on scientific subjects, of which she had a clear and extensive knowledge, together with a capacity for presenting them in an attractive and lucid form. She was granted a pension of £300 a year in 1855. Her principal books are *The Mechanism of the Heavens*, *Physical Geography*, and *Molecular and Microscopic Science*. Her *Personal Recollections*, a fascinating work, appeared after her death.

Sophocles (495-406 B.C.), the famous Athenian dramatist, who enjoyed the highest popularity at Athens, and in a contest with Aeschylus was crowned the victor. Of the 100 odd plays of Sophocles only seven have survived: "Antigone," "Electra," "Oedipus," "Ajax," "Trachiniae," "Philoctetes," and "Oedipus at Colonus."

Soult, Marshal Michel Jean (1769-1851), was one of Napoleon's favourite and most capable generals, distinguishing himself in the Swiss and Italian campaigns, and also in the Peninsular War, where he was Wellington's bravest opponent. After

Waterloo he went into exile, but was allowed to return to France in 1819. His son, Napoleon Hector Soult (1801-1857) achieved some fame as a politician and diplomatist, and represented France at the Court of Berlin in 1834.

Southcott, Joanna (1750-1814), a fanatic who proclaimed herself prophetess and the mother of the promised second Messiah, whom she announced would be born on the 19th October, 1814. Thousands of ignorant people believed in her, but on the 9th of the month she died of dropsy.

Southey, Robert (1774-1843), the son of a draper, was educated at Westminster and at Oxford. Devoting himself to literature, he produced in rapid succession a number of poems, plays and romances of varying merit. In 1803 he went to live at Greta Hall, near Keswick, where he resided until his death. A Civil List pension of £160 a year was granted him in 1807, and in 1813 he was made Poet Laureate. In poetry he was overshadowed by the greater genius of Byron and Shelley, but in prose he was eminently successful, his *Life of Nelson*, his *Doctor*, *Commonplace Book*, and other works being as strong and vigorous as his verse was tame.

Southwell, Robert (1560-1595), a famous Jesuit and religious poet of Elizabethan times, who after serving as chaplain to several noble families in England was denounced by his Protestant enemies, condemned, and executed at Tyburn.

Spartacus was a Thracian who became a Roman slave and gladiator in Capua, and headed an insurrection in Italy in 73 B.C. The slaves he raised and their following routed several Roman armies, but he was eventually defeated by Crassus on the Silurus in 71 B.C. and slain in the battle.

Speke, Capt. J. H. (1827-1864), was the discoverer, along with Captain Grant, of the Kagera, the main source of the White Nile, in 1862. In 1865 he discovered Lake Tanganyika, and in 1868 Lake Victoria Nyanza. His *Journal of the Discovery of the Source of the Nile* described his experiences. He was accidentally killed by the discharge of his gun near Bath.

Spencer, 5th Earl (1824-1910), a very popular Liberal peer, who held office as First Lord of the Admiralty, and President of the Council on two occasions, besides serving as Viceroy in Ireland. He was once a mighty hunter, and his ample beard—sobriquet of the "Red Earl"—gained him the respectful sobriquet of the "Red Earl."

Spencer, 6th Earl, Rt. Hon. Charles Robert Spencer, P.C., G.C.V.O. (b. 1857), Lord Chamberlain 1905-1912; succeeded the 5th earl, his half-brother, in 1910. Had previously been raised to the peerage as Lord Althorpe. Was M.P. 1880-95 and 1900-5.

Spencer, Herbert (1820-1903), was the son of a Derby schoolmaster. For some time followed the profession of civil engineer, but ultimately applied himself entirely to literary pursuits. His first book was published in 1851, under the title of *Social Statistics*, when he was filling the position of sub-editor of the *Economist*. In 1855 his *Principles of Psychology* appeared, in which he seems to have anticipated Darwin's theory of Evolution. The *System of Synthetic Philosophy* began to appear in 1860, and the last of its ten volumes was issued in 1866.

Spenser, Edmund (1553-1599), was born in London, educated at Cambridge, and early attracted notice by his poetic effusions. After the publication of his "Shepherd's Calendar," he was made known to Queen Elizabeth, and in 1580 received the appointment of Secretary to the Lord Deputy of Ireland, and in the division of confiscated lands that afterwards took place, Spenser received Killoolman Castle and 3,000 acres of land. Here he remained for some eighteen years, and wrote his "Faerie Queen." In 1598 a rebellion broke out, and Spenser's castle was burned to the ground. He then returned to London, and there died.

Spinoza, Baruch (1632-1677), the greatest modern pantheist, was born in Amsterdam of a Jewish family, but, having expounded philosophical doctrines antagonistic to Judaism, was excommunicated by the

rabbis as a heretic. In 1663 he published his erasmian work on the Cartesian philosophy, from which he widely differed, and set forth a system of Pantheism which makes God the cause and substance of the universe, abolishes free-will, and establishes the necessity of the Divine nature. His most important treatise, the *Ethics*, was not published until after his death. He died at The Hague.

Spohr, Ludwig (1784-1859), a famous German violinist and composer. From 1803 to 1857 he was Capelmester to the Duke of Hesse-Cassel, and during that period gave to the world numerous compositions of high merit, including a number of oratorios, the most renowned of which were "The Last Judgment," "Calvary," and "The Fall of Babylon," several operas, and some of the finest violin music that has ever been written.

Spigg, Rt. Hon. Sir J. Gordon (1830-1913), went from Ipswich to Cape Colony in 1858, eleven years later was elected to the Cape Parliament, and was Prime Minister 1878-1881, and again 1886-1890, 1896-1898, and 1900-1904.

Spurgeon, Rev. C. H. (1834-1892), was born at Kelvedon in Essex, and while but a child evinced preaching gifts. In 1852 he became pastor of the Baptist Church at Waterbeach, and held the congregation spellbound by the originality of his sermons. Soon afterwards he was in London, taking charge of the New Park Street Chapel, which from being a place of empty pews was quickly filled to overflowing. The fame of the young minister spread far and wide. He preached at Exeter Hall, at the Surrey Music Hall, at the Crystal Palace, and was able to fill the available space everywhere. The Metropolitan Tabernacle was opened in 1861, and here he continued his wonderfully successful ministry for thirty years.

Stael, Madame de (1766-1817), the daughter of Neckar, the famous Finance Minister under Louis XVI., was married to Baron de Stael (Swiss Minister) at twenty. She was a brilliant woman, deeply imbued with philosophical sentiments. Two years after her marriage she made a considerable impression by her *Letters on Rousseau*, and was regarded as in sympathy with the Revolution. Later on, however, she was in disfavour, first with the Revolutionary leaders, and then with Napoleon, and was in turn exiled by both. She made good use of her exile by writing *Germany* and other able works.

Stainer, Sir John (1840-1901), an English organist and composer of sacred music. Organist, 1863-1879, at Oxford University, and from that time to 1888 at St. Paul's Cathedral, when he resigned through failing sight, and became Professor of Music for the next ten years at Oxford. He was the composer of a number of cantatas and anthems, the author of a treatise on harmony, and co-editor of a valuable dictionary of musical terms.

Standish, Miles (1584-1656), was a native of Lancashire and one of a band who crossed to America in the *Mayflower* and founded the English settlement in New England. He was a brave, resourceful man, who was especially servicable in warding off the attacks of the Indians.

Stanfield, Clarkson (1794-1857), the famous English painter, who excelled in sea pictures, and was the painter of a noted picture of the death of Nelson, amongst other important works. Was elected R.A. in 1835. In the early part of his career in London he was scene-painter at Drury Lane.

Stanford, Sir C. Villiers (b. 1852), Professor of Music at Cambridge University, and Professor of Composition and Orchestral Playing in the Royal College of Music. An organist and conductor of remarkable ability, and a composer of much fine instrumental, choral, operatic, and other music. Has conducted the Leeds Musical Festival since 1901.

Stanhope, Lady Hester (1776-1839), daughter of the 3rd Earl Stanhope, and niece of William Pitt, and for many years his private secretary. Her *Memoirs*, published subsequently to her demise, were deeply interesting. For the last three decades of her life she resided at a satrapy established by her

on Mount Lebanon, and exercised considerable influence for a while over Syrian affairs.

Stanley, Arthur Penrhyn, Dean (1825-1881). Was for some years settled at Oxford, and made a high reputation as a tutor; in 1845 scored a notable literary success with his *Life of Dr. Arnold*, whose pupil he had been. Being in Holy Orders he was made Select Preacher, and a volume of his sermons, printed in 1847, proved him to be no mean theologian. He published numerous works between this time and 1862, when he accompanied the late King (then Prince of Wales) in a tour to Egypt and the Holy Land. The next year he was made Dean of Westminster. He died in 1881, and is buried in the Abbey of which he wrote the *Historical Memorials*.

Stanley, Sir H. M. (1841-1904). Born at Denbigh, of humble parentage and placed in St. Asaph workhouse under the name of John Rowland. While young he went as cabin-boy on a sailing vessel to New Orleans. There a merchant named Henry Morton Stanley (whose name he afterwards adopted) gave him employment, adapted and educated him, but his benefactor dying, he was left without provision, and had to sell newspapers in the streets. On the outbreak of the Civil War he enlisted on the Confederate side, was made prisoner, and put to work on a warship. Escaping, he turned his attention to writing, establishing a connection with the *New York Herald*. After the war he got engaged on the reporting staff of that journal, and was sent as special correspondent with the United States forces in the Indian Territories. Next he was war correspondent for the *Herald* with the British expedition to Magdala. Later on Mr. Gordon Bennett commissioned him to go to Africa and find Livingstone, then supposed to be lost in the southern interior. Early in 1871 he left Zanzibar with a large party, and plunged into the "Dark Continent," succeeding in his quest the same year. From 1875 to 1900 Stanley sat in the British Parliament as M.P. for Lambeth, and was knighted in 1899. He published numerous fascinating works describing his adventures, and in 1890 married Miss Dorothy Tennant. His *Autobiography*, published since his death, is a remarkable work.

Stanton, Howard (1810-1874), Shakespearean commentator and writer on chess-play, being also at one time regarded as the strongest player of the game, defeating the French master, Salvé-Amant, in 1843. His *Memorials of Shakespeare* (1864) was a worthy work, as was his volume on *The Great Schools of England* (1865).

Stand, William Thomas (1849-1912). Educated at Silcoates School, Wakefield, served for a short time in a mercantile office at Newcastle, and in 1871 was editor of the *Northern Echo*, Larnington, a position which he held until 1880. Then he went to London and for three years was assistant editor of the *Pall Mall Gazette*, succeeding to the full editorship on the retirement of Mr. John Morley in 1883. His control of the *Pall Mall*, which continued until 1899, was signalled by exceptional vigour and animation, interviews and sensational social disclosures being a marked feature of the editorial policy. He was a powerful personality, and despite some eccentricities of view, achieved largely and well. In 1890 he started his *Review of Reviews*, here again achieving considerable success on bold and original lines. He was one of the victims of the *Titanic* disaster, on which he was voyaging to America on a Peace mission.

Steele, Sir Richard (1671-1729). Born in Dublin, he was the son of a lawyer, who died while Steele was a child. Through family influence he was sent to the Charterhouse School (where he made Addison's acquaintance) and to Oxford, and afterwards entered the Army and rose to be a captain in the Horse Guards. Then he drifted into literature, and wrote poems and pieces for the stage, but his first real success came when, in 1709, he began the publication of the *Tatler*, which made a great hit, Addison contributing many papers. Two years later he and Addison were associated in *The Spectator*. Addison, however, being the leading contributor.

The *Guardian* was another of Steele's ventures. He sat in Parliament for some time, and was knighted by George I.

Stephen (1105-1154) was King of England from 1135 to his death, usurping the crown that by right belonged to Matilda, the daughter of Henry I. He overcame the scruples of the nobles and of the ecclesiastics by granting them increased privileges, but he was in no sense a popular monarch.

Stephen, Sir James (1789-1859), an English statesman, writer, and sometime Regius Professor of Modern History at Cambridge University. He was Under-Secretary for the Colonies from 1834 to 1847, and published *Lectures on the History of France and Essays in Ecclesiastical History*.

Stephen, Sir James Fitzjames (1829-1896), a great English jurist and judge of the High Court, who published some valuable works on our Criminal Law, and an admirable *Digest of the Law of Evidence*. Son of the foregoing.

Stephen, Sir Leslie (1834-1904), an eminent writer, critic, and biographer (brother of the last mentioned). Married as his first wife the younger daughter of Thackeray, the novelist, and was at one time Clark Lecturer on English Literature at Cambridge. Edited the *Catholic Magazine* (1871-1880) and the *Dictionary of National Biography* (1882-1891). Was a great book-lover, and wrote *Hours in a Library* (three series), a *History of English Thought in the Eighteenth Century*, *Essays on Free-thinking and Plain Speaking*, and many admirable biographies and other volumes.

Stephens, James (1824-1901), a native of Kilkenny, and one of the prime movers in the Fenian agitation, known to his associates as the "Head Centre." Up to the point of open action he was of great help as an organizer, but at the critical moment showed more discretion than valour by taking refuge in America. Later he was allowed to return to Ireland, where he died.

Stephenson, George (1792-1848), was born at Wylam, near Newcastle, and up to 1804 was mainly engaged in ordinary colliery occupations. In 1804, however, an engagement as brakeman at a Killingworth colliery brought him in touch with the working of Watt's steam engine, and his first efforts in invention were in improving one of those engines, showing so much ability that he was offered an engine-wright's position at Killingworth, which he held for some time. Then it was that he began to think seriously of producing a locomotive engine, and managed to construct an engine that would draw coal trucks at the rate of four miles an hour. In 1825, when the Stockton and Darlington Railway was undertaken, he was appointed engineer, and when the railway was opened in 1825, as a line for the transport of coal only, Stephenson won his first great triumph, by putting a locomotive on the line that was able to draw a train of thirty-eight carriages, laden with goods and passengers, at a rate of twelve miles an hour. George Stephenson subsequently, assisted by his son Robert, constructed the Liverpool and Manchester line, and after that the railway era commenced.

Stephenson, Robert (1803-1859), was the only son of George Stephenson, and attained great eminence as a civil engineer. For some years he was assistant to his father. On the elder Stephenson's retirement, Robert was the most prominent man in railway engineering for many years, constructing numerous important railways, and winning especial fame in bridge building, being designer and contractor for the High Level Bridge at Newcastle, the Menai and Conway Tubular Bridges, the Victoria Bridge across the St. Lawrence at Montreal, and two notable bridges over the Nile. Sat in Parliament for some years as member for Whitby. He was buried in Westminster Abbey.

Stearns, Laurence (1713-1768), one of Britain's greatest humorists. Was born in Ireland, educated in Yorkshire and at Cambridge, and obtaining Holy Orders, was preferred to the living of Sutton, near York, at which place he resided for twenty years, becoming Prebendary of the Cathedral. It was here

that he wrote his great work *Tristram Shandy*, the first two volumes of which were published in 1759, and the last in 1767. The novel was so unique in character, and so sparkling with wit and high spirits that, despite a certain coarseness, which gave less offence in those days than it would have occasioned in our time, it made him famous. He also wrote *The Sentimental Journey*, and published some volumes of sermons.

Stevenson, Robert (1772-1850), a native of Glasgow, and famed as a builder of lighthouses, including that on Bell Rock. He also invented the "fashings" system of throwing light at sea.

Stevenson, Robert Louis (1850-1894), was born at Edinburgh, and was intended for the profession of a civil engineer, but his delicate condition of health stood in his way, and he tried his hand at various kinds of composition, including some essays which, in 1874, were published in the *Cornhill*. From that time he travelled for some few years on the Continent and it was while journeying through France that he met Mrs. Osborne, a Californian lady, of whom he became deeply enamoured. He followed her to America in 1879, and they were married the following year. For the next few years he drifted hither and thither in quest of health, was now in Scotland, now at Davos, now at Bourneville, and finally at Samoa, continuing to turn out a remarkable series of essays and stories to the end.

Stewart, Dugald (1753-1826), was Professor of Moral Philosophy in the University of Edinburgh from 1785 to 1820. He wrote largely on philosophical questions, but was more famed as a critic than as an original thinker. His works include *Elements of the Philosophy of the Human Mind*, *Outlines of Moral Philosophy*, and *Philosophy of the Active and Moral Powers*.

Stillingfleet, Edward (1635-1699), was Bishop of Worcester for the last eleven years of his life, and had previously been canon and dean of St. Paul's. He was a controversialist of great power, and as a theologian made a memorable mark. His *Rational Account of the Grounds of Natural and Revealed Religion* is still held in great regard.

Stoessel, General (b. 1848), a Russian General whose name was prominent in 1904 as that of the commander of the defence of Port Arthur against the Japanese. He entered the army in 1866, and served in the Russo-Turkish and Chinese campaigns. Tried before a court-martial in February, 1905, for neglect of duty at Port Arthur, he was condemned to death, but the sentence was commuted to one of ten years' imprisonment in a fortress. On the plea of ill-health he was liberated in 1909.

Stolypin, Peter Arkadievich (1863-1911), the eminent Russian statesman who after serving several high government positions became Premier in 1906. Assassinated at Kief in September, 1911, after many previous attempts on his life.

Stothard, Thomas (R.A. 1755-1834), a graceful and successful book-illustrator, whose services were in great demand for many years. He illustrated Scott, Shakespeare, and most of the British classics. He was made librarian of the Royal Academy, a post which he held for a considerable period.

Stow, John (1552-1660), was a famous antiquary, who in 1561 published *A Summary of English Chronology*, and in 1598 issued his celebrated *Survey of London and Westminster*, to which we owe so much of our knowledge of the early history of the capital. A larger work upon which he was occupied more or less for forty years, *Stow's Chronicles*, was not published until after his death.

Stowe, Harriet Beecher (1811-1866), a famous authoress, whose *Uncle Tom's Cabin* was one of the most successful books ever published. Written to expose the horrors of slavery, it did much to advance the cause of abolition which the Civil War finally effected. Her other works include *Dred*, another slave story, and *The Minister's Wooing*.

Strachey, Baron (b. 1858), formerly Sir Edward Strachey, Bart., was M.P. for South Somerset from 1892 to 1911; was Treasurer of His

Majesty's Household, and representative of the Board of Agriculture in the House of Commons.

Strachey, John St. Loe (b. 1860), editor and proprietor of the *Spectator*, a one-time editor of the *Cornhill Magazine*, and author of several works on economic questions. A Free Trader.

Stradivari, Antonio (1644-1730), an Italian maker of violins, first in his art in the world of all time; born at Cremona, pupil of Amati; two sons of Stradivari (name is usually Latinised into Stradivarius), Francesco and Omobono are also noted.

Stratford, Thomas Wentworth, Earl of (1693-1641), the distinguished statesman, sent by Charles I. to Ireland as Lord Deputy in 1633, where he incurred the odium of the people by his extreme harshness. He seems to have imposed cruel exactions upon the people, partly for his own enrichment and partly for the benefit of English trade, but he was the founder of the Irish linen manufacture and did much for the promotion of agriculture. He obtained the name of "Thorough" by his advocacy of sweeping measures for asserting the King's authority, but, falling under the suspicion of Charles, or having proved too domineering for the King's comfort, he was ultimately impeached in Parliament on a variety of charges, found guilty, and executed upon Tower Hill.

Strathcona, Lord (1820-1914), a Canadian railway magnate who amassed a fortune, was a munificent benefactor to the Dominion, by the ample bounds of which, however, his philanthropy and public spirit were not circumscribed. With Lord Mountstephen the fine old veteran produced the capital to yield £16,000 a year to the King's Hospital Fund, and when the South African War was on he raised Strathcona's Horse for service there. He went to the Hudson's Bay country as quite a youngster, and was Special Commissioner in the far-away days of the Red River Rebellion.

Strathnairn, Lord (1801-1885), as Sir Hugh Rose, won much distinction in the Indian Mutiny, and from 1860 to 1865 was Commander-in-Chief of the army in India, while from 1865 to 1870 he was Commander-in-Chief in Ireland.

Strauss, David F. (1808-1874), was an eminent German theological writer, who made a great stir in the religious world by his *Life of Jesus*, published in 1855, which attempted to prove that the evangelical history mainly rested on a series of myths. His opinions secured his dismissal from two important university posts at Tübingen and Zürich; but he continued his researches, and subsequently published several important works which were widely read, including *The Old and New Faith*, and a *Life of Ulrich von Hutten*.

Strauss, Johann (1804-1899), an Austrian composer and conductor, famous for his dance music, of which he produced some 250 pieces, many of them of a very high level. His son, *Johann* (1825-1899), was even more distinguished in the same line, as the composer of the "Blue Danube" waltz and nearly 400 other dance tunes; while a younger son, *Eduard* (b. 1835), became conductor of the Court balls at Vienna in 1870, and was responsible for well over 200 compositions; and yet another son, *Joseph* (1857-1870), composed some 270 dances. The famous Strauss band, with which the family have so long been associated, has compelled the admiration of generations of music lovers in this country as well as in the capitals of the Continent.

Strauss, Richard (b. 1864), the son of a horn player in the Court Opera House at Munich, where he himself became conductor in due course, and was later given the *baton* at the Royal Opera House, Berlin. He is the composer of many charming songs, and has won great distinction in the writing of elaborate instrumental music, operas, symphonies, etc. A notable Richard Strauss festival took place at the St. James's Hall in London, in 1903, when the Amsterdam Orchestra performed "Ein Heldenleben" and numerous others of the gifted composer's masterly conception.

Strickland, Agnes (1806-1874), an English authoress, who attained considerable popularity

during her lifetime by her *Lives of the Queens of England* and *Lives of the Queens of Scotland*, and other works, in the writing of which she was assisted by her sister, Elizabeth.

Strutt, Joseph (1742-1802), was the author of *The Sports and Pastimes of the People of England*, and numerous other works, all of which he himself illustrated. His books are full of antiquarian lore, and of great value to the historian.

Sturpe, John (1643-1737), the ecclesiastical biographer and historian whose lives of the English Reformation leaders and *Ecclesiastical Memorials* are held in high esteem.

Stuart, Arabella (1575-1615), daughter of the Earl of Lennox and cousin of James I., whose next heir she was both to the English and Scottish thrones. In 1610 she married William Seymour, afterwards Earl of Hertford and Duke of Somerset, and thereby incurring the King's displeasure, she was incarcerated in the Tower of London, where she died insane.

Stubbs, Bishop Charles William (b. 1845), appointed to the See of Truro in 1906, previously for twelve years Dean of Ely. Author of numerous theological works, miscellaneous writings, and some very creditable poetry.

Stubbs, Bishop William (1825-1901), a very distinguished Anglican churchman and learned historical writer, who was in turn Regius Professor of Modern History and Curator of the Bodleian Library at Oxford, Canon of St. Paul's, Bishop of Chester, and finally Bishop of Oxford. He was the author of *The Constitutional History of England and its Origin and Development* (1874-1878), *Epochs of Modern History*, and a large number of other important works on cognate themes.

Sturt, Sir Charles (1795-1859), an English explorer in Australia who discovered the Darling River in 1828, and the Murray River and Lake Alexandrina later, and conducted an expedition into the interior in 1844-1845. Mount Sturt in the Gawler range, South Australia, is named after him.

Suckling, Sir John (1609-1612), a favourite English poet, who wrote many dainty and well-known songs and ballads. For a time he served under Gustavus Adolphus; during the Civil War commanded "a ragged regiment"; was a member of the Long Parliament, and being discovered in a plot for the rescue of Stratford, in 1645, fled to France, and died there.

Sudermann, Herman (b. 1857), a German dramatic poet and disciple of Ibsen. Among his plays are "Humat"—in which Sarah Bernhardt has appeared with success—"Es lebe das Leben," and the tragedy "Johannes," while he has written some notable novels, including *Ein War and Frau Sorge*. He lives in Berlin, and formerly edited the *Deutsches Reichblatt*.

Sue, Eugène (1804-1857), a famous French novelist, and author of *Les Mystères of Paris*, *The Wandering Jew*, and other sensational and highly realistic works, were at one time immensely popular. He was the son of one of Napoleon's surgeons, and was a member of the Assembly in 1850, but his Socialistic leanings caused him to be expelled after the *coup d'état*.

Sulla, Lucius (138-78 B.C.), the Roman dictator, and a general of considerable renown. He attempted various constitutional reforms, reconstructed the judiciary and the senate, and established military colonies before he resigned the dictatorship, 79 B.C.

Sullivan, Barry (1824-1891), an English actor who attained great popularity in tragic and "heavy" parts generally, and had a long run of success in all parts of the United Kingdom, as well as in Australia and the United States.

Sullivan, Sir Arthur Seymour (1842-1900), one of the most gifted of modern British composers, gained his first musical experiences as choir-boy at the Chapel Royal, but early showed capacity as a composer. He won the Mendelssohn Scholarship at the Royal Academy of Music in 1860, and after that studied at Leipzig. In 1862 his music to Shakespeare's "Tempest" was successfully given. His first really ambitious work was his oratorio, "The Prodigal

Son," produced in 1868. A second oratorio, "The Light of the World," was given in 1873. Meanwhile, the composer had been cultivating with pronounced success a lighter vein. A musical version of "Box and Cox," and a mere original trifle, "Trial by Jury" for the libretto of which Mr. (now Sir) W. S. Gilbert was responsible, indicated a ready road to popularity, and from 1877, when the "Sorcerer" was produced, the Gilbert-Sullivan operas were for a number of years the most profitable stage-productions of the time. They comprised "H.M.S. Pinafore," "Pirates of Penzance," "Patience," "Princess Ida," "The Mikado," "Ruddigore," "The Yeomen of the Guard," "The Gondoliers," etc. A more serious opera of Sir Arthur's, "Ivanhoe" was produced at the opening of Mr. D'Oyly Carte's English Opera House, (now the Palace Theatre).

Sully, Maximilian (1850-1861), a French Protestant statesman, a friend and companion of Henry of Navarre. He was distinguished also in the field, especially at Ivry, and after being Minister of Finance, became Governor of the Bastille, and was later on made a duke and a Marshal of France. His *Memoirs* made notable reading.

Sunmer, Charles (1811-1874), an American statesman and anti-slavery orator of very considerable ability. He was at one time a vigorous opponent of the policy of Grant, and acted as Chairman of the Foreign Relations Committee of the United States for ten years, being removed therefrom for his antagonism to the proposal for the annexation of Santo Domingo. His published works, mainly handling political themes, ran up to fifteen volumes.

Sutherland, Sir Thomas (b. 1834), Chairman of the Peninsular and Oriental Steamship Company, was born in Aberdeen, and while a comparatively young man entered the service of the company, which he represented in China for several years. Later, under his able direction, the concern has developed into one of the most important undertakings of its kind. Sir Thomas sat in Parliament for a number of years as member for Greenock.

Sutro, Alfred (b. 1863), author and dramatist. His most successful plays have been "The Walls of Jericho" (1904) and "John Gladyde's Honour" (1907). Has published English translations of works by Maeterlinck.

Swan, Sir Joseph Wilson (1828-1914) was born at Sunderland, and first became known as an inventor in photography, being the discoverer of the auto-type process, and of the art of making rapid dry plates. Turning his attention to electric lighting, he invented the incandescent electric lamp. He was the recipient of numerous honours from scientific bodies at home and abroad, was M.A., F.R.S., and D.Sc., and received the honour of knighthood in 1904.

Sveinborg, Emanuel (1688-1770), was born at Stockholm, and for some years devoted himself to science. In later life he announced that Divine authority had been given him to explain natural and spiritual evidences. He published in quick succession *Arcana Caelestia*, *The Apocalypse Revealed*, *Four Preliminary Doctrines*, and *The True Christian Religion*. He also claimed that his soul had been permitted to travel into hell, purgatory and heaven, and propounded a new theology in which there was much sound wisdom.

Swift, Jonathan, Dean (1667-1745), was born at Dublin, educated at Trinity College at the expense of an uncle, became secretary to Sir William Temple, and looked for political preferment, but it did not come. Entering the Church, he was made Dean of St. Patrick's in 1713. Getting entangled in political controversy, and changing his views from the Whig to the Tory side, he lost favour with the popular party, but consoled himself with a devotion to literature, which he greatly enriched by some powerful satires, poems and discourses. *Gulliver's Travels*, *A Tale of Two Cities*, and *The Battle of the Books* are among his best-known works. His romantic attachment to "Stella" (Hester Johnson, whom he is believed to have married privately) and

"Vanessa" (Esther Vanhomrigh), and their devotion to him, are familiar stories.

Swinburne, Algernon Charles (1837-1909), was educated at Oxford, and in the early sixties of last century gave to the world a number of poems of singular poetic beauty and musical charm, which procured him high rank among English poets. Mr. Swinburne's most famous productions include "Atalanta in Calydon," "Songs before Sunrise," "Bothwell," and "Mary Stuart." Perhaps the best of his prose writings is his essay on William Blake.

Swithin, St. (circa 800-862), was made Bishop of Winchester in 825, and on the translation of his remains, with great ceremony, to a shrine in the interior of the cathedral from the graveyard, fixed for July 12th, 971, violent rain intervened, and it is said, continued for forty days; hence the superstition as to rain upon what thenceforward became known as St. Swithin's Day.

Sydenham, George Sydenham Clarke, 1st Baron, K.C.M.G., F.R.S. (b. 1848), educated at Haileybury and Wimbledon; entered the Royal Engineers 1868, served in Egypt, and made K.C.M.G. in 1893 for organising system of Colonial defence. Was Governor of Victoria 1901-1904, secretary of the Committee of Imperial Defence 1904-1907, member of War Office Reconstruction Committee 1908, and was appointed Governor of Bombay in 1907, retiring in 1913, when he was raised to the peerage.

Symonds, John Addington (1840-1906), was born in London, educated at Harrow and Oxford, and acquired fame as a poet and writer on *The Renaissance Period in Italy*, with which he was in complete sympathy. His style was scholarly, profound, and highly critical.

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Tacitus, Gaius Cornelius (55-circa 120), was Consul in Rome under the Emperor Nerva, and held other appointments, but his chief claim to remembrance is the fact that he was one of the ablest of Roman historians, and left behind him a number of works—among them a life of Agricola—his *Annals*, which have formed the ground-work of much that has since been written on the period he covered.

Taelvas, Marcus Claudius (200-274), the Roman Emperor who succeeded Aurelian in A.D. 275. He had twice served as Consul, and was a descendant of the famous historian. His short reign was wise and marked by moderation.

Taft, Wm. Howard (b. 1857), American statesman, formerly a judge, came into note in connection with the Philippine Commission of 1900-4, of which he was President, acting as Civil Governor of the Islands from 1901 to 1904, in the latter year being appointed Secretary for War. Visited Japan in 1907. Succeeded Mr. Roosevelt as President in 1908. Was again a candidate for the presidency in 1912, but was defeated by Woodrow Wilson.

Taglioni, Maria (1804-1884), a famous dancer, daughter of the Italian ballet-master and composer of "La Sylphide," Filippo Taglioni (1772-1871). Her style was light and airy, as distinguished from the sensuousness of Madame Vestris. She was born at Stockholm, created a furore as première danseuse at Vienna as a mere girl in 1818, and later was the rage of London. Married Count de Volsins in 1839, and retired from the stage in 1844.

Taine, Hippolyte Adolphe (1824-1893), an able French historian and critical writer, appointed Professor at the School of Fine Arts in Paris in 1864, made L.L.D. of Oxford in 1871, and a member of the Academy of France in 1878. He wrote learnedly on English and French literature, history, and philosophy, ancient and modern, and was a scholar of great breadth and brilliance.

Tait, Archibald Campbell (1811-1882), was Archbishop of Canterbury from 1868 to his death. He was educated at Oxford, and allied himself with the Tractarian movement. He succeeded Dr. Arnold as headmaster at Rugby in 1842. Was Dean of

Carlisle from 1850 to 1855, in the latter year becoming Bishop of London, holding that position until his preferment to the Primacy.

Talbot, the Rt. Rev. E. S., D.D., Bp. of Winchester since 1881 (b. 1824). Educ. Charterhouse and Christ Church, Oxford; Warden Kettle Coll., 1870-88; Vicar of Leeds, 1888-95; Bp. of Rochester, 1895-1905; of Southwark, 1905-11. Author of books on theology.

Talbot, Major-Gen. Hon. Sir R. (b. 1841), Governor of Victoria 1904-8, has seen a good deal of active service. Went through the Zulu campaign of 1882; Egypt, 1884-5; military attaché in Paris, 1889-95; and commanded army of occupation in Egypt, 1899-1903.

Talfourd, Sir Thomas Noon (1795-1854), English judge and writer, and author of *Ivan*, a tragedy which was produced by Macready.

Talleyrand-Perigord, Prince (1754-1838), a distinguished French diplomatist, who lived through stirring times and took an active part in them, sometimes on one side, sometimes on another. For a time he was Bishop of Autun, but to escape the dangers of the Revolution relinquished his see and went to America. After the Terror he ventured back to Paris, and became Foreign Minister under the Directory, remaining in that office and greatly distinguishing himself in it, down to 1807, when the Emperor, becoming distrustful of him, deposed him. While Napoleon was at Elba Talleyrand was appointed Prime Minister to Louis XVIII and under Louis Philippe, he was Ambassador to London.

Tallien, Jean L. (1769-1820), was one of the prominent leaders of the later Revolutionary movement in France and Consul at Bordeaux during the early days of the Terror, carrying out Robespierre's instructions with apparent zeal. Under the influence of his wife, Therese de Cabarrus, better known as Madame de Fontenay, however, he gradually moderated his ardour, and eventually returned to Paris and was mainly instrumental in procuring the downfall of the tyrant. Under Napoleon Tallien rose to some honour, accompanied the Emperor to Egypt, and later on was appointed to a Spanish Consulate.

Tallis, Thomas (1515-1565), a distinguished musician, who was, as organist, attached to the Chapel Royal, Henry VIII., Edward VI., Mary, and Elizabeth, and was the composer of some of the finest of our Church music.

Tamerlane, or Timur the Tartar (1335-1405), descendant of a follower of Genghis Khan, and founder of the Mogul Dynasty in India. He succeeded as chief of the Berlas Turks in 1361, and in turn conquered Turkistan, Persia, and Syria. He was a masterful warrior, and a terrible butcher, the scourge of the East in his day, and, after establishing himself in India, died whilst preparing for the invasion of China. His familiar name is a corruption of Timur-lenk = "Timur the Lane."

Tancred (1078-1112) was a great Crusading hero, whose adventures and chivalrous deeds invested his name with considerable romance. He was a Sicilian prince of Norman descent and the most prominent personality of the first Crusade. His virtues and achievements were celebrated by Tasso in his "Jerusalem Delivered."

Tannahill, Robert (1774-1810), a tender and gifted Scottish poet, whose lyrics—chief amongst which are "The Flower of Dunblane" and "Gloomy Winter's noo awa"—were inspired by the desire to emulate Burns. He was bred a weaver of Paisley, and there died by his own hand.

Tannhäuser, a mythical German minnesinger of the 13th century, who belonged, according to the legend handed so romantically in Wagner's opera, to the Salzburg family of Tanhäuser, and was the beloved of Lisaura.

Tarquin Superbus (or "the Proud"), the last King of Rome, who reigned for twenty-four years. Was banished 509 B.C. in consequence of the infamous conduct of his son, Tarquinus Sextus, who wrought upon Lucretia "the deed of shame." Tarquin "the Proud" attempted to regain his power, but was completely defeated at the famous battle of Lake Regillus, and died subsequently of

the wounds he there received. After Tarquin's deposition came the Consuls.

Tarquin the Elder, 5th King of Rome, succeeded Ancus Marcius 615 B.C., reformed the laws, and embellished the city, and was assassinated, according to the legendary history, 577 B.C.

Tasman, Abel Janssen (circa 1600-1659), was a famous Dutch navigator about whose adventures there is much uncertainty, except that in 1642 he discovered the island of Tasmania and New Zealand shortly thereafter. He undertook a further Australasian voyage in 1644, of which little is known save that therein he discovered the Gulf of Carpentaria, and returned to Batavia, and there died fifteen years later.

Tasso, Torquato (1544-1595), was one of the great Italian poets of the 16th century. His fame chiefly rests upon his "Jerusalem Delivered," a nobly conceived work, which is known in all languages.

Tatian, a noted writer on Christianity, who flourished in Syria in the second century. His *Apology for Christianity* and *A Harmony of the Four Gospels*, shed considerable light upon the position of Christianity in his time.

Tauschnitz, Bernhard, Baron von (1816-1884), won wide celebrity by his enterprising enterprise of the Leipzig publishing business established by his uncle, and particularly by the cheap editions of English and German classics with which he flooded the Continent.

Tauler, Johann (1290-1361), a German Dominican monk and mystic, who was styled "the Illuminated." Disregarding the interdict of John XXII, in 1330, he established himself at Basel, and became associated with the "Friends of God," afterwards returning to Strasbourg. His sermons, printed after his death, and *The Book of Spiritual Poverty*—also ascribed to him—contain much that is remarkable.

Taylor, Bayard (1835-1878), an eminent American writer and traveller, who visited Central Africa, India, China, Japan, Greece, Russia, etc., and wrote very pleasant books describing those countries. He also wrote a life of Goethe, and translated that poet's "Faust." He was United States Ambassador to Berlin at the time of his death.

Taylor, Brook (1687-1731), an English mathematician of high attainments, who was some time Secretary to the Royal Society, solved the problem of the centre of oscillation, and is best known as the discover of "Taylor's theorem."

Taylor, Sir Henry (1800-1886), statesman, poet, and critic. Held an appointment in connection with the Colonial Office, and was author of the dramas, "Philip van Artevelde," "Edwin the Fair," and "Isaac Comnenus"; of "The Eve of the Conquest and other Poems"; and of *Notes from Books and The Statesman*, besides an autobiography.

Taylor, Isaac (1767-1865), originally a student of art, but became famous as a philosophical author, whose books, *The Natural History of Enthusiasm*, *The Natural History of Fanaticism*, *Physical Theory of Another Life*, *Restoration of Belief*, etc., were marked by much penetration. His son, Canon Isaac Taylor (1820-1907), was a philologist and antiquarian and historical writer, who poured forth multitudinous books from the Yorkshire rectory at Settrington, which he occupied for over a quarter of a century, the most notable of his productions, perhaps, being his *Words and Places*, and his works on the alphabet and the origin of the Aryan.

Taylor, Jeremy (1613-1667), an English divine of great influence, who was chaplain to Charles I., and suffered greatly in the troubled period of the Civil War, but on the restoration of Charles II. was made Bishop of Down and Connor. The most famous of his works was his *Holy Living and Holy Dying*. He married a natural daughter of Charles I.

Taylor, John (1680-1696), was a poet of some note in his day, who followed the occupation of a waterman. He wrote many quaint and interesting poems, including his "Penniless Pilgrimage," "Travels in Germanie," and "The Praise of Hempseed."

Taylor, Rowland, vicar of Hadleigh and chaplain to Cranmer; for refusing to renounce Protestantism

was condemned to the stake and suffered death in 1555 along with other martyrs.

Taylor, Tom (1817-1880), a clever humorist and dramatic writer, who was Professor of English History at University College, London, from 1845 to 1847, and succeeded Shirley Brooks as editor of *Punch*. His principal plays were "The Ticket of Leave Man," and "Still Waters Run Deep."

Taylor, Zachary (1784-1850), twelfth President of the United States. He was a distinguished soldier, as well as a statesman, earned the sobriquet of "Old Rough and Ready," and was President in 1849.

Teck, H.S.H., Prince Alexander of, G.C.B., D.S.O., appointed Governor-General of Canada, 1914 (b. 1874). 3rd son of the late Duke and Duchess of Teck. Educated at Eton and Sandhurst. Major and Life Guards. Seen active service in S. Africa.

Tegner, Esaias (1782-1846), Swedish poet, theologian, and Greek professor. Wrote a celebrated cycle of romances based on the old Norse Sagas, and became the principal poet of the so-called Gothic school. Much of his life was clouded by hereditary mental disease, but he achieved enduring fame by his "Frithjofs Saga."

Telford, Thomas (1757-1834), was a Scottish working stone-mason during the early part of his career, but by his ability obtained advancement, receiving the appointment of Surveyor of Public Works for Shropshire, and taking up the profession of civil engineer. Some bridges that he constructed in the Midlands led to his being entrusted with important contracts in various parts of the country. He attained special fame as a builder of bridges, the Menai Suspension Bridge being, perhaps, his greatest work. He constructed the Evesham Canal, made many hundreds of miles of difficult mountain roads, was chief engineer of the Caledonian Canal, and altogether did an immense amount of public work. He was buried in Westminster Abbey.

Tell, William, the celebrated Swiss patriot who was born about the end of the 13th century at Burglen, near Atdorf, and headed the resistance to the Austrians in 1307 and later. The story of his having been compelled to shoot an apple from the head of his boy by Gessler and his dramatic revenge is now regarded as a legendary localisation of a feat which had been attributed on English territory to William of Cloudbury, and had become a common Teutonic tradition before Tell's time. The Switzer hero of the Un had, however, a great part in the strenuous struggle of the mountaineers for independence against the Emperor Albrecht, and died circa 1350, after the firm foundation of the League which gave birth to the Helvetic Confederation.

Temple, Frederick (1827-1902), a famous Anglican Churchman, who graduated at Balliol College, Oxford, with a double first-class, became Headmaster of Rugby School in 1858, in 1860 attained notoriety as the author of the first of the much-controverted *Essays and Reviews*, advocated the disestablishment of the Irish Church in 1868, was appointed Bishop of Exeter in 1869, translated to London in 1885, and in 1896 was raised to the Primacy. He made a strong Archbishop, and dominated the Church with his vigorous personality.

Temple, Sir William (1628-1699), English statesman and author; was Ambassador to The Hague in Charles II.'s time, and is understood to have been instrumental in bringing about the marriage between William of Orange and the Princess Mary. William III. twice offered him the position of Secretary of State, but he declined the honour, spending the years of his retirement at Moor Park (where Swift served him for a time as private secretary) in literary pursuits. His essays are the work of a cultivated mind.

Teniers, David (the younger) (1610-1694), was one of the greatest of the Flemish painters. He was born at Antwerp, and his paintings of the old rustic Flemish life are unsurpassed in their humour and fidelity. He died at Brussels. His father, David Teniers, the elder (1582-1649), was also one of the leading landscape painters of the time, and learned his art under Rubens.

Tenniel, Sir John (1820-1914), was for over fifty years one of the leading artists of *Punch*, and, from the death of Leech, its principal cartoonist. His cartoons were remarkable for their accuracy of drawing, vigour of treatment, and clearness of idea. Some of his double-page cartoons were really great, as for instance, his "Dropping the Old Pilot," which appeared after Bismarck's dismissal from office. Tenniel also illustrated numerous books, including *Alice in Wonderland*. He was knighted in 1893, and retired from *Punch* in 1902.

Tennyson, Alfred, Lord (1809-1892), was Poet Laureate from 1850 to his death. Born at Somersby, in Lincolnshire, he evinced the poetic gift while quite young, and in 1827, joined his brother, Charles in the publication of "Poems by Two Brothers." In 1830 and 1832 he again appeared before the public, the two small volumes of those years, written entirely by himself, serving to mark him out as one of the coming men in poetry. It was not until 1842 that he was again attracting attention with two volumes; but these more than confirmed previous promise. In 1847 he published "The Princess"; in 1850 "In Memoriam," a poem of great beauty and depth of thought in which he enshrined his affection for the memory of his dead friend Arthur Hallam; and in 1855 "Maud" appeared. His other works include "The Idylls of the King," "Enoch Arden," "Queen Mary," "Harold," and "Becket." He was raised to the peerage in 1883.

Tennyson, Hallam, 2nd Baron (b. 1859), son and biographer of the great poet of the Victorian era last mentioned. Governor of South Australia 1899-1902, when he became first acting Governor-General of the Australian Confederation, and retained office for two years. Besides the memoir (in 2 vols.) of his father, Lord Tennyson has published some verse and magazine articles.

Terence (circa 194-158 B.C.), the famous Roman poet and dramatist, who by his talent rose from the position of a slave to that of one of the most honoured men in Rome. Six of Terence's comedies are extant—"Andria," "Hecyra," "Heauton-timorumenos," "Eunuchus," "Phormio," and "Adelphi."

Teresa, St., or Theresa (1515-1582), a Spanish saint and author, who was born at Avila in 1515, entered the Carmelite order in 1534, established a reformed order in 1562, became famous for her ascetic life and mystic visions later, and died in 1582 at Alba de Liste. She left behind her some notable religious writings, afterwards published, including *The Way of Perfection* and *The Castle of the Soul*. She was canonised by Pope Gregory XV.

Terry, Ellen (Mrs. James Carew) (b. 1848), one of the most distinguished of modern English actresses. Began her stage life when seven years of age in one of Charles Kean's great productions at the Princess's Theatre. She afterwards obtained other London engagements, and while yet quite young had made an important position for herself. It was not, however, until she became associated with Sir Henry Irving at the Lyceum that her greatest successes were obtained.

Tertullian, Quintus (circa 150-230), a Father and writer of the Latin Church, lived first in Carthage and then at Rome, and became a Montanist in 203 after conversion to Christianity some years previously. His chief work was his *Apologeticus*, a defence of Christianity called forth by the persecutions under Septimius Severus.

Tesla, Nikola (b. in Servia, 1857), electrician and inventor, was for a time connected with the Telegraph Engineering Department of the Serbian Government; later he was in Paris, engaged in electric lighting experiments; and in 1882 went to America (where he has resided ever since), and was associated with Edison for a time. He has been an active promoter of electrical developments.

Tetrazzini, Luisa, a prima donna who sprang into sudden prominence in 1807 by her wonderful singing at Covent Garden. She was hailed as a second Patti, and achieved a brilliant success. Her first appearance in opera was made at Florence, of which city she is a native, in 1806. Later she made a

tour in South America, and after her short season in London at the end of 1877 went to the United States, and was received with enthusiasm.

Tetzl, John (1455-1519), the German Dominican monk and Inquisitor, the scandal of whose sale of indulgences roused Luther to publish his memorable ninety-five theses at Wittenburg in 1517, and led up to the Reformation.

Thackeray, William Makepeace (1811-1863), was born in Calcutta, brought to England while young, and educated at the Charterhouse School in London and at Cambridge. His first ambition was to be an artist, and it is interesting to know that he at one time seriously proposed to be an illustrator of Dickens's works, but he never got much beyond the amateur stage in pictorial work, the drawings he made to illustrate some of his own novels being crude and inefficient. As a humorist and novelist he, however, attained very high rank. In *Fraser's Magazine* and in *Punch* he contributed a large number of burlesques, sketches, poems, etc., all full of spirit and fun; but it was not until later life that his greatest successes were won. *Vanity Fair*, which was issued in monthly parts between 1846 and 1848, proclaimed him a master in the realm of fiction. *Pendennis*, *Emmond*, *The Newcomes*, *The Virginians*, *Philip*, and *Lovel the Widower* make up the main of his finished stories, and English literature is all the richer for them. He edited the *Cornhill Magazine* from the first number, January, 1860, for a few years, his most notable contributions being his *Roundabout Papers*. His *Yellowplush Papers* and *The Book of Snobs* (republished from *Punch*) were widely read and admired; and the lectures he delivered in America on "The Four Georges" were pungently powerful. He was buried at Kensal Green, and his memory is honoured by a bust in Westminster Abbey.

Thales of Miletus (circa 640-546 B.C.), a famous geometer, astronomer, and philosopher, and one of the seven wise men of ancient Greece. The earliest of the Ionian philosophers, he created a sensation by the pre-calculation and prediction of an eclipse of the sun, which took place 585 B.C., and he looked upon water as the principle of all universal things.

Themistocles (circa 520-449 B.C.) was chief archon of Athens, and when Xerxes assailed Greece commanded the Athenian fleet with such vigour and ability that the invader was defeated at Salamis. Not long afterwards he was accused of corruption and fled to Persia, where, shielded by Artaxerxes, he lived for the remainder of his days.

Theocritus (285-247 B.C.), one of the great Greek poets, was born at Syracuse and lived for many years at Alexandria. We are only enabled to judge of his genius by the thirty "Idylls" which have come down to us bearing his name, and a number of "Epigrams." Most of these works are conceived in the true pastoral spirit.

Theodora, a Cypriot actress, who married Justinian circa 523, and four years later became Byzantine empress, taking a leading part in the administration of the realm. She died in 548.

Theodore, King of Abyssinia (1818-1868), a warlike and cruel despot, whose imprisonment of the British Consul, Cameron, led up to the expedition of Napier to Magdala, and the storming of that fortress in 1868. Upon his defeat by the British, Theodore committed suicide.

Theodoret (circa 390-457), a Greek theologian and historian of the school of Antioch. He wrote commentaries, lives of ascetics, and controversial works, and continued the history of Eusebius.

Theodoric the Great (454-526), a very celebrated King of the East Goths, born at Pannonia. In mediæval German romance he is renowned under the name of "Dietrich von Bern," and had a reputation for good government, akin to that ascribed in England to King Alfred. He was the founder of the Gothic Kingdom of Italy.

Theodosius the Great (346-395), was Roman Emperor of the East for nearly twenty years. He gained victories over the Goths, and the year before his death became sole Emperor. Noted in eccle-

siastical history for his conversion to Christianity, and for his submission to the penance imposed by St. Ambrose.

Theophrastus (circa 372-287 B.C.). Succeeded Aristotle as President of the Lyceum at Athens, holding the position thirty-five years, and devoting himself mainly to the elaboration of his predecessor's philosophy. His *History of Plants* and his *Moral Characters* are the best known of his writings.

Thierry, Jacques N. (1792-1856), was a distinguished French historian, best known in this country by his *History of the Norman Conquest*.

Thiers, Louis Adolphe (1797-1877), a French statesman and man of letters, was born at Marseilles, went to Paris after the fall of the Empire, and there began his career as an author by publishing (1823-1829) his *History of the French Revolution*, shortly afterwards entering political life as Deputy for Aix. Under Louis Philippe he held various prominent offices, and was Foreign Minister until a disagreement with the King caused him to resign. He was then out of office for a considerable period, and occupied his leisure in writing the early volumes of his finest work, *The History of the Consulate and the Empire*. After the *coup d'état* he spent some time in exile, and did not again take part in legislative work until 1863, when he was elected for the department of the Seine. After Sedan he rose rapidly to the chief position, devoting his whole energies to the establishing of peace. He put down the Commune, and restored order and prosperity. Was President from 1871 to 1873.

Thirlwall, Bishop Connop (1797-1875), an erudite English churchman, critic and historian, who was thirty-four years Bishop of St. David's, and wrote a number of notable essays and poems, also a *History of Greece*, and was associated with Hare in the translation of Niebuhr's *History of Rome*.

Thompson, Sir Edward Maunde (b. 1840), Director and Principal Librarian of the British Museum 1888-1909. Has edited numerous ancient chronicles and paleographical publications, and written much respecting early English literature and history, as also on Greek and Latin subjects.

Thomson, James (1790-1850), was a native of Ednam, in Roxburghshire, settled in London in 1795, and in the following year published "Winter," the first season of his famous poem, "The Seasons," which attracted much favourable attention. "Summer," "Spring," and "Autumn" followed, and increased his reputation. His other works included "The Castle of Indolence," a poem of rare imaginative power, "Liberty," and a masque on the subject of "Alfred," written in collaboration with his friend Mallet. It is in "Alfred" that "Rule Britannia" appears. He had a pension of £300 a year, and drew £300 a year as Surveyor-General of the Leeward Islands, the duties of which were performed by deputy.

Thomson, James (1834-1882), a Scottish poet of considerable power, who attracted much notice by the publication of "The City of Dreadful Night" in 1874, and followed that work up by other volumes, entitled "The Voice from the Nile" and "Pannonia."

Thomson, Sir Joseph (b. 1856), Cavendish Professor of Experimental Physics at Cambridge, and a great chemist and electrician, who has written learnedly on vortex rings, magnetism, dynamics and physics generally. Awarded the Nobel prize for distinction in Physics in 1906. President, British Association, 1909.

Thoreau, Henry D. (1817-1862), was a natural philosopher and nature worshipper, whose books he devoted himself to a primitive kind of existence in the American woods. He was the friend of, and for a time lived with, Emerson, but in 1845 adopted his career of solitude, and pursued those studies of nature which afterwards gained him a high reputation. His *Walden, or Life in the Woods*, is a unique book.

Thornbury, G. Walter (1828-1876), an admirable miscellaneous and archaeological writer, whose books on *Shakespeare's England*, *British Artists from Hogarth to Turner*, *Lays and Legends*, *Art and Nature at Home and Abroad*, *Life in Spain*, *Songs*

of the Cavaliers and Roundheads, and *The Buccaneers*, were remarkable for breadth of sympathy and facility of expression. He commenced *Old and New London* for Cassell's, but died after writing the first two volumes, leaving the late Edward Walford to carry the task to completion.

Thornhill, Sir James (1676-1733), was an eminent English painter who rose to great favour in the time of George I. Many of his decorative pictures are to be seen in St. Paul's, Hampton Court Palace, and Greenwich Hospital. He sat in the House of Commons for Weymouth for a number of years, and Hogarth studied under him.

Thornycroft, Sir John Isaac, Knight, LL.D., F.R.S., was born at Rome in 1843, and founded the well-known Thornycroft shipbuilding works, at Chiswick in 1866, where he built many noted high-speed vessels, and in recent years has devoted much attention to the improvement of motor vehicles. He was knighted in 1912.

Thornycroft, William Hamo, R.A. (born in London, 1850), an eminent modern English sculptor, has produced some of the best known sculptures of recent times, including the Gladstone Memorial, the statue of General Gordon in Trafalgar Square, of Queen Alexandra in the Royal Exchange, Lord Granville in the House of Parliament, Cromwell at Westminster, and John Bright in Rochester. Among his creative examples are "The Mower," "Lot's Wife," and "Teucer," the last-named being bought by the Chantry Trustees.

Thorwaldsen, Bertel (1770-1844), the famous Danish sculptor, who—born at sea—was in his youth assistant to his father, a ship's carpenter, but showing a special artistic capacity was sent to the Copenhagen Art Academy, where he won a scholarship and was sent to Rome. There he studied under Canova, and in the many years that he continued to reside in Rome produced some of the finest sculptures of his day.

Thucydides (471-401 B.C.) was a distinguished Greek historian, who was put in command of a force in the Peloponnesian War, but not having acquitted himself to the satisfaction of his superiors, he was exiled, and lived for twenty years in obscurity, occupying himself with writing the history of the war in which he had himself taken part, producing one of the most graphic historical narratives known.

Thurlow, Edward, Lord (1730-1806), was one of England's most celebrated Lord Chancellors, filling that office for thirteen years. It was said that "no one was ever so wise as Thurlow looked."

Tiberius, Claudius (42 B.C.-37 A.D.), was the second Emperor of Rome, a man of undoubted capacity, whose household affairs were notoriously involved and wicked. He was reserved and taciturn, however, and not strong enough to withstand the plottings of Sejanus, whose savage exercise of power in the Emperor's name during the last years of his reign turned Rome into a shambles.

Tickell, Thomas (1686-1740), was born in Cumberland and educated at Oxford, and had the good fortune to win the friendship of Addison, who, in 1717, obtained for him an Under-Secretaryship of State. Tickell figured as a poet, contributed to the *Spectator*, and altogether seems to have prospered. His poetry does not reach any high level, although he could handle the ballad metre pleasantly well, and his "Elegy on the Death of Addison" is a poem of real distinction.

Tieck, Ludwig (1773-1853), a renowned German poet and novelist, and one of the founders of the romantic school. Several of his romances are works of undoubted power—*Fair Eckbert*, *The Runenberg*, and the *Pictures*, among others—and his influence upon a special literary development was very marked. His younger brother, Christian Friedrich Tieck (1776-1851), achieved considerable reputation as a sculptor in Berlin, and was particularly successful with his portrait busts of Goethe, King Ludwig of Bavaria, Lessing, and many other celebrities.

Tillokean, Archbp. John (1560-1604), was born at Sowerby in Yorkshire, studied at Cambridge, and, becoming rector of Keddington in 1603, developed great

pulpit power. Securing the appointment of preacher at Lincoln's Inn, he soon extended his fame, and joined the ranks of the controversialists, "Popery" and "Atheism" being the main objects of his attacks. In 1579 he was Dean of Canterbury, and in 1579 became Archbishop. He was fearless in the expression of his opinions, and possessed much influence with William and Mary in his later years.

Tilly, Count (1559-1639), a Belgian-born soldier, who achieved fighting fame in the Spanish, Bavarian, and Imperial Service during the Thirty Years' War, in which he became generalissimo in 1630. In thirty-six battles Tilly proved victorious, but was defeated by Gustavus Adolphus near Leipzig in 1631, and fell mortally wounded before the same foe the year following at Lech.

Timoleon of Corinth (415-337 B.C.), the illustrious Greek general, who delivered Syracuse from Dionysius, defeated Hasdrubal and Hamilcar, and brought Sicily into prosperous tranquillity. He was as virtuous as valorous, and died greatly esteemed, after suffering blindness for some time.

Timon of Phlius, a noted Greek sceptic philosopher, poet, and dramatist, who flourished about 280 B.C. Another Timon, of Athens, known as "the misanthrope," is mentioned by Plutarch, from which source Shakespeare doubtless obtained the groundwork for his play "Timon of Athens."

Tindal, Matthew (1667-1726), a noted English Deist, who was converted from Protestantism to Romanism and back again to Protestantism. He published many controversial works, before attracting more direct public attention by his dialogue, *Christianity as old as the Creation*—which has been called the "Bible of Deism"—and was answered by Bishop Butler, Leland, Conybeare, and others.

Tintoretto (1518-1594), the famous Venetian painter, whose numerous religious pictures are of great value and interest, revealing fine imaginative force and a bold colouring. Examples of his work are to be met with in most of the great European galleries. His "Slaughter of the Innocents," "Worship of the Golden Calf," "Crucifixion," and "Belshazzar's Feast," are subjects that are familiar because of the frequency with which they have been engraved. His real name was Jacopo Robusti, and he received the cognomen of Tintoret, or Tintoretto, from his father's avocation, that of a dyer.

Tinworth, George (1843-1913), was brought up to the business of a wheelwright, but showing a strong bent for wood-carving, studied at the Lambeth School of Art and at the Royal Academy, and quickly developed considerable talent, winning numerous medals at home and abroad. For many years he was modeller to the Doultons, Lambeth Pottery. His work is to be seen in many cathedrals, churches, and public buildings, and is greatly prized for its beauty of conception and refinement of execution.

Tippoo Sahib, or Tippu Sahib (1749-1799), Sultan of Mysore, and son of Hyder Ali, who succeeded in 1782. Tippoo fought with the French against the English in India, and concluded the Treaty of Bangalore in 1784. On the renewal of the war in 1799 he was slain at Seringapatam.

Tiresias, the blind Theban soothsayer of Greek legend, alleged to have been stricken sightless whilst accidentally looking upon Athena bathing, receiving the gift of prophecy from the relenting goddess, who was unable to restore his vision.

Tischendorf, L. F. G. von (1815-1874), a celebrated German Protestant Biblical scholar and critic, and Professor at Leipzig. He was particularly learned in ancient MSS., and in the course of investigations in the East and elsewhere discovered the famous Sinaitic Codex, and many other invaluable scriptures illuminative of the Bible.

Titian (1477-1576), one of the greatest of painters, was born at Cadore, and while a child was taken to Venice to live with an uncle. Revealing remarkable artistic talent, he was placed first under, and then with, the Bellinis, and made his first essays in painting for the public in conjunction with Giorgione, whom he soon surpassed. In 1511 he was at Padua, where he painted some notable frescoes; in 1520 he

was back in Venice, with a studio on the Grand Canal, employed on important commissions. From this time forward he was in great demand, and exercised his marvellous powers almost to the end of his life, dying at ninety-nine of the plague.

Titians (or **Titian**), **Baron** (1518-1597), was a famous operatic prima donna and concert-room singer, who, from 1835 to the time of her death, was constantly before the public, and achieved very high distinction. She was the leading artiste at Her Majesty's Opera House, London, for many years, and filled to great variety of parts with almost unvarying success.

Titus (40-81), the Roman Emperor, and son of Vespasian. Attained great renown by his successful part in the Jewish war which terminated in the capture and destruction of Jerusalem by him, a feat of arms which is celebrated in the Arch of Titus still standing in Rome. On his return he took upon himself the practical control of government, and on the death of his father in 79 succeeded to the Imperial purple. Up to that time he was deemed a profligate and a tyrant, but no sooner was he in sole power than he exerted himself to the utmost to please the people, completed the Colosseum, gave plenty of exhibitions, built splendid baths, and otherwise made himself popular. He, however, only reigned two years.

Toqueville, Alexis de (1789-1859), an able French statesman and writer, who was educated for the law, and was at one time Juge d'Instruction at Versailles. He was sent out to America in 1831 to investigate the Penitentiary system, and while there he made a very close study of the conditions of popular government in the United States, and on his return to France published his celebrated book *Democracy in America*. He was a member of the Chamber of Deputies for some years, and when Louis Napoleon was President of the Republic became Foreign Minister. He did not associate himself with politics after the coup d'état.

Todhunter, Isaac (1800-1884), a great mathematician, and the author of a series of text-books which have had a very extensive vogue. He was the Senior Wrangler of his year at Cambridge, and perhaps his most valuable works were his *Researches on the Calculus of Variations* and his *History of the Theory of Elasticity and the Strength of Materials*.

Todleben, E. Ivanovitch, Count (1818-1884), a noted Russian general and military engineer who defended Sebastopol against the Allies, took charge of the Siege of Plevna in the Turkish War of 1877, was employed in the reduction of the Bulgarian fortresses in the year following, and later served as Governor of Odessa. He wrote a book on the Crimean War.

Togo, Admiral, Count (b. 1819), the most conspicuous naval commander of modern times. Was a student at Greenwich Naval College, where he obtained a complete mastery of British methods. In the war between his country and China he did splendid service, and on the outbreak of the conflict between Japan and Russia in 1904 speedily "got in the first blow" on the Russian fleet, and achieved a series of brilliant victories that resulted in the complete destruction of the enemy's ships. Raised to the rank of Count in 1907.

Tolstoi, Count Leo (1828-1911), was the most distinguished personality in modern Russian literature. Born of a good family, he was for a time in the army, but was so greatly moved by the trials and sufferings of the people that, out of pure sympathy of heart, he was impelled "to take up his pen and write." At twenty-four he published his *Childhood*, and in 1854, while in camp in the Crimea, wrote his *Tales from Sebastopol*, which procured him considerable literary fame. Later on he was a persistent advocate of progressive ideas, and, before the Emancipation Act for freeing all Russian serfs was enforced, he himself had given the serfs on his own estate their freedom. In 1860 he married, and settled down to a quiet country life, shortly afterwards publishing his *War and Peace* and *Anna Karenina*. In more recent years Tolstoi developed a sort of religious

mysticism. Among his later works are *The Power of Darkness*, *The Kreutzer Sonata*, *The Cossacks*, *The Resurrection*, and *The End of the Ages*.

Tone, Wolfe (1763-1798), the Nationalist agitator who founded the Society of United Irishmen in 1791, was captured on board a ship of a French squadron which he had induced to sail into Bantry Bay, and sentenced to death for treason, but escaped the gallows by suicide.

Tooke, John Horne (1735-1822), politician and philologist, was the son of John Horne, a London poultryer. Educated at Eton and Cambridge, he took Holy Orders, studied for the Bar, tried to enter Parliament, and became a fierce controversialist on the topics of his time. He in turn attacked Lord Mansfield, Wilkes, Junius, and Lord North, and frequently got himself into trouble by the violence of his language, being imprisoned on one occasion for libelling the King's troops in America. It was only in 1782 that he adopted the surname by which he became thenceforth known, in consequence of inheriting a property left to him by Mr. William Tooke, to whom he had rendered some legal service. In 1801 he was returned to the House of Commons as member for Old Sarum, but after sitting in one Parliament, he was excluded by the passing of a law rendering clergymen ineligible for Parliament. The book on which his literary reputation was chiefly based was *The Diversions of Purley*, in which a great amount of learning is mixed up with much politics and some pedantic, etymological parade.

Toole, John Lawrence (1839-1900), perhaps the most popular English comedian of his time. On leaving school he went into the office of a wine merchant, but at twenty adopted the actor's profession, making his first appearance at the Haymarket Theatre, afterwards playing with ever-increasing success for nearly half a century all over the United Kingdom.

Torquemada, Tomas de (1420-1498), the chief officer of the Spanish Inquisition organised under Ferdinand and Isabella. He was a Dominican prior who showed great ferocity of disposition and horrible inventiveness in the pursuit and punishment of "heretics."

Torricelli, Evangelista (1608-1647), the famous Italian mathematician and astronomer, who was Galileo's pupil, and became Professor at Florence. He invented the barometer and improved both the microscope and the telescope, making besides many important physical-science discoveries.

Tourgueniev, Ivan, or Turgueniev (1818-1883), a clever Russian novelist and writer, who suffered imprisonment for his fearless expressions of political opinion, but contributed by his pen materially to the emancipation of the serfs. The most striking of his stories "with a purpose" are *A Nest of Nobles*, *Fathers and Sons*, *Smoke*, and *The Diary of a Superfluous Man*.

Toussaint-L'Ouverture (1743-1803), negro leader in St. Domingo; after the revolt recognised as general-in-chief of the island by the French; carried out many reforms; established an independent republic in 1801; resisted Bonaparte's attempt to re-establish slavery; surrendered to the French in 1802; died in prison in Paris in the year following.

Toynbee, Arnold (1852-1883), the son of an architectural surgeon, Joseph Toynbee (1816-1866), who published a very valuable treatise on *Diseases of the Ear*. Arnold Toynbee, after graduating at Oxford, devoted himself to practical philanthropy and social reform. From his self-denying efforts sprang the settlement in East London—Toynbee Hall, Whitechapel—as associated with his name and the cause he gave his life to, for he died of overstrain in his work amongst the poor.

Trajan (circa 53-117) was Roman Emperor from 98 to his death, and led in person the imperial armies to victory in many lands. The famous Trajan column in his Forum at Rome was erected to celebrate his victories over the Dacians. Dacia, Armenia, and Mesopotamia were all brought under his sway. His rule was enlightened, and he was held in great honour by the people.

Tree, Sir Herbert Beerbohm (b. 1853), the London actor-manager who has scored successes at the Haymarket and His Majesty's Theatres, and whose ability as a character-actor has earned him a great reputation in very many dissimilar parts. His later productions have included many Shakespearean revivals, and a number of original pieces and adaptations from novels, among which may be enumerated "Oliver Twist," "Colonel Newcome," "Edwin Drood" (1908). He was knighted in 1909.

Treloar, Sir William, Bart. (b. 1843), has for many years been a prominent member of the London Corporation. Was elected to the Common Council in 1881, became Alderman in 1892, was Sheriff in 1899, and Lord Mayor 1906-1907. Knighted in 1899, Bt. 1907. His work for the relief of crippled children has been insistent, long-continued, and highly beneficial.

Trench, Richard Chenevix (1807-1886), Anglican ecclesiastic, poet, scholar, and miscellaneous writer; a divine and prelate of distinction and an author of outstanding ability. Born in Dublin and educated at Harrow and Trinity College, Cambridge, he was Hulsean Lecturer in 1845, and a Professor at King's College, London, in 1847. Dean of Westminster in 1865, he was preferred to the Archbishopric of Dublin eight years later, and held the Primacy of Ireland for a decade. His publications included volumes of "Poems," "Parables," "Miracles," "Lectures on Medieval Church History," and numerous philosophical works.

Trevelyan, Rt. Hon. Sir George Otto (b. 1838), was educated at Harrow and Cambridge, and spent some years in the Indian Civil Service. In 1865 entered Parliament as a Liberal, and in 1868 was Civil Lord of the Admiralty in Mr. Gladstone's first Ministry. In 1880 he was Parliamentary Secretary to the Admiralty, and in 1882 Chief Secretary for Ireland. Was afterwards Chancellor of the Duchy of Lancaster, and Secretary for Scotland, but separated himself from Mr. Gladstone on the Home Rule question. Was again Secretary for Scotland from 1892-1895, and retired from political life in 1897. As a writer Sir George has attained no mean reputation; his *Life and Letters of Lord Macaulay* is one of the best of modern examples of biography, and since leaving public life he has made his mark as an historian by his book on the American Revolution. He is also author of a *Life of Charles James Fox*, of a witty production entitled *The Ladies in Parliament*, and *Interludes in Verse and Poetry*, published in 1905.

Treves, Sir Frederick, 1st Bart. (b. 1853), a skilful surgeon, who was Sergeant-Surgeon-in-Ordinary to King Edward VII. from 1901, in which capacity he successfully operated upon the King for perityphlitis prior to the Coronation. Retired from practice in 1903. Has placed his skill at the service of the military authorities on many occasions, and was Consulting Surgeon on the spot to the forces in South Africa in 1900. Sir Frederick was made K.C.V.O. in 1901, and created a baronet in 1902.

Trevithick, Richard (1771-1833), a Cornish mine-manager's son, who won enduring fame by the invention of the road-locomotive, putting upon the highway on Christmas Eve, 1801, the first steam-propelled vehicle for the conveyance of passengers; starting another in London streets in 1803, and applying the idea to a tramline laid in Wales the year following. The Stephensons took up Trevithick's principle, and hence came the railway as well as road locomotion. He constructed, in 1808, a curving railway near where Euston Station now stands in London, carrying passengers round circular sweeps at twelve to fifteen miles an hour by the traction of his locomotive.

Trollope, Anthony (1815-1882), was the second son of Mrs. Trollope (1776-1863), the novelist, and himself the author of many popular novels. His *Barchester* series, in which he depicted a number of scenes of higher clerical life with great fidelity and success—*Framley Parsonage*, *Barchester Towers*, *The Small House at Allington*, and *Orley Farm*—were among the best of his stories.

Tryon, Admiral Sir George (1822-1893), was a distinguished English naval officer, who rose to high rank, and in 1891 was appointed to the command of the Mediterranean fleet. A mistaken order caused a collision between his flagship and another vessel in 1892, during some naval manoeuvres, when the Admiral and many of the crew lost their lives.

Tschalkovsky, Peter Ilitch (1840-1893), a Russian musical composer of great force and originality, whose orchestral pieces are full of subtle beauties and grace. He was professor at the Conservatoire of St. Petersburg from 1866 to 1878.

Tullius, Servius, was, according to tradition, the sixth King of Rome, who reigned 578-534 B.C., and reformed the constitution and extended the city limits, building also the Serran wall.

Tulloch, Dr. John (1823-1882), an eminent Scottish Divine, and Moderator of the Established Church in 1878. He was educated at and became Principal of St. Andrew's, and was the writer of learned philosophical and historical works, and a man of much influence upon the religious thought of his time.

Tupper, Sir Charles, Bart., G.C.M.G. (b. 1821), for 35 years member of Nova Scotian and Canadian Parliaments, Premier of the former, 1864-7; of the latter in 1866; High Commissioner in England 1887 and 1888-90, published his biography in 1914.

Tupper, Martin Farguhar (b. 1688), a student of some pretensions, who abandoned law for literature, and is best remembered by his "Proverbial Philosophy" (three series) at one time widely read.

Turenne, Vicomte de (1611-1675), was a famous French commander and Marshal of France, who was highly successful in the Thirty Years' War, when he commanded the United French and Swedish forces. He was killed at Salzbach, and his remains were translated to the Church of the Invalides in 1800.

Turgot, Anne Robert Jacques (1727-1781), a political economist, France, who held high positions of State, advocated many of the measures which the Revolution afterwards carried, and was dismissed from the position of Controller-General of France by the King in consequence.

Turner, Joseph Mallord William (1775-1851), was the son of a London barber, but while quite a child showed the possession of artistic genius. In 1789, after some miscellaneous schooling, he entered the Royal Academy classes, and soon began to make his way, being elected A.R.A. in 1799, and four years later R.A. Of his larger pictures, may be mentioned "The Sun Rising through Vapour," "Crossing the Brook," "Dido building Carthage," "The Fighting Temeraire," and "Calais Pier."

Ruskin in his *Modern Painters* wrote with great eloquence and critical insight regarding Turner's work, and brought about a fuller appreciation of his genius. He was never married, and took little interest in anything outside his art. He left the oil paintings and drawings he had presented to the National Gallery. He bequeathed the fortune of £20,000 for founding an institution for the decayed English artists, but the will was disputed by his next of kin, who succeeded, owing to the want of clearness in the testator's wording of his desire, in obtaining the greater part of the estate, with the exception that £20,000 went to the Royal Academy, and the whole of the pictures and drawings to the nation.

Turner, Sharon (1768-1847), a painstaking writer whose *History of the Anglo-Saxons* (in four volumes) and *History of England* (published later, were works of considerable literary value.

Tussaud, Madame (1760-1860), a Swiss who, while practising the art of modelling in wax in Paris at the time of the French Revolution, made her escape to England and set up a small exhibition of wax figures in Marylebone Road, which became such an attraction that she was encouraged to extend it. The present Tussaud collection is the result.

Twain, Mark. (See *Clemens, Samuel L.*)
Tweedmouth, Edward Marjoribanks, 2nd Baron (1840-1909), a prominent Liberal peer who served as Whip to his Party when a member of the House of Commons, and was in turn Chancellor of

the Duchy and Lord Privy Seal under the Earl of Rosebery, and First Lord of the Admiralty under Sir H. Campbell-Bannerman.

Tyler, Wat, or "Wat, the Tyler," stands out in Britain's historical record as the leader of the peasants' revolt of Richard II's time against the iniquitous poll-tax. Over 100,000 peasants followed Tyler into London in June, 1381, and the king met them in Smithfield and made promises of redress that were never fulfilled. It was at this meeting that Sir William Walworth, Lord Mayor of London, stabbed Tyler with a dagger, and afterwards handed him over to his followers to kill outright.

Tyndale, William (1484-1536), was educated at Oxford, and conceived a strong desire to be the medium of presenting the Bible to his countrymen in their own language. He set about this work with great earnestness, and for some years, first in England and then in Germany, continued his task, completing the translation of the New Testament at Wittenburg, where he was associated with Luther. This version was first published at Antwerp, and then found its way to England, where it was publicly burnt at St. Paul's Cross. Tyndale afterwards was associated with Miles Coverdale in a translation of the Old Testament, but only completed the Pentateuch and the book of Jonah. Antwerp was Tyndale's retreat during this later period, and in 1535 he was arrested for heresy and put to death by strangling and burning.

Tyndall, John (1820-1893), was an eminent scientist who, in 1852, became Professor of Natural Philosophy at the Royal Institution, a position which he retained until 1891. His books on *Light, Sound, and Heat* are well-known text-books. He ranked amongst the foremost thinkers and writers of his time, and was a zealous materialist. Professor Tyndall was an inveterate mountaineer, and much noted for his tireless investigations of magnetism.

Tyler, Patrick Fraser (1791-1849), was a Scottish historian. Was born at Edinburgh, and after a course of education at the University, devoted himself largely to literary work, producing a number of miscellaneous biographical and historical studies, and finally, at the suggestion of Sir Walter Scott, he entered upon the chief work of his life—that of writing the *History of Scotland*, which is a monument of painstaking research in nine volumes.

U

Udal, John, was a Puritan Divine who died in prison in London, in 1592, under condemnation of heresy in connection with his writings for the Marprelate press. Was the author of the first Hebrew grammar printed in English, entitled *A Key to the Holy Tongue*.

Udall, Nicholas (1595-1556), was a quaint humorist, whose rollicking comedy, *Kalypso Roister Doister*, is the first English sample of that kind of composition. He was for a time head-master of Eton, and was patronised both by Henry VIII. and Mary.

Uhland, Johann Ludwig (1787-1862), a German poet who won great fame by his ballads and songs. He caught much of the old ballad spirit, and invested his themes with a weirdness that made them very impressive; most of them have been translated into English by Longfellow, Skeat, and others. Uhland was for a few years Professor of German Language and Literature at the Tubingen University.

Unwin, Prof. William Cawthorn F.R.S. (b. 1838), an eminent civil engineer and physical scientist, and authority on hydraulics and bridge-construction, concerning which he has read before the Royal Society and British Association important papers and published various learned works. He has been professionally connected with the City and Guilds of London Institute and the Royal Indian Engineering College.

Ursula, St., is said to have been an English princess, who with 11,000 virgins set out on a pilgrimage, but compelled by a fierce storm to take

refuge in Cologne, was there put to death with her following by an army of Huns. She is a Saint of the Roman Calendar, and relics exhibited at the Church of St. Ursula at Cologne, for which miraculous powers were claimed, have been the object of veneration by countless pilgrims.

Usher, or Ussher, Bishop James (1581-1656), was born in Dublin and educated for the Church. He was Bishop of Meath from 1629 to 1652, and in the later year was created Archbishop of Armagh, which post he held until the Irish rebellion of 1647 forced him from the country. Charles I. then appointed him to the see of Carlisle, but the disorder caused by the Civil War prevented his taking up the position. He was then made Preacher at Lincoln's Inn, and while holding that position wrote the theological works on which his reputation chiefly rests. His *Annals of the Bible* and *Notes on the Old Testament* was a chronological outline of the world's history.

Uvarov, Count Sergei (1785-1853), Russian statesman and scholar. President of the St. Petersburg Academy of Science, and Minister of Public Instruction. Did much to promote higher education, and wrote some useful works on language, literature, and politics.

V

Valentin, Arthur A., 11th Viscount (b. 1843). Premier baronet of Ireland, a Conservative statesman who held the office of Comptroller of the Royal Household 1898-1905, and has done service as one of the Parliamentary Whips of his Party. Interested in local government and served with distinction with the Yeomanry in the South African War.

Valentine, St., was a Christian martyr of the reign of the Emperor Claudius (c. 270-275). His festival was commemorated on February 12, before Gregory the Great's time. The custom of sending valentines had its origin in a heathen practice associated with the worship of Juno about this date in the calendar, and had no connection with the saint. It was believed anciently that the birds began annually to pair on the day upon which Juno was honoured as referred to, and Juno and Valentine became a conventional interwoven in one popular observance which underwent variant development.

Vamberg, Arminius (1822-1913), a celebrated Orientalist and traveller who mastered many languages and travelled in many lands. His works include *Travels in Central Asia*, *Wanderings and Adventures in Persia*, *Manners in Oriental Countries*, *The Turkish People*, and *The Coming Struggle for India*.

Vanbrugh, Irene (Mrs. Dion Boucault) and **Vanbrugh, Violet** (Mrs. Arthur Bourchier), are the stage names of two talented and talented actresses, the daughters of the late Rev. R. H. Barnes, who was a Preliminary of Exeter Cathedral. Both have played many parts with charm and distinction in comedy and drama.

Vanbrugh, Sir John (1666-1726), was a prominent architect as well as a successful dramatist. Among his architectural triumphs may be mentioned the palatial edifices of Blenheim and Castle Howard. Of his dramatic successes it is enough to mention "The Relapse," "The Provoked Wife," and "The Confederacy," the two former of which were especially successful.

Vancouver, George (1758-1798), a British navigator who served under Captain Cook in his second and third voyages, and later undertook an expedition to the Pacific, during which he explored the Gulf of Georgia and the Straits of San Juan de Fuca, as also the shores of what later became known as Vancouver Island. He left an interesting narrative of his discoveries, which was published after his death.

Vanderbilt, Cornelius (1794-1877), a noted American merchant and railway speculator, who accumulated a fortune of twenty millions sterling. His son, William Henry Vanderbilt (1821-1885), inherited the bulk of the wealth of the elder railway

king's wealth, and added thereto by operations in the same direction.

Van Dyck, or Vanduyke, Sir Anthony (1599-1641), was born at Antwerp, and after studying under Rubens went to Italy and there made a name as a portrait painter. In 1629 he came to England on the invitation of Charles I., but only remained a short time; in 1631 Charles prevailed upon him to return, made him a knight, granted him an annuity, and he became the Society painter of the day.

Yane, Sir Harry (1613-1662), was a prominent statesman and diplomatist who at one time was governor of Massachusetts. In 1640 he was elected to the British Parliament, and one of the Council of State under Cromwell. At the Restoration he was arrested as an enemy to the State, and ultimately beheaded on Tower Hill.

Van Tromp, Admiral (1597-1653), a famous Dutch commander who after many victories over the Spanish fleet was opposed to that of England during the Commonwealth, and fought gallantly in five engagements, being killed in the last encounter with Monk's ships.

Vasari, Giorgio (1511-1574), was born at Arezzo, and was eminent alike as an architect, painter, and a writer. His fame chiefly rests, however, upon his well-known work *The Lives of the Most Excellent Painters, Sculptors and Architects*.

Vasco de Gama. (See Gama.)

Vashti, queen of King Ahasuerus, who, according to the Scripture, lost the royal favour and was divorced, being succeeded by Queen Esther.

Vauban, Sébastien (1633-1707), was a renowned French military engineer, who introduced great improvements in methods of fortification, became Commander General of Fortifications under Louis XIV., and was made Marshal of France. He invested France with an entirely new series of fortifications, conducted fifty-three sieges, and took part in 140 battles.

Vaucanson, Jacques de (1709-1782), a clever French mechanician, who invented and exhibited some wonderful working automata, including a life-like flute-player, a tambourine and fife-player, and a duck which went through the movements of eating and drinking, and "cuck" quite naturally. He also devised improvements in weaving machinery that to a certain extent anticipated the Jacquard loom.

Vaughan, Father Bernard (b. 1847), brother of the late Cardinal Vaughan, a fearless Romanist preacher, whose fulminations against the sons of the "smart set" from the pulpit of the Farm Street Jesuit Church in London in 1906 created considerable consternation in Society.

Velasquez, Diego (1465-1533), a Spanish soldier and companion of Columbus, who was sent to conquer Cuba. Velasquez founded Santiago and Havana, and despatched Cortés to Mexico, afterwards quarrelling with the latter over the spoils, and dying, it is said, of vexation at his failure to get the better of Cortés.

Velasquez, Diego (1599-1660), was a famous Spanish painter, whose pictures rank among the finest in Spanish art. His style was sombre and dramatic, but he invested his works (especially his portraits) with such a natural force that they never lack in distinction. He held a court appointment to Philip IV. His "Adoration of the Shepherds" is at the National Gallery.

Vardi, Giuseppe (1813-1907), the most popular composer of Italian opera of the 19th century. Was the son of poor parents, and, showing an early talent for music, was put in the way of obtaining an adequate musical training. His first opera to obtain anything like popularity was his "Nabuccodonosor," produced in 1845. "Il Lombardi" followed in 1843, and "Ernani" in 1844, which were even greater successes, and gave him a first place among European composers. In 1851 he produced "Rigoletto," and in the next few years "Il Trovatore," and "La Traviata." In 1871 he astonished the world by the production at Cairo of an opera conceived on really great lines. This was "Aida," which was followed at intervals by "Otello," and "Falstaff."

Varne, Jules (1828-1905), was one of the most popular authors of wonder-stories in Europe. The best-known of his numerous works are *Few Weeks in a Balloon*, *A Journey to the Centre of the Earth*, *Twenty Thousand Leagues under the Sea*, *Round the World in Eighty Days*, and *Michael Strogoff*.

Vernet, Horace (1789-1863), was a distinguished French painter of battle-pieces, the best of which are in the galleries of Versailles and the Louvre. Both his father, Carle Vernet (1758-1835), and his grandfather, Claude J. Vernet (1714-1789), were also painters of note, the former excelling in historical and military subjects, and the latter in marine and landscape pictures.

Vernier, Pierre (1580-1637), an ingenious Spaniard, who invented the mechanism of the *vernier* auxiliary scale, enabling lines and angles to be measured to a much more minute degree than had previously been possible. The vernier, however, is now superseded for the most part by micrometer-screws.

Veronese, Paul, or Paolo Callari (1528-1588), a celebrated Italian painter of religious subjects, who was great as a colourist and produced some of the most important works of his time. His "Marriage Feast at Cana in Galilee," "The Feast in the House of Simon," and "The Presentation of the Family of Darius to Alexander," are paintings of world-wide celebrity, while his "Adoration of the Magi," in our National Gallery, is a grand work. Alessandro Veronese (1582-1648) is the name by which another Italian painter (of historical pictures) is generally known, but the two are in no way to be confounded, the latter's real surname being Turchi.

Veronica, St., a legendary Saviour of Jerusalem, who was said to have handed to Christ his kerchief on His way to Calvary. The old belief was that the Redeemer wiped His brow therewith, leaving on the handkerchief a miraculous impression of His face, the so-called "Veronica." The Saint is commemorated on February 4th.

Vespasian (9-79), was Roman Emperor during the last nine years of his life. At one time he commanded the Roman army of occupation in Britain. Later he saw active service in A.D. 69, where he held the position of Pro-Consul, and A.D. 70, when he made war upon the Jews. He interested himself in the building of the Colosseum.

Vespucci, Amerigo. (See "Amerigo.")

Victor Emmanuel II. (1820-1878) was King of Sardinia from 1849 to 1861, became King of Italy, according to the Proclamation of the Sardinian Senate; but it was not until 1870, when the unification of Italy was fully secured, that the title came to have its true significance.

Victor Emmanuel III. (b. 1869), son of Humbert I. and grandson of Victor Emmanuel II., succeeded his father as King of Italy in 1900.

Victoria (1819-1901), Queen of Great Britain and Ireland and Empress of India, was daughter of the Duke of Kent, and came to the throne in 1837 on the death of her uncle, William IV., being crowned in Westminster Abbey in the following year. In 1840 she married Prince Albert of Saxe-Coburg-Gotha, who died in 1861. There were nine children of the marriage, namely: Victoria Adelaide, Princess Royal, born 1840; Albert Edward, Prince of Wales, 1841; (Edward VII.); Alice Maud, 1843; Alfred Ernest, 1844; Helena, 1846; Louise, 1848; Arthur, 1850; Leopold, 1853; and Beatrice, 1857. Of these Edward VII. died in 1901; the Princess Royal, who was married to Prince Frederick William of Prussia, became Empress of Germany, and was the mother of the present Emperor of Germany, died in 1901; Princess Alice, who married Prince Louis of Hesse Darmstadt, died in 1878; Prince Alfred (Duke of Edinburgh) and afterwards of Saxe-Coburg died in 1900; whilst Prince Leopold died in 1884. Lord Melbourne was Prime Minister at the date of the Queen's accession, and for a number of years the country lived through troublesome times, the Corn Law and Chartist agitations being at times very threatening, but a more settled condition of things supervened, and for the remainder of the long and illustrious Victorian reign there was no serious home

unrest. The principal events, beyond the bounds of the United Kingdom, of her Majesty's reign were the Crimean War, the Indian Mutiny, her proclamation as Empress of India, and finally the Boer War. The Jubilee of Queen Victoria's accession was celebrated in 1887, and the Diamond Jubilee ten years later.

Vieuxtemps, Henri (1820-1881), a celebrated Belgian violinist who was an executant of much power and dexterity, and for many years appeared at the leading London concerts, and was an equal favourite in the various European capitals. He also composed numerous fine pieces for the violin.

Villars, Duc de (1653-1734), a noted French diplomatist and military commander who was in turn Ambassador at Munich and Vienna, became Marshal in 1702, lost the battle of Malplaquet in 1709, defeated Eugene in 1713, and captured Milan in 1733 during the Lombard War.

Villeneuve, Pierre (1763-1806), the French naval commander who was opposed to Nelson at Trafalgar and captured along with his ship, the *Bucentaure*. For a time he was held a prisoner in England, and felt his defeat so keenly that on his release and return to France he committed suicide.

Villiers, Charles Pelham (1802-1898), was one of the Free Trade leaders of the Golden and Bright, an untiring worker and an eloquent advocate of the cause. He represented Wolverhampton in the House of Commons from 1835 to 1867. He was a brother of the fourth Earl of Clarendon.

Villiers, Geo. Wm. Fredk., 4th Earl of Clarendon. (See Clarendon.)

Villon, François (1431-1461), was a clever French adventurer and poet, who lived an unscrupulous, romantic life in quarrelsome times. Although mainly a vulgar vagabond, he had the poetic gift and a lively fancy, and in his calmer moments could throw off a song or a ballad with the best. Many of these compositions have been preserved.

Vincent, Sir C. E. Howard, M.P. (1849-1908), a prominent Conservative politician, and an enthusiastic Protectionist, who had been in the Army, and was learned in the law, besides distinguishing himself as Director of Criminal Investigation.

Virchow, Rudolf (1821-1902), a celebrated German anatomist and physiologist, the founder of cellular pathology, professor first at Wurzburg and then at Berlin, he also figured as a politician, and was one of the leaders of the Progressist and later of the German Liberal Party in the Reichstag.

Virgil (70-19 B.C.), the great Roman epic poet. Was born near Mantua, and cultivated a farm in the adjacent village of Andes. He proceeded to Rome in his thirtieth year to obtain redress for the occupation of his lands by the military. Became known to Octavian and Mæcenas, and, having had his demand satisfied, began the writing of his *Eclogues*. The *Georgics* followed in his forty-third year, after which he began his most famous work, the *Æneid*, which, when completed, comprised twelve books, dealing with the story of the wanderings of Æneas after the destruction of Troy. The poet resided in Rome during his later years, and became wealthy.

Virginius, Lucius, was, according to legendary history, a Roman centurion, whose daughter, Virginia, having attracted the eye of Appius Claudius, the latter instructed one of his retainers to lay claim to the girl as his slave. Appius Claudius himself presided at the tribunal, before which the claim was heard, and awarded the girl to his dependant. At this point, the enraged father, rather than see his daughter handed over to dishonour, killed her in the presence of the court. This was the signal for a popular rising, Virginius was proclaimed tribune, and Appius Claudius cast into prison, where he committed suicide.

Vitus, St. Roman Catholic saint and martyr, who lived in the 4th century. It used to be the custom to dance before his shrine on his festival day, June 12th, in the belief that good health was thereby ensured for the next twelvemonth. The nervous ailment, St. Vitus' dance, derives its name from this practice.

Volta, Count Alessandro (1745-1827), was born at Como, and became Professor of Natural Philosophy both there and at Pavia University. In the course of his studies in electricity he discovered the voltaic pile, giving his name thereto, and also to the electrical unit, the volt. To Count Volta is due also the invention of the electroscop.

Voltaire, François Marie Arouet de (1694-1778), one of the greatest of French philosophers and writers, who was educated for the bar but preferred literature. His first essays offended the authorities, and he lived in London for a couple of years (1726-1728), and there wrote some of his dramas. Returning to France, he published his *Philosophical Letters*, which aroused the enmity of the priesthood to such an extent that the book was publicly burned. At this juncture, the Marquise du Châtelet offered him the asylum of her castle of Cirey, and for the next fifteen years he made this his home, and there wrote some of his most famous works—*Discourses on Man*, *Essay on the Morals and Spirit of Nations*, *Age of Louis XIV.*, among the rest. From 1750 to 1753 he lived in Berlin, on the invitation of Frederick the Great. Later he resided mostly at Ferney.

Yorck, a famous British prince who, when at war with the Persians, was aided by the Calcutta in the Jute pirates, Hengist and Horsa, to his aid, and so secured victory.

W

Wace, Very Rev. Henry. D.D. (b. 1836), Dean of Canterbury since 1903, formerly Principal of King's College, London; author of numerous important theological works.

Waddington, William Henry (b. 1826, d. 1894), French statesman and archaeologist; Plenipotentiary at Berlin Congress, 1873; Ambassador to Great Britain, 1883-1893.

Wade, Benjamin Franklin, American statesman (b. 1800, d. 1878), anti-slavery leader and acting Vice-President of the U.S.A., under Johnson.

Wagner, Richard (1813-1883), born at Leipzig, was the composer who exerted the greatest influence upon musical art during the 19th century. He revolutionised operatic methods, and doing away with set ballads and choruses, endeavoured to give the same unity of action to an opera as would be realised in a play without music. This continuity of musical thought and action was a long time in forcing itself into acceptance, but to-day is acknowledged as the only adequate interpretation of dramatic musical expression. Wagner fought for his position with great pertinacity and courage, but it was not until the King of Bavaria enabled him to indulge his aims to their full development that he realised his ambition. At the famous opera house at Bayreuth were produced all the later Wagnerian operas of the "King des Nibelungen" tetralogy. His last work, "Parsifal," given in 1882, shows the fullness of his powers.

Wain, Louis (b. 1860), a clever artist and animal caricaturist, widely popular for his humorous and fanciful drawings of cats, concerning which he is an expert. President of the National Cat Club.

Wakefield, Gilbert (1750-1801), a theological and classical writer, who became Principal of Hackney College, and before becoming a Nonconformist was in Anglican Orders. He was a violent pamphleteer, and suffered imprisonment for two years for a particularly bold attack upon the Bishop of Llandaff.

Wakefield, Rt. Rev. Henry Russell, D.D. (b. 1854), Bishop of Birmingham, has been an indefatigable worker on behalf of social betterment and unemployment, was the Rector of St. Mary's, Bryanston Square, 1891-1900. Dean of Norwich, 1900-1911, and Mayor of St. Marylebone, 1903-1905.

Walker, Frederick (1840-1895), a clever painter and black-and-white artist, who from 1860 to his death had a very promising career, and produced many works that are highly valued.

Walker, Frederick William (1830-1910), was High

- Master of St. Paul's School, London, from 1896 to 1905; an eminent classical and mathematical scholar.
- Walker, General Sir Frederick William E. F. Forester** (1844-1910); served in Kaffir War 1877-1878; Zulul War 1879; commanded troops in 1897-1898-1899; Lieut.-Gen. in command of Lines of Communication, South Africa Field Force, 1899-1900.
- Walker, George**, the hero of the siege of Londonderry, in 1688, a clergyman, who, after Lundy's desertion, took command of the defence of the town and kept the besiegers at bay for 105 days. Two years later he was killed at the Battle of the Boyne.
- Wallace, Alfred Russel** (1822-1913), the celebrated naturalist, a native of Uxbridge, attracted much notice as far back as 1853 by his book *Travels on the Amazon*, detailing his experiences in that region. In 1883, while down with illness in the Moluccas, the idea of the evolution theory occurred to him, and curious to say, he drafted his first notes upon it and sent them to Darwin in England while the latter was on the eve of publishing his own exposition of the theory, the result being the reading of a joint paper on the subject to the Linnean Society. The coincidence was fully acknowledged by Darwin. There are differences, Sir Alfred, between the points of view of the two thinkers. Wallace's *Descentism* fully expresses his own views on the subject. He also wrote on *Miracles and Modern Spiritualism*. He enjoyed a Government pension from 1891, and in 1905 published a deeply interesting autobiography.
- Wallace, Sir Donald Mackenzie** (b. 1841), journalist, traveller, and picturesque miscellaneous writer. Accompanied the present King and Queen (then Duke and Duchess of York) on their Colonial tour in 1901 as assistant private secretary and official recorder. Edited the tenth edition of the *Encyclopædia Britannica*, and has written notable books on Russia and Egypt, and a volume entitled *The Web of Empire*.
- Wallace, General Lewis** (1827-1905), a popular American novelist; served in the Mexican and Civil Wars, and was Governor of New Mexico from 1876 to 1881, and subsequently Minister to Turkey. His first literary work was *A Tale of the Conquest of Mexico*, and seven years later his historical romance, *Ben Hur: A Tale of the Christ*, made him famous.
- Wallace, Sir Richard** (1828-1895), son of the Marquis of Hertford, and inheritor from him of a famous collection of pictures and other works of art, to which he himself added largely. This collection was bequeathed to the nation by his widow along with Hertford House, and now forms one of the most important exhibitions in London.
- Wallace, Sir William** (circa 1270-1305), the great Scottish patriot and chieftain who led the Scottish armies with so much success against Edward I. that for a time the English were kept completely in check. Later, Edward defeated him at Falkirk, and finally in 1304 he was captured, taken to London, condemned for treason, and executed at Smithfield.
- Wallenstein, Albrecht von** (1583-1634), a great Bohemian general and Duke of Friedland, who, raising an army of his own, proceeded against the Lower Saxon League, and occupied a number of provinces as commander. This led to Gustavus Adolphus setting out to oppose him, and at the famous battle of Lützen, Wallenstein was defeated, though Gustavus Adolphus himself was killed. Wallenstein afterwards tried to obtain Bohemia for his own kingdom, but was assassinated.
- Waller, Edmund** (1605-1689), was one of the most graceful of English poets, who tuned his lyre to suit both the Cromwellians when they were a power, and Charles II. when his turn came. Suspected of being implicated in some plot against Parliament, he was fined and banished, but was allowed to return to England later. After the Restoration he became a favourite of Charles II., and had a high reputation among the fashionable people of that day.
- Waller, Lewis** (b. 1860 in Spain), a Grove actor, who established himself as a London favourite after much hard work on tour, as an interpreter of romantic leading and other parts.
- Walpole, Horace** (1717-1797), was the younger son

- of Sir Robert Walpole, filled a number of Government positions, and was a member of the House of Commons. He retired in 1768 to his favourite house at Strawberry Hill, and devoted himself to the writing of books and the accumulation of works of art.
- Walpole, Sir Robert** (1676-1745), was the great Whig statesman of the early part of the 18th century. He resolutely opposed the South Sea scheme, and showed enlightened views of financial policy. On becoming first Lord of the Treasury and Chancellor of the Exchequer in 1715, he evinced such boldness and capacity in handling the affairs of the country that a long term of office was assured to him. He was Prime Minister for twenty-two years, and propounded the then new theory that the extension of commerce would be best promoted "by making the exportation of our manufactures, and the importation of the commodities used in the manufacturing of them as practicable and easy as may be"; and he relieved from duty more than 200 export and forty import articles, a policy which greatly extended the scope of British commerce.
- Walpurga, St.**, was an abbess who emigrated in the 8th century from England to Germany, and became associated with the legends of Walpurgis Night in legendary lore. Her day in the calendar of the Church is May 1st.
- Walsh, Most Rev. Wm. J.** (b. 1847), Roman Catholic Archbishop of Dublin, 1885-1910, an eminent churchman of Irish birth, who became Professor at and President of Maynooth College, and was made Primate of Ireland in 1885. He has been closely associated with the Nationalist movement, has sat upon several Parliamentary Commissions, and had a hand in the framing of the Irish Land Acts of 1881 and 1885. Chancellor of the National University of Ireland.
- Walsingham, Sir Francis** (1530-1590), a British diplomatist and statesman, who was Ambassador to France, 1570-1573, and later Secretary of State and Chancellor of the Duchy of Lancaster. He was a strenuous opponent of Mary Queen of Scots, and a great patron of learning in his day.
- Walter, John**, the name borne by the founder of the *Times*, and also by the next two managing proprietors of the paper. The second John Walter was the leading spirit of the *Times* from 1833 to 1847, and it was his efforts that made the journal the greatest newspaper in the world.
- Walton, Izaak** (1593-1683), one of the most lovable of English writers and particularly famous as the author of *The Compleat Angler, or the Contemplative Man's Recreation*, which has gone through hundreds of editions and is still read with gratification by all followers of "the gentle art," as well as by lovers of country life generally. Up to the age of fifty he was a London draper.
- Walton, Sir J. Lawson, K.C., M.P.** (1840-1908), a leading man at the Bar and in Liberal politics, and the son of an Ex-President of the Wesleyan Conference. Appointed Attorney-General by Sir H. Campbell-Bannerman in his Government formed at the end of 1905, and died on January 7th, 1908.
- Warbeck, Perkin**, was for a time a Pretender to the English Crown. The son of a Tournai Jew, he claimed to be Richard, Duke of York, supposed to have been murdered in the Tower, and therefore entitled to the throne of England in preference to its then occupant, Henry VII. The Duchess of Burgundy declared him to be indeed "her dear nephew," and Charles VIII. of France and James IV. of Scotland also gave him their countenance, the first allowing him a pension, the second giving him the hand of his relative Lady Catherine Gordon in marriage. Warbeck was enabled in 1497 to appear in England at the head of a force of 7,000 men, but was easily defeated, and after some delay was tried for treason and hanged eventually at Tyburn on November 23rd, 1499.
- Warburton, William** (1658-1739) was a celebrated English divine, who from 1700 to his death was Bishop of Gloucester. He wrote a number of theological books which greatly exercised the clerics of the time, the work of his which awakened the

- greatest amount of controversy being the *Divine Legation of Moses*.
- Ward, Edward Matthew** (1816-1879), was a prominent English painter and R.A. who executed some of the frescoes in the Houses of Parliament and produced numerous large and notable canvases. Many of his pictures were engraved.
- Ward, Col. Sir B. W. D., K.C.B.** (b. 1853), was permanent Under-Secretary to the War Office 1901-13. He entered the army in 1874 and served with distinction in various parts of the world in later years, being with the Soulan Expedition in 1885, in the Ashanti War 1895-1896, and during the Ladysmith siege, was assistant adjutant-general, subsequently being appointed Director of Supplies for the South African Field Force.
- Ward, Mrs. Humphry** (b. 1851), is a granddaughter of Dr. Arnold, of Rugby renown, and wife of Mr. T. Humphry Ward. She first sprang into notice as a novelist with her *Robert Elsmere* in 1888, and since then has written several other stories which have, in the main, realised the high promise of her first work. These include *Marcia*, *Sir George Trevelyan*, *David Grieve*, and *Fennick's Career*.
- Ward, Hon. Sir Joseph G., K.C.M.G.**, Bart., Premier of New Zealand, 1906-1911. A vigorous personality and a strong supporter of the Unity of Empire. Attended the Imperial Conferences of 1909 and 1911.
- Ward, Leslie** (b. 1851), a portrait painter of considerable distinction, and widely famous as "Spy," the caricaturist of *Vanity Fair*.
- Warner, Charles Dudley** (1859-1900), American author and humorist, who was for a while absorbed in journalism, and later became associate editor of *Harper's Magazine*. His *Back-Log Studies*, *My Summer in a Garden*, *Being a Boy*, *Captain John Smith*, and other writings possess much charm.
- Warner, Susan** (1819-1883), an American novelist better known by her pen name of "Elizabeth Wetherell." Her books, *The Wide Wide World*, *Daisy*, *The Old Helmet*, gained her universal favour.
- Warren, Henry** (1798-1879), was a popular English painter of Oriental and Biblical subjects, and for a number of years was President of the Institute of Painters in Water Colours.
- Warren, Samuel** (1807-1877), was a well-known barrister and novelist, who by his *Diary of a Late Physician*, and *Ten Thousand a Year*, won a very considerable popularity. He was for many years Recorder of Hull, and later a Master in Lunacy.
- Warton, Joseph** (1722-1800), clergyman, poet, and miscellaneous writer, and for twenty-seven years Head Master at Winchester School. He edited Pope, and wrote a masterly essay on that poet.
- Warton, Thomas** (1728-1790), brother of the last named, was the author of a *History of English Poetry*, and for the last five years of his life was poet Laureate. He also filled the position of Professor of English poetry at Oxford, and was an esteemed authority on that subject.
- Warwick, Countess of** (b. 1861), wife of the present (5th) Earl, has been identified with many public movements for the betterment of her sex, and is an ardent advocate on the platform and in the Press of Socialism. She has established at Stodley a college for the agricultural training of women, a horticultural college and hostel at Reading for the daughters of professional men, a science and technical school for boys and girls in Essex, and a home at Warwick for crippled children.
- Warwick, Richard Neville, Earl of** (c. 1428-1471), "The King Maker," was the leader of the York party in the Wars of the Roses and carried his ambitious plan through with great energy and success. At the battle of Northampton he made Henry VI. captive, and afterwards proclaimed Edward, Earl of March, king under the title of Edward IV. Then, when Edward showed a disposition to resent Warwick's protection, the latter drove Edward from the country and once more placed Henry VI. on the throne. He lost his life at the battle of Barnet.

- Washington, George** (1732-1799), was of English descent, and was living on his American estate at Mount Vernon when the dispute between the British home government and the colonies broke out. He became one of the leaders of the local opposition, and later was elected to the first Congress at Philadelphia. The following year, 1775, saw him Commander-in-Chief of the American army, and from that time to the end of the struggle in 1783 he was trusted and adored by the people, and on the founding of the Republic became its first President in 1789. He served a second term of office from 1793 onwards, and refused election for a third time. He was one of the noblest characters in history—good, simple, honest, brave, and efficient.
- Watkin, Sir Edward** (1819-1901), a great English railway magnate in his day. Became Secretary to the Trent Valley line in 1845, and later was Chairman of the South Eastern, the Manchester, Sheffield and Lincolnshire the Metropolitan, and the East London Railway companies, and had a good deal to do with the founding of the Great Central. He fought hard for the promotion of the Channel Tunnel, and was a tireless worker for railway progress in all directions.
- Watson, Rev. John** ("Lantern Slane") (1818-1897), became a Free Church Minister in 1875, in 1886 removing to Sefton Park Church, Liverpool, the charge of which he retained until his retirement in 1905. In 1861 he came before the public as a writer of Scottish stories, and his *Beside the Bonnie Briar Bush* obtained an immense popularity. He followed this up with other popular stories and idylls, including *Kate Carnegie*, *The Days of Auld Lang Syne*, and *Young Barbarians*. He was on a lecturing tour in the United States when he died.
- Watson, William**, b. 1852 at Burley-in-Wharfedale, and educated at Liverpool. In 1880 his "Prince's Quest" was published, followed in 1884 by "Epigrams of Art, Life and Nature." These, however, attracted no special attention, but when 1890 he issued his "Wordsworth's Grave," it was felt that a new poet had arisen, and from that time everything he has published has been received with admiring appreciation. He has been in receipt of a Civil List pension of £100 a year since 1895.
- Watt, James** (1736-1819). Born at Greenock, this genius was originally a mathematical instrument maker, and being brought into touch with mechanical problems, conceived the idea of the steam engine, to which he afterwards devoted his life. Others had worked at the idea before him, but no very practical success had been obtained. Watt took out his first patent in 1769; the engine, however, was only used for mining operations until 1785, when it was applied to the working of a cotton factory, Watt being greatly aided in his developments of the engine by the business ability of his partner Matthew Boulton. His son James (1793-1848) was also a mechanical engineer of considerable ability.
- Watteau, Jean** (1684-1721), a French landscape painter of transcendent ability, and especially great in *genre*. His shepherd and shepherdess, rustic dance and fête scenes were wonderful for their harmonious brilliancy of coloration. His *chef-d'œuvre* is the "Embarquement for the Isle of Cythera" in the Louvre.
- Watts, Alario** (1797-1864), poet, miscellaneous writer, and editor of the *Literary Souvenir*, *Poetical Album*, and *Cabinet of Modern Art*. His *Lyrical of the Heart* contained some of his best poetry.
- Watts, George Frederick, R.A.** (1817-1904), occupied a unique place in English art, the majority of his works being marked by depth of thought and a poetic meaning which rendered them highly distinguished. His works are numerous, but among the best of them may be mentioned "Love and Death," "Hope," and "The Angel of Death." He bequeathed to the nation a large number of his finest pictures. His portraits of Swift, Keats, Carlyle, Cardinal Manning, Browning, and Tennyson are especially fine. He was one of the original members of the Order of Merit.
- Watts, Isaac** (1664-1748), the great English hymn

writer, was born at Southampton, and became a Nonconformist minister. It was mainly as a writer of hymns, however, that he became distinguished, some of his compositions being among the finest in the language, while others are the merest doggerel. Watts was the guest of Sir Thomas Abney for thirty-six years. His book on the *Improvement of the Mind* was at one time exceedingly popular.

Watts, Sir Philip (b. 1830), a great naval architect and Director of Naval Construction to the Admiralty, 1901-11. Designed the first *Dreadnought* launched in 1906.

Watts-Dunton, Theodore (b. 1836), a native of St. Ives, Huntingdon, educated for the law and practised as a solicitor in his native town for some years. Showing a strong literary bent, however, he settled in 1872 in London, and at once took up a prominent position as a critic—especially as a critic of poetry. From 1875 to 1898 he was the chief critic of poetry for the *Athenaeum*. Mr. Watts-Dunton, published the *The Coming of Love* in 1897, and in 1898 his brilliant romance *Aylwin*.

Watts, Edwin (1817-1890), the Lancashire poet and writer of dialect sketches and stories, the best among the latter being his *Yuffs of Heather*, *Chimney Corner*, and *Bessie's Story*. His *Lancashire Verse* contains many of these tender and pathetic, despite their difficult phraseology to non-Lancastrians—were first collected in 1850.

Weardale, Philip Stanhope, 1st Baron (b. 1847). Liberal member for Wednesday (1886-1892), Burnley (1893-1900), and the Harborough Division from 1904 until his elevation to the Upper House upon the Liberals succeeding to power at the end of 1905. He is one of the trustees of the National Gallery.

Webb, Sir Aston, R.A. (b. 1840), one of our foremost latter-day architects, and the designer of the general scheme of the Victoria Memorial in front of Buckingham Palace, also of the projected new façade of the palace, the new Birmingham University, the Britannia Naval College at Dartmouth, and many other fine structures.

Webb, Matthew (1848-1893), an intrepid swimmer, who in 1875 swam the English Channel in twenty-two hours, and was drowned eight years later in an attempt to swim through the Niagara rapids.

Webb, Sidney (b. 1839), an active Progressive politician, and writer on economic questions. Was a member of the London County Council, 1892-1910, and is one of the Senate of London University. He has written a *History of Liquor Licensing*.

Weber, Carl Maria von (1786-1826), was a distinguished German opera composer. He was for some years Chapel-master to the King of Saxony at Dresden. His best known opera, "Der Freischütz," was immensely popular, and is still frequently given. Other favourite works of his are "Oberon," and "Euryanthe."

Webster, Benjamin (1800-1882), a London actor-manager of much popularity in his day. Built the Adelphi Theatre in 1828, and was later lessee of the Olympic. He was a fine comedian.

Webster, Daniel (1792-1852), was a famous United States lawyer and politician. He was for many years Secretary of State, and rendered splendid service to his country. It was as an orator, however, that he was chiefly famed, being the most eloquent public speaker of his time.

Webster, Noah (1793-1843), the famous American lexicographer and grammarian, whose *Lawyer's Dictionary of the English Language* was a monumental achievement. He wrote extensively also on literary and political themes, and produced a brief history of the United States.

Wedgwood, Josiah (1730-1795), was the most famous of English potters. He was born at Burslem. Served an apprenticeship that carried him through all the branches of the trade, and in 1759 was able to set up in business for himself with money he had saved. He persevered through failure after failure, and in a few years produced such an improved form of ware that it came into great demand. He engaged Flaxman to make classical designs for him, and his

pottery became the fashion, and led to a great extension of the Staffordshire earthenware industry. His works at Etruria were the most extensive of the kind in the kingdom.

Wells, Harrison (1824-1906), artist, journalist, author, and authority on poultry and pigeons. Wrote *Our Poultry and All About Them*, the preparation and illustration of which occupied him for twenty years, and contributed countless animal drawings and stories to the illustrated press.

Welsmann, August (b. 1824), a noted German natural scientist, particularly distinguished in zoology, of which he was appointed Professor at the University of Freiburg in 1867. Author of numerous learned works on heredity.

Weldon, Bishop, J. E. C. (b. 1824), a distinguished Greek scholar, now Dean of Manchester. Has been successively Head Master of Dulwich College, Chaplain in Ordinary to Queen Victoria, Head Master at Harrow, Bishop of Calcutta and Metropolitan of India, and Canon of Westminster, which he left for the Manchester Deanery in 1906.

Welllesley, Marquess of (1760-1842), elder brother of the great Duke of Wellington, and himself a statesman of note, who was in turn Governor-General of India, Ambassador at Madrid, Foreign Secretary, and twice Lord-Lieutenant of Ireland.

Wellington, Arthur Wellesley, Duke of (1769-1852), was the most famous British general of the 19th century. He was a younger son of the Earl of Mornington, and entered the army in 1787. His first experience of active warfare was obtained in India, where he acquitted himself so well that he was knighted on returning home in 1805. He next found himself pitted against the army of Napoleon in the Peninsular War, and scored a brilliant victory over Soult at Talavera in 1809. A number of equally important victories followed; Ciudad Rodrigo and Badajoz were captured; another triumph was achieved at Salamanca; then came the battle of Vitoria, which was such an overwhelming defeat for the French that the abdication of Napoleon and the entry of the allied forces into Paris became inevitable. Peace was proclaimed, and Wellington returned to England, and was received as a hero. In 1814 he was British Ambassador at Paris. Then came Napoleon's escape from Elba, the short and sharp campaign which terminated at Waterloo, and the final overthrow of Napoleon. Honours and gifts were showered upon Wellington, and he was the most prominent man in the Empire. From 1828 to 1830 he was Prime Minister. From 1824 to his death he held the position of Commander-in-Chief. His funeral at St. Paul's was one of the great pageants of last century.

Wells, C. J. (1800-1879), a gifted but neglected poet, the schoolfellow of Keats, and author of a fine dramatic poem "Joseph and His Brethren," ranked by Swinburne very highly indeed.

Wells, H. G. (b. 1866), one of the most imaginative or living English novelists, who lets his fancy loose upon the world of science and creates new conditions, inventions, and forces, weaving them all into a texture of seeming actuality with a possibly remote future as his background. His *Time Machine*, *The Wheels of Chance*, *The Invisible Man*, *The War of the Worlds*, *The Food of the Gods*, and *Mankind in the Making*, *New Worlds for Old* (1907), and *War in the Air* (1908), are all books of mark.

Werner, Friedrich (1768-1823), a German romantic poet and dramatist, founder of the "fate-tragedy" school. Among his dramas may be mentioned "Martin Luther," "The Sons of the Valley," and "The Cross on the Baltic." He entered the priesthood after three unfortunate matrimonial experiences.

Wesley, Charles (1708-1788), brother of John Wesley, the founder of Methodism, and the poet of that denomination. Wrote a large number of hymns for almost all religious occasions, many of them of enduring merit.

Wesley, John (1703-1791), the founder of the great religious communion of the "people called

Methodists," and the son of a clergyman or the Anglican church. Taking orders himself, in 1735, he went to Georgia as a missionary and allied himself with the Moravians, but later he abandoned all ecclesiastical traditions, and established on a wonderfully well-devised basis, the connexion called by his name. His own open-air preaching was powerful in the extreme, his energy and depth of purpose inspiring, and his organising ability exceptional. He accomplished a great work of religious revivification, taking the world as his parish; and profound was his conviction of his high calling as an Evangelist, John Wesley "built better than he knew" in rearing the denominational edifice which is the monument of his faith and strenuousity.

West, Benjamin (1738-1820), was born in America, but settled in England in 1762, and soon acquired a high reputation as a painter of religious and historical pictures. In his own day his larger paintings, such as "Christ Healing the Sick," "Penn's Treaty with the Indians," "The Black Prince at Poitiers," and "The Death of General Wolfe," were much admired. He was President of the Royal Academy from 1792 until his death.

West, Rt. Hon. Sir Algernon (b. 1829), a Privy Councillor who began life as a clerk in the Admiralty, and was secretary to Sir Charles Wood at the India Office before acting in the same capacity with conspicuous success for Mr. Gladstone. Became Chairman of the Board of Inland Revenue, and sat on several important Commissions. Has published a volume of reminiscences, and a memoir of Admiral Sir Henry Keppel.

Westcott, Rev. Brooke Foss (1825-1901), biblical scholar, Professor of Divinity at Cambridge, 1870-9, Bishop of Durham, 1890-1901. One of the revisers of the New Testament.

Westmacott, Sir Richard (1775-1856), a great English sculptor who studied under Canova at Rome, and succeeded Flaxman as Professor at the Royal Academy. He executed many fine monuments in Westminster Abbey, at St Paul's Cathedral, and elsewhere. Perhaps his most conspicuous statue was that of Achilles in Hyde Park, his last sculptural work being that in the pediment of the British Museum. His son, Richard (1799-1872), was also a capable sculptor and a Royal Academician.

Weyman, Stanley (b. 1858), the novelist, was educated at Oxford, and studied for the Bar, but developing a strong gift for fiction, has been able to take high rank among the story writers of the day. His first success was *The House of the Wolf*, published in 1890, in which he struck a mystic-romantic note of old days that proved very fascinating. His other best-known novels are, *A Gentleman of France*, *Under the Red Robe*, *The Man in Black*, and *The Captain's Inn*.

Wharton, Philip, Duke of (1668-1731), son of Thomas, Marquis of Wharton (1640-1715), a Whig statesman who in Parliament opposed the Court during the reigns of Charles II. and James II., and joined the Prince of Orange at the Revolution. The younger Wharton was a political weathercock and a sad spendthrift, but a poet of some pretensions. He got his barren dukedom from the Pretender whilst travelling to evade trouble, and died in indigence ultimately in Spain.

Whately, Archbishop (1787-1863), was for over thirty years Archbishop of Dublin, and achieved a high reputation as a writer on theology and philosophy. His treatises on *Rhetoric* and *Logic* are among the most notable books of their class.

Wheatstone, Sir Charles (1802-1875), was an eminent English electrician and scientist, whose experiments in association with Mr. W. F. Cooke resulted in the first application in this country of the principle of the electric telegraph. The stereoscope was also one of his inventions. In 1834, he was appointed Professor of Natural Philosophy to King's College, London, a position which he held for many years.

Whewell, William (1794-1866), English philosopher and scientist; Professor first of Mineralogy

and then of Moral Theology and Casuistical Divinity at Cambridge, and later Master of Trinity and Vice-Chancellor; President of the British Association in 1841.

Whistler, J. A. McNeill (1829-1903), was an original artist, writer, and wit who first came to Europe from America in 1857, and made a name as an etcher both in Paris and in London. His studies of Thames scenery were especially fine and now fetch large prices. When he began to exhibit pictures in oils he greatly puzzled the critics, some of whom discovered in his "nocturnes" and other studies an impressionist of surpassing genius, while others, including Mr. Ruskin, who described one of the "nocturnes" at the Grosvenor Gallery as "a pot of paint flung in the public face," looked upon them as mere audacious eccentricities. The finest of his oil paintings are his portrait of his mother and that of Carlyle. He brought an action against Ruskin for the criticism referred to, but only obtained a verdict of one farthing damages without costs. His "Gentle Art of Making Enemies" is a brochure that will long be remembered.

Whiston, William (1667-1752), succeeded Newton as Lucasian Professor at the University of Cambridge. Later he adopted Arian views, and indicated them in a work published by him in 1717. This cost him his professorship. His translation of "Josephus" is still the standard English version.

White, Blanco (1775-1845), was originally a Spanish priest, but was led to disavow his faith, and on settling in this country became connected with the Church of England. He was a man of great learning and of some literary gifts. He enjoyed the friendship of many eminent men, including Arnold, Newman, and Wiatley. In later life he became a Unitarian.

White, Field-Marshal Sir George (1833-1901), the heroic defender of Ladysmith in the South African War, and a soldier who achieved renown at many points of a long military career. Was a wearer of the V.C., twice won, and a member of the Order of Merit. Went through the Mutiny, was in the march to Kaudahar, commanded the Gordons in Burmah, served in Egypt and conducted the Zhoeb Expedition, was Commander-in-Chief in India, led the Natal forces till shut for so long in Ladysmith, and was later Governor of Gibraltar.

White, Gilbert (1727-1793), was born and lived and died at Salisbury, in Wiltshire, where he held the position of clergyman. The main portion of his life was devoted to the study of the flora and fauna of his parish, and his book, *The Natural History and Antiquities of Salisbury* is a British classic.

White, Henry Kirke (1785-1820), was the son of a Nottingham butcher, and attracted much notice by some early religious poems, which were marked by an ardent piety and a graceful if not powerful imaginative capacity. He died from the strain of overstudy.

White, Sir William H., K.C.B. (1845-1913), a great naval engineer and architect, connected for a long period with the constructive department of the Admiralty and for some seventeen years at its head. Designed 250 ships for the navy, and retired with a Parliamentary grant in 1902.

Whitefield, George (1714-1770), was for a time associated with John Wesley at Oxford in the propagation of Methodism, and attracted great attention by his gifts as a preacher. He had been ordained, and while he co-operated with Wesley was his most powerful champion. In 1741, differing from Wesley on a point of doctrine, he left the Methodists, and thenceforward simply preached as an evangelist, allying himself with no sect, but expounding Calvinistic doctrines with fervour and eloquence. The Countess of Huntingdon built and endowed numerous chapels for him in various parts of the country. He died in America on his seventh tour through that country.

Whitehead, Robert (1823-1906), inventor of the Whitehead torpedo, was a native of Bolton, and built his first torpedo in 1866, which was taken up by the Austrian Government, and later was adopted by the British and other leading navies of the world.

Whiteing, Richard (b. 1840), a successful journalist and author. Has been leader-writer on the *Morning Star* and *Daily News*, editorially connected with the Press Association and the *Manchester Guardian*, and Paris correspondent for English and American dailies. The author of some clever novels, notably *No. 5, John Street*. Received a Civil List pension in 1920.

Whiteley, George. See **Lord Marchamley**.
Whitfield, Archbishop (1530-1604), a gifted Anglican prelate. Regius Professor and Master of Trinity at Cambridge, then Vice-Chancellor of the University. Later Bishop of Worcester, and Archbishop of Canterbury in 1533. Persecuted the Puritans, and was one of the authors of the famous *Lambeth Articles*.

Whitley, Rt. Hon. J. H., M.P., Deputy Speaker and Chairman of Committees since 1911; previously Deputy Chairman of Committees, and had served as Government Whip. Is a member of a well-known firm of cotton spinners at Halifax, for which town he has sat since 1900.

Whitman, Walt (1819-1892), was an original figure in the world of American authorship, and produced many works of striking poetic merit. He served in the Civil War, and his vigorous humanity, as expressed in his writings, made him a distinguished personality. *Leaves of Grass*, *Drum Taps*, and *Democratic Views* were volumes that strongly attracted the critics, mostly in admiration, sometimes in censure. Whitman's work being often marred by a bluntness of expression on subjects not usually talked about in the family circle.

Whitney, Eli (1765-1825), an American school teacher who was mechanically gifted, invented the cotton gin, and subsequently amassed a fortune in the manufacture of fire-arms.

Whittaker, Sir Thomas P. (b. 1850), M.P. for Spen Valley since 1892, and one of the leaders of temperance reform, being chairman of the Temperance Legislation League. Was knighted in 1900.

Whittier, John Greenleaf (1807-1882), America's Quaker poet, was the son of a New England farmer, and for a time followed the trade of a shoemaker. Then, after some experience in journalism, he published his first book of poems "Legends of New England" (1831), which was warmly received both for the strong abolition sentiment it expressed, and for its worth as poetry. His ideals were high, and he lived up to them. His best known volumes are, "Lays of My Home" (1843), "Voices of Freedom" (1846), "Songs of Labor" (1850), and "National Lyrics" (1855).

Whittington, Sir Richard (c. 1280-1352), the son of a Gloucestershire knight who was outlawed. Richard went up to apprenticeship in London, and there found fortune and fame eventually as a merchant. Thrice Lord Mayor and representative of the City in Parliament, he was a great man in his time, engaging in many profitable and honourable enterprises. Sir Richard was well styled "the model merchant of the Middle Ages," and he did marry his master's daughter, and no doubt drew some sort of inspiration from the bells of Bow.

Whitworth, Sir Joseph (1823-1887), an English manufacturer and inventor of guns and artillery who was born at Stockport, and brought out in 1855 the rifle bearing his name. In 1868 he founded the Whitworth scholarships which have done such splendid service.

Whymper, Edward (1840-1911), a wood-engraver and artist, who was also one of the best known Alpine climbers, being the first to reach the summit of the Matterhorn. His books on mountaineering in various countries are fascinating alike for their literary merits and their pictorial value.

Whyte-Melville, G. J. (1821-1878), a novelist of country life and breezy action, who had been a captain in the army before he turned to authorship. He wrote many stories, among the best being *Digby Grand*, *The White Rose*, and *Good For Nothing*.

Wieland, Christopher (1773-1813), German poet and miscellaneous writer. "Oberon" an epic, was his best poem; his most notable prose romance *The*

Golden Mirror. He was Professor of Philosophy and Literature at the University of Erfurt.

Wilberforce, Van. Archdeacon Basil (b. 1841), Chaplain to the House of Commons since 1895, son of the late Samuel Wilberforce, Bishop of Oxford and Winchester. A great temperance champion, and an eloquent speaker.

Wilberforce, Samuel (1805-1873), father of the Venerable Archdeacon last named, was the son of William Wilberforce. Educated privately and at Oriel College, Oxford, he took orders, and after achieving distinction as a preacher and High-Church writer, in 1845 became Bishop of Oxford. He was an indefatigable worker, a trenchant writer and speaker, and one of the most esteemed prelates of his time. In 1869 he was translated to the bishopric of Winchester.

Wilberforce, William (1759-1833), was the son of a Hull merchant, and inherited a considerable fortune on reaching manhood. He was educated at Cambridge, and entered Parliament in 1780. From the first he identified himself with the emancipation question, and in 1789 made the first of his many proposals in the House of Commons for the abolition of the slave trade, but it was not until 1807 that an Act embodying these proposals was carried.

Wilfrid, St. (634-709), An English ecclesiastic, who took the Roman side at the Synod of Whitby in 662, and was made Archbishop of York the year following.

Wilkes, John (1727-1797), was a forcible, daring, and original politician, who championed the cause of the people with great vigour, and was or a time exceedingly popular. For a violent attack on the Government in his paper *The North Briton*, he was committed to the Tower, but obtained release on the ground that he was a member of Parliament. He was then sued for libel, and retaliated by reprinting the paper containing it. He also got into trouble for publishing an *Essay on Mankind* of a very objectionable nature, and was expelled from the House. He then went abroad, and remained away for some years, but in 1768 returned, and not long afterwards was elected M.P. for Middlesex. A fresh prosecution, however, and a second time took place, and three times, was he expelled and as often re-elected. A great agitation ensued, and so high was he in favour among the people, that he was made alderman, then sheriff, then Lord Mayor of London. In the end his opponents gave way, the orders against him were withdrawn, and from 1779 he was Chamberlain of the City of London.

Wilkie, Sir David (1785-1841), was an eminent R.A., whose paintings of popular subjects, mostly of rural life, were highly successful. Many of these works were engraved, including "The Village Politicians," "The Rent Day," "The Blind Fiddler," and "Blind Man's Buff," and had an immense vogue. In later life he chiefly painted historical subjects. In 1830 he was appointed painter in ordinary to the king, and was knighted six years later.

Wilkinson, Sir John Gardner (1797-1875), an English Oriental archaeologist, who spent many years in explorations and excavations in Egypt, and threw much light upon the land of the Pharaohs and its ancient history. Amongst the numerous valuable works published as the result of his enthusiastic investigations were *The Architecture of Ancient Egypt*, *Materia Hieroglyphica*, and *The Egyptians in the Time of the Pharaohs*.

William I. (1027-1087), better known as "William the Conqueror," was Duke of Normandy when he claimed the throne of England as legally appointed successor to the Confessor. The claim was resisted by Harold II., but the battle of Hastings, in which Harold was slain and his army routed, gave the victory to William, who in due course was crowned in Westminster Abbey. The story of his life and reign is the story of the crushing of Saxon power, the parceling out of the country among his Norman followers, and, for the rest, a firm rule that made England respected, and settled this country as a great Power among the nations.

William I. of Prussia (1797-1888), the maker of

modern Germany. Succeeded to the throne of Prussia in 1861, and it fell to him to have the control of his country during a period of mighty transition and development, with Bismarck as his chief minister. The war with Austria which signalled the opening year of his reign rendered him highly popular, and when in 1870 the war with France was entered upon the whole German people rallied round him, and after a series of brilliant achievements by his army he was proclaimed German Emperor on the 18th of January, 1871.

William II. 1858-1900, the Conqueror's son, surnamed "Rufus" was king of England from 1857 to his death. He was in constant conflict with his barons, lived a life of wanton pleasure, was oppressive to his subjects, and was shot (by accident or design) while hunting in the New Forest.

William II. German Emperor, born 1859. Educated at Cassel and Bonn, afterwards entered the army and took a keen interest in military affairs. Succeeded his father, the Emperor Frederick, in 1888. His reign has been marked by a strong militarism and an intense ambition to secure the dominance of Germany in the Councils of Europe—an ambition which by unscrupulous action and utter disregard of treaty obligations brought about the present war—the most destructive in the history of the world. To him is due the introduction of a system of war savagery which greatly increases the horrors of warfare and must leave an indelible stain upon his name. Visited England in 1907, was present at King Edward VII's funeral in 1910, and in 1911 at the unveiling of the memorial to Queen Victoria.

William III. of England (1679-1702), while Stadtholder of Holland, married Mary, eldest daughter of the Duke of York (afterwards James II.). As captain-general of the Dutch forces he was successful against the French, and in 1688, when James had abdicated and fled the country, William was invited to succeed him, and he and Mary afterwards became joint King and Queen. There was resistance in Scotland and Ireland, however, where the Stuart cause was still espoused, but by resolute action James's cause was defeated in Ireland at the Battle of the Boyne, and in Scotland by measures that were not wanting in cruelty, as was shown in the Massacre of Glencoe. Later he was at war with France, and suffered defeat, but ultimately gained the upper hand and effected an honourable peace by the Treaty of Ryswick, in 1697.

William of Malmesbury. the 12th century English historian, to whose *Gesta Regum Anglorum* and others we owe so much of our information regarding the early history of England.

William the Silent (1533-1584), Prince of Orange, who by his fine gentlemanship and personal bravery, after a protracted struggle, succeeded in freeing the Netherlands from the yoke of Spain. His nickname resulted from his habit of complete secrecy regarding his plans of operation until the moment of their being put into effect.

William IV. of England (1766-1837) was the third son of George III., and ascended the throne in 1830 in succession to his brother, George IV. He had seen some sea service, and was flatteringly styled the "Sailor King." During his brief seven years' reign he showed little of kingly coquetry, but was genial and pleasure-loving, and placed no obstacles in the way of government, so was, at a sort, popular. It was in the early part of his reign (1832) that the first great Reform Bill was passed.

Williams, Sir George (1818-1901), the founder of the Young Men's Christian Association, and an assiduous temperance and social reformer. A London drapery warehouseman in a large way of business, who was a personal factor of great good in an influential sphere during the Victorian era.

Williams, John (1796-1839), the martyr-missionary to the South Seas, who was murdered at Heronunga by hostile natives. He was brought up in North London to the ironmongery trade, but entered the service of the London Missionary Society, and devoted himself zealously and with great capacity to

the pious work of carrying Christianity and good government to the South Sea Islanders.

Williams, Sir Monier (1819-1899), a great Sanskrit scholar and Professor at Oxford, who translated the *Sakuntala*, wrote grammar and dictionaries of Hindustani and Sanskrit, and generally laboured with distinction in bringing westward the wisdom of the Orient.

Williams, Roger (1600-1684), a Welshman who went out to New England in 1631. Originally in Anglican orders, he became a Puritan preacher, and obtained great political and personal influence, founding the first Baptist Church in America. He obtained a charter for the colonisation of Rhode Island in 1644.

Williams, Rt. Rev. Watkin Herbert, M.A. since 1899 Bishop of Bangor (b. 1845). Ordained 1870. Dean of St. Asaph, 1882-9.

Willington, Lord, 1st Baron, of Rotton. **Freeman Freeman Thomas** (b. 1869), appointed Governor of Bombay, 1913. Was Junior Lord of the Treasury, 1905-13, and, as Sir Freeman Thomas, was M.P. for Hastings 1900-1913, and for Bodmin 1907-1910, being raised to the peerage in the last-named year.

Willis, Nathaniel Parkes (1827-1897) was an American writer of mark. His first real success was obtained with *Penicillings by the Way*, a series of sketches of living European celebrities and scenes. The best of his other works were the *Slingsby Papers* and *Darwins at Life*. His sister, Sarah Payson Willis (1811-1892), acquired celebrity as "Fanny Fern."

Willoughby, Sir Hugh (d. 1554), a 16th century English navigator, who was the first to open up British trade with Russia by way of Archangel, and later led an expedition fitted out by London merchant adventurers for extending discoveries in northern latitudes, but the whole of his force perished in a storm off the coast of Laland.

Wilson, Alex. (1790-1843), a Paisley weaver who suffered imprisonment for writing lampoons respecting a dispute between masters and men in his native town, and went out to Philadelphia, where he tramped about and obtained an intimacy with the life of the woods, which resulted in his publication of a seven-volume work on *American Ornithology*.

Wilson, Andrew (1853-1921), Ph.D., M.B., F.R.S.E., Lecturer on Physiology and Health to the George Combe Trust, and Gilchrist Trust Lecturer, was a writer on medical subjects. His *Modern Physics* attained great popularity. His opinion of Pears' Soap is worth recording here. He said that "no purer article of its kind had ever been offered."

Wilson, Admiral Sir Arthur, G.C.B. (b. 1824), was Commander of the Channel Fleet from 1907 to 1907. Served in the Crimean War, 1854, Chinese War, 1857, and elsewhere, and was promoted from Captain to Rear-Admiral in 1865, Vice Admiral, 1901, and Admiral, 1905. First Sea Lord 1909-12.

Wilson, Sir Daniel (1816-1882), a Scottish Canadian archaeologist, poet and scholar. Professor of History and English Literature at and subsequently President of Toronto University. Wrote *Memories of a Journey in the Olden Time, Archaeology and Prehistoric Antiquities of Scotland, Caliban, The Missing Link, The New Atlantis*, etc.

Wilson, Sir Erasmus (1800-1884), an eminent physician and specialist in skin diseases, first Professor and founder of the Chair of Dermatology at the Royal College of Surgeons. Author of a learned discussion on diseases of the epidemics, respecting which he was the leading authority of his time. He pronounced Pears' Soap to be "one of the most agreeable and refreshing of lotions for the skin, and calculated to preserve it in health and maintain its complexion and tone." Transported "Cleopatra's Needle" to London at his own cost from Alexandria.

Wilson, George (1818-1890), Regius Professor of Technology at Edinburgh University, and Director of the Industrial Museum of Scotland; a distinguished chemist and President of the Physical Society; published valuable *Researches on Colour-Blindness*, and many scientific, biographical, and other works of an important and popular character.

Wilson, Sir Guy Fleetwood (b. 1841), Assistant Under-Secretary of State for War in 1898, and since

1904 Director of Army Finance. Finance Minister, Council of India, 1908-13, and Vice-President of the Legislative Council of India, 1911-13. A great departmental administrator, who was Lord Kitchener's financial adviser in South Africa.

Wilson, John (1782-1864), was a highly esteemed writer who, as "Christopher North," contributed *Notae Ambrosianae* and many other essays, stories, and criticisms to *Blackwood*. He had £300 a year from the Civil List, and for thirty years was Professor of Moral Philosophy at Edinburgh University.

Wilson, Richard (1714-1782), a landscape and portrait painter who attained considerable eminence, and was one of the first members of the Royal Academy. He was a native of Montgomeryshire.

Wilson, Woodrow, Ph.D., Litt. D., LL.D., President of the United States, elected by an overwhelming majority over Taft and Roosevelt at the election of Nov. 1912 (b. 1856). The first democratic president since 1860. Has held professorships of History, Political Economy, Politics and Jurisprudence at various American universities; and was Governor of New Jersey, 1911-12. In 1913 carried a considerable measure of Tariff reduction; and in the same year took up a strong attitude against General Huerta, Provisional President of Mexico, whom he refused to recognise, in April, 1914, sent ships and troops to Mexico to avenge insult to U.S. flag.

Winckelmann, Johann (1717-1768), classical scholar and writer on art, born of poor Prussian parents; became librarian to Cardinal Albani at Rome, and produced some very learned discussions on art and history. Was assassinated at Trieste.

Wingate, Major-General Sir Francis G. (b. 1861), Sirdar of the Egyptian Army and Governor-General of the Sudan since 1899. A soldier of experience and distinction in military expedition to the Nile and its neighbourhood. He was Kitchener's chief Intelligence Officer, succeeded him as Sirdar, and completed the rout of the Khalifa.

Winifred, St., the patron saint of virgins, a Welsh maiden who, importuned by Prince Caradoc, treated him with scorn, and he had her beheaded. The well of St. Winifred in Flintshire is supposed to indicate the spot where she perished.

Winkelried, Arnold von, a Swiss patriot who is said to have saved the victory of his compatriots against the Austrians at Sempach in 1386 by grasping the pikes of a number of the opposing host and burying them in his breast, thus creating a gap in the ranks, through which the Swiss rushed over his body to triumph. The heroic deed is scouted by many modern investigators as a baseless tradition.

Winthrop, John (1587-1649), an English Colonial governor who in 1629 settled at Boston, where he was for some time in supreme authority. He opposed Vane and the Antinomians, wrote a *History of New England*, and a *Model of Christian Charity*.

Wiseman, Cardinal (1802-1865), a Roman Catholic dignitary of commanding ability; born at Seville; subsequently Vicar-Apostolic at Rome, eventually Archbishop and Cardinal at Westminster. Chief among his learned writings are his *Horae Syriacae*, *Letters on the Catholic Church*, *The Connection between Science and Revealed Religion*, and *The Real Presence*.

Withart, George (circa 1500-1546), a Scottish schoolmaster and associate of John Knox the Reformer; was one of the Commission sent by Henry VIII. to Scotland to endeavour to arrange a marriage treaty between the boy Prince Edward and the infant Queen Mary, and vigorously joined in the preaching of the Reformation until he was burnt at the stake.

Wither, George (1588-1667). Puritan poet and satirist; committed to prison for publishing his pungent "Abuses Stript and Whipt" in 1613. Espoused the popular cause in the Civil War, and commanded a troop of horse. Again incarcerated after the Restoration for writing "Vox Vulgi." Some of his poetry possesses much merit.

Witte, Count Benjamin de (b. 1849), the Russian statesman, began life in a humble position in the railway service but showed such striking capacity for organisation that he rose high and was made

Finance Minister of the Empire in 1899. Under his direction the Siberian railway was constructed. He is a man of liberal tendencies, and the maker of industrial Russia. He is descended from a family of Dutch emigrants to Russia. He negotiated the peace with Japan after the failure of the Czar's operations in Manchuria, and was created a Count and called to the Premiership, but resigned in 1906.

Woffington, Peg (1720-1760), an Irish bricklayer's daughter, who became a celebrated actress, and was great at the impersonation of male characters and a fine singer. She also shone in the round of Society-lady and high-comedy parts, and was much sought after in private life by people of rank and talent. For a while she lived with Macklin and Garrick in Bow-street, and stoned a good deal for her lack of moral restraint by her abounding charity. She was stricken with paralysis whilst playing Rosalind in 1757.

Wolcott, John (1738-1819), was in turn doctor, clergyman, and author, settling in London in 1781, where he soon began to attract notice by various topical satirical effusions, many of them directed against George III. Writing under the pseudonym of "Peter Pindar," he poured forth a rapid succession of pungent satirical ballads, odes, epistles, and what not. He sold his works for an annuity of £500.

Wolf, Friedrich (1759-1824), a great German scholar, regarded by some as the founder of scientific classical philology. A student at Göttingen, he was Professor at Halle for a quarter of a century, and was later in the Government service at Berlin. His great work was the *Prolegomena in Homerum* in which he maintained that the "Iliad" and the "Odyssey" were the joint productions of many chorists.

Wolf, Charles (1791-1823), was an Irish clergyman and writer whose literary fame was won by a single poem, "The Burial of Sir John Moore." The splendid elegy first appeared in the *Newry Telegraph* in 1817. The poet died of consumption.

Wolfe, General James (1727-1759), commanded the British forces in Canada at the siege of Quebec, where he won a brilliant victory, which cost him his own life. He was buried at Greenwich and a monument to him exists in Westminster Abbey.

Wollaston, William Hyde (1766-1842), celebrated English chemist and physicist, President of the Royal Society in 1820. Discovered rhodium and palladium, the dark lines in the solar spectrum and the ultra-violet rays, invented the goniometer and the camera lucida, and carried out many important investigations in electricity and optics.

Wolsley, Viscount (1833-1913). Entered the Army in 1852 and saw active service almost from the first, being in the Burmese War of 1852-1853, and immediately afterwards in the Crimean War. Subsequently he was in the Indian Mutiny, and served in China in 1860, by which time he had risen to the rank of Lieut.-Col. In 1870 he had command of the Red River expedition, and in 1873 led the expedition against the Ashantis on the Gold Coast. Governor next of Cyprus and of Natal in succession, he was entrusted with the command of the South African War of 1899-1900, of the Egyptian Expedition of 1882, and of the Gordon Relief Expedition of 1884. Was made Adjutant-General in 1855, Commander of Ireland, 1860, Field-Marshal, 1894, and in 1895 succeeded the Duke of Cambridge as Commander-in-Chief, which position he held in 1901, when Earl Roberts succeeded him. He was the author of several books, including a *Life of Marlborough* and *The Decline and Fall of Napoleon*, and was a member of the Order of Merit.

Wolsey, Cardinal Thomas (1471-1530), was the son of an Ipswich butcher. Showing ability, he was sent to Oxford to be educated, and later on entered the Church, where he gradually rose to a position of eminence, and was entrusted with several diplomatic missions. He was especially favoured by the King, Henry VIII., and secured rapid preferment under that monarch, being in turn Bishop of Lincoln, Archbishop of York, and Archbishop of Canterbury. Then he was made Cardinal and

became Henry's Chancellor. For a number of years he was supreme, and by his diplomacy did much to strengthen the king's power. But when Wolsey was unable, though willing enough, to obtain the papal sanction for Henry's divorce of Katharine, he fell into disfavour, and his decline was rapid indeed. From being a great personage, with a princely entourage, he was humbled, persecuted, and harried, and died at Leicester Abbey a broken, dejected man.

Wood, Anthony A. (1632-1695), a famous English antiquary, the historian of Oxford University, and biographer of its worthies. He attacked Clarendon and was expelled from Oxford in consequence, whilst his pre-jacobite prejudices involved him in violent controversies.

Wood, Sir Evelyn, Field Marshal, V.C. (b. 1838), who retired from the army at the end of 1904, began his career in the Navy, in 1852, and was in the Crimea in 1855. In 1855 he joined the Army as a cornet in the 13th Light Dragoons, and six years later was promoted captain in the famous "Death or Glory Boys." In the Indian Mutiny served as brigade-major, and won the Victoria Cross. In the Ashanti War of 1873 he gained much distinction, and was made C.B. In the Boer War of 1899 he was specially commended, and given his K.C.B. Sir Evelyn's next service was in the Boer War of 1880-81. One of his finest achievements was the raising of the Egyptian Army, of which he was made Sirdar after the expedition to Egypt of 1882. He has also been Quartermaster-General, Adjutant-General, and, in the absence of Lord Roberts in South Africa, was Acting Commander-in-Chief. He has written lucidly on the Crimean campaign, and with considerable professional skill on cavalry matters. He wrote a series of articles in the *Times* on the Indian Mutiny. Appointed Constable of the Tower, 1911.

Wood, Sir Henry J. (b. 1870), the most popular of present-day English musical conductors. After filling the position of organist at St. Mary's, Aldermanbury, and other places, and conducting numerous opera and concert companies on tour and in London, he started his Queen's Hall concerts in 1895, which have done more than any other enterprise for the cause of high-class music in London. Knighted, 1911.

Wood, Mrs. Henry (1814-1887), was a prolific Victorian novelist, and won a prize for a temperance story, *Danvers House*. Next she wrote *Est Lynne*, the most popular of all her works, which at once established her fame. After that she wrote novel after novel, and attained a high degree of success, being seldom brilliant, and never dull.

Forester, Marquis of (1600-1667), was the first of our nobleman scientists, whose quaint and instructive work, *A Century of Inventions*, contained the foreshadowings of many later inventions of importance, notably the steam-engine. He was a devoted Royalist, and sacrificed much in the King's cause.

Wordsworth, Charles (1806-1892), second son of Christopher Wordsworth, Master of Trinity College, Cambridge, and nephew of William Wordsworth, was educated at Harrow and at Oxford. He was for some years second master of Winchester College, and produced a *Greek Grammar* that was long regarded as a standard work. He was elected Bishop of St. Andrews in 1865, and retained that high office until his death.

Wordsworth, Christopher (1774-1845), father of the last-named, and brother of the poet, was educated at Hawkshead Grammar School and at Trinity College. He became Domestic Chaplain to Manners-Sutton, Archbishop of Canterbury, and enjoyed many other preferments. In 1820 he was made master of Trinity College, holding that position until 1841.

Wordsworth, Christopher (1807-1885), was the youngest son of the last-named. He had a distinguished career at Winchester and Trinity College, graduating in 1830 as senior classic. In 1836 was appointed head-master of Harrow; in 1841 became Canon of Westminster; in 1865 was Archdeacon of Westminster; and in 1869 was nominated Bishop of Lincoln, resigning the see in 1885, and

dying the same year. He was a voluminous author, his chief work being a commentary on the Old and New Testaments.

Wordsworth, William (1770-1850), the chief of the "Lake Poets," and one of the most inspired of all British bards, was a native of Cockermouth, and was educated at Hawkshead and St. John's College, Cambridge. In association with Coleridge he issued a volume of "Lyrical Ballads" in 1798. The following year saw him settled at Grasmere, and there and at Rydal Mount he passed the rest of his days. In 1802 he married Mary Hutchinson, his cousin, and the two, with the poet's sister, Dorothy, formed an ideally poetic household. Here he carried out his creed of "plain living and high thinking," and produced at intervals some of the purest and noblest poetry in the language. As an interpreter of nature in her many moods, he stands unrivalled. From 1813 to 1842 he was stamp distributor for Westmorland, and succeeded to the Poet Laureateship on the death of Southey in 1843, enjoying thereafter for the rest of his life a pension of £300 a year.

Woodville, Elizabeth (1437-1492), a daughter of Sir Richard Woodville, and wife of Sir John Grey, played a prominent part in the historical events of her time. After her first husband's death she made a secret marriage with Edward IV., and became the mother of Edward V. and his brother Prince, both of whom were put to death in the Tower by order of Richard III. She was also mother to Elizabeth, Queen of Henry VII.

Wornum, Ralph Nicholson (1812-1877), for many years keeper of the National Gallery, was a native of London, and early displayed great interest in art matters. He was a portrait painter for a time, but later became a writer and lecturer upon art. He entered upon his duties at the National Gallery in 1854, and did much to develop and improve the Trafalgar Square galleries. His books on painting and painters are of great merit.

Wotton, Sir Henry (1568-1639) whose life was written by Isaac Walton, was in Elizabeth's reign Secretary to the Earl of Essex, and under James I. was for twenty years in the diplomatic service. In 1624 was made Provost of Eton, a position which he held for fifteen years. He was a poet and Latin pamphleteer, and wrote a book on the *Elements of Architecture*, and another on *The State of Christendom*.

Wotton, William (1661-1726), a scholar of marvellous precocity, who was entered at Cambridge University in his twelfth year, took his B.A. a year later, then knowing twelve languages, and was Fellow of St. John's at nineteen. Wotton became a clergyman of some distinction, and is best remembered as an author by his *Reflections upon Ancient and Modern Literature*.

Wren, Thomas Philip (1612-1688), a Dutch painter of landscapes and hunting scenes, whose works are much appreciated by connoisseurs for their breadth and animation of treatment.

Wrexall, Sir Nathaniel William (1757-1831), baronet, whose memoirs are of importance for its sidelights they throw upon the history of the later Georgian period, was born in Bristol and educated there. He was an indefatigable traveler, and moved in the best society in various countries. His books of gossip are entertaining, though perhaps not too reliable. He was M.P. for Hindon from 1780, and afterwards sat for Wallingford. The baronetcy was conferred upon him in 1813 upon the nomination of the Prince Regent.

Wren, Sir Christopher (1632-1723), the most famous English architect of his time, who had unique opportunities, and mainly made a masterly use of them. St. Paul's Cathedral—as his epitaph appropriately implies—is his best monument. He did not quite have all his own way with the tremendous thirty-five years' task he accepted of undertaking the reconstruction of St. Paul's after the Fire, but he produced a masterpiece of which Britain may well be proud. Chelsea and Greenwich Hospitals and a number of London's finest churches were also Sir Christopher Wren's work, and very

beautiful most of it is. He was President of the Royal Society, and Surveyor-General until some scurvy passing political preferences deprived him of the latter office, and he rests beneath the magnificent cathedral he reared "in London's central roar."

Wright, Joseph (1774-1797), usually styled "Wright of Derby," was a painter of note, who produced many pictures of the "candlelight" order, and won much success also in landscapes, portraits, and figure subjects. His "Air-pump," in the National Gallery, is considered his masterpiece.

Wright, Thomas, F.R.S. (1810-1877), a well-known and industrious antiquary, was a native of Bradford in Yorkshire. He was educated at Trinity College, Cambridge, and from 1836 lived mostly in London, occupying his pen in the production of a notable series of antiquarian studies. His works comprise 129 separate publications.

Wyatt, James, R.A. (1746-1813), a celebrated architect in his day; President of the Royal Academy in 1805, succeeded Sir William Chambers as Surveyor-General to the Board of Works. He built Fonthill Abbey for Bedford, and the Royal Military Academy at Woolwich.

Wyatt, Sir Thomas (1593-1592), was the first writer of English sonnets, and a poet who did much to develop the earlier forms of verse. He was also a distinguished diplomatist and was employed by Henry VIII. on several important missions.

Wyatt, Sir Thomas ("The Younger"), b. 1520, executed 1554; joined with the Duke of Suffolk in favour of Lady Jane Grey and against Queen Mary. Son of the last-mentioned. Led the men of Kent in rebellion on London in 1554, but was captured, and with many of his followers suffered death.

Wyerley, William (1640-1715), the Restoration dramatist, was for many years in high favour at Court. His genius for comedy writing was remarkable, and readily adapted itself to the Restoration atmosphere; thus while he provided wit and intrigue and plot and characterisation in plenty and of great merit, the taint of the time was over it all. His plays include "The Country Wife," "Love in a Wood," "The Plain Dealer," and "The Way of the World." He lived recklessly, was generally in pecuniary difficulties, and, marrying the Dowager Countess of Drogheda late in life, placed himself in bondage to a highly jealous woman.

Wyllie, John (1324-1384), was born in Yorkshire, educated at Oxford, and became one of the most eminent ecclesiastics of his time. He adopted the principles of the Reformation, and on that account brought down upon himself the bitter enmity of the Roman Catholic leaders, and would probably have been put to death but for the protection of John of Gaunt. It was while in comparative retirement as Rector of Lutterworth in Leicestershire, that he finished his translation of the Bible.

Wykeham, William of (1224-1294), was Bishop of Winchester from 1260 to his death, and from 1397 to 1397 Lord Chancellor. He was a man of great learning and an excellent preacher, and wielded great influence. He founded New College, Oxford.

Wyndham, Sir Charles (b. 1841), was educated for the medical profession, took part in the American Civil War, then went on the stage, and migrating to London in 1868 began a highly successful career. Was for a long time lessee of the Criterion Theatre where he brought out "Pink Dominoes," "Betsy," and other plays of that class with great acceptance. Now proprietor of Wyndham's Theatre, and the New Theatre. Was knighted in King Edward's Coronation Year.

Wyndham, Rt. Hon. George (1863-1913). Educated at Eton and Sandhurst and was for a time in the Guards, but feeling drawn towards a political career became private secretary to Mr. Balfour in 1887 and in 1890 entered Parliament as Member for Dover. In 1898 he became Under-Secretary for War, and in 1902 was made Chief Secretary for Ireland with a seat in the Cabinet. He had a large share in the passing of the Land Act of 1903, and resigned his Ministerial position in 1905 when

attacked over the MacDonnell incident in connection with the "Devolution Scheme." He married the Countess Grosvenor, mother of the Duke of Westminster, in 1899, and was chosen Lord Rector of Glasgow University in 1902.

Wynn, Sir Charles Watkin Williams (1775-1850), was a well-known politician. From 1822 to 1828 he was President of the Board of Control and Cabinet Minister. Displaced by Wellington he went over to the opposition. He sat in Parliament to the year of his death, and is said to have thrice declined the Governor-generalship of India.

X

Xantippe (flourished 5th century B.C.), the irascible spouse of the Greek philosopher Socrates, and the type of the scolding wife.

Xavier, St. Francis (1506-1552), the apostle of the Indies, was the follower of Ignatius de Loyola, and devoted his life to missionary work in the East with unbounded success. He was canonised in 1622.

Xenocrates (356-314 B.C.), a Greek philosopher and the disciple of Plato; he succeeded Spencarpus as head of the Academy at Athens, over which he presided for a quarter of a century.

Xenophon (444-359 B.C.), the Athenian general and follower of Socrates, accompanied the Greek army under Cyrus the Younger in the march against Artaxerxes, and after Cyrus's death, assumed the command of the Greek troops, and conducted the famous five months' retreat through a mountainous hostile country to Trebizond. In his *Anabasis* he describes this expedition with graphic minuteness. In the war between Sparta and Persia he declared against his own country and was banished. Most of his works were written in the days of his exile at Scillus. He afterwards lived at Corinth. His chief works are *Anabasis*, *Hellenica*, and *Cyropædia*.

Xerxes (circa 510-465 B.C.), King of Persia, was the son of the first Darius, and a great commander. In 481 B.C. he started on his famous expedition against Greece, when, according to Herodotus, he had a combined army and navy of over two and a half million men. He defeated the Spartans at Thermopylae, but his fleet was overcome at Salamis. He reigned from 485 to 465 B.C. and met his death by assassination.

Ximenes, Francisco (1473-1517), a Spanish statesman and Cardinal who, after being Queen Isabella's confessor, became Archbishop of Toledo, Provisional Regent of Castile, and Cardinal and Inquisitor-General in 1507. He printed the *Complutensian Polyglot Bible*.

Ximenes de Quesada, Gonzalo (b. 1498), a Spanish lawyer who undertook an expedition to and became the conqueror of New Granada in 1538. Later he went up the Orinoco valley in quest of El Dorado, and some accounts say he died a centenarian, but that is doubtful.

Y

Yamagata, Field-Marshal Prince, is a Japanese statesman of very considerable ability and astuteness, and a soldier also of some prowess. In November, 1898, he was at the head of the Imperial Government, forming a Cabinet on the old lines of Japanese clan statesmen, which endured for two years, he then giving way to the Marquis Ito, the chief of the Constitutional Political Party. Later he became a Privy Councillor of the Mikado, and made Prince in 1907.

Yates, Edmund (1831-1904), an able English journalist and novelist, who was the editor of *Tinsley's Magazine* in 1867, and established *The World* in 1874, which he made a powerful Society political and literary weekly. He was the London correspondent for some years of the *New York Tribune*, and also at one time acted as Special Correspondent of the *New York Herald* at Vienna and St. Petersburg. His novels were many and clever, including *Black Sheep*, *Broken to Harness*, *For Better, For Worse*, and *A Wasting Race*.

Yerkes, Charles Tyson (1840-1905), was born in Philadelphia, and at the age of twenty-one started in business as a stockbroker, achieving considerable success; and, about 1875, became connected with a tramway enterprise in Philadelphia, which he developed with great profit. A few years later he settled in Chicago, and there installed a tramway system which realised him a very considerable fortune. From 1901 to his death he was mainly resident in London, devoting himself to improving the means of transit in and around the metropolis. He was associated with numerous "tube" and other short railway undertakings, and had managing control of the District system, which he electrified.

Yonge, Charlotte (1822-1901), this favourite novelist and historical and miscellaneous writer was born at Otterbourne, and published her immensely popular story, *The Heir of Redclyffe*, in her thirtieth year, following it with the scarcely less successful *Deity Chain* three years later.

York, Archbishop of. (See Lang.)

York, Duke of (Frederick Augustus), second son of George III. (1793-1827). Commanded the unsuccessful British expedition to Holland in 1795-1796 and 1799. Opposed Catholic emancipation, and was in his younger years Prince-bishop of Osnabrück.

York, Duke of (Richard) Killed at the Battle of Wakefield in 1460. He was the son of Richard, Earl of Cambridge and Anne Mortimer, and Protector during Henry VI.'s imbecility. A claim on his part to the help to the throne precipitated the War of the Roses.

Yount, William (1776-1847), the eminent naturalist and writer on livestock, was the son of an Exeter surgeon. He set up a veterinary hospital in London in 1812, and later wrote a series of handbooks on the breeds, management, and diseases of various farm animals. Yount was one of the founders of the Royal Agricultural Society.

Young, Brigham (1801-1877). The famous Mormon leader, and head of the Latter Day Saints of Salt Lake City. Sometime Governor of the Territory of Utah, a position from which he was removed by President Buchanan, and indicted for polygamy in 1871, but not convicted. At his death he had seventeen wives. He was originally a house-builder's workman in New York State, but embraced Mormonism in 1832 and became first elder, then apostle, and finally president in 1844 in succession to Joseph Smith.

Young, Charles Mayne (1777-1856), a noted actor and a native of London, who from 1802 to 1832 had an almost uninterrupted career of success, being regarded as the most distinguished representative of the Kemble school of acting, sharing the honours with Kean and Macready. He had a fine stage presence, and possessed a very musical voice.

Young, Edward (1684-1758), an English poet and clergyman who acquired considerable fame as the author of "Night Thoughts," a long didactic poem in heroic couplets, containing much felicitous moralising and poetic power. He also wrote a couple of tragedies, "The Revenge" and "Busiris," both of which were produced at Drury Lane. He was vicar of Welwyn for many years.

Young, James (1811-1899), a Glasgow chemist, who discovered the method of distilling oil from shale, and founded the mineral oil industry of Scotland, which led to the development of petroleum concerns in America and elsewhere. He was the founder of the Chair of Technical Chemistry at Anderson's College in his native city.

Younghusband, Col. Sir Francis (b. 1863), who headed the British Mission to Tibet in 1903-1904, is Resident in charge of the Mahratta States, India. He is an enterprising ex-Dragon Guardsman who has "roof of the world," and elsewhere, and was *Times* correspondent with the Chitral expedition, and also in the Transvaal and Rhodesia. He was the first British representative to set foot in the "Forbidden City of Lhasa."

Yule, Sir Henry (1820-1889), an Anglo-Indian military engineer, who was secretary to the British

Mission sent in 1858 to Ava, and wrote a narrative of the expedition. He was a learned Orientalist, and compiled a useful glossary of Anglo-Indian colloquial words and phrases, besides publishing a number of notable travel papers dealing chiefly with Central Asian ground; making, moreover, a fascinating translation of Marco Polo entitled *Cathay and the Way Thither*.

Z

Zadkiel (the angel of Jupiter in Jewish rabbinical lore) was the name assumed by Lilly the astrologer, and also by Lieut. R. J. Morrison, in the prophetic almanack first issued by him in 1839.

Zagoskin, Michael (1749-1825), a skilful historical novelist and play-wright; born at Penza; sometimes styled the Walter Scott of Russia. His most notable book was *Yuro Mirvolaiski*, published in 1829.

Zahn, Theodore (b. 1838), an erudite Biblical scholar, who wrote illuminatingly on the New Testament canons.

Zahn, Wilhelm (1800-1871), German architect, painter, and critical writer on the art of ancient Pompeii, Stalwa, and Herculaneum.

Zamella, Giacomo (1821-1888), Italian poet and Professor of Literature in the University of Padua. His "La Conchiglia Fossile" was a fine conception, lyrically strong and in touch with the scientific spirit of the age.

Zangwill, Israel (b. 1864), was educated at a Jews' elementary school in Spitalfields, and is President of the International Jewish Territorial Organisation. Made a hit with *The Premier and the Pastor* in 1888; afterwards edited a short-lived but brilliant comic weekly called *Arise!*; then began novel writing. His *Children of the Ghetto*, published in 1892, *The Master* (1895), *Dreamers of the Ghetto*, and *Ghetto Comedies* (1901), are works of originality and power. Mr. Zangwill has also written plays, of which *Merry Mary Ann* (1904), and *The Melting Pot and Plaster Saints* (1914), are prominent examples.

Zeller, Edward (1814-1892), a noted German writer, and Professor of Philosophy at Berlin from 1872. Published works on Plato and various Protestant theology; 11 volumes of new or profound.

Zeller, Jules Sylvain (1820-1900), French historiographer and biographical author; his chief works dealing with Italian and German history and the lives of the Roman Emperors.

Zeno of Citium was an eminent Greek philosopher, who founded the Stoic system. He lived in the 3rd century B.C., and was a teacher of great influence. He held that virtue was the only good, vice the only evil, and the philosophy elaborated on those lines took deep root.

Zenobia was Queen of Palmyra in the latter part of the 3rd century, and after the murder of her husband King Odenathus, proclaimed herself Queen of the East. This aroused the jealousy of the Emperor Aurelian, and though she showed great courage and ability in opposing him, he ultimately defeated her and took her captive to Rome in 273, and later she resided in or near the Imperial city.

Zenodorus (flourished A.D. 54-48), a Greek sculptor who executed the colossal of Nero and of Marcus.

Zenodotus, an Alexandrian Hellenic scholar, who lived in the 3rd century B.C., and was the first superintendent of the famous library at Alexandria.

Zephaniah (flourished about 630 B.C.), the Hebrew prophet who foretold judgments to come to the Jews for their sinfulness, but predicted an ultimate Hebrew restoration.

Zeppelin, Count, German general, served in the Franco-German War of 1870; and in later years has devoted himself with remarkable success to the perfecting of his air-ship, which in spite of serious disasters, has achieved marvellous flights.

Zeuxis, a famous Greek painter who flourished in the 5th century B.C. One of his finest works was his "Eros Crowned with Roses," in the temple of Aphrodite at Athens.

Zieten, Hans von (1770-1848), a Prussian general and divisional commander at Ligny and Waterloo.

Ziethen, Hans Joachim von (1599-1786), a Prussian officer of cavalry, who distinguished himself in the first and second Silesian War, and particularly by a forced march with his Hussar regiment in 1745.

Zimmerman, Ritter von (1798-1798), was a Swiss philosopher who practised as a physician at Brugge, and acquired considerable fame by his book on *Solitude*, which was full of a sort of sentimental charm that was more appreciated in his day than in ours. His reputation as physician and philosopher gained him the friendship of Frederick the Great, whom he attended in his last illness; and of George III. who made him his private physician at Hanover.

Zimmermann, Helen (b. Hamburg, 1846), a charming writer on many literary and artistic subjects, as also a popular lecturer in this country and on the Continent on Italian art.

Ziska, John (1360-1424), a famous Hussite leader, who repelled the Imperialists from Witkow in 1420, and invaded Moravia and Austria, but was slain at the siege of Prábrislav. His exploits were the subject of an epic by Albert Meissner, the Bohemian bard.

Zoffany, John (1733-1810), painter, was a native of Ratisbon, and came to England in 1758. After a period of struggle, during which he painted clock-faces for a clock-maker in Seven Dials, he began to make headway as a portrait painter and obtained some distinguished patronage. Later he was very successful in a series of pictures of stage-scenes—"conversation pieces" they were called, and included representations of the favourite actors and actresses of the time in their best impersonations. He was made a member of the Royal Academy in 1769, and was thenceforward in high repute. Many examples of his work are to be met with in the various galleries and collections.

Zola, Émile (1840-1902), was the son of an Italian engineer, and came before the public as a novelist in 1867 with *Thérèse Raquin*, which at once caused him to be talked about. He then conceived the idea of a series of novels which should depict the history of a Second Empire family in various realistic phases, and began the series with *La Fortune des Rougon*, in 1871, following with five others. In 1877 he made a higher success by *L'Assommoir*. From that time every novel he published had an immense sale. *Nana*, *La Débâcle*, *Le roman expérimental*, *Paris*, and others appeared in quick succession. In the render-

ing of horror and gloom and repulsiveness Zola had no equal, and he lapsed into deplorable coarseness at times. Zola championed the cause of Dreyfus with great courage. He died from accidental asphyxiation.

Zonaras, Johannes, a Greek historical writer who compiled in the 12th century a chronicle from the creation down to his own day, and was also the author of commentaries on the Apostolic canons.

Zoroaster is supposed to have lived in the 6th century B.C. As to his real personality, however, we have little but conjecture to go upon. The religious system which bears his name dates back to the days of ancient Persia, and is set forth in the *Avesta*, the sacred writings of the Parsees, and in the "Gáthás" (hymns). Only a few thousand Zoroastrians survive in Persia, but in India the sect is numerous. The idea of the theology of Zoroaster is that "Ormuzd" is the creative force of all that tends to goodness and happiness, and that Ahriman is the spirit of evil, these two powers being in eternal conflict in regard to the destinies of the human race.

Zuccarelli, Francesco (1702-1788), a very celebrated Italian artist, who came to England, succeeded, made a handsome fortune, was one of the first members of our Royal Academy, and then returned to his own country. He was greatest in landscape.

Zumpt, Karl (1792-1849), a German classical scholar of distinction, Professor of Roman Literature at Berlin from 1827. He published a very good Latin grammar, edited Cicero's orations, Curtius, and Quintilian, and wrote learnedly on Roman antiquities.

Zwicker, Daniel (1612-1658), a Dutch Socinian doctor, who published in 1658 a notable book entitled *Treuecon Treueconum*.

Zwingli, Ulrich (1484-1531), was one of the ablest of the Swiss Reformation leaders. He preached the new doctrine with great earnestness, and wrote several works in support of them. His chief sphere of action was in Zurich, in the cathedral of which city he was preacher. He was killed in a conflict with the Roman Catholics at Cappel.

Zwerner, Ernst Friedrich (1822-1861), an eminent Silesian architect, who restored Cologne Cathedral, and built the fine Apollinaris church at Remagen.

Zyllus, Otto von (1588-1656), a zealous Dutch Jesuit and poet of some note in his day.

AMERICAN CUSTOMS DUTY.

The following are the customs duties charged on various classes of articles entering the United States:—

Glassware, Undecorated, Engraved, Cut, or Coloured Glass, 45 per cent. Cutlery, Knives, and Razors, 25 to 35 per cent. Firearms, 25 per cent. Paints and Colours, 20 per cent. Watches and Clocks, 20 per cent. Jewellery, 60 per cent. Cigars and Cigarettes, 25 per cent., and \$4.50 per lb. and Internal Revenue Tax. Brandies, Spirits, and

Liqueurs, \$2.60 per gallon. Champagnes, etc., quarts, \$9.60 per doz.; pints and half-pints, rateably. Hosiery, 20 to 50 per cent. Silks and Silk Goods, 40 to 50 per cent. China, 50 per cent. Pearls and Precious Stones, 20 per cent. Fans, 50 per cent. Laces and Embroideries, 25 to 60 per cent. Furs, 45 per cent. Carpets, 20 to 50 per cent.

American residents returning from abroad can only take back with them £50 worth of articles, purchased by them in foreign countries, free of duty.

HOLIDAYS IN THE UNITED STATES.

New Year's Day, January 1, all States.
Lincoln's Birthday, February 12 (in ten States).
Washington's Birthday, February 22, all States except Iowa and Mississippi.

Decoration Day, May 30, nearly all States.
Independence Day, July 4, all States.
Labour Day, September (first Monday), most States.

General Election Day, first Tuesday after first Monday in November, most States.

Thanksgiving Day, last Thursday in November, all States.

Christmas Day, December 25, all States.

There are many other holidays in separate States, such as the Mardi Gras in Louisiana (February 26), Confederate Day in Tennessee (May 30), Admission Day in California (September 9), and so on; but strictly speaking there is no national holiday, not even the Fourth of July. For commercial purposes, certain days have been recognised as holidays, but there is no general statute on the subject, and even the proclamation of the President appointing a day of thanksgiving, including territories, makes it a legal holiday only in those States which provide for it by law.

PEARS'
CLASSICAL
DICTIONARY.



Pears' Classical Dictionary

A knowledge of the Classics may not be a necessity to success in business, or in any other sphere except a purely scholastic one. At the same time, it greatly adds to one's enjoyment of literature, art, and conversation to possess some acquaintance with the imaginary characters, places and incidents of the ancient mythology which has been such an inspiring influence to writers of all ages. Few people outside literary and educational workers have opportunity or leisure sufficient to acquire or keep up a knowledge of this particular branch of learning. Thus, it may be useful to present in dictionary form the stories in brief of the Classic gods, goddesses, heroes, and heroines of the old Grecian and Roman literature. It will help to a better understanding of the countless references which are made from time to time in the literature of the day to Classic subjects. It is a great wonderland of poetry and romance, and forms a realm all its own.

Abas, a town of Phocis, famed for its oracle of Apollo.
Abalus, an island where amber was supposed to drop from the trees.

Abbarbarea, a Naiad, mother of Æsepius and Pedasus.

Abartimon, a district of Scythia, where the people had toes behind their heels, and could only breathe their native air.

Abas, a son of Metanira, changed into a lizard for laughing at Coreus. Also the name of the twelfth king of Argos, father of Proetus and Acrisius by Ocalea.

Abastor, one of Pluto's horses.

Abderus, armour bearer to Hercules. He was torn to pieces by the mares of Diomedes.

Abeyrtus, a son of Æetes, King of Colchis, whose sister Medea fled with Jason and murdered him.

Abydos, on the Hellespont, memorable for the loves of Hero and Leander.

Abecallia, a nymph, mother of Philander and Phylaxis, by Apollo.

Acamas, son of Theseus and Phedra, went with Diomedes to demand Helen from the Trojans, and afterwards took part in the Trojan war.

Acantha, a nymph loved by Apollo, and transformed into the acanthus.

Acarnas and Amphoterus, sons of Alcmaeon and Calirrhoe.

Acearacomes, the unshorn, a title of Apollo.

Acasta, a town of Sicily, named after King Acestes, and built by Æneas.

Acastes, King of Drepanum, assisted Priam at Troy, and entertained Æneas on his voyage.

Acetes, an attendant of Evander.

Achæa, a name of Pallas, from her temple in Daunia being defended by dogs, which attacked everyone but Greeks.

Achæi, descendants of Achæus expelled from Peloponnesus by the Heraclidæ after the Trojan war, who seized the twelve Ioman cities on the north of Peloponnesus.

Achæmenides, son of Adramastus, abandoned by Ulysses on the coast of Sicily, and found by Æneas.

Achates, friend of Æneas, renowned for his fidelity, whence the term *fides Achates*.

Acheloides, the Sirens, daughters of Achelous.

Achelous, son of Oceanus or Sol, and Terra or Trithys, god of the river Achelous, in Epirus. Contending with Hercules for Dejanira, he changed himself into a serpent, and then into an ox, when Hercules broke one of his horns and defeated him.

Acheron, a river of Thesprotia, regarded as one of the rivers of Tartarus, and whose god was a son of Ceres, who concealed himself in hell for fear of the Titans, where he was changed into a bitter stream, over which the souls of the dead are first conveyed.

Acherusia, a lake near Memphis, over which the bodies of the dead were ferried by Charon.

Achillea, an island of the Ister, where Achilles was buried, and over which birds never flew.

Achilles, son of Peleus and Thetis; when an infant, was plunged by his mother into the Styx, and made invulnerable, except in the heel, by which she held him. Went to Troy, but, quarrelling with Agamemnon about Briseis, refrained from the war till the death of Patroclus. He then slew Hector in battle at the Scaean gate, and achieved other deeds of valour, but ultimately was slain, being wounded with an arrow in his vulnerable heel by Paris.

Achillides, Pyrrhus, son of Achilles.

Acidolia, one of the names of Venus, from her fountain of that name in Bœotia.

Actis, a Sicilian shepherd, son of Faunus and Simaethis, loved by Galatea, crushed to death by his rival Polyphemus with a piece of rock, but changed by the gods into a stream on Mount Ætna.

Acomonides, one of the Cyclopes.

Acoetes, pilots of the ship which carried off Bacchus when asleep, and were changed into sea-monsters for ridiculing the gods.

Aconteus, a hunter changed into stone by Medusa's head at the nuptials of Perseus and Andromeda.

Acrisioiades, one of the names of Perseus, from his grandfather Acrisius.

Acrisius, son of Abas (King of Argos) and Ocalea, and father of Danaë, whom he confined in a brazen tower, where she was wooed by Jupiter in a golden shower, and gave birth to Perseus.

Actæa, a Nereid; also Ceres.

Actæon, son of Aristæus and Autonoe, changed into a stag, and was devoured by dogs for watching Diana at her bath.

Actius, one of Apollo's titles from Actium, where he had a temple.

Actoria, a maid of Ulysses.

Adamas, a Trojan prince, killed by Merion.

Admetus, daughter of Eurystheus, and priestess of Juno's temple at Argos. Hercules presented her with the girdle of the Queen of the Amazons.

Admetus, son of Pheres and Clymene, king of Phereæ, in Thessaly, married Theone, daughter of Thestor, and, on her death, Alceste, daughter of Peleus. Apollo served Admetus for nine years as shepherd, and the Fates granted him that Admetus should never die if another person laid down his life for him, which Alceste did. Admetus was one of the Argonauts, and was present at the hunt of the Calydonian boar.

Adonis, son of Cinyras by Myrrha and beloved by Venus. Was killed by a wild boar while hunting, and changed by Venus into the anemone. Proserpine restored him to life, on condition of his spending half the year with her.

Adrastia, daughter of Jupiter, and called Nemesis the avenger.

Æa, a huntress, changed into an island by the gods, to rescue her son from her lover, the river Phisus.

Æacus, son of Jupiter and Aegina. His people being destroyed by pestilence, Jupiter transformed ants into men, who became his subjects, and Æacus called them *Myrmidones*. Æacus became judge of hell with Minos and Rhadamanthus.

Æetes, King of Colchis, and father of Medea, Absyrtus and Chalciope, killed Phryxus, who had fled to his court on a golden ram to gain the fleece, which the Argonauts regained by the aid of Medea, though guarded by fire-breathing bulls and a dragon.

Ægeus, King of Athens, who consulted the oracle about children, and on his return rested at the court of Pittheus of Troezen, whose daughter Æthra he married. He told her if she had a son, to send him to Athens as soon as he could lift a stone under which Ægeus had concealed his sword. A son was born, Theseus, who went to Athens where Ægeus was living with Medea; the latter tried to kill Theseus, but he escaped and revealed himself by the sword to Ægeus. When Theseus returned from Crete, after the death of the Minotaur, he forgot to do so, as agreed on, and white sails as a signal of success, and Ægeus, concluding he was dead, threw himself from a high rock into the sea.

Ægina, daughter of Asopus and mother of Æacus by Jupiter, who visited her in the form of a flame.

Æglochinus, a title of Jupiter, from his being brought up by the goat Amalthea in Crete, and using her skin instead of a shield at the war with the Titans.

Ægis, the shield of Jupiter, who gave it to Pallas, and when placed on Medusa's head petrified all who looked upon it.

Ægisthus, King of Argos, son of Thyestes and Pelopea, who was told he could avenge himself on his brother Atreus only by a son by himself and his daughter, whom he consecrated to Minerva in order to preserve her, but afterwards not recognising her, a son was born to him. Pelopea who had married Atreus, sent Ægisthus to murder Thyestes; but recognising him from his own sword, which Pelopea had kept, Thyestes sent him to murder Atreus, after which Ægisthus ascended the throne, and banished the Atreidae—Agamemnon and Menelaus—who fled to Polyphides of Sicyon, and thence to Ceneus of Ætolia. They married the daughters of Tyndarus, King of Sparta, to whom Menelaus succeeded, while Agamemnon went to claim Argos. But Ægisthus became reconciled to the Atreidae, and was made guardian of Agamemnon's kingdom, and his wife Clytemnestra during his absence at Troy. Falling in love with her, she and he murdered Agamemnon on his return, but both were subsequently killed by Orestes, son of Agamemnon.

Ægle, a nymph, daughter of Sol and Nereia, also of the Nereides.

Ægeon, an animal into which Pan transformed himself when flying before Typhoea in the war with the giants.

Ægyptus, son of Belus, and brother of Danaus, to

whose fifty daughters he gave his fifty sons in marriage. Danaus having fled to Argos in fear of his brother's fifty sons, they followed him from Egypt into Greece, and Danaus accepting them as sons-in-law, induced his daughters to murder their husbands the first night of their marriage—which all did, excepting Hypermnestra who spared Lynceus. Ægyptus was afterwards killed by his niece Polyxena.

Ælio, one of the *Harpiæ*; also one of Actæon's dogs.

Ælurus, a deity worshipped by the Egyptians in Bubastis, where cats were enshrined and buried.

Æneades, descendants of Æneus.

Æneus, a Trojan prince, son of Anchises and Venus, reared by a Nymph, and taught by Chiron. Fought in the Trojan War with Dionides and Achilles, and rescued his mother, Anchises, and the household gods from the flames of Troy, and led his son, Ascanius, leaving Creusa, his wife, to follow. Retiring to Ida he built twenty ships and visited Polymnestor in the Thracian Chersonesus, Delos, the Strophilades, Crete, and Epirus, and then King Acestes at Drepanum, in Sicily, where he buried his father: hence he sailed for Italy, but was driven to Africa, and was entertained by Queen Dido of Carthage, who became enamoured of him, but Æneus left suddenly, by order of the gods, and Dido killed herself. He was then driven to Sicily and went thence to Cumæ, where the Sibyl conducted him to the lower world. After a voyage of seven years and the loss of thirteen ships he reached the Tiber, where King Latinus promised him his daughter, Lavinia, betrothed to Turnus by her mother, Amata. Turnus declared war, and in a combat with Æneus was killed. Æneus then married Lavinia, and in her honour built Lavinium; he succeeded Latinus, and after a short reign was killed in war with the Ruturnans or drowned in the Numicus. The Cæsars traced their origin to Æneus, and his wanderings form the subject of the *Æneid* of Virgil.

Æolia, an appellation of Arne, daughter of Æolus.

Æolias, seven islands N. E. of Sicily: Lipara, Hiera, Strongyle, Didyme, Iriausa, Phœnicusa, and Isonymus; supposed to be the retreat of the winds, whose King was Æolus.

Æolus, son of Hippotus, and made king of the winds in Æolia; presented Ulysses, on his return from Troy to Ithaca, all the adverse winds in bags; but his companions from curiosity having opened them, they proved useless.

Æsacus, son of Priam by Alexirhoe, or by Arisla; enamoured of Hesperia, he pursued her into the woods, when she flung herself into the sea and was made a bird, Æsacus being at the same time changed into a cormorant.

Æsculapius, the god of healing, son of Apollo by Corvus, or by Latona, daughter of Pilegias; was physician to the Argonauts, but was struck by Jupiter, whereupon Apollo killed the Cyclops Æsculapius after death was worshipped at Epidaurus, Pergamus, Athens, Smyrna, etc., goats, bulls, lumps and pigs were sacrificed, and the cock and serpent were sacred to him. A temple was raised to him at Rome.

Æson, son of Cretheus, and brother of Pelias, succeeded his father in Iolchus, but was deposed by Pelias. He married Alcemele, by whom he had Jason. Jason demanded his father's kingdom of Pelias, but the latter persuaded Jason to go in search of the golden fleece. On his return with Media, she filled the vens of Æson with the juice of certain herbs, and so restored him to youth, but he afterwards killed himself by drinking bull's blood to avoid the persecution of Pelias.

Æsyetes, a Trojan, from whose tomb Polites, the Greek, watched ships during the Trojan War.

Æthalides, a herald, son of Mercury.

Æthion, a horse of Pallas, which shed tears at the death of his master.

Æthra, daughter of Pittheus and mother of Theseus by Ægeus. Was carried away by Castor and Pollux when they recovered Helen, and accompanied the latter to Troy.

Agamemnon, king of Mycenæ and Argos, brother of Menelaus, and son of Priestheus. On the death of Atreus, Thyestes seized Argos and removed Agamemnon and Menelaus. Agamemnon married Clytemnestra and Menelaus Helen, daughters of Tyndarus, king of Sparta, who helped them to recover their father's kingdom; Agamemnon established himself at Mycenæ, and Menelaus succeeded Tyndarus at Sparta. When Paris carried off Helen, Agamemnon assumed command of the forces against Troy and showed great valour. After the capture of Troy, Cassandra prophesied his murder by Clytemnestra, but disregarding her he returned to Argos, where, as he was leaving the bath, Clytemnestra and Ægisthus murdered him.

Agapenor, commander of Agamemnon's fleet.

Agathenor, father of Polyxenus.

Agenor, King of Phœnicia, son of Neptune and Libya, and brother of Belus, married Telephassa, by whom he had Cadmus, Phoenix, Cilix and Europa.

Aglaia, or **Paniphaë**, one of the Graces.

Aglauros, daughter of Erechtheus, changed into a stone by Mercury.

Agonalia, or **Agonia** were Roman festivals in honour of Janus.

Agrotaria, festivals in honour of Bacchus.

Agrotaria, a yearly sacrifice of 500 goats to Diana at Athens.

Agylæus, one of the names of Apollo.

Ahenobarbus, so named because his beard was changed to bronze by Castor and Pollux, for refusing to believe in the victory at Lake Regillus.

Ajax, the son of Telamon and Peribœa. The most famous fighter of the Greeks next to Achilles. Sought to gain possession of the arms of Achilles at the latter's death, and on their being granted by Ulysses, he slaughtered a flock of sheep under the impression that they were the sons of Atreus; he then stabbed himself, and the blood from his wound changed into the hyacinth.

Aias, armour bearer to King Sarpedon, of Lycia, killed by Ulysses.

Aibion, Neptune's son by Amphitrite. Founded Britain and introduced astronomy and shipbuilding.

Aicander, attendant of Sarpedon, killed by Ulysses.

Aicenor, a Trojan, father of Pandarus and Bittas.

Aicthous, son of Pelops, who, being accused of slaying his brother Chrysippus escaped to Megara, where, killing a lion that had destroyed the King's son, he succeeded to the kingdom.

Aicæ was one of Actæon's dogs.

Aicæste, daughter of Pelay and Anaxibia, conspired with her sisters to put to death Pelias that he might be restored to youth by Medea, but she refused. They then escaped to Admetus, who married Aicæste.

Aicæmede, mother of Jason by Æson.

Aicæneus, son of Nautilus and Peribœa, King of Phœcia. Married his niece, Arete, by whom he had several sons and a daughter, Nausicaa.

Aicthous, daughter of Minyas, changed into a bat, and her spindle and yarn into a vine and ivy, for ridiculing Bacchus.

Aicmone, daughter of Electryon of Argos, and was promised to Amphitryon on condition that he would revenge on the Teleboæ the death of his sons. In Amphitryon's absence Jupiter assumed his form, and became by Alcmena father of Hercules, who was born at the same birth with Iphiclus, her son by Amphitryon.

Aictrion, a youth placed on guard by Mars when visiting Venus, to warn him of the approach of Phœbus. Transformed into a cock for falling asleep.

Aicirrhœa, a daughter of the river-god Granicus.

Aicirrhœus, a son of Neptune, died when attempting to cut down Pallas's olive on the Acropolis.

Aicæus, a giant, son of Neptune and Terra, wedded Iphimedia, who by Neptune had twins, Orus and Ephialtes, the Alcides.

Aicæus, a river of Arcadia, whose god fell in love with Arethusa, changed by Diana into a fountain in

Ortygia, a small island near Syracuse, where the Alpheus was supposed to rise again after passing under the sea.

Aicæa, daughter of Thestius and Eurythia, married King Ceneus by whom she had Meleager. It was ordained that Meleager's life should last as long as a log of wood, thrown into the fire by the Parca at his birth, was preserved; but on his killing his two maternal uncles, Alcæa hung it into the fire and destroyed it. Meleager died and Alcæa killed herself.

Aicæthma, daughter of King Melissus, of Crete.

She fed Jupiter with goat's milk.

Aicæraus, an officer of Chyrras, changed into marjoram.

Aicæta, wife of King Latinus, espoused the claims of Turnus, to whom she had betrothed Lavinia before Æneas's arrival. On Æneas succeeding, she destroyed herself.

Aicævalia, festivals in honour of Ceres.

Aicævalia, the food of the gods, which gave immortality to its consumers. Venus healed Æneas's wounds with it.

Aicæmon, turned into a fountain near Lake Lerna.

Daughter of Danaus.

Aicmon, a name assumed by Jupiter in Libya, where he appeared as a ram to Hercules and revealed a fountain, nine days' journey from Alexandria. Here a temple was erected which had a famous oracle.

Aicæmus, a favourite nymph and satyr of Bacchus.

Aicæraus, son of Oecleus, or of Apollo, by Hypernestra; figured in the hunt of the Calydonian boar, and in the Argonautic expedition. To escape going with Adrastus against Thebes, he hid himself, but being discovered by Epiphyle, was forced to proceed to Thebes, where the earth swallowed him and his chariot.

Aicædamus, son of Busiris, killed by Hercules.

Aicæmedon, a sutor of Penelope, killed by Telemachus.

Aicæmonius and **Aicæpius**, two brothers who saved their parents on their shoulders when Catana was burning, and for their bravery were placed by Pluto in Leuce after death.

Aicæmon, the twin brother of Zethus, born to Jupiter by Antiope on Mount Cithæron, whither she had fled to avoid the wrath of Dæce. A shepherd succoured the infants, and Amphion became a great musician. Amphion and Zethus besieged Lycus in Thebes, and put him to death, and tied his wife to a wild bull, which dragged her over precipices till she died.

Aicæstratus, charioteer to Castor and Pollux.

Aicætrite, the daughter of Oceanus and Tethys, and mother of Triton, by Neptune.

Aicætrion, King of Thebes, who, as avenger of the deaths of the sons of Electryon, was offered the latter's crown and daughter Alcmena. Jupiter appeared in the form of Amphitryon, and Alcmena bore Hercules.

Aicætrionides, a name given to Hercules as the presumed son of Amphitryon.

Aicætrius, a river of Thessaly on whose banks Apollo fed Admetus's flocks.

Aicænetus, a lake of sulphur in the Hirpini country, whence Aicæto descended into hell.

Aicæus, son of Neptune, became King of Melia, and had great skill with the cestus. Was killed by Pollux.

Aicætor, king of Argos, blinded his son Phoenix for insulting Clyta, his concubine.

Aicæto, daughter of Danaus and Europa. Married to Enceladus, and killed him on the marriage night. She was the only one of the fifty Danaides absolved from the duty of filling the leaky vessel in hell, because of having supplied Argos with water in a drought. Neptune falling in love with her carried her off, and she bore him Nauplius.

Aicæta, an Armenian goddess whose festivals were marked by excessive licence.

Aicæbia, sister of Agamemnon, wife of Nestor.

Aicæbus, an Argonaut, son of Neptune and Astypalæa, acted as pilot of the *Argo*. Was king of

Ionis, and married Samis, daughter of the Mæander, by whom he had four sons, Perilas, Eneides, Samus, Alitherus, and a daughter Parthenope. While behaving cruelly to a slave, the latter turned scornfully and told his master he would never taste the wine. Anceus angered pressed the grapes into his cup, when the servant exclaimed "There's many a slip 'twixt the cup and the lip." The next moment a wild boar rushed into the vineyard and Anceus was killed in attempting to drive the beast away.

Anchises, the son of Cyprius by Themis, and so beautiful that Venus paid court to him on Mount Ida, and bore him *Æneas*.

Anchurus, the son of Midas, and when the oracle declared that a certain gulf in the earth would never cease to swallow up what was above until what Midas held most dear was thrown into it, he leapt in and was never seen again. Midas erected an altar of stones on the spot, which was changed to gold after Midas became possessed of his fatal gift.

Androclus, a Roman slave who was thrown into the arena to the lions, but was saved by being recognised by one of the animals, Androcles having once extracted a thorn from its foot in an African cave.

Androgynæ, a mythical race of hermaphrodites, who lived in the region of Africa beyond the Nasonides.

Andromache, daughter of King Eetion of Thebes, and wife of Hector. The scene in Homer's *Iliad*, describing her taking leave of Hector on his going forth is one of the best known passages in the poem. After Hector's death and the fall of Troy, Andromache became the prize of Pyrrhus. Still later she married Priam's son Helenus.

Andromeda, daughter of King Cepheus, by Cassiope, having been promised as a bribe to Phæneus, hence she became the victim of Neptune's anger, by reason of the boast of her mother that she was more beautiful than Juno. The sea-god visited the country with an inundation and sent a huge sea-monster to ravage the land. The people were in desperate straits, and, to appease Neptune, Andromeda, at the command of the oracle of Ammon, was chained to a rock and given up to the monster. Perseus came to the rescue with Medusa's head, turned the dragon to stone, liberated and married Andromeda.

Andrus, an island of the Cyclades where there was a temple to Bacchus with a fountain whose waters, during the ides of January, tasted like wine.

Angitia, a wood near Lake Fucinus, inhabited by descendants of Cui-e, to whom serpents were harmless.

Anicetus, son of Hercules and Hebe.

Anigrades, nymphs of the Anigrus.

Anigrus, a river of Thessaly wherein the Centaurs washed the wounds inflicted on them by Hercules.

Anius, son of Apollo, was king of Delos, and father of Gen, Sperus and Elais, to whom Bacchus gave the power of changing whatever they pleased into wine, corn and oil. He afterwards transformed them into doves to prevent Argæumion carrying them off to Troy to supply the Trojan forces with provisions.

Anisus, a Liliyan giant, son of Terra and Neptune, who had an encounter with Hercules, by whom he was finally vanquished, Hercules holding him in the air and squeezing the life out of him.

Antenor, a Trojan who urged the Greeks to build the wooden horse which was forced into Troy by a breach made in the walls. Antenor went to Italy after the fall of Troy, where he built Padua.

Anteros, son of Mars and Venus, and named the god of mutual love.

Anthesphoria, feasts held in Sicily in honour of Proserpine.

Anthesteria, Greek festivals held in honour of Bacchus in the month of February, lasting three days.

Anthus, epithet of Bacchus at Athens and Patra.

Anthos, companion of Hercules, killed in the Rutulian War.

Antilibanus, a mountain of Syria.

Antilocheus, son of Nestor and Eurydice, killed at Troy by Memnon.

Antimachus, a Trojan who conspired with Paris

to oppose Helen, when Menelaus and Ulysses came as ambassadors.

Antinous, son of Eupelthes of Ithaca, suitor for the hand of Penelope, and conspired to destroy Telemachus. He was killed by Ulysses.

Antiope, daughter of King Nycteus, of Thebes, was wooed by Jupiter, and to escape her father's anger fled to Mount Cithæron, where she bore the twins Amphion and Zethus. After many other lovings, marryings, and wanderings, she finally became the wife of Phocus, son of Ornytion.

Antiphates, King of the Læstrigones, and said to have eaten one of Ulysses' messengers, and afterwards sunk with stones the whole of the ships except the one Ulysses was on.

Antiphys, son of Priam, killed by Agramemnon.

Antubis, an Egyptian god, in the form of a man with a dog's head. Disguised in sheep's skin he accompanied Osiris against India.

Aon, son of Neptune, became King of Bœotia, after whom the Boeotians were called A'ones, and the country Aonia.

Aornos, a fortress on the Ganges, besieged by Hercules, but afterwards taken by Alexander.

Apheta, a city of Magnesia, where the *Argo* was launched.

Apreodasia, an island in the Persian Gulf, where Venus was worshipped.

Aphrodite, the Greek name of Venus.

Apis, an Egyptian god in the form of an ox which had several distinctive marks: a black body with a square white spot on the forehead; the figure of an eagle on its back; a white spot like a crescent on the right side; the hairs of the tail double; and a knot under the tongue like a beetle. The Apis festivals lasted seven days, the ox being led in solemn procession. If he lived twenty-five years he was drowned in the Nile, embalmed and buried by Memphis. Then came the period of mourning, continuing until another ox was found with the right marks. There were two temples to Apis.

Apollo, the son of Jupiter and Latona, and born on the Isle of Delos, which Neptune raised from the bottom of the sea as a refuge for Latona, who was persecuted by Juno. Apollo became the god of the arts, of medicine, music, poetry and eloquence; his oracle at Delphi was the most famous in the world.

When Jupiter killed Apollo's son *Æsculapius* by his cyclopean thunder, Apollo killed Cyclops, who had forged the bolt, for which Jupiter banished Apollo from heaven. Then Apollo went to Thessaly, and served nine years as a shepherd. He aided Neptune to build the walls of Troy, and on King Laomedon refusing him his promised reward, he destroyed the inhabitants with a pestilence. Among his other names were Pythius, Phœbus, Cynthius, Lycius, Clarus, Ismenius, Volturius, Smintheus, etc. His oracles were at Delphi, Delos, Claros, Tenædoe, Cyrrha, and Patara. Augustus built a temple of Apollo on Mount Palatine, although he was not originally a Roman god.

Apollonia, a festival held at Ægælea, in honour of Apollo and Diana.

Applades, the name of a temple on the Apian road dedicated to Vesta, Venus, Minerva, Concord, and Peace.

Arachne, daughter of Idmon, dyer, and so expert with her needle that she challenged Minerva. Suffering defeat, she committed suicide, and was turned into a spider by the goddess Minerva.

Arctas, son of Jupiter and Callisto, who ruled over Pelagia, which was called Arcadia after him.

Arceolus, son of Jupiter and grandfather of Ulysses.

Archegetes, one of the titles of Apollo.

Arctonens, a title given to Apollo, because of his carrying the bow with which he killed the python.

Arctos, a mountain near Propontis, where giants and monsters dwelt.

Arestanus, the peasant whose goat suckled *Æsculapius*.

Arctia, daughter of Rhexenor and mother of Nausicaa.

Arcthusa, daughter of Oceanus, who was changed into a fountain by Diana to enable her to avoid Alpheus.

Aetna, son of Nestor and Anaxibia.

Arga, a huntress changed into a stag by Apollo.

Argentaum, a promontory of Ionia.

Argentanum, a town in Gallia Belgica.

Arges, son of Colus and Terra; had only one eye, in his forehead.

Argæus, son of King Perdiccas of Macedonia, succeeded on the deposition of Amyntas.

Argl. (See **Argos**.)

Argia, daughter of Adrastus, married Polynices, and was put to death by Creon for burying her husband against Creon's orders.

Argilas, founded Chalcedon.

Argiletum, a trading quarter at Rome.

Argilius revealed to the Ephron of Sparta the correspondence of Pausanias with the Persian king.

Argillus, a mountain of Egypt.

Argilus, a town built by a colony of Andrians in Macedonia, near the Strymon.

Arginussæ, three islets where Conon defeated the Spartan fleet, 405 B.C.

Argiphontes, a name given to Mercury after killing the hundred-eyed Argus.

Argo, the ship in which Jason and his fifty-four Argonauts sailed to Colchis to recover the golden fleece, and on its prow was a beam which pronounced oracles.

Argonautæ, the companions of Jason on the *Argo*. The expedition was to recover the golden fleece which was guarded by a sleepless dragon at Colchis. *Æetes* promised to deliver the fleece if Jason would perform certain seemingly impossible tasks, but by the aid of *Medea* he achieved them, and carried off the fleece. Among the Argonauts were *Hercules*, *Theseus*, *Æsculapius*, *Nestor* and *Orpheus*.

Argos, the capital of Argolis, built by seven Cyclopes. *Amyntemon* was King of Argos during the Trojan War.

Argus, possessed of a hundred eyes, of which only two slept at a time. Juno set him to watch Io, but Mercury slew him; afterwards his eyes were put on the tail of Juno's sacred peacock.

Ariadne, the daughter of *Minos* II. of Crete. Falling in love with *Theseus* she gave him a clue to extricate himself from the labyrinth where he was in danger of being destroyed by the *Minotaur*. *Theseus* slew the monster and married *Ariadne*, but deserted her later. *Bacchus* gave her a crown of seven stars, which was turned into a constellation.

Aricia, niece of *Ægeus*, married *Hippolytus* after he was raised from the dead by *Æsculapius*.

Arimaspiæ, a river of Scythia that ran with golden sands. The *Arimaspi* of the district had but one eye, in the middle of the forehead.

Aristæus, son of *Apollo* and *Cyrene*, born in *Libya*, reared by the Seasons, and fed on nectar and ambrosia. Married *Antiope* by whom he had *Actæon*. Later he pursued *Orpheus's* wife *Eurydice*, who died from being stung by a serpent. Afterwards atoned for it by the sacrifice of four bulls and four heifers, and regained prosperity. Was deified at his death.

Aristhenes, the shepherd who rescued *Æsculapius* when deserted by his mother.

Aristocrates, King of *Arctida*, killed by his subjects for offering violence to a priestess of *Diana*.

Arne, daughter of *Æolus*, wooed by *Neptune* in the form of a bull.

Artemis, the Greek name of *Diana*.

Avantius, a Roman made drunk by *Bacchus* for ridiculing his rites, and killed by his daughter *Medullina* for insulting her.

Ascalaphus, son of *Acheron*, being appointed by *Pluto* to watch *Proserpine* in the Elysian fields, testified that the goddess had eaten pomegranates. Jupiter ordered her to be six months of each year with *Pluto*, and the other with her mother. For this *Proserpine* changed *Ascalaphus* into an owl.

Ascolismæus, an Athenian winter festival of husbandmen in honour of *Bacchus*. A goat was slain, and they filled its skin with oil and wine, and whoever could leap upon it and stand steady, gained it as his prize.

Astarte, a Syrian goddess, corresponding to the Greek *Venus*.

Asteria was the daughter of *Cosus*, the Titan, married *Crius's* son *Pereus*, and bore the celebrated *Hecate*. Zeus paid court to her in the form of an eagle.

Astræa, daughter of *Astræus*, or, according to others, of *Titan*, was the goddess of Justice, and lived during the Golden Age. Disgusted with the wickedness of mortals, she returned to heaven, and was made the constellation *Virgo*, and is represented as holding a pair of scales in one hand, and a sword in the other.

Astræus, husband of *Aurora*, and one of the Titans. **Astyanax**, son of *Hector* and *Andromache*. His mother saved him from the flames of *Troy* but he was afterwards killed.

Astyochæ, daughter of *Actor*, was mother, by *Mars*, of *Ascalaphus* and *Ialmenus*.

Atabulus, the Apulian name for the south-east wind.

Atalanta, the daughter of King *Schoeneus*, was born in *Arcadia* and was very beautiful, but vowed never to marry. She had hosts of admirers and in order to free herself from them she proposed to run a race with them, she carrying a dart, while they carried nothing. The lovers started first and the conditions were that she was to kill all whom she overtook, but if one of them reached the goal before her she was to marry him. At last *Hippomenes* favoured by *Venus* had three golden apples from the garden of the *Hesperides* given him, and as he ran he threw them down one after another. *Atalanta* fascinated by them stopped to pick them up and thus *Hippomenes* won the race. *Atalanta* bore a son, *Parthenopæus*, to *Hippomenes*.

Atë, the goddess of evil, and daughter of *Zeus*, banished for sedition from heaven to earth.

Athamas, king of *Boeotia* *Orchomenos*, and son of *Æolus*. He married *Themisto*, who bore him *Phryxus* and *Helle*. Later he divorced her and married *Ino*, by whom he had *Learchus* and *Melicerta*. *Ino* was jealous of *Themisto's* children and wanted to kill them, and persuaded an oracle to predict that a pestilence then raging could only by their sacrifice be arrested. On being led to the altar they fled to *Colchis* through the air on a golden ram, and *Ino* despatched the fury *Tisiphone* to torture *Athamas* to madness. In this condition he imagined *Ino* to be a lioness, and her sons whelps, whereon *Ino* threw herself into the sea, and was changed into a sea-deity.

Athens, the Greek goddess corresponding to the Roman *Minerva*.

Atlantides, a name given to the descendants of *Atlas*, including *Mercury* and *Hermæpandrus*.

Atlantides, the seven daughters of *Atlas*—*Maia*, *Electra*, *Taygeta*, *Asteropæ*, *Merope*, *Aëcyone*, and *Clæneo*. Called *Hesperides*, after their mother *Hesperis*, and at death changed into *Pleiades*.

Atlas, the son of *Japetus* and the Oceanian *Clymene*, and married *Hesperis*, who bore him the seven *Atlantides*. After vanquishing the *Gorgons*, *Perseus* sought refuge with *Atlas* who refused; whereon *Perseus* produced *Medusa's* head, and changed him into the *Atlas* mountain, which is so lofty as to have given rise to the notion that *Atlas* carried the world on his shoulders. There are other versions.

Atræus, son of *Pelops* by *Hippodamia*, was king of *Mycenæ*. Suspected of the murder of *Chrysippus*, he fled to *Argos* and succeeded *Eurystheus* as king, marrying his daughter, who bore him *Plisthenes*, *Agamemnon*, and *Menelaus*.

Atrides, any descendant of *Atræus*, but especially *Agamemnon* or *Menelaus*.

Atropatia, the N.W. part of *Media*.

Atropos who cut the thread of life, was one of the *Parce* daughters of *Nox* and *Erëbis*.

Attes, son of *Calæus*, made the worship of *Cybele* popular in *Lydia*. *Junô* had him killed by a wild boar.

Augeæ, a town of *Laconia*.

Aulis, son of *Eleus*, an Argonaut, and afterwards king of *Elis*. He had enormous stables which had never been cleaned, and *Hercules* was set to clean

them as one of his great tasks for which he was to receive a tent of the herds of Augeas. Hercules diverted the waters of the Alpheus into the stables, but Augeas regarding this as a trick refused the reward. Hercules then conquered Elis, killed Augeas, and gave the crown to his son Phylax.

Aulis, the harbour of Euboea, where the Greek expedition against Troy was detained by tempests. Agamemnon was about to offer up his daughter, Iphigenia, to Diana, but the goddess substituted a ram.

Aurora, daughter of Hyperion and Thia, was married to Astræus by whom she had the winds and stars. She went with Orion to Delos where he was killed by Diana's arrows. Aurora is depicted as a veiled figure in a rose-coloured chariot drawn by white horses opening the gates of day.

Auster, a south-west wind that brought rain and fog in winter, and a dry wind in summer.

Auligeus, son of Mercury, was an Argoonaut. He was a robber of flocks whose marks he changed, but Sinypus, son of Aiolus, got the better of him by putting his marks under the feet of his oxen.

Automedon, son of Dioneus, was charioteer to Achilles, an afterwards to Pyrrhus.

Avernus, a lake between Cumæ and Puteoli, the waters of which were so fatal that no birds could live near it. It was one of the entrances to Tartarus.

B

Bacchanalia were Roman festivals in honour of Bacchus and were marked by wild revelry.

Bacchantes, priestesses of Bacchus who danced and threw themselves about in barbaric abandonment at the Bacchanalian orgies.

Bacchus, the god of wine, son of Jupiter and Semele, the daughter of Cadmus. Juno was jealous of Semele and compassed her death before Bacchus was born, but the child was saved by Jupiter's protection, and nursed by Ino. While sojourning with the nymphs of Nysa he made wine from the grape, and afterwards made expeditions to many lands to teach the use of the vine, the tilling of the earth, and the art of collecting honey, and was raised to the rank of a divinity. He is generally represented crowned with vine and ivy-leaves. Bacchus married Ariadne after she was deserted by Theseus at Naxos.

Bacchis, an old Phrygian woman who lived with her husband, Philemon, in a hut and was visited by Jupiter and Mercury in disguise, and as a reward for the hospitality extended to them Jupiter transformed the cottage into a splendid temple. The couple lived to a ripe old age and at death were changed into trees before the temple's doors.

Bellerophon, son of Glaucus, King of Ephrya, and named Bellerophon after slaying Bellerus. After many other adventures, he set out to subdue the Chimæra, and, aided by Minerva, achieved his task, afterwards marrying Cassandra. Attempting to fly to heaven on the back of Pegasus, Jupiter sent a gadfly to sting the horse, which threw Bellerophon to earth, and he wandered about blind for the rest of his life.

Bellona, the goddess of war, daughter of Phorcys and Ceto, and companion or sister of Mars. The temple to Bellona on the Campus Martius was built 290 B.C. by Appianus Claudius Cæcus. At Comana she had about 5,000 priests, Hellonari, who inflicted wounds on themselves when offering sacrifices.

Bergion and Albion, two giants, sons of Neptune, were killed with stones from heaven when opposing Hercules crossing the Rhodæ.

Bergistani, a people on the east of Illyria.

Bermius, a mountain of Macedonia.

Beros, the nurse of Semele, whose shape Juno assumed in approaching Semele.

Biston, son of Mars and Callirhoe and founder of Bistonia in Thrace.

Bomoloch, youths who were whipped at the altar of Diana Orthia during her festivals, the one who cried out the least being awarded a prize.

Bona Dea, the Roman goddess of chastity, who was sister, wife or daughter of Faunus. The Vestals celebrated her festival on 1st May, when no male was permitted to be present.

Boreas, the personification of the north-east wind. Boreas is said to have been the son of Astræus and Aurora, and carried away Orithyia to Mount Hæmus in Thrace. He was worshipped as a deity, and is said to have possessed twelve mares of such fleetness that they could cross the sea without wetting their feet.

Branchus, son of Sminicus of Miletus, and loved by Apollo, who gave him power of prophecy, and he delivered oracles at Didyme.

Briareus, a colossal giant with a hundred hands and fifty heads, son of Cœlus and Terra. He climbed Olympus to join the conspiracy for the overthrow of Jupiter, for which he was cast beneath Mount Ætna.

Briséis, a beautiful woman who was part of the spoils appropriated by Achilles on the conquest of Lyrnessus. Later Agamemnon claimed her, causing Achilles to withdraw from the Trojan War. After the death of Patroclus she was given back to Achilles.

Busris, king of Egypt and son of Neptune and Libya. When Hercules was in Egypt Busris had him bound hand and foot and carried to the altar; but Hercules freed himself and slew both Busris and his courtiers.

C

Caballinus Fons, the Hippocrene fountain on Mount Helicon dedicated to the Muses, the water being made to gush from the ground by a blow from the hoof of Pegasus.

Caburan, a chief of the Helvi.

Cacus, the giant, was a son of Vulcan and Medusa, and lived on Mount Aventine. He stole some of the herds of Hercules and dragged them; by the tails to his cave. Hercules heard them low, however, when passing, and attacked and strangled Cacus, afterwards erecting on the spot an altar to Jupiter Servator.

Cadmus, son of Agenor, King of Phœnicia, who, while searching for his sister who had been carried off by Jupiter, came to Thrace, and at the command of the Delphic oracle, founded a city where a certain heifer was seen to sink in the grass. This city was Thebes. Cadmus married Hermione, daughter of Venus. Juno persecuted his children, who were changed into serpents.

Caduceus, the magic wand of Mercury with which he conducted the souls of the dead across the Styx and could raise the dead to life.

Cæneus, a maiden changed into a man by Neptune, and took part in the Argive expedition and Calydonian hunt. Was later transformed into a bird, but in Elysium once more became a maiden.

Calchas, the Greek soothsayer and high priest. Was chosen to go with the Greeks against Troy, but declared that the fleet could not sail until Iphigenia was sacrificed; that the plague could not be stopped till Chryseis was restored to her father; and that Troy could not be taken without Achilles' aid, nor without a ten years' siege.

Calliope, the Muse of poetry, and daughter of Jupiter and Mnemosyne. She was sister to Orpheus by Apollo.

Callirhoe, daughter of Scamander, married Tros, and became the mother of Ganymede and Assaracus. Coreus fell in love with her, but she scorned him. This angered Bacchus, whose priest Coreus was and the god sent a pestilence, whereupon the oracle demanded that Callirhoe should be sacrificed. Coreus, compelled to lead the nymph to the altar, stabbed himself. Callirhoe fled to Attica, and on the brink of a fountain there, killed herself.

Callisto, an attendant of Diana, and a daughter of King Lycaon, of Arcadia. She bore a son to Jupiter, Arcas, and Juno changed her into a bear.

Calysse, daughter of Æolus, and mother of Endymion. Calysse, a city of Attolia devastated by a bonè sent by Diana in revenge for the neglect of her divinity.

This gave rise to the famous hunt of the Calydonian Boar, in which many noted princes took part. Meleager succeeded in slaying the animal, and presented its head to Atalanta.

Calyppo, the goddess of silence, was queen of Cygia. She offered Ulysses hospitality on his being shipwrecked, then entreated him to make her his wife, and on his refusal detained him seven years.

Capaneus, one of the Seven against Thebes, son of Hipponous and Astinome, and husband of Evadne. Having vowed to take Thebes in spite of Jupiter, the god killed him with a stroke of lightning, and on hearing the news Evadne committed suicide.

Carna, a Roman goddess, protectress of the human body and the exterior of houses. Offerings of vegetables were made to her.

Cassandra, daughter of Priam and Hecuba, and beloved by Apollo, who granted her the gift of prophecy, but afterwards withdrew it. After the fall of Troy she became the captive of Agamemnon who took her to Mycenæ, where Clytemnestra put her to death.

Cassiopea, mother of Andromeda. As she boasted of being fairer than the Nereides, Neptune sent a sea monster to ravage Æthiopia, and to appease him Andromeda was exposed on a rock, but delivered by Perseus; and Cassiopea was made a southern constellation of thirteen stars.

Castalia, a Parnassian fount whose waters inspired those who drank of them with the poetic spirit.

Castor and Pollux, twin sons of Jupiter by Leda. They were members of the Argonaut expedition and showed great valour. Pollux afterwards became the god of boxing and wrestling, and Castor performed great achievements with horses. Castor and Pollux cleared the Hellespont, and were proclaimed the patron of navigation. They contended with Theseus for Helena, but Castor was killed by Idas, and Pollux appealed to Jupiter to restore Castor, and the god granted them conjoint immortality, so that when one was on earth, the other was in the world below.

Celano, daughter of Atlas, and beloved by Neptune.

Centauri, a race half horses and half men, who inhabited the Mount Pelion region. Led by Chiron, one of their number, they engaged in many savage contests, but in the end the greater part of them were killed by Hercules, and the rest driven to Mount Pindus.

Cerberus, the many-headed dog which kept watch over the many-headed gates of Hades. It was one of the "labours" of Hercules to bring Cerberus to earth, and his hardest task.

Ceres, in the Roman mythology, called Demeter by the Greeks, was the goddess of the earth's produce, especially of corn. The festivals to Ceres, Cerialia, were among the most elaborate displays that the Romans gave, consisting of a grand show of games in the Circus Maximus.

Chaos, the unfathomable void from which the world and its first occupants, gods, men, and all things of the earth, were gradually shaped.

Charon, son of Erebus, whose duty it was to ferry the souls of the dead over the waters of the Styx and Acheron, to the infernal regions, receiving an *obolus* for each ferrying; hence the old Roman custom of putting an *obolus* into the mouth of a corpse before interment.

Charybdis. (See Scylla and Charybdis.)

Chiron, the most famous of the Centaurs, killed by an arrow from the bow of Hercules.

Circe, daughter of the Sun (Helois), and Perseis, gained fame as a sorceress, and after putting to death the Prince of Colchis, her husband, was banished to the Island of Ææa. It was to this island that Ulysses and his companions were also exiled, and, drinking of Circe's magic cup they were turned into swine, Ulysses himself being saved by partaking of a herb that made the magic potion powerless. Circe was then forced to give his companions back their former shape. Circe, a water-snymph with whom Apollo fell in love, but because of her revengeful conduct towards Leucothea who had deserted her, Apollo transformed

her into a sunflower, so that it might always be turned towards him in his daily journey across the heavens.

Comus, the god of revelry and feasting. As treated by Milton in his famous poem he is the son of Bacchus and Circe. As represented in ancient times, he is a winged youth overcome by drinking.

Cornucopia, the horn of plenty, and the symbol of abundance, was supposed to have its origin as the gift of Jupiter to Amalthea, in return for her having fed him while young with goat's milk. The horn was to yield her in plenty everything that she desired.

Cupid, god of love, by the Greeks called Eros. He was the son of Venus, by Jupiter (or, as some represent, Mercury), and was generally pictured as a fair youth with wings, carrying bow and arrows, with which he fired his love shots. Cupid fell in love with Psyche, but concealed his identity from her until an accident discovered him to her. They were ultimately united in an immortal existence.

Curetes, Cretan priests of Jupiter, to whom Rhea gave the charge of the infant Jupiter (Zeus), and they concealed him from Kronos, his father, by crashing their shields and cymbals together whenever he approached, so that the cries of the child could not be heard.

Cyclopes, a race of Sicilian shepherds of gigantic stature, with only one eye, in the middle of the forehead, who lived on human beings. Polyphemus, the son of Neptune, was their chief. They lived in the region of Mount Ætna, and assisted Vulcan at his forges. The legend has other versions.

D

Dactyls were ten priests of Cybele who inhabited Mount Ida, where they are said to have discovered iron, and introduced the art of manipulating the metal by smelting.

Danae, who was visited by Jupiter (Zeus) in a shower of gold, was the mother of Perseus, Jupiter being the father. Before the birth of Perseus, an oracle predicted that the son that would be born would kill his grandfather, Acrisius, king of Argos, and father of Danae. To avoid that calamity the mother was immured in a brazen tower, and after the birth of Perseus, she and the child were put in a chest and thrown into the sea, but drifted to the shore of Seriphus and were saved. The oracle's prediction was afterwards fulfilled, Acrisius being accidentally slain by Perseus.

Danaus, son of Belus, king of Tyre, and twin brother of Ægyptus. Ægyptus had fifty sons, Danaus had fifty daughters, and Danaus, to escape his brother and his sons, fled with his daughters to Argos and became king. Hearing of this the sons of Ægyptus betook themselves to Argos, and demanded their uncle's daughters for wives. Their aims were frustrated, however, by each wife killing her husband on the wedding night, with a dagger provided by their father. One only escaped, Lynceus, who killed Danaus. Another version says that the uncle and nephew were reconciled, and reigned together for many years.

Dardanus, son of Jupiter (Zeus) and Electra, was the founder of Troy and ancestor of the Trojans. It is his name that is commemorated in the Dardanelles.

Delos, the smallest of the islands of the Cyclades, supposed to have been raised from the bottom of the sea by Neptune, and became the birthplace of Apollo.

Delphi, in ancient Greece, was the seat of the temple and oracles of Apollo, and the wealthiest of all contemporary shrines. It possessed over 3,000 statues, and was plundered by Nero and other emperors for the enrichment of Rome.

Deucalion, a son of Prometheus, and his wife Pyrrha, were the only persons saved when Jupiter (Zeus) destroyed Hellas by a deluge. To effect the re-peopleing of the earth, they were ordered to throw behind them the bones of their mother, and picking

up some stones from "mother earth," they flung them from them, and the stones cast by Deucalion were transformed into men, and Pyrrha's stones into women.

Diana, (called Artemis by the Greeks), the goddess of hunting, and twin sister of Apollo. She was also the goddess of light.

Diomedes, king of Argos, and one of the champions of the Grecian army in the Trojan War. He overcame Ajax in single combat, and is one of the most prominent fighting figures of the Iliad.

Dragon of the Hesperides, which kept guard over the golden apples of the famous garden, had a hundred heads and as many different voices. It was one of the "labours" of Hercules to procure some of the golden apples, and by slaying the dragon he accomplished the feat.

Dryades, the nymphs of the trees, were supposed to have their birth with and die with the trees, over which they were the divinities.

E

Echo, a sportful nymph, who diverted the attention of Juno (Hera) while Jupiter (Zeus) made love to other nymphs. When Juno discovered the deception, she transformed the deceiver into an Echo, depriving her of the power of speaking except when spoken to. Subsequently Echo pined away for the love of Narcissus, until only her answering voice remained to perpetuate her name.

Electra, daughter of Agamemnon, seeing the danger that her brother Orestes was in after the murder of her father by her mother Clytemnestra, had him sent away to Phocis, where he was protected by King Strophilus. In revenge for this, Clytemnestra compelled Electra to marry a peasant, but the peasant never sought to be more than husband in name, so that when later Orestes returned, Clytemnestra was put to death, and Electra became the wife of her brother's friend, Pyrrhus.

Elysium, the abode of "the shades of the blessed," situated in some undefined part of the lower world.

Erato, the muse of lyric and amatory poetry. She is usually depicted crowned with roses and myrtle, and holding in her hand a lyre.

Erebus, the son of Chaos, and one of the deities of Hades. This name is also used as a synonym for darkness, referring especially to the region through which departed souls pass to the Inferno.

Eteocles, a son of Œdipus, king of Thebes. After his father's death, he and his brother Polyneices agreed to reign in alternate years, Eteocles, as the elder, taking the first turn. At the end of his year he refused to relinquish the crown to Polyneices, and Adrastus, king of Argos, was appealed to. Adrastus, whose daughter had become the wife of Polyneices, sent an army and seven of his bravest generals (the Seven against Thebes) to his son-in-law's aid, and a severe conflict ensued. In the end the two brothers agreed to settle their differences by single combat, and both were slain.

Euphrosyne, one of the three graces, Aglaia and Thalia being the other two.

Europa, daughter of Phœnix and beloved of Jupiter (Zeus), who assumed the shape of a white bull and carried her off to Crete, where she became the mother of Minos, Sarpëdon, and Rhadamanthus. Later she married Asterus, king of Crete, who adopted Europa's children by Jupiter.

Eurydice. (See *Orpheus*.)

Eurytheus. (See *Hercules*.)

Euterpe, the muse who presided over music, and was regarded as the inventress of the flute, the instrument which she is usually represented as holding in her hands.

F

Flora, the goddess of flowers (the Chloris of the Greeks). The feasts in her honour were of the most lavish description lasting from April 28th to May 1st.

Furies (the Eumenides of the Greeks) represented as three in number, Tisiphone, Megara, and Alecto, whose work was to carry out the vengeance of the gods upon countries, people and individuals. They are depicted as winged females of threatening aspect, with serpents hanging from their hair and blood dropping from their eyes.

G

Galatea. (See *Acis*.)

Ganymede, Jupiter's cup-bearer, a mortal youth of such grace and beauty that the god had him carried off to Olympus on the back of an eagle.

Ganymede, the special divinity allotted to a particular place or building.

Glaucus, the Boeotian fisherman, who was made a sea deity by Oceanus, and carried off Anaxidice from Naxos. Apollo granted him the gift of prophecy.

Golden Fleece (The) forms one of the most entrancing of the legends of mythology. The fleece was that of the ram Chrysomalus and was deposited on a tree at Colchis, being guarded by a terrible dragon. Jason undertook the task of recovering the fleece (See *Argonauts*), the *Argo* was fitted out and among the heroes taking part in the expedition were Hercules, ... many exciting adventures the fleece was recovered and Jason was duly rewarded.

Graces (Greek Charites) were three in number, Euphrosyne, Aglaia, and Thalia, and represented the perfection of grace and beauty of body and mind. They were daughters of Jupiter (Zeus) and are usually shown as attendants on Venus (Aphrodite).

H

Hades or Pluto, was the god of Inferno, son of Saturn (Cronos), brother of Jupiter (Zeus) and Neptune (Poseidon), and had for wife Proserpine (Persephone). In classical depictions the god is represented seated on a throne, Cerberus lying at his feet. Hades is also the name given to the internal regions, rendered *sheol* in the Hebrew.

Habe, cup-bearer to Jupiter (Zeus) and the gods, and daughter of Jupiter and Juno (Hera). She is represented as the goddess of youth, and by the Romans was named Juventas.

Hecate, often represented with three heads, was supposed to preside over magic and enchantments, and her dominion extended over hell, heaven, earth, and sea. In heaven she was Luna, on earth Luna and in Hades Proserpine or Hecate. She was the daughter of Jupiter and Latona. It was the custom to propitiate her by sacrifices of dogs, lambs, and honey.

Hector, son of King Priam and Hecuba, and husband of Andromache, was captain of the Trojan forces, and the most valiant of them all. After repeated victories over Grecian leaders, he was at last slain by Achilles, and his body was borne in triumph three times round the walls of Troy. Jupiter (Zeus) interposed and ordered the body to be given up to Priam, after which the warrior was buried with great pomp and solemnity.

Hecuba, wife of Priam was a dignified and much enduring mother, whose lot it was to see her husband and her favourite sons killed by the enemy. After the fall of Troy she fell to the lot of Ulysses and accompanied the conquerors on the voyage back to Greece, but while halted in the Thracian Chersonesus, after trying to avenge the murder of her son, Polydorus, she cast herself into the sea at Cyneum.

Helena, daughter of Jupiter (Zeus), and Leda, famed for her beauty. Among her suitors were the most celebrated princes of the age, but she ultimately became the wife of Menelaus, king of Lacedæmon. After three years of happiness, Paris, son of Priam, king of Troy, came on a visit to the court of Menelaus, and persuaded Helena to follow him to Troy. To avenge this outrage the Trojan

War was begun. When Paris was killed, in the ninth year of the war, she married Deiphobus, but afterwards betrayed him in order to regain the favour of Menelaus, which she succeeded in doing, and remained with him until his death.

Helle, daughter of Athamas and Nephele, and sister to Phryxus. Nephele escaped with her two children, when the sacrifice of Phryxus was demanded, the three being carried away upon the back of the ram with the golden fleece, but crossing the sea between the Chersonesus and the Sigeum, Helle fell into the sea, which now bears her name, the Hellespont.

Heracleidae, the name given to the descendants of Hercules, who were said to have led the Dorians in the invasion of Peloponnesus, which resulted in the three Heracleidae obtaining kingdoms, Argos falling to Temenus, Messenia to Cresphontes, and Lacedaemon to the two sons of Aristodemus, who died before the conquest was completed.

Hercules (Greek, Heracles), son of Jupiter (Zeus) and Alcmena, is the personification of physical strength, and the most wonderful stories are related of his exploits. Even while in his cradle he strangled two serpents which Juno (Hera) had sent to destroy him. At eighteen he killed the lion of Mount Cithaeron. Afterwards, having been rendered mad by Juno, he killed his own children and those of his brother, and on recovering was so plunged in grief that he exiled himself and went to consult the oracle of Apollo at Delphi. He was commanded to serve Eurystheus for twelve years, during which period he was to perform twelve "labours." The gods equipped him for his tasks and he carried them through successfully. The first was to kill the lion of Nemea, which he choked to death; the second was to destroy the seven-headed Lernaean hydra, which he killed with his club of brass, the gift of Vulcan; the third was to capture the Arcadian stag, which he caught in a trap; the fourth to destroy the wild boar of Erymanthus; the fifth, to clean Augean stables; sixth, to kill the carnivorous birds of Stymphalia; seventh, to capture the wild bull of Crete; eighth, to capture the mares of Diomedes; ninth, to obtain the girdle of the Queen of the Amazons; tenth, to slay the monster Goryon, eleventh, to obtain some golden apples from the garden of the Hesperides; and twelfth, to bring to earth Cerberus, the three-headed dog of Hades. He was now free from service to Eurystheus and returned to Thebes. He continued to achieve wonderful feats, and died at last from the poison of -- of his own arrows, was carried to Olympus and endowed with immortality.

Hermes, son of Jupiter (Zeus) and Maia, and the patron of arts and inventions. He is said to have been the inventor of astronomy, gymnastics, the alphabet, the lyre, and other important things. As the herald of the gods, he was entrusted with the guidance of the shades of the dead to the under world, and was called the god of roads, the Greeks erecting statues to him on the waysides.

Hero and Leander. (See *Leander*.)

Hesperides, the three daughters of Atlas and Hesperia, appointed to protect the golden apples which Juno (Hera) gave to Jupiter (Zeus) on the day of their nuptials. The hundred-headed dragon, Ladon, was always on guard at the foot of the tree, but was slain by Hercules when he made his successful attempt to regain possession of the apples.

Hippocrene, a fountain at the foot of Mount Helicon, originally set flowing by the ground being struck by the hoofs of Pegasus, the winged horse. This fountain was dedicated to the Muses and regarded as the source of poetic inspiration.

Hydra, a monster of seven or more heads, each of which grew again when cut off, whose ravages in the marshes of Lerna kept the country in terror. It was one of the twelve "labours" of Hercules to destroy this Hydra.

Hygieia, the goddess of health, said to be the daughter of Asclepius, and held in great veneration among the ancients. Some authors confound her with Minerva. She is usually depicted holding a serpent in one hand and a cup in the other.

Hymen, the god of marriage, was one of the Muses and the son of Apollo. He is generally represented as crowned with flowers, and holding a bridal torch in one hand and a purple vestment in the other. Hymen's good offices were always invoked by the Greeks at their marriages.

Hyperion, one of the Titans, was father by Thea of the Sun (Helios), the Moon (Selene), and the Dawn (Eos). His father was Heaven (Uranus), his mother Earth (Ge).

I

Iphigenia, daughter of Agamemnon and Clytemnestra. At the outbreak of the Trojan War it was proclaimed by the priest of Apollo that the wrath of the gods, aroused by the killing of the sacred stag by Agamemnon, could not be appeased except by the sacrifice of Iphigenia, and contrary winds detained the fleets until this was performed. Just as the knife of the priest was uplifted, Artemis carried off Iphigenia to Taurus, and a goat that appeared in her place was unharmed instead of her. The Greeks then proceeded against Troy. Iphigenia became a priestess, and was afterwards the instrument in saving the life of her brother Orestes when he was about to be sacrificed.

Iris, daughter of Thaumas and Electra, was one of the Oceanides and messenger of the gods. Her office was to cut the thread of life as the body was expiring. She was the goddess of the rainbow, and is represented as a winged figure with a herald's staff and pitcher.

Isla, daughter of Saturn and Rhea, and one of the chief divinities of the ancient Egyptians.

Ixion, King of Thessaly, and husband of Dia, to whose father Deioneus, he promised a valuable gift, but being unable to obtain the gift, he put his father-in-law to death to get out of his promise. Jupiter (Zeus), after a long period of expiation, summoned him to Olympus and placed him at the table of the gods. Afterwards Ixion began to make love to Juno, but Jupiter substituted a cloud of the shape of the goddess, and from this the Centaurs were born. Then as a punishment Ixion was condemned to be bound to a fiery wheel that never ceased to roll through Hades.

J

Janus, son of Apollo, was supposed to have two faces, symbolising the sun and the moon respectively. He presided over gates and avenues, and is represented with a key in one hand and a rod in the other. The first month of the year was named after him, as also one of the seven hills of Rome.

Jason. (See *Argonauta*.)

Juno (Greek Hera), wife of Jupiter (Zeus), and queen of heaven. Some authors represent her as the daughter of Saturn and Rhea. She was an exacting and jealous wife, and avenged herself with severity upon those of whom Jupiter became enamoured as well as upon their offspring. She was the mother of Mars, Hebe, Lucina, and Vulcan. She aided the Greeks in the Trojan War. The worship of Juno in Rome dates from an early period, and the Kalends were dedicated to her.

Jupiter (Greek Zeus), son of Saturn and Ops, was the lord of heaven and presumed father of gods and men. He was educated in a cave on Mount Ida, and while a child made war against and conquered the Titans. Thus he became master of the world, and after giving the empire of the sea to Neptune, and that of the infernal regions to Pluto, installed himself king of heaven. The story of his adventures and amours occupies a chief part of the mythological legends, and are referred to under the distinctive names of the personages or places concerned. He is usually depicted seated on a throne, with thunderbolts in one hand ready to be hurled against his enemies, and a sceptre of cypress in the other, and wearing a wreath of olive or myrtle. The temples to Jupiter were numerous, and at Rome the worship of the god was under the charge of the chief of the flames.

L

Laocoon was the priest of Apollo, and son of Priam, and for the part he took in opposing the entrance into Troy of the wooden horse of the Greeks, Minerva caused two gigantic serpents to issue from the sea and engage Laocoon's two sons in their coils. The father rushed to the rescue of his sons, and the next moment all three were in the grasp of the serpents, and were crushed to death. One of the finest pieces of sculpture of ancient Rome represents this dramatic scene. It is at the Vatican.

Læander, a youth of Abydos, who fell in love with Hero, a priestess of Venus at Sestos, by whom his passion was returned. They met clandestinely, Læander swimming over the Hellespont nightly, guided by a lamp which Hero hung out on the top of a tower. The light being blown out one wild night Læander lost his way and was drowned, on discovering which Hero threw herself into the sea.

Leda, wife of Tyndarus, king of Sparta. Jupiter discovered her bathing, and became enamoured of her, assuming the shape of a swan so as not to alarm her. Leda afterwards brought forth two eggs, from one of which sprang Helen, and from the other Castor and Pollux.

Loki, the god of evil of the Scandinavian mythology.

M

Mars (Greek Ares), the god of war, and one of the three tutelary deities of Rome, was a son of Jupiter and Juno. His love for Venus led to many adventures, and gained him the enmity of Apollo and Vulcan, and in the wars of Jupiter and the Titans he was seized and imprisoned until Mercury interceded for him. In the Trojan War he espoused the cause of the besieged. The Romans believed him to be the father of Romulus.

Meleager, son of Cleus, king of Aetolia, and Althea, was one of the heroes of the expedition of the Argonauts, and subsequently led the chase after the Calydonian boar. It had been decreed by the Fates after his birth that he should live as long as a certain firebrand, which on the fire should not be burned up, and his mother scratched the brand from the fire and thereafter jealously guarded it. When Althea heard of Meleager's slaying of the boar she went to the temple of the gods to return thanks, but on the way she saw the bodies of her brothers, whom Meleager had slain because they protested against the skin being given to Atalanta. This so incensed Althea that she went home and cast the fatal firebrand on the fire, and when it was consumed Meleager died.

Melpomene, the Muse of tragedy, was a daughter of Jupiter and Mnemosyne. She was generally represented wearing a mask, with a tragic mask in her hand and sometimes a dagger.

Memnon, son of Tithonus and Aurora, led a force of 10,000 of his own men in aid of his uncle King Priam in the Trojan War. He was slain by Achilles after a long and terrible encounter. The famous statue of Memnon at Thebes is now declared to be that of an ancient Egyptian king, and not of Memnon.

Meneleus, king of Sparta and brother of Agamemnon, was the husband of Helen, and after she left him and followed Paris to Troy, he entered upon the Trojan War, in which he bore himself with great bravery. After the war he forgave Helen and took her back, but they did not reach Sparta until eight years later.

Mentor, the friend of Ulysses, who, during the latter's absence at the Trojan War, saw to the training and education of Ulysses's son Telemachus, a task of which he acquitted himself so well that the term Mentor has become proverbial for that of a wise guide.

Mercury (Greek Hermes), son of Jupiter and Maia, was Jupiter's messenger, and patron of travellers, shepherds, traders, and robbers, and god of merchandise. Many of his exploits turn upon

thievery or mischief, and he is credited with having robbed Neptune of his trident, Venus of her girdle, Mars of his sword, and Jupiter of his sceptre. He wore a winged cap and had wings to his feet, and could transport himself from place to place with the speed of the wind. He was the father of Pan, Hermaphroditus, Autolykus, and many others.

There was a famous temple of Mercury at Rome. **Midæa**, king of Phrygia, who having done Bacchus some service was permitted to choose whatever reward he pleased. So he asked that whatever he touched might be turned into gold, and his prayer was granted. The gift was a fatal one. The things he ate, the clothes he wore, the water he washed in, the very sands on which he stepped after bathing, turned into gold, and there was soon such a plethora of it that he had no comfort in life. For giving the opinion that Pan made better music than Apollo he was given ass's ears. His death came about from drinking hot bull's blood.

Minerva, the goddess of wisdom, war, and the liberal arts (Greek, Athena, also Pallas), was the daughter of Jupiter and Metis, and sprang direct from her father's brain. She is represented as being impervious to the passion of love and a virgin of divinity. Many temples were erected to her in Greece and Rome. She is depicted as wearing a helmet, and carrying a shield.

Minos was king of Crete and took for his wife Pasiphae, who bore him several children. (See **Minotaur**).

Minotaur was half bull, half man, and was the unnatural offspring of Pasiphae and a bull. This came about by Minos's refusal to sacrifice a white bull to Neptune, whereupon the latter caused Pasiphae to become enamoured of a beautiful bull. The Minotaur was confined in a labyrinth by Minos, and every year the monster devoured seven youths and seven maidens, which the king compelled the Athenians to yield up to him. Ultimately the Minotaur was slain by Theseus, and Minos was subsequently put to death by Clearchus, King of Sicily.

Mnemosyne, the goddess of memory and mother of the Muses. She was wooed by Jupiter in the form of a shepherd.

Morpheus, son of Somnus, was the god of sleep and dreams. He is generally represented as a chubby, winged child, holding poppies in his hand.

Nyx, one of the eternal deities, the offspring of Night.

N

Narcissus, a beautiful youth, son of the river god Cephissus. The nymph Echo (see **Echo**) fell in love with him, but he did not return her passion. To avenge this offence, Venus caused him to become enamoured of his own reflection in the waters of a fountain. Unable to possess himself of this shadow, he at last killed himself.

Nemesia, daughter of Nox and goddess of vengeance. She is sometimes represented with a helm and a wheel, and sometimes in a chariot pulled by griffins.

Neptune (Greek Poseidon) was the son of Saturn and Ops, and brother of Jupiter and Pluto. To him was given the kingdom of the sea, but he did not regard this as equal to the empire of heaven and earth, and he conspired with other gods to dethrone Jupiter. For this he was punished, but afterwards accepted his portion peacefully. He made love to Amphitrite as a dolphin, and assumed other shapes for other like deceptions. He is usually represented with a trident in his hand being drawn across the sea in a chariot by brazen-hoofed horses, attended by tritons and nymphs.

Nereus, a sea deity, son of Oceanus and Terra, and husband of Doris, by whom he had fifty daughters called the Nereides. His abode was the Aegean Sea, where he was surrounded by his daughters, who often sported and sang around him. He was gifted with prophecy, and foretold to Paris the consequences of his elopement with Helen.

Nestor, King of Pylos, and grandson of Neptune.

When Hercules slew Nestor's father and eleven brothers, Nestor was saved because his tender age detained him at home. He joined the Greeks in the Trojan War, although an old man, and did more good service by wise counsel than many of the heroes by force of arms. Agamemnon declared that if he had had ten generals like Nestor Troy would soon have been reduced to ashes.

Nicestaria, a festival at Athens in memory of Minerva's victory over Neptune in their dispute about naming the capital of the country.

Niopsus, a tyrant of Cos, one of whose sheep is said to have brought forth a lion, which was regarded as portending future greatness and sovereignty to Cos.

Niobe, daughter of Tantalus, King of Lydia, and wife of Amphion, King of Thebes, by whom, according to Hesiod, she had ten sons and ten daughters. Intense pride of her offspring caused her to sneer at Leto, who had only two children, Apollo and Diana, and, to avenge this insult, all her daughters, except Chloris, were destroyed by Diana, while Niobe herself was transformed by Jupiter into stone, which in summer sheds incessant tears.

Nireus, a King of Naxos, son of Chloropus and Algaia, much celebrated for his beauty of person. He was one of the Grecian chiefs during the Trojan War.

Nisus, a son of Hyrtacus, born on Mount Ida. He accompanied Aeneas to Italy, and showed great bravery against the Rutulians. In endeavouring to rescue his friend Euryalus from the enemy he was himself slain as well as Euryalus. Their friendship became proverbial.

Noctiluca, a surname of Diana. She had a temple on Mount Palatine, Rome, where it was customary to show lighted torches by night.

Nocturnus, one of the gods of night, and supposed to be identical with Vesper or Nox.

Notus, the south wind, also called Auster. Ovid described Notus as having wet wings, with a forehead covered with dark clouds, and the beard heavy and swollen with mists.

Numa Pompilius succeeded Romulus as king of Rome, and reigned wisely and peacefully for thirty-nine years.

Numenia, or **Noemania**, a festival observed by the Greeks at the beginning of every lunar month, in honour of all the gods, but especially of Apollo, or the sun.

Nymphs, female deities of two classes, of the land, and of the sea, and supposed to live for thousands of years.

O

Onus, a son of the Tiber and of Manto, who assisted Aeneas against Turnus.

Oedipus, son of Laius, King of Thebes, and Jocasta. It was predicted before Oedipus was born that Laius would perish by the hands of his son, so as soon as the boy was born he was ordered to be destroyed, but Jocasta gave the child to a servant who carried him to a mountain and left him there. He was discovered by a shepherd and educated as his own child. When grown to manhood he had an accidental meeting with Laius. The latter was driving along in his chariot, and the son, being narrow the King ordered Oedipus to make way for him. Oedipus refused and in the encounter that ensued Laius was slain by his son, as the oracle had predicted. Proceeding to Thebes, Oedipus found the population in the power of the Sphinx sent by Juno to lay waste the country, everyone who failed to answer the riddle the Sphinx propounded being destined to death. The kingdom and the hand of the Queen were offered to whomsoever would answer the riddle and free the people from the monster. Oedipus solved the riddle, the Sphinx killed itself out of mortification, Oedipus became king and married his own mother. Later, Thebes

was overrun by the plague and the oracle announced that the epidemic would not stop until the murder of Laius was discovered. In the end, Oedipus was made aware of his true position and identity, and the revelation caused Jocasta to hang herself, and Oedipus to tear his eyes out. Afterwards he wandered forth with his daughter Antigone and died at Colonus.

Oenomaus, a son of Mars by Sterope, the daughter of Atlas. He was king of Pisa, in Elis, and father of Hippodamia.

Enone, a nymph of Mount Ida, daughter of the river Cebrenus in Phrygia. She foretold to Paris that his voyage to Greece would be fatal to him and the ruin of his country. When Paris was dying, and saw that her predictions were being fulfilled, he ordered his body to be carried to her, in hopes that she still might save him, but he expired as he came into her presence.

Ogmios, a name of Hercules among the Gauls, who looked upon him as the god of eloquence and persuasion.

Olympus, a mountain of Macedonia and Thessaly (now Lacha). The ancients supposed that its top reached the heavens, and from that development the idea of its being the abode of the gods and the location of Jupiter's court.

Omphale, queen of Lydia, and daughter of Jarlanus. She desired to see Hercules, and her wish was gratified. After the murder of Eurystus, Hercules fell sick, and was ordered to be sold as a slave, that he might recover his health and senses. Omphale bought him out of slavery, and he became enamoured of the queen, who bore him a son.

Opus, a city of Locris, on the Apsopus, destroyed by an earthquake. It was the birthplace of Abder, the favourite of Hercules, and it was there that Patroclus accidentally killed Elyonimus.

Orbona, a goddess of Rome, who was supplicated not to deprive children of their parents. She was the protectress of orphans.

Orades, nymphs of the mountains, daughters of Phoroneus and Hecate. They generally rode upon Diana, and accompanied her in hunting.

Orestes, son of Agamemnon and Clytemnestra, was the murderer of his mother and Aegisthus. (See **Electra**.) After that deed the Furies haunted him and he fled from one country to another. He afterwards, by Apollo's command, submitted himself to the court of the Atræopagus, and being acquitted returned to Argos and ascended the throne. (See **Iphigenia**.)

Orion, a famous giant, sprung from Jupiter, Neptune and Mercury. Demanding the hand of Hero or Merope, daughter of Cepion, king of Chios, in marriage, her father set him the task of clearing the island from wild beasts as the price of betrothal. This deed Orion easily achieved, and Cepion, on the pretence of complying, solicited Orion, and when he was asleep put his eyes out. Afterwards he recovered his eyesight by turning his vacant eyes to the rising sun, and at once revenged himself upon the king. After death, Orion was placed in heaven, where one of the constellations bears his name.

Orpheus, son of Oëgar by Calliope, had a lyre given to him by Apollo, and played upon it so exquisitely that all things inanimate as well as animate were charmed. He was one of the heroes of the Argonautic Expedition, and on his return married Eurydice. Later Eurydice died from the sting of a serpent, when Orpheus followed her to Hades and charmed Pluto and his associates so much that his wife was allowed to accompany him back to earth, on condition that he did not look upon her until the borders of Hades had been passed. The temptation was too great: he looked, and lost her for ever.

Orthus, a dog which belonged to Geryon, from whom and the Chimæra sprang the Sphinx, and the Nemean lion. He had two heads, and was destroyed by Hercules.

Ostris, the son of Jupiter and Niobe, and the chief divinity of the ancient Egyptians.

Ossa. (See **Pellion**.)

P

Pan, the god of shepherds, huntsmen, and rural people, said to have been the son of Mercury and Penelope. He is represented with two small horns, a fat nose, and the lower limbs of a goat. He was full of tricks and mischief, and by transforming himself into other shapes, captivated in turn Diana and Echo. He was chief of the Satyrs.

Pandarus, son of Lycaon, who assisted the Trojans against the Greeks, and, being without a chariot, generally fought on foot. He was killed by Diomedes.

Pandia, a festival established at Athens by Pandion. **Pandora**, the first woman that trod the earth, was first made as an image by Prometheus, and then invested with life with fire stolen from heaven. In revenge, Jupiter ordered Vulcan to make a woman out of the earth, who was also called Pandora, and endowed with every gift. She married Epimetheus, and gave her husband a box which she had brought with her from heaven. When this box was opened, there issued from it every kind of human ill and disaster, which spread themselves over the world. Hope alone remained at the bottom of the box to shed its influence in easing the troubles of life. Thus a gift which is more noted for the bad which accompanies it than the good is called a Pandora's box.

Parce, the three Fates—Clotho, who held the distaff upon which the thread of life was spun; Lachesis, who turned the spindle and decided the actions and events of life; and Atropos, who held the scissors to cut the thread of life.

Paris, son of Priam, king of Troy, was brought up as a shepherd, and made himself prominent, and won and married Crione. At the marriage of Peleus and Thetis, the goddess of discord threw an apple among the assembly, inscribed "for the fairest." Each of the goddesses present claimed the apple, and when the claimants had been reduced to three—Juno, Venus, and Minerva—Paris was called upon to give judgment, and decided in favour of Venus, who rewarded him with Helen. (See *Helen*.)

Parnassus, a mountain of Phocis, dedicated to the Muses, and to Apollo and Bacchus.

Patroclus. (See *Achilles*.)

Pax, an allegorical divinity to whom the Athenians raised a statue, representing her as holding the infant Plutus, god of wealth, in her lap, to intimate that peace is a prosperity. The Romans represented her with the horn of plenty.

Pegasus, the winged horse which sprang from the blood of Medusa after Perseus had cut off her head. He ascended to Olympus and became thunder and lightning carrier for Jupiter (Zeus). He was given to Bellerophon to conquer the Chimera, and after the task was completed, Bellerophon wanted to scale the heavens on the back of Pegasus, but the animal threw him, and flew up to Olympus alone, and was placed among the constellations by Jupiter.

Pelias, the twin brother of Neleus, and the son of Neptune by Tyro, the daughter of Salmones. His birth was concealed by his mother, and he was exposed in the woods, but his life was saved by shepherds and he received the name Pelias from a spot of the colour of lead on his face. Pelias visited his mother and after the death of Cretheus, Tyro's second husband, he seized the kingdom. Later Jason demanded the kingdom which Pelias had usurped, and the latter offered to resign it to him if he would recover the Golden Fleece. After the return of Jason, Medea caused Pelias to be put to death.

Pelion, a mountain of Thessaly, the top of which was covered by pines. In their wars against the gods, the giants placed Mount Ossa upon Pelion, to scale the heavens with greater ease.

Persephone, wife of Pluto and queen of the nether world. She was the daughter of Jupiter and the mother of the Furies.

Perseus, son of Jupiter and Danaë. One of the first achievements of his manhood was to slay the Gorgon Medusa, and bring the head to Polydectes, who had set Perseus the task in the hope of getting rid of

him. Obtaining Pluto's helmet, which rendered him invisible, and other aids from other gods and goddesses, he flew through the air to the land of the Gorgons. Finding the Gorgons asleep, he was able to cut off Medusa's head, and flew away with it, reaching the court of Polydectes in time to save his mother Danaë from falling into his toils. He married Andromeda, whom he had rescued from death in Ethiopia. (See *Andromeda*.)

Phoenix, a fabulous bird of the Egyptian mythology, said to have lived for hundreds of years, and then consumed itself on a funeral pyre set aflame by its wings, springing up again into new youthful life from the ashes.

Pleiades, the seven daughters of Atlas and Pleione, who being pursued by Orion appealed the gods for succour and were transformed into doves, placed among the stars.

Pluto. (See *Hades*.)

Polyphemus, son of Neptune and chief of the Cyclops. He lived in a cave near Mount Ætna. Ulysses and twelve companions entered this cave, and six of them were devoured by the monster. Then he fell asleep, and Ulysses put his one eye out and escaped. (See *Achilles*.)

Pomona, the goddess of fruit trees.

Priam, king of Troy and father of Hector and Paris. (See *Paris* and *Hector*.)

Proteus, a soothsayer who lived in a cave on the island of Pharos, and who could only be made to utter his prophecies when caught asleep, as while awake he had the power of changing his shape so as not to be recognised.

Psyche, a nymph whom Cupid married and visited nightly, concealing his features from her and leaving before dawn. She contrived to see him one night however, as she slept, by lighting her lamp, enraptured with his beauty. He was awakened by the falling upon him of a drop of oil and fled. After that she wandered in search of him, but incurred the hatred of Venus, who tried to thwart the love. Psyche was ultimately united to Cupid, however, and endowed with immortality.

Pygmalion, a sculptor who, having carved a beautiful statue in ivory of a woman, appealed to Venus to breathe life into it, which the goddess did, and he married the animate statue, who bore him Euphrasia, founder of the city of that name in Cyprus.

Python, the famous serpent of the caves of Mount Parnassus. It was born from the mud left by the Deucalion deluge. Apollo slew the monster.

R

Rhadamanthus, son of Jupiter and Europa, who lived such a life of rectitude that at his death he was appointed one of the three judges of Hades, Minos and Æacus being the other two.

Ripheus, a Trojan who joined Æneas the night that Troy was reduced to ashes, and was eventually killed after making a great carnage among the Greeks.

Romulus, twin brother to Remus, son of the vestal virgin Sylvia. The mother was condemned to be buried alive and the children thrown into the Tiber. The boys were rescued, however, and suckled by a she-wolf. Afterwards they resolved to found a city, but quarrelled as to its situation, and in the conflict Remus was killed. This left Romulus free to act upon his own choice and Rome was accordingly built.

S

Salamis, daughter of the River Asopus, by Methone. Neptune fell in love with her, and carried her to an island of the Ægean, which afterwards bore her name, and where she gave birth to a son called Cecrops.

Salmones, a king of Elis, son of Æolus and Enarete, who married Alcide, by whom he had Tyro. To imitate the thunder he used to drive his

chariot over a brazen bridge, and darted burning torches on every side to imitate lightning. This angered Jupiter, who struck Salmonius with a thunderbolt and placed him in Hades near his brother Sisyphus.

Saturn (Greek, Chronos), the oldest divinity of the Greek and Roman mythologies, and supposed to be the god of agriculture. From before the founding of Rome, festivals in his honour, called Saturnalia, were held. He is generally represented as a bent old man, holding a child in one hand (indicating his habit of devouring his children) and a scythe in the other.

Saturn, a son of Cælus, or Uranus, by Terra. He avenged his father's cruelty by mutilating him with a scythe, and afterwards obtained his father's kingdom, his brothers assenting on condition that he did not bring up any male children. Saturn therefore always devoured his sons as soon as they were born, but his wife Rhea, concealed from her husband her sons Jupiter, Neptune, and Pluto, and gave him large stones to swallow instead of her male offspring. It was this that led to the Titans making war upon Saturn, and his ultimate overthrow. Jupiter banished him, and he fled to Italy, where Janus received him with marked attention.

Scylla and Charybdis. Scylla was a dangerous rock near the Italian coast in the Strait of Messina. This rock was a peril to mariners, but in avoiding it they were often drawn into the Charybdis whirlpool on the opposite side; hence the proverb, "to escape Scylla and fall into Charybdis."

Semele, daughter of Cadmus and mother of Bacchus. Jupiter visited her as the god of thunder and she was killed by the lightning, but gave birth to Dionysus, whom Jupiter saved and protected.

Serapis, an Egyptian divinity, to whom many temples were built.

Sibylla, ten in number, were endowed with the gift of prophecy. They compiled and kept the Sibylline Books, of which there were nine volumes, three of which were bought by Tarquin and carefully preserved, until destroyed in the great fire of Sulla's time.

Sinocæstus, a Trojan prince, son of Anthemion, killed by Ajax.

Sphinx, the monster that Juno sent to propound the riddle to the Thebans. It had the head of a winged lion. The great Sphinx of Egypt is 170 feet long and 56 feet high, and carved out of solid rock.

Tantalus, a son of Jupiter. For revealing his father's secrets he was punished with a raging thirst and unable to obtain the water and fruits that he saw close at hand.

Telemachus, son of Ulysses and Penelope. (See Mentor.)

Terpsichore, the Muse of Choral Dance and Song.

Thalia, the Muse of Comedy.

Themis, the goddess of law and justice, and wife of Jupiter.

Thïsbe, a maiden beloved by Pyramus. Their parents opposed their union and they appointed to meet at the tomb of Ninus. Thïsbe reached the place first, but seeing a lion ran away, letting her garment fall in her flight. Pyramus seeing this when he came thought she had been murdered and killed himself. Then Thïsbe returned and at the sight of her dead lover put an end to her own life.

Titans were a race of giants who waged a ten years' war with Jupiter, but were ultimately conquered and imprisoned in a cavern near Tartarus.

U

Ulysses, one of the Greek leaders of the Trojan War and inventor of the wooden horse.

V

Venus, the goddess of love, daughter of Jupiter and Dione, but according to later legend born of the foam of the sea. She received the prize of beauty in the judgment of Paris. Cupid was her son.

Vesta, the goddess of the hearth, a maiden divinity who was attended by vestal priestesses, all pure as the goddess herself.

Vulcan, the god of fire, and son of Jupiter and Juno. He made the armour of the gods and had his work shops in several volcanic mountains as well as one in Olympus.

Z

Zeus. (See Jupiter.)

PRESIDENTS OF THE UNITED STATES.

The terms are for four years, and no President has served more than two terms.

George Washington	1789
George Washington	1793
John Adams	1797
Thomas Jefferson	1800
Thomas Jefferson	1805
James Madison	1809
James Madison	1813
James Monroe	1817
James Monroe	1821
John Quincy Adams	1825
Andrew Jackson	1829
Andrew Jackson	1833
Martin Van Buren	1837
General Wm. Henry Harrison (died April 4)	1841
John Tyler (elected from Vice-President)	1841
James Knox Polk	1845
General Zachary Taylor (died July 9, 1850)	1849
Millard Fillmore (elected from Vice-President)	1850
General Franklin Pierce	1853

James Buchanan	1857
Abraham Lincoln	1861
Abraham Lincoln (assassinated April 14 same year)	1865
Andrew Johnson (elected from Vice-President)	1865
General Grant	1869
General Grant	1873
Rutherford B. Hayes	1877
Gen. J. Abram Garfield (died April 19, 1881)	1881
Gen. Chester A. Arthur (elected from Vice-Pres.)	1881
Grover Cleveland	
General Benjamin Harrison	
Grover Cleveland	1893
W. McKinley	1897
W. McKinley (assassinated same year)	1901
Theodore Roosevelt (elected from Vice-President)	1901
Theodore Roosevelt	1905
William Taft	1909
Dr. Woodrow Wilson	1913

PEARS'
OFFICE
COMPENDIUM.



Pears' Office Compendium.

This compendium comprises a variety of items of ready reference on every-day matters and routine, and will be of special utility to business men, accountants, clerks, and others engaged in office work, as well as to the general reader. It includes a number of useful tables, the latest postal and other official information, numerous statistical compilations, full lists of frequently employed—but not always understood—abbreviations, pseudonyms, foreign phrases, etc.; with a host of other matters such as people generally want to know in a hurry.

THE BRITISH EMPIRE.

The British Empire comprises the United Kingdom of Great Britain and Ireland, the Empire of India, and the British Dominions beyond the seas, including the self-governing Dominions, and the Crown Colonies, Protectorates, and other Dependencies, the whole forming one Empire under George V., King and Emperor, whose title rests upon the Act of Settlement of 1701, which settled the succession to the throne on the Princess Sophia of Hanover and "the heirs of her body being Protestants."

The British Empire contains a total area of nearly 12,000,000 square miles, equal to upwards of one-fifth of the earth's surface. Its population is about 416,318,665, or over one-fifth of the inhabitants of the globe.

Component parts of the British Empire.

	Extent in Square Miles.	Population.
United Kingdom of Great Britain and Ireland	121,000	45,216,665
Empire of India and its Dependencies	1,900,000	314,955,240
Ceylon and Maldives	26,000	4,100,000
Eastern Asia	2,000	1,000,000
Dominion of Canada, Newfoundland, etc.	3,750,000	7,081,869
West India Islands, South America, Falkland Islands	130,000	1,572,000
Commonwealth of Australia, etc.	3,100,000	4,449,983
Dominion of New Zealand	105,000	1,050,000
South Africa	1,238,000	6,300,000
West Africa	600,000	33,000,000
East and Central Africa	750,000	8,000,000
Mauritius, Seychelles, etc.	900	400,000
Gibraltar, Malta, and Cyprus	3,721	450,000
Antarctic; South Georgia	2,500	—

ENGLISH MONARCHS.

I.—BEFORE THE CONQUEST.

SAXONS.	Began to Reign.	Reigned.
Egbert (first "King of the English")	A.D. 827	827
Ethelwulf	827	827
Ethelbald	827	827
Ethelbert	827	827
Ethelred I.	827	827
Alfred (the Great)	827	827
Edward (the Elder)	827	827
Aethelstan	827	827
Edmund I. (the Magnificent)	827	827
Edred	827	827
Edwy	827	827
Edgar (the Peaceable)	827	827
Edward (the Martyr)	827	827

SAXONS	Reigned.
Ethelred II. (the Unready)	A.D. 979-1013
Canute	1013-1016
Harold I.	1016-1017
Hardekanute	1017-1018
Edward the Confessor	1018-1066
Harold II.	1066

II.—FROM THE CONQUEST

NORMANS.	Reigned.
William I.	1066-1087
William II.	1087-1100
Henry I.	1100-1135
Stephen	1135-1154
PLANTAGENETS.	Reigned.
Henry II.	1154-1189
Richard I.	1189-1199
John	1199-1216
Henry III.	1216-1272
Edward I.	1272-1307
Edward II.	1307-1327
Edward III.	1327-1377
Richard II.	1377-1399
HOUSE OF LANCASTER.	Reigned.
Henry IV.	1399-1413
Henry V.	1413-1422
Henry VI.	1422-1461
HOUSE OF YORK.	Reigned.
Edward IV.	1461-1483
Edward V.	1483-1483
Richard III.	1483-1485
TUDORS.	Reigned.
Henry VII.	1485-1509
Henry VIII.	1509-1547
Edward VI.	1547-1553

TO THE PRESENT DAY.

	Access.	Died.	Age.	Reigned.
			(Years.)	
Mary I.	1553	1558	43	5
Elizabeth	1558	1603	70	44
STUARTS.				
James I. (VI. of Scotland)	1603	1625	50	22
Charles I.	1625	Beh. 1649	88	24
Commonwealth declared May 19, 1649.				
Oliver Cromwell, Lord Protector 1653-8.				
Richard Cromwell, Lord Protector 1658-9.				
Charles II.	1649	1685	55	25
James II.	1685	Abdicated 1688.		Age (m)
death in exile in 1702. Reigned 3 years.				
William III. and Mary II.	1689	1702	13	15
Mary II.		1694	33	69
Anne	1702	1714	49	12
HOUSE OF HANOVER.				
George I.	1714	1727	67	13
George II.	1727	1760	77	33
George III.	1760	1820	81	59
George IV.	1820	1830	68	10
William IV.	1830	1837	72	7
Victoria	1837	1901	84	63
HOUSE OF SAXE-COBURG				
Edward VII.	1901	1910	69	9
George V.	1910			

THE ROYAL FAMILY.

His Majesty George V., King of the United Kingdom of Great Britain and Ireland, and of the British Dominions beyond the seas, Emperor of India, born June 3, 1865; married July 6, 1893, to Princess Mary of Teck (born May 26, 1867); succeeded his father, King Edward VII., May 6, 1910.

CHILDREN.

Prince of Wales (Edward Albert Christian George Andrew Patrick David), born June 23, 1894; Prince Albert Frederick Arthur George of Wales, born December 14, 1895; Princess Victoria Alexandra Alice Mary of Wales, born April 25, 1897; Prince Henry William Frederick Albert, born March 31, 1900; Prince George Edward Alexander Edmund, born December 20, 1902; Prince John Charles Francis, born July 12, 1905.

SISTERS LIVING.

Princess Louise Victoria Alexandra Dagmar (Princess Royal), born February 20, 1867; married July 27, 1889, the Duke of Fife, K.T., and has issue—Lady Alexandra Victoria Alberta Edwina Louise Duff, born May 17, 1891 (married to Prince Arthur of Connaught, October 15, 1913); Lady Maud Alexandra Victoria Georgina Bertha Duff, born April 3, 1893; Princess Victoria Alexandra Olga Mary, born July 6, 1898.

Princess Maud Charlotte Mary Victoria, born November 26, 1869, married July 22, 1896, Prince Charles, and son of the then Crown Prince of Denmark. The latter succeeded to the Danish throne on January 29, 1906, Prince Charles having meanwhile

been chosen to rule over Norway. He was crowned King Haakon VII., on June 22, 1906, and he and Queen Maud have a son, Olav (born July 2, 1903), who thereupon became Crown Prince of Norway.

BROTHERS DECEASED.

Albert V. C. E. (Duke of Clarence and Avondale), born January 8, 1864; died January 14, 1892. Alexander J. C. A., born April 6, 1871; died April 7, 1871.

UNCLES AND AUNTS LIVING.

Duke of Connaught (Arthur William Patrick Albert), born May 1, 1850. Princess Christian of Schleswig-Holstein (Helena Augusta Victoria), born May 4, 1846. Duchess of Argyll, formerly Marchioness of Lorne (H.R.H. Princess Louise Caroline Alberta), born March 18, 1848. Princess, Henry of Battenberg (Beatrice Mary Victoria Feodora), born April 14, 1857, whose only daughter, the Princess Victoria Eugenie (Ena), was married to King Alfonso of Spain on May 31, 1906.

UNCLES AND AUNTS DECEASED.

Prince Alfred, Duke of Edinburgh, afterwards Duke of Saxe-Coburg and Gotha, born 1844; died 1900. Prince Leopold, Duke of Albany, born 1853; died 1884. His son, Prince Charles Edward, became Duke of Saxe-Coburg and Gotha in 1900, on his uncle's demise. Empress (Frederick) of Germany (mother of Kaiser William II.), born 1840; died 1901.

TABLE OF PRECEDENCY.

The Sovereign.
 The Prince of Wales.
 Other Sons of the Sovereign.
 Brother (or brothers, when more than one) of the Sovereign, Sovereign's Uncles, Sovereign's Nephews, Ambassadors.
 The Archbishop of Canterbury.
 (In Scotland, Moderator of the General Assembly if in attendance at a royal function.)
 The Lord High Chancellor.
 The Archbishop of York.
 Prime Minister.
 Lord Chancellor of Ireland.
 The Lord President of the Council.
 The Lord Privy Seal.
 The Lord Great Chamberlain.
 Lord High Constable.
 The Earl Marshal.
 The Lord Steward of His Majesty's Household.
 The Lord Chamberlain.
 The last five rank above all Peers of their own degree.
 Dukes, according to their Patents of Creation.
 1. Of England;
 2. Of Scotland;
 3. Of Great Britain;
 4. Of Ireland;
 5. Those created since the Union.
 Marquesses, according to their Patents, in the same order as Dukes.
 Dukes' eldest Sons.
 Earls, according to their Patents, in the same order as Dukes.
 Marquesses' eldest Sons.
 Dukes' younger Sons.
 Viscounts, according to their Patents, in the same order as Dukes.
 Earls' eldest Sons.
 Marquesses' younger Sons.
 Bishops of London, Durham, and Winchester.
 All other English Bishops, according to their seniority of Consecration.
 Bishops of the Irish Church, created before 1869, according to seniority.
 Secretaries of State, if of the degree of a Baron.
 Barons, according to their Patents, in the same order as Dukes.
 Speaker of the House of Commons.
 Treasurer of H.M.'s Household.
 Comptroller of H.M.'s Household.
 Master of the Horse.
 Vice-Chamberlain of Household.
 Secretaries of State under the degree of Barons.
 Viscounts' eldest Sons.
 Earls' younger Sons.
 Barons' eldest Sons.
 Knights of the Garter.
 Privy Counsellors.
 Chancellor of the Exchequer.
 Chancellor of the Duchy of Lancaster.
 Lord Chief Justice King's Bench.
 Master of the Rolls.
 The Lords Justices of Appeal.
 Lords of Appeal.
 Judges according to seniority.
 Viscounts' younger Sons.
 Barons' younger Sons.
 Sons of Life Peers.

Baronets of England, Scotland, Ireland, and United Kingdom, according to date of Patents.
 Knights of the Thistle.
 Knights of St. Patrick.
 Knights Grand Cross of the Bath.
 Knights Grand Commanders of the Star of India.
 Knights Grand Cross of St. Michael and St. George.
 Knights Grand Commanders of the Indian Empire.
 Knights Grand Cross of the Royal Victorian Order.
 Knights Commanders of the Bath.
 Knights Commanders of the Star of India.
 Knights Commanders of St. Michael and St. George.
 Knights Commanders of the Indian Empire.
 Knights Commanders of the Royal Victorian Order.
 Commanders of the Royal Victorian Order.
 Knights Bachelors.
 Judges of County Courts.
 Companions of the Bath.
 Companions of the Star of India.
 Companions of St. Michael and St. George.
 Companions of the Indian Empire.
 Members 4th Class of the Royal Victorian Order.
 Companions of the Distinguished Service Order.
 Members 5th Class of the Royal Victorian Order.
 Eldest Sons of younger Sons of Peers.
 Baronets' eldest Sons.
 Eldest Sons of Knights:—
 1. Garter;
 2. Thistle;
 3. St. Patrick;
 4. The Bath;
 5. Star of India;
 6. St. Michael and St. George;
 7. Indian Empire;
 8. Royal Victorian Order;
 9. Knights Bachelors.
 Younger Sons of the younger Sons of Peers.
 Baronets' younger Sons.
 Younger Sons of Knights in the same order as eldest Sons.
 Gentlemen entitled to bear arms.
 Women rank as their husbands or as their eldest brothers; but the daughter of a peer marrying a Commoner retains her title as Lady or Honourable. Daughters of Peers rank next after the wives of their elder brothers, and before their younger brothers' wives. Daughters of Peers marrying Peers of lower degree are given only thenceforth the same order of precedence as that of their husbands; thus the daughter of a Duke marrying a Baron ranks as Baroness only, while her sisters married to commoners would retain their rank and take precedence of the Baroness. Official rank on the husband's part does not afford recognised similar precedence to the wife. There are three Orders confined to Ladies: the Order of Victoria and Albert, the Crown of India, and the Royal Red Cross, but no special precedence attaches to such membership.
 Precedence is formed by statute, patent, or usage, but the chief regulations regarding the order of precedence were settled by Parliament in the reign of Henry VIII.
 Precedence locally, in county or city, has not been promulgated by written code, but in any county the Lord Lieutenant naturally stands first, followed by the Sheriff. In London and other Municipal Corporations—civic or borough—the aldermen, sheriffs, and chief officers have precedence in the order named after the Mayor (or Lord Mayor, as the case may be); the Livery coming next, where such is existent.

IN WRITING LETTERS TO PERSONS OF RANK

THE PROPER FORM OF ADDRESS IS AS FOLLOWS:

TO THE KING.

Begin: Sir.

Conclude: I remain,

Your Majesty's faithful and dutiful Servant.

Superscribe:

To the King's Most Excellent Majesty, etc.

THE QUEEN.

Madam.

I remain,

With profound veneration,

Your Majesty's most faithful Servant.

Superscribe:

To the Queen's Most Excellent Majesty, etc.

THE PRINCE (OR PRINCESS) OF WALES

Sir (or Madam).

I remain,

With the greatest respect,

Sir (or Madam),

Your Royal Highness's most dutiful

and most devoted Servant.

Superscribe:

To His Royal Highness the Prince of Wales, K.G.

To Her Royal Highness the Princess of Wales

PRINCES AND PRINCESSES OF THE BLOOD

ROYAL.

Madam (or Sir).

I remain, Madam (or Sir),

Your Royal Highness's most humble

and obedient Servant

Superscribe:

To Her Royal Highness the Princess of, etc., or To

His Royal Highness the Duke of C—; or To Her

Royal Highness the Duchess of C—; or To His

(or Her) Royal Highness Prince E— (or Princess

B—)

DUKES.

NOBILITY.

My Lord Duke.

I remain, my Lord Duke,

Your Grace's most obedient Servant.

Superscribe:

To His Grace the Duke of A—, K T., etc., etc., etc.

MARQUISES.

My Lord Marquis.

Concluding as in the case of a Duke, but with

"Lordship" in lieu of "Grace"

Superscribe:

To the most Honourable the Marquis of Ripon, K.G.,

etc., etc., etc.

EARLS, VISCOUNTS, AND BARONS.

My Lord.

Conclude as to a Marquis.

Superscribe:

To the Right Honourable the Earl of —; or To The

Right Honourable the Lord Viscount —; or To

The Right Honourable Lord —.

BARONETS AND KNIGHTS.

Sir.

I remain, Sir, Your most obedient Servant.

Superscribe:

Sir Francis T—, Bart.; or Sir John B—, etc., etc.,

etc.

Wives of Dukes: Madam. I remain, Madam,

Your Grace's most obedient Servant. *Superscribe:*

To Her Grace the Duchess of O—.

Wives of Marquises: Madam. I remain, Madam,

Your Ladyship's most obedient Servant. *Superscribe:*

To the most Honourable the Marchioness of Q—.

Wives of Earls, Viscounts, and Barons: Begin and

end as to a Marchioness. *Superscribe:* The Right

Honourable the Countess of —; or The Right

Honourable the Lady Viscountess —; or The Right

Honourable Lady —.

Wives of Baronets and Knights: Madam. I remain,

Madam, Your most obedient Servant. *Superscribe:*

Lady —.

CLERGY.

ARCHBISHOP.

My Lord Archbishop.

I remain, my Lord Archbishop,

Your Grace's most obedient Servant

Superscribe:

To His Grace, the Lord Archbishop of Canterbury.

The style of address to the Archbishop of Armagh

is: To His Grace the Lord Primate of Ireland, or the

Right Hon and Most Rev. the Archbishop of Armagh.

The other Irish Archbishop (Dublin) is addressed in

the same style as the English Archbishops.

BISHOPS.

My Lord Bishop.

I remain, my Lord Bishop,

Your Lordship's most obedient Servant.

Superscribe:

To the Right Reverend the Lord Bishop of —, etc.,

etc., etc.

Colonial Bishops are addressed in the same manner

as those of England. Bishops of the Episcopalian

Church of Scotland and of the United States are not

addressed by the title of Lord, and letters begin:

Right Reverend Sir, and end: I remain, Right

Reverend Sir, Your most obedient Servant. *Super-*

scribe: The Right Reverend Bishop — [surname

simply]

DEANS.

Reverend Sir

I remain, Reverend Sir,

Your most obedient Servant.

Superscribe:

The Very Reverend The Dean of —.

ARCHDEACONS.

Begin and end as to a Dean, and superscribe: The

Venerable The Archdeacon —.

JUDICIAL OFFICERS.

LORD CHANCELLOR.

My Lord.

I have the honour to be, with great respect,

Your Lordship's most obedient Servant.

Superscribe:

The Right Honourable The Lord Chancellor, etc.,

etc., etc.

LORDS OF APPEAL IN ORDINARY.

As to Lord Chancellor.

Superscribe:

The Right Honourable Lord —.

LORD CHIEF JUSTICE.

As to Lord Chancellor.

Superscribe:

The Right Honourable The Lord Chief Justice of

England

MASTER OF THE ROLLS.

My Lord (or Sir).

I have the honour to be, My Lord (or Sir).

Your most obedient Servant.

Superscribe:

To the Right Honourable Lord — (or Sir —),

Master of the Rolls; or His Honour The Master

of the Rolls.

LORDS JUSTICES OF APPEAL.

Sir (only addressed as "My Lord" when on the

Bench)

I have the honour to be, Sir,

Your most obedient and humble Servant.

Superscribe:

The Right Hon The Lord Justice —; or The Right

Hon. Sir —, Lord Justice of Appeal.

LORD MAYOR.

The Right Honourable the Lord Mayor of —

My Lord

Your Lordship's obedient Servant,

Superscribe:

The Right Hon. The Lord Mayor of —.

POPULATION OF THE BRITISH EMPIRE.

British Empire (1911)	404,300,321	Isle of Man, Channel Isles, etc.	148,934
United Kingdom	45,216,665	Colonies, Dependencies, etc.	358,934,622

COMPARATIVE DECENNIAL RETURNS FOR THE BRITISH ISLES. 1811-1911.

The total population of the British Isles as a whole for 1911 showed an increase of 3,757,934 on the population of 1901. The number of inhabited houses in 1909-10 was 9,060,520, showing an increase of 114,420 on the number of the previous year.

ENGLAND AND WALES.

Year.	Total Population.	Decennial Increase.	Per Cent.
1811	10,164,256	1,271,720	14.00
1821	12,000,236	1,835,980	18.00
1831	14,150,988	2,150,752	15.80
1841	15,914,148	2,017,351	14.48
1851	17,927,609	2,013,461	12.89
1861	20,066,224	2,138,615	11.90
1871	22,712,266	2,646,042	13.11
1881	25,974,525	3,262,259	14.36
1891	29,002,525	3,028,000	11.05
1901	32,527,843	3,525,318	12.17
1911	36,075,209	3,547,366	10.90

SCOTLAND.

Year.	Total Population.	Increase or Decrease.	Per Cent.
1811	1,805,864	197,444	11.27
1821	2,091,521	285,657	15.82
1831	2,354,386	272,865	13.04
1841	2,600,184	245,798	10.82
1851	2,888,742	288,558	10.75
1861	3,062,294	173,552	6.00
1871	3,360,018	297,724	9.72
1881	3,735,573	375,555	11.18
1891	4,025,647	290,074	7.77
1901	4,472,103	446,456	11.09
1911	4,759,445	287,342	6.4

IRELAND.

Year.	Total Population.	Increase or Decrease.	Per Cent.
1821	7,767,401	955,574	14.19
1841	8,175,124	407,723	5.25
1851	6,552,395	*1,622,729	*19.85
1861	5,798,967	*333,418	*11.50
1871	5,412,377	*386,590	*6.07
1881	5,174,836	*237,541	*4.39
1891	4,704,750	*470,086	*9.08
1901	4,458,775	*245,975	*5.23
1911	4,361,951	*76,824	*1.7

Total Population.	Increase or Decrease.	Per Cent.
143,447	321	0.22
144,638	1,191	0.82
141,200	*3,378	*2.34
147,842	6,582	4.66
150,370	2,757	1.86
148,934	1,436	

* Indicates decrease in the decennial periods so marked in Ireland and in the Islands as a whole, apart from the mainland.

BRITONS IN FOREIGN COUNTRIES.

It is estimated that nearly 3,000,000 natives of the United Kingdom reside in foreign countries, and the following returns are given of British residents in the undermentioned countries:—

United States	2,791,403	Belgium	5,966
France	34,892	Switzerland	3,898
Argentina	26,849	Chile	3,639
Germany	16,793	Austria-Hungary	3,480
Italy	8,768	China	3,287
Spain	7,759	Egypt	2,766
Russia	5,335	Portugal	2,278

LONDON BOROUGHES.

Apart from the great local governing bodies of the London County Council and the ancient Corporation of the City, there are in London 26 separate borough councils. The following is a list of these boroughs, with the area in acres, and the number of aldermen and councillors elected in each, in addition to a Mayor:—

Borough.	Popula- tion.	Alder- men.	Coun- cillors.	Acreege.	Borough.	Popula- tion.	Alder- men.	Coun- cillors.	Acreege.
Battersea	167,793	9	54	2,169	Kensington	172,317	10	60	2,188
Bermondsey	124,739	9	54	1,806	Lambeth	298,058	10	60	4,105
Bethnal Green	128,282	5	30	755	Lewisham	160,834	7	42	7,011
Camberwell	261,328	10	60	4,450	Marylebone	116,245	10	60	1,506
Chelsea	66,385	6	36	650	Paddington	142,376	10	60	1,400
Deptford	109,498	6	36	1,574	Pancras, St.	218,453	10	60	2,672
Finsbury	87,923	9	54	588	Poplar	169,442	7	42	2,333
Fulham	153,884	6	36	1,701	Shoreditch	111,493	7	42	648
Greenwich	95,977	5	30	3,337	Southwark	301,927	10	60	1,119
Hackney	222,597	10	60	3,299	Stepney	240,024	10	60	1,765
Hammer-smith	121,521	6	36	2,286	Stoke Newington	59,669	5	30	868
Hampstead	85,510	7	42	2,248	Wandsworth	311,360	10	60	9,106
Holborn	49,357	7	42	409	Westminster	160,277	10	60	2,555
Islington	327,403	10	60	3,109	Woolwich	121,403	6	36	8,296

LEADING LONDON CLUBS.

Following the General Club List is given a separate list containing particulars of the Principal London Clubs for Ladies, or to which they are admitted to membership jointly with Gentlemen.

Name.	Est.	Club House.	Entrance Fees.	Annual Subs.	Nature of Club.
			Guineas.	Guineas.	
Aero (Royal)	1902	166, Piccadilly, W. . . .	2	2	Advancement of aeronautics.
Albemarle	1874	37, Dover-st., W.	—	5	Ladies as well as gentlemen.
Almack's	1808	20, Berkeley-st., W. . . .	—	7 & 5	Social.
Alpine	1857	23, Savile-row, W.	4	2	Mountain climbing.
Army and Navy	1837	36, Pall Mall, S.W.	£40	7 & 10	Army and Navy officers.
Arthur's	1705	69, St. James's-st., S.W. .	30	11 & 12	Social.
Arts	1803 and 1896	40, Dover-st., W.	£10 share, plus £6	7	Followers of art, literature, or science.
Athenæum	1844	107, Pall Mall, S.W. . . .	30	8	For men of literature, art, science, and other distinguished persons.
Atlantic	1903	17 & 18, Dover-st., W. . .	£25	10	Anglo-American social.
Australasian	1898	24, St. Mary Axe, 1 C. . . .	Suspended	5, 3 & 2	
Authors'	1891	2, Whitehall Court, S.W. .	£4	8 & 5	Authors and literary journalists.
Automobile, Royal . . .	1897	Pall Mall, S.W.	0	8 & 5	Social and those interested in motor-ing and allied industries.
Bachelors'	1881	7 & 8, Hamilton-pl., W. . .	0	10	Social.
Badminton	1876	100, Piccadilly, W.	20	8	Sporting and coaching.
Baldwin	1887	79A, Pall Mall, S.W. . . .	10	5	Social.
Bath	1864	34, Dover-st., W.	30	10	Social, athletic, swimming, etc.
Beefsteak	1870	9, Green-st., Leicester-sq. W.C. .	15	6	Social.
Boodle's	1762	28, St. James's-st., S.W. .	20	11	Non-political, social.
British Chess	1828	5, Whitehall Court, S.W. .	—	—	Chess.
British Empire	1910	12, St. James's-sq., S.W. .	—	8 & 6	
Brooks'	1764	St. James's-st., S.W. . . .	3	11	Political and social.
Burlington	1869	17, Savile-row, W.	5	5	Artists and art collectors.
Caledonian	1898	3 rd , Charles-st., St. James's, S.W.	5	9, 6 & 5	Scottish.
Camera	1910	17, John-st., Adelphi, W.C.	1	12 & 3	Photography.
Carlton	1832	64, Pall Mall, S.W.	£40	10 & 17	Conservative.
Cavalry	1800	127, Piccadilly, W.	£30	10 & 11	Officers of the mounted forces.
City Athenæum	1801	Angel Court, F.C.	5	5	
City Carlton	1868	24-27, St. Swinburn-lane, E.C. .	£110s	10 & 5	Conservative.
City Liberal	1874	Walbrook, E.C.	None	£6	Liberal.
City of London	1832	19, Old Broad-st., E.C. . .	30	10	Merchants, bankers, etc.
City of London Chess .	1852	7, Grocers' Hall-court, F.C. .	None	2 & 4	Chess and social.
City University	1894	Poultry, F.C.	5	6	Social.
Cobden	1866	St. Peter's-chambers, Cornhill, F.C.	5	6	
Cocoa Tree	1746	Broadway Court, Westminster, S.W. . . .	None	1	Free Trade.
Colonial Club	1899	64, St. James's-st., S.W. .	10	7 & 5	Social.
Conservative	1840	4, Whitehall-court, S.W. .	15	5, 2 & 1	Social for Colonials.
Constitutional	1883	74, St. James's-st., S.W. .	30	10	Political.
Devonian	1891	Northumberland-avenue, W.C. .	15 or 10	7 or 4	Political.
Devonshire	1875	Southampton-row, W.C. .	—	1 & 4	Social and county.
Dutch	1873	50, St. James's-st., S.W. .	15	10	Liberal.
East India United Service .	1873	31, Sackville-st., W. . . .	None	3	
Eccentric	1849	16, St. James's-sq., S.W. .	£20	10 & 120s	Indian, military, naval, and civil services.
Eldon	1890	21, Shaftesbury-ave., W. .	10	3	Social.
Farmers'	1877	3, Curator-st., Chancery-lane, W.C.	None	4 & 2	Legal and social.
Fly Fishers'	1842	2, Whitehall-court, S.W. .	1	3 & 8	Agricultural and social.
Garrick	1844	36, Piccadilly, W.	2	3 town, 1/2 country	Anglers only.
Garrick Golfers	1831	Garrick-street, W.C. . . .	20	10	Theatrical, literary, and social.
Green Room	1893	Whitehall-court, S.W. . .	None	5, 3 & 1	Golf and social.
Gresham	1877	46, Leicester-sq.	6	10	Dramatic, musical, literary, artistic.
	1843	1, Gresham-place, E.C. . .	10	10	Merchants, bankers, etc.

Name.	Est.	Club House.	Entrance Fees.	Annual Subs.	Nature of Club.
Grosvenor	1883	Piccadilly	Guineas. None	Guineas. 10 & 8	Social, non-political.
Guards'	1813	70, Pall Mall, S.W.	30	£11 & £10	Officers of the Foot Guards.
Gun, The	1860	Wood-lane, Notting-hill, W., and Brook-st., W.	£15	£10	Pigeon shooters.
Hurlingham	1868	Fulham, S.W.	20 & 10	8 & 5	Polo and pigeon shooting.
Isthman	1882	105, Piccadilly, W.	10	10 & 7	University and public school men and officer, of Army and Navy.
Junior Army and Navy	1902	Horse Guards'-avenue, S.W.	10	10	Fighting services.
Junior Athenæum	1864	116, Piccadilly, W.	None	10	Social.
Junior Carlton	1864	30 to 35 Pall Mall	37	10	Conservative.
Junior Conservative	1889	43, 44, Albemarle-st., W.	None	4 & 2	Conservative.
Junior Constitution	1887	101, Piccadilly, W.	10 & 6	5 & 3	Conservative.
Junior Naval and Military	1899	99, Piccadilly, W.	None	10 & 8	Commissioned officers.
Junior United Service	1827	Charles-st., St. James's, S.W.	£40	8	Officers of Army and Navy.
Kennel	1873	8, Savile Row, W.	—	5	To promote dog breeding, etc.
Leander	1839	Riverside, Putney, S.W., and Henley-on-Thames	2	2 & 1	For rowing men.
London Rowing	—	Putney, S.W.	£2	2	Amateur rowing.
Lord's (M.C.C.)	1787	St. John's-Wood-rd., N.W.	5	3	See M.C.C. below.
Managers'	1905	5, Warburton-st., W.	1	2	Theatrical Managers.
Marlborough	1869	52, Pall Mall, S.W.	30	10	Social.
Marylebone Cricket	1787	St. John's-Wood-rd., N.W.	£5	£3	Cricket, tennis, etc.
Motor	1907	Conventry-st., W.	5	5	Social and motoring.
Municipal and County	1902	Whitehall-court, S.W.	None	1, 2 & 3	Social, municipal officers.
National	1845	1, Whitehall - gardens, S.W.	None	4½ to 7½	Protestant.
National Liberal	1882	Whitehall-place, S.W.	Suspended	6 & 3	Liberal.
National Sporting	1891	King st., Covent garden, W.C.	5 & 2	6 & 4	Athletic and social.
Naval and Military	1862	94, Piccadilly, W.	40	10	Army and Navy.
New	1893	4, Grafton-st., W.	20	7 & 4, 10 & 6	Social.
New Oxford and Cambridge	1884	68, Pall Mall, S.W.	10	—	Oxford and Cambridge University men.
New Reform	1900	10, Adelphi-ter., W.C.	None	1½	Advanced Liberal.
New University	1864	57 & 58, St. James's-st., S.W.	10 & 20	9	Members of Oxford and Cambridge Universities.
Northern Counties	1891	2, Savile Row, W.	None	7 & 5	Non-political.
O.P.	1900	Adelphi Hotel, W.C.	£1	1½	Theatre-goers.
Oriental	1824	18, Hanover-sq., W.	£31	9	Social.
Orleans	1877	29, King-st., S.W.	30	10	Social. Ladies admitted as guests.
Oxford and Cambridge	1830	71, Pall Mall, S.W.	40	9	Members of Oxford and Cambridge Universities.
Oxford and Cambridge Musical	1899	47, Leicester-sq., W.	2	3 & 1	Chamber music and social.
Phyllis Court	1905	Henley-on-Thames	£10 10s.	£5 5s.	River headquarters, social and sporting.
Playgoers'	1834	Cranbourn-st., W.C.	2½	—	Lovers of the theatre.
Polyglot	1905	4, Southampton Row, W.C.	—	2 & 1	Linguistic attainments.
Portland	1816	9, St. James's-sq., S.W.	10	10	Social and non-political.
Pratt's	1841	14, Park Place, St. James's, S.W.	None	5	Social.
Press	1881	7, Wine Office Court, W.C.	1	3 town, 1 country	Journalistic.
Primrose	1886	4, 5, Park Place, St. James's, S.W.	None	2 & 1	Conservative.
Prince's	1853	197, Knightsbridge, S.W.	None	7	Racquets, tennis, and social.
Public Schools	1909	19, Berkeley-st., W.	2	4, 2 & 1	Old Public School Boys.
Quekett	1865	20, Hanover-sq., W.	None	10s.	For working microscopists and students.
Queen's	1886	West Kensington, V.C.	—	5 & 3	Cricket, football, athletic sports.
Raleigh	1828	16, Regent-st., S.W.	10	10	Social.
Ramblers	1909	277, Knightsbridge	—	5 & 3	Social, ladies and gentlemen.
Ranelagh	1804	Barnes, S.W.	20 & 10	10	Social, polo, golf, etc.
Reform	1836	104, Pall Mall, S.W.	£40	10	Liberal.
Royal London Yacht	1838	2, Savile-row, W., and Cowes	None	7	Yachting.
Royal Societies	1804	63, St. James's-st., S.W.	1	6 town	Literary, scientific, artistic.
Royal Thames	1775	80 and 81, Piccadilly, W.	Suspended	8 & 6	Yachting.
Royal Water Colour	1864	Pall Mall East	1	1	Art and social.
St. George's Chess	1866	87, St. James's-sq., S.W.	2	3	Chess.
St. James's	1857	105, Piccadilly, W.	25	11	Diplomatic.
St. Stephen's	1870	1, Bridge-st., S.W.	10	10	Conservative.

Name.	Est.	Club House.	Entrance Fees.	Annual Subs.	Nature of Club.
			Guineas.	Guineas.	
Savage	1857	Adelphi-terrace, W.C.	5	5	Art, literature, drama, etc.
Savile	1808	107, Piccadilly, W.	10	6	Social.
Smithfield	1798	12, Hanover-sq., W.	None.	1	Livestock interests.
Sports	1893	8, St. James's-sq., S.W.	10	6, 3, & 1	Social and athletics.
Thatched House	1869	86, St. James's-st., S.W.	10	10	Social.
Travellers'	1819	106, Pall Mall, S.W.	30	10 & 11	Travellers.
Turf	1868	47, Chancery-l., W.	30	12	Sporting and social.
Union	1822	Trafalgar-sq., S.W.	21	10	Social, non-political.
United Arts	—	35, Dover-st., W.	—	—	Political (Unionist).
United Empire	1904	117, Piccadilly, W.	2 & 1	6, 4 & 1	Tariff Reform.
United Service	1815	116, 119, Pall Mall, S.W.	£30	£10 to home £30 abroad	Officers of Army and Navy; Field Officers Militia and Yeomanry.
United University	1822	1, Suffolk-st., Pall Mall.	40	8	Members of Universities.
Urban	—	Anderton's Hotel, Fleet-st., E.C.	—	—	Literary and social.
Victoria	1857	Wellington-st., W.C.	10	6	Social and sporting.
Wellington	1885	1, Grosvenor-place, S.W.	21	10	Social. Ladies admitted as visitors.
Westminster	—	3, Whitehall-court, S.W.	1	5, 2, & 1	Church of England.
Whitefriars	1867	Anderton's Hotel, Fleet-st., E.C.	—	—	Literature and art.
Whitehall	1864	Prince's-st., S.W.	—	10, 5, 1	Social.
White's	1730	37, St. James's-st., S.W.	25	11	Social, non-political.
Windham	1828	13, St. James's-sq., S.W.	31	£10	Social.
Wireless Society of London	1913	107, Hatton-garden, E.C.	10s. od.	1	Furtherance of wireless telegraphy.
Yorck	1889	39, Bedford-st., W.C.	2	2	Literary, dramatic, artistic.

LADIES' CLUBS IN LONDON.

With the Principal Clubs to which ladies are admitted to membership jointly with Gentlemen

Name.	Est.	Club House.	Entrance Fees.	Annual Subs.	Nature of Club.
			Guineas.	Guineas.	
Albemarle	1874	37, Dover-st., W.	5	5	Ladies and gentlemen.
Alexandra	1884	12, Grosvenor-st., W.	2	5 & 4	Ladies of recognised position.
Automobile (Ladies' Section)	1903	Clindge's Hotel, Brook-st., W.	5	5	Social and motoring.
Bath (Ladies' Section)	1894	16, Berkeley-st., W.	10	7	Swimming, social.
Enterprise	1900	57, Leadenhall-st., E.C.	2s. 6d.	14s.	Lady clerks and secretaries
Halcyon	1911	13 & 14, Cork-st., W.	1	3 & 4	Professional women.
Ladies' Army and Navy	1902	Burlington-gardens, W.	3 & 2	5 & 3	Relatives of naval and military officers. Gentlemen admitted as guests.
Ladies' Empire	1902	60, Grosvenor-st., W.	5 & 1	5 & 2	Social
Ladies' Field	1903	Dover-st., W.	—	6	Social and sport.
Lyceum	1904	128, Piccadilly, W.	1	3 & 2	International club for women devoted to art, literature, etc.
New Century	1900	Hay-hill, Berkeley-sq., W.	2	1	Social.
New Empress	1867	35, Dover-st., W.	1	7 & 5	Ladies of social position.
New Era	1901	121, Victoria-st., S.W.	2	3	Social.
New Victorian	1866	30A, Sackville-st., W.	2	2 & 3	Social.
Pioneer	1892	9, Park-place, W.	1 & 2	3 & 2	Temperance.
Sesame	1805	28 and 29, Dover-st., W.	6	6	Literary and educational.
University	1887	32, George-st., Hanover-sq., W.	1	1	University and medical women.
Victoria	1894	145, Victoria-st., S.W.	None.	5	Town house for county ladies.
Writers'	1890	10, Norfolk-st., Strand, W.C.	1	1 & 1	Literary and journalistic.

THE SEASONS (1915).

Spring opens	March 21.	Autumn opens	September 23.
Summer "	June 22.	Winter "	December 22.
The longest day is June 21.		The shortest day, December 21.	

QUARTER DAYS.

ENGLAND AND IRELAND.

Lady Day	March 25.	Michaelmas	September 29.
Midsummer	June 24.	Christmas	December 25.

SCOTLAND.

Candlemas	February 2.	Lammas	August 1.
Whitsun	May 15.	Martinmas	November 11.

HALF-QUARTER DAYS.

ENGLAND.

February 8.	May 9.	August 11.	November 11.
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BANK AND PUBLIC HOLIDAYS.

In *England and Ireland* it is ordained that the Bank Holidays shall be: Good Friday, Easter Monday, the Monday in Whitun week, first Monday in August, the 26th day of December (or the 27th should the 26th be a Sunday) Ireland has in addition a special Bank Holiday on St. Patrick's Day, March 17th.

The Stock Exchange is also closed on January 1st, May 1st and November 1st, in addition to the Bank Holidays.

Empire Day (May 24th, the birthday of Queen

Victoria) is still observed in the Customs and certain other Government establishments as a holiday.

In *Scotland* it is enacted that the Bank Holidays observed shall be: New Year's Day, Christmas Day (should either of the above days fall on a Sunday, the following Monday shall be a Bank Holiday), Good Friday, first Monday in May, first Monday in August.

There are also one day each annually of special Spring and Autumn holiday in Edinburgh; and one in Glasgow on the Fair Saturday in July.

BRITISH GAME, FISH, AND SPORTING SEASONS.

Black Game, from August 20 to December 10; but in Somerset, Devon, and New Forest, from September 1 to December 10.

Blackcock—August 20 to December 10.

Buck-hunting—August 20 to September 17.

Bustard—September 1 to March 1.

Red Deer hunted—August 20 to September 30.

Male Deer (Ireland)—October 20 to June 10.

Fallow Deer (Ireland)—June 20 to Michaelmas.

Eels (about)—April 20 to October 28.

Fox-hunting—October to Lady Day.

Fox Cubs—August 1 to first Monday in November.

Grouse-shooting—August 12 to December 10.

Hare-hunting—October 20 to February 27.

Hare-coursing—Between September and March.

Game in England—Hare, pheasant, partridge, grouse, and moor fowl.

Game in Ireland—Same as England, with the addition of deer, black game, landrail, quail, and bustard.

Game in Scotland—Same as England, with the addition of ptarmigan.

Hind—Hunted in October, and again between April 10 and May 20.

Moor Game (Ireland)—August 20 to December 10.

Oyster Season—September to April.

Partridge-shooting—September 1 to February 1.

Pheasant-shooting—October 1 to February 1.

Ptarmigan—August 12 to December 10.

Quail—August 12 to January 20.

Rabbit—Between October and March.

Salmon—February 1 to September 1.

Salmon, rod-fishing—November 1 to September.

Trout-fishing—May 1 to September 10.

Trout, in the Thames—April 1 to September 10.

Woodcocks—November to January.

ENGLISH LAW SITTINGS, 1915.

Hilary—Begins January 11, ends March 31.

Easter—Begins April 13, ends May 21.

Trinity—Begins June 1, ends July 31.

Michaelmas—Begins October 12, ends December 21.

LAW TERMS IN SCOTLAND.

Law sittings in Scotland are from October 15 to March 20, and from May 12 to July 20. Should the first day of Term fall on a Sunday, legal business commences on the day following.

UNIVERSITY TERMS, 1915.

OXFORD.

Lent—Begins January 14, ends March 27.

Easter—Begins April 7, ends May 21.

Trinity—Begins May 22, ends July 10.

Michaelmas—Begins October 11, ends December 17.

CAMBRIDGE.

Lent—Begins January 8, ends March 27.

Easter—Begins April 16, ends June 24.

Michaelmas—Begins October 1, ends December

19.

TABLE SHOWING HOW AN INTESTATE'S PERSONAL PROPERTY (INCLUDING LEASE-HOLDS) IS DIVISIBLE AT DEATH IN ENGLAND AND SCOTLAND.

Under the Intestates' Estates Act, 1890, the widow of a man dying intestate and without issue, is entitled to the whole estate, real and personal, if under £500 in value; and if above that amount she is entitled to take £500 out of the real and personal estate rateably before any distribution is made, and to such share in the remainder as she would have been entitled to before the Act of 1890. By the Intestate Husband's Estate (Scotland) Act of 1911, the same provisions are applied to Scotland.

Where an asterisk (*) appears the clause applies to Scotland only

<i>Intestate dying, leaving</i>	<i>His representatives take in the proportions following.</i>
Widow only	Half to widow. Half to the Crown.
Widow and child or children	One-third to widow, two-thirds to children in equal shares. In case of deceased children who have left issue, such issue take amongst their deceased parent's share.
	*One-third to widow. One-third to living children in equal shares (but the heir must collate the heritable estate, and those children who have been advanced by intestate during life must collate the advances). One-third amongst living children <i>per capita</i> and issue of deceased children <i>per stirpes</i> .
Widow and father	Half to widow. Half to father.
Widow and mother, no father	Half to widow. Half to mother.
	*Half to widow, one-sixth to mother. Two-sixths to Crown.
Widow, brothers, or sisters	Half to widow. Half equally amongst brothers and sisters, whether of the whole or half-blood; if a deceased brother or sister has left issue, such issue take amongst them their deceased parent's share.
Widow, mother, nephews or nieces	Half to widow. One-fourth to mother. One-fourth to nephews and nieces <i>per stirpes</i> .
	*Half to widow. One-sixth to mother, two-sixths to nephews and nieces <i>per stirpes</i> .
Husband, with or without children	All to husband.
Father, brothers, and sisters	*Half to husband. Half to wife's next-of-kin. All to father.
	*One-half to father. One-half equally amongst brothers and sisters.
Mother, brothers, and sisters	All equally.
	*Mother one-third. Brothers and sisters two-thirds equally.
Mother, but no other kin	All to mother.
Child, children, or grandchildren by deceased child	*One-third to mother. Two-thirds to the Crown. Amongst children in equal shares, the grandchildren by deceased children taking amongst them their deceased parent's share.
Brother or sister, and nephews or nieces	Amongst brothers or sisters in equal shares, the children of deceased brothers, or sisters taking amongst them their deceased parent's share.
Brother or sister, and grandfather	All to brother or sister.
Brother or sister, and uncles or aunts	All to brother or sister.
Grandfather, no nearer relation	All to grandfather.
Father's father, and mother's mother	Equally to both.
Grandmother, uncles, and aunts	All to grandmother.
	*All to uncles and aunts if paternal
Great-grandfather, uncles, and aunts	Equally <i>per capita</i> .
Uncles and aunts	All equally.
Uncle and deceased uncle's child	All to uncle.
Uncle by mother's side, and deceased uncle or aunt's child	All to uncle.
	*Child of deceased paternal uncle or aunt takes in exclusion of maternal uncle.
Aunts, nephew, and niece	All equally.
	*Nephew and niece.
Cousins	Equally <i>per capita</i> .
Nephew by brother, and nephew by half-sister	Equally <i>per capita</i> .
	*All to nephew by brother.

Taking per capita is taking by head individually. *Taking per stirpes* is taking by descent or representation.

By English Law, brothers and sisters of the half blood share equally with the whole blood. By the Scottish Law, brothers and sisters german (that is, by the same father and mother) and their issue take in exclusion of brothers and sisters consanguinean (that is, by the same father only) and their issue. And brothers and sisters consanguinean and their issue take in exclusion of brothers and sisters uterine (that is, by the same mother only) and their issue.

Posthumous children take equally with those born in the lifetime of their father.

TABLE SHOWING HOW THE REAL ESTATE OF AN INTESTATE IS DISTRIBUTED.

The persons named are those who are entitled to administer when the Intestate leaves no nearer relations than those indicated. It should be noted that leaseholds are accounted *personal* and not *real* property; and an illegitimate child cannot inherit real estate.

Intestate dying, leaving

The Real Estate falls to—

Wife only, no blood relations	Third to wife for life, rest to Crown; copyholds to lord of manor.
Wife and child, or children, and children of a deceased child	Third to wife for life in any case. Rest to eldest son or his issue, such son and his issue, whether male or female, being preferred to any other son and his issue, and all sons and their issue, whether male or female, being preferred to all daughters and their issue, whether male or female. If no son, rest to daughters equally. If daughters and grandchildren (sons and daughters of deceased daughter), rest to daughters and eldest son of deceased daughter.
Wife and father	Third to wife for life; rest to father, if deceased purchased same, or had it left him by will.
Wife and mother	Third to wife for life; rest to mother, there being no heirs on father's side
Wife, brother, or sister, and children of a deceased brother or sister	Third to wife for life in any case; rest to eldest brother or his issue. Sister and children of deceased sister, rest equally between sister and nephew (eldest). Sisters and nieces, only, children of deceased sister, rest equally between nieces.
Wife, mother, nephews, and nieces . .	Third to wife for life; rest to nephew (eldest), or nieces, if brother left no son
Wife, mother, brother, sisters, and nieces (children of deceased brothers and sisters)	Third to wife for life in any case; rest to eldest brother. Rest to nieces, equally, if children of elder brother deceased.
No wife or child or issue of a deceased child	Lineal ancestor paternal, males of whole blood first.
Children by one or more wives, and the issue of deceased children	All to eldest son, or his issue. Daughters equally, if no son.
Husband and child or children	Husband for life; afterwards to only child or to eldest son or issue of a deceased eldest son If all daughters, to them equally.
Mother, but no wife, child, or issue of a child, father, brother, sister, nephew, or niece, or more distant descendants of father	All to mother in default of lineal ancestors on the father's side or issue of such ancestors.
Mother, and brothers and sisters . . .	All to eldest brother.
Mother and sisters	All to sisters.
Father, and brothers and sisters . . .	All to father.
Child and grandchild by deceased child	Governed by precedence indicated in paragraph "Rest to eldest son or his issue," under head "Wife and child," &c.
Brother and grandfather	All to brother.
Brother's grandson, and brother or sister's daughter	All to great-nephew, if eldest brother's grandson All to brother's daughter, if child of eldest brother.
Brother and two aunts	Brother, all.
Brother and wife	Third to wife for life; rest to brother.
Grandfather (no nearer)	All to grandfather.
Father's father, and mother's mother .	All to father's father.
Grandmother and uncle, or aunt on father's side (no nearer)	All to uncle or aunt.
Uncle, and deceased uncle's child . .	Uncle, unless deceased uncle was elder brother, when his child takes all.
Uncle by mother's side, and deceased uncle or aunt's child	Child of deceased uncle on father's side, or (if none) child of deceased aunt on father's side.
Two aunts, nephew, and niece, children of deceased brother	Nephew.
Uncle or aunt's children, and brother's grandchildren through a son	Eldest brother's grandson; if no grandson, but granddaughters only then the latter between them equally.
Nephew by brother, and nephew by half-sister	Nephew by brother.
Nephew by deceased brother, and nephews and nieces by deceased sister	All to eldest nephew, son of deceased brother.

STAMPS, TAXES, DEATH DUTIES, &c.

NOTE.—The items marked with an * are varied by the Finance Act 1909-10, for particulars of which see the List of New Duties below.

AFFIDAVIT, or statutory declaration	£0	2	6
AGREEMENT or Memorandum of Agreement, under hand, not otherwise charged	0	0	6
APPRAISEMENT or VALUATION of any estate or effects where the amount of the appraisement shall not exceed £5	0	0	3
Not exceeding £10	0	0	6
20	0	1	0
30	0	1	6
40	0	2	0
50	0	2	6
100	0	5	0
200	0	10	0
500	0	15	0
Exceeding £500	1	0	0
APPRENTICESHIP INDENTURES	0	2	6
ARMORIAL BEARINGS (Great Britain)	1	1	1
If used on any carriage	2	7	0
BILLS of EXCHANGE, for any amount, payable on demand	0	0	1
BILLS of EXCHANGE of any other kind, and also	0	0	1
PROMISSORY NOTES: Not exceeding £5	0	0	1
Exceeding £5, and not exceeding £10	0	0	2
" 10	0	0	3
" 25	0	0	6
" 50	0	0	9
" 75	0	0	1
Every £100, and also for any fractional part of £100, of such amount	0	1	0
CERTIFICATE.—Of goods, etc., being duly entered inwards, for drawback	0	4	0
Of birth, marriage, death, or burial (certified copy of)	0	0	1
*CONVEYANCE, where the purchase money shall not exceed £5	0	0	6
Exceeding £5, and not exceeding £10	0	1	0
" 10	0	1	6
" 25	0	2	0
" 50	0	2	6
For every additional £25 up to £300	0	2	6
If exceeding £300, then for every £50	0	5	0
Of any kind not otherwise charged	0	10	0
*CONVEYANCE OF TRANSFER:—			
Of Bank of England Stock	0	7	9
CHEQUE, Draft, Order, or Letter of Credit, for payment of any sum to bearer or order, on demand	0	0	1
LIMITED LIABILITY COMPANIES, on every £100 of the nominal capital	0	5	0
MARRIAGE LICENCE (Special), England and Ireland	5	0	0
Not Special	10	0	0
PASSPORT	0	0	6

VARIOUS EXCISE LICENCES AND DUTIES.

CARRIAGES, ANNUAL LICENCE (Great Britain)—			
For every carriage with four or more wheels, drawn by two or more horses, or drawn or propelled by mechanical power	2	2	0
For every carriage with four or more wheels, drawn by one horse	1	1	0
For every carriage with less than four wheels (including motor bicycles and tricycles)	0	15	0
For every hackney carriage (including motors used as such)	0	15	0
Dogs of any kind (Great Britain)	0	7	6
(Ireland), one dog	0	2	6
Every additional dog (Ireland)	0	2	0
[Dogs kept by blind persons for guidance, shepherd dogs solely used as such, and all dogs under six months old, are exempt.]			
Use Licences (U.K.), if taken out after July 31 and before December 2, to expire on July 31 following	3	0	0

After July 31, expire October 31	£	2	0
After October 31, expire July 31	2	0	0
Gamekeepers (Great Britain)	2	0	0
Deputation of (Stamp Duty)	0	10	0
Game Dealer's Licence (U.K.)	2	0	0
Gun or Pistol Licence. (This is rigidly enforced even for carrying a revolver, wherever possible: volunteers and holders of game licences personally exempt, but not their servants.)	0	10	0
House Agents letting furnished houses above £25 a year	2	0	0
Medicine (Patent) Dealers (Great Britain)—for each shop	0	5	0
Pawnbrokers	7	10	0
Fedlars, Police Licence	0	5	0
Servant's Annual Licence for every male servant in Great Britain	0	15	0
Tea, Customs duty per lb.	0	0	5

*NEW DUTIES IMPOSED BY THE FINANCE ACT 1909-10.

CONTRACT NOTES, for the sale or purchase of stocks and marketable securities. New Scale of Stamp Duties, according to the value of the stock, etc.: £5 to £100, 6d.; over £100 up to £500, 1s.; over £500 up to £1,000, 2s.; over £1,000 up to £2,500, 3s.; over £2,500 up to £5,000, 4s.; over £5,000 up to £10,000, 5s.; and so on (2s. extra for each additional £1,500) up to a maximum of £1, where the value exceeds £20,000.

Continuation Notes to be chargeable on one only of the two transactions embraced.

Option Contract Notes to be chargeable with half the above rates only, unless the option is a double one.

Contract Note following a duly stamped option contract note to be relieved from half the duty.

CONVEYANCES or TRANSFERS on sale of any property: existing duties (*vide scale* in Table above) to be doubled, except conveyances or transfers of stocks or marketable securities, except also those in which the consideration does not exceed £500.

Conveyances by way of gift inter vivos to be charged as conveyances on sale. Exceptions for marriage settlements, and certain gifts of property for preservation of open spaces, and for conveyances to appoint new trustees, etc.

ESTATE DUTY: *Increased rates*, in the case of persons dying on or after April 30, 1909:—

Principal value of Estate	Rate per cent.	Principal value of Estate	Rate per cent.
£100	£3	£100,000	£3
500	2	150,000	10
1,000	3	200,000	11
5,000	4	400,000	12
10,000	5	600,000	13
20,000	6	800,000	14
40,000	7	1,000,000	15
70,000	8		

Settlement Estate Duty, to be increased from £1 to £2 per cent.

Gifts made by deceased during his life to be charged, unless made more than three years before death; gifts made for public or charitable purposes, or in consideration of marriage, or as part of deceased's reasonable normal expenditure, excepted. Gifts of less than £100 in value or amount also excepted.

Payment of Estate or Succession Duties may, by agreement with the Commissioners, be made, wholly or in part, in the form of real or leasehold property comprised in the estate.

INCOME TAX: *Rate* raised from 1s. 6d. to 1s. 3d. in the £ by the Budget of 1914. On Nov. 17, 1914.

to meet the vast expenditure on the War, the income tax was doubled, although for 1914 the increased amount was only to be collected in respect of one-third of the income. Thus for 1914 the income tax was to be levied at the rate of *ss. 8d.*; viz., *ss.* in respect of earned income on the ninepenny class, and *ss. 8d.* on the rest; in 1915 at the rate of *ss. 6d.* and *ss. 6d.*; and the same applied to the super-tax.

Super Tax, 6d. in the *£*, imposed on persons whose total incomes exceed *£5,000*, but the first *£3,000* income not to be charged.

Allowance for Children may be claimed by persons whose total incomes do not exceed *£500*. *£10* to be free of tax in respect of each child under 16 years old.

Allowance to Owners of Land and Houses, for average cost of maintenance, repairs, insurance, and management, may be claimed in addition to the present fixed allowance, subject to a limit of one-eighth of the annual value in case of land and one-twelfth in the case of houses. This special allowance does not apply to houses of annual value exceeding *£3*. Five years' average to be taken.

Residents abroad.—No exemption or other relief dependent on total income is to be given to persons not residing in the United Kingdom.

Exemptions: Present or former servants of the Crown, missionaries, servants of native States under British protection, residents in the Channel Islands or the Isle of Man, and persons residing abroad for their health.

LAND VALUES DUTIES:

(I.) **INCREMENT VALUE DUTY:** payable on the occasion (a) of any transfer or sale of land or any interest therein; (b) of any lease for more than 14 years; (c) of the land, or interest in it, passing on death. (d) In the case of Corporations, in addition to (a) and (b), and in place of (c), the duty is payable in 1914 and every 15 years thereafter.

Rate of duty (payable as a stamp duty by (a) the seller, (b) the lessor, (c) the deceased's estate, or (d) the corporation): *£1* for every *£5* of "Increment value," i.e., the increase in the value of the site—apart from the value of buildings, etc., thereon—since April 30, 1909, or since the last payment of duty.

Exemptions.—Agricultural land, while it has no higher value than for agricultural purposes only.

Small residences occupied by the owner, or holder of lease of 50 years, where annual value does not exceed *£40* in London, *£25* in towns of 50,000 population, and *£16* elsewhere.—Small agricultural holdings, where land and dwelling do not exceed *£30* annual value, occupied and cultivated by the owner, and not exceeding 50 acres (of average value not exceeding *£75* an acre).—Recreation grounds owned by corporate and other bodies, without view of profit, not to be liable to the judicial charge.—Flats (transfer, lease, etc., of separate dwelling).—Ten per cent. of increment allowed free on first and on any subsequent occasion, but such allowances not to amount to more than 25 per cent. in any period of five years.—Allowance is to be made where Reversion Duty has been paid for the same benefit or increment.—Minerals which were the subject of a mining lease or were being worked on April 30, 1909.—Minerals not so exempt are subject to a special basis of charge to Increment Value Duty, as an annual duty.

(II.) **REVERSION DUTY:** payable by the lessor on the determination of a lease.
Rate of Duty: *£1* for every *£10* of the value of the benefit accruing to the lessor.

Exemptions, etc.—Reversions purchased before April 30, 1909, under leases which determine within 40 years of purchase.—Leases of agricultural land.—Leases the original term of which did not exceed 21 years.—Allowance to be made where fresh lease is granted before expiration of original lease, 25 per cent. of duty for each unexpired year, up to 50 per cent. of whole duty.—Allowance is to be made where Increment Value Duty has been paid for the same benefit or increment.—Mining leases not to be charged.

(III.) **UNDEVELOPED LAND DUTY:** payable by the owner (including a lessee for a term of fifty years or more) of any land which has not been developed by the erection of dwelling-houses or buildings for the purpose of any trade, &c., other than agriculture (but including glasshouses or greenhouses or trade buildings), or is not otherwise used *bona-fide* for any trade, &c., other than agriculture.

Rate of Duty: One halfpenny annually for every *£1* of the "site value," i.e., the market value of the fee simple of the land if divested of buildings, timber, &c., and less the value of any minerals.

Exemptions, etc.—Land the site value of which does not exceed *£50* an acre.—Agricultural land, except on such part of the site value as exceeds its agricultural value.—Parks and spaces open to the public as of right, or to which the public are allowed reasonable access.—Recreation grounds, used as such under agreements for not less than 5 years.—Land not exceeding 1 acre occupied with a dwelling-house.—Garden (with a dwelling-house) up to 5 acres, when site value of the whole does not exceed 5 times its annual value.—Agricultural land held under an existing agreement, not chargeable until agreement terminates.—Agricultural land occupied and cultivated by the owner, if all land owned by him does not exceed *£500* in value. Allowance is to be made where Increment Value Duty has been paid in respect of undeveloped land.

(IV.) **MINERAL RIGHTS DUTY:** payable in respect of the rental value of all rights to work minerals and of all mineral wayleaves.

Rate of Duty (payable by the proprietor where he works the minerals, or, in any other case, by the immediate lessor of the working lessee): *1s. 6d.* annually for each *£1* of rental value.

Exemptions, etc.—Common clay, common brick, common brick earth, sand, chalk, limestone and gravel not to be charged.—**Reversion Duty** is not to be charged on the determination, nor **Increment Duty** on the grant, of a mining lease.—Minerals which were the subject of a mining lease or were being worked on April 30, 1909, are exempt from **Increment Value Duty**, and minerals not so exempt are to be charged to that Duty on a special basis in the form of an annual duty.

LEASES: the existing Stamp Duties (*vide scale in Table*) to be doubled, except those which are charged with the fixed duty of *1d.*

LEGACY AND SUCCESSION DUTIES: The existing duties (*vide Table*) are thus affected:—

The 1 per cent. duty, which was abolished in most cases, is to be reimposed and extended to husbands and wives, as well as descendants and ancestors.
Fixations.—Estates not exceeding *£15,000*.—Legacies and successions of less than *£1,000* (*£2,000* in the case of widow or child of deceased), whatever may be value of whole estate.

The 3 per cent. duty (brothers and sisters and their descendants) raised to 5 per cent.

The 5 per cent. and 6 per cent. duties (more distant relatives) to 10 per cent.

MARKETABLE SECURITIES, transferable by delivery: Stamp Duties to be doubled, except as regards Colonial Government and certain Colonial Municipal Securities.

The classes affected are:—(1) Bearer Securities dated or signed on or before August 6, 1885, will be charged double the duty on a mortgage.—(2) Bearer Securities dated, signed, or offered for subscription after August 6, 1885, *ss.* for every *£10* or fraction.—(3) Bearer Securities given in substitution for like securities duly stamped, *ss.* for every *£20* or fraction.—(4) Foreign or Colonial (except Colonial Government) Bearer Securities, on negotiation in the U.K., *ss.* for every *£20* or fraction.

SHARE WARRANT AND STOCK CERTIFICATE TO BEARER of any Foreign or Colonial Company to be charged *ss.* for every *£10* or fraction.

For other EXCISE DUTIES AND LICENCES administered by the Board of Customs and Excise, see p. 476.

letters will be forwarded by the next available train for delivery by the postman at destination.

EXPRESS LETTERS.

Letters may be expressed for immediate delivery (from any Telegraph delivery office) at a charge of 3d. per letter per mile, during the hours of opening for Telegraph business at the offices. On packets over 1 lb. weight, 3d. extra is charged. See *Post Office Guide* for full details of this service.

REGISTRATION OF LETTERS, PACKETS, OR NEWSPAPERS.

Fee 3d., which, with the postage, must be prepaid, and a receipt obtained at the office where it is posted. Under certain circumstances, explained at length in the *Post Office Guide*, the Postmaster-General will make good the loss of a registered letter, etc., to the value of £5 without extra fee; subject to the same rules he will grant compensation beyond £5 and up to a limit of £400 upon prepayment of a fee in addition to the postage and the ordinary registration fee of 3d.; but if money be sent, it must, to obtain this benefit, be posted in an envelope provided for registered letters by the Post Office, and prices of which are appended including the stamp covering the charges for registration and postage.

F. 3d. in. by 3d. in.	3d. each, or 12 for 3s. 3d.
G. 6 " 3d. " "	3d. " " 3s. 3d.
H. 8 " 3d. " "	3d. " " 3s. 3d.
I. 9 " 4 " " "	3d. " " 3s. 3d.
K. 12 " 6 " " "	4d. " " 4s. 6d.

PREPAYMENT OF POSTAGE IN MONEY.

As a rule, the postage of letters, parcels, newspapers, and book packets can only be prepaid by means of postage stamps; but in London, at the General and principal District Post Offices, as well as at the Head Offices in Edinburgh, Dublin, and certain large provincial towns, every kind of inland correspondence, other than newspapers, may be, if handed in within fixed hours, prepaid in money, provided the amount paid be in no case less than 1s., and that the letters and packets be tied in bundles representing a postage of 5s. each, or in the case of exceptionally bulky packets, 2s. 6d. each, with the addresses arranged in the same direction. The prepayment, however, cannot be made partly in money and partly with stamps, and the money must be paid at the time the letters, etc., are handed in at the Post Office. The acceptance of bulk correspondence (including postcards and halfpenny packets) at many small provincial towns, by payment instead of stamp attachment, can be arranged for with the Post Office now by giving timely notice.

PARCEL POST.

Parcels not exceeding 11 lbs. in weight are transmitted by the Inland Parcel Post under the following general conditions:—

The rate of postage, to be prepaid in ordinary postage stamps is for an Inland Postal Parcel of a weight of

Not exceeding 1 lb.	3d.
" 2 lbs.	4d.
" 3 " "	5d.
" 5 " "	6d.
" 7 " "	7d.
" 8 " "	8d.
" 9 " "	9d.
" 10 " "	10d.
" 11 " "	11d.

The dimensions allowed for an Inland Postal Parcel are:—

Greatest length 3 ft. 6 ins.

Greatest length and girth combined 6 ft. 0 in.

Compensation for damage or loss of parcels, uninsured, is given, "as an act of grace," by the Postmaster-General, if the loss sustained be due to the Post Office handling of the parcel, the amount paid in no case to exceed £2. On payment of registration or insurance fees over and above the

postage, compensation for loss is given, provided the regulations have been complied with, as follows:—

Fee.	Limit of Compensation.	Fee.	Limit of Compensation.
2d.	£5	1s. 6d.	£200
3d.	20	1s. 1d.	220
4d.	40	1s. 3d.	240
5d.	60	1s. 6d.	260
6d.	80	1s. 9d.	280
7d.	100	1s. 5d.	300
8d.	120	1s. 6d.	320
9d.	140	1s. 7d.	340
10d.	160	1s. 8d.	360
11d.	180	1s. 9d.	380
		1s. 10d.	400

Live bees are allowed to pass by letter or parcel post within the U.K. if sent in suitable cases. Parcel must be handed in at a Post Office, and the postage prepaid.

CASH ON DELIVERY.

A cash on delivery system has been established for trade between the United Kingdom and certain British possessions and Egypt, in respect of amounts not exceeding £20. For particulars of this system, see *Post Office Guide*.

POSTAL ORDERS.

These Orders are for certain fixed sums from 6d. to 21s.; on those for 6d., 1s., 1s. 6d., 2s., and 2s. 6d., the charge is 1d.; for 3s. 3d., 4s., 4s. 6d., 5s., 5s. 6d., 6s., 6s. 6d., 7s., 7s. 6d., 8s., 8s. 6d., 9s., 9s. 6d., 10s., 10s. 6d., 11s., 11s. 6d., 12s., 12s. 6d., 13s., 13s. 6d., 14s., 14s. 6d., and 15s., it is 1d.; for 15s. 6d., 16s., 16s. 6d., 17s., 17s. 6d., 18s., 18s. 6d., 19s., 19s. 6d., 20s., and 21s., it is 1d. Broken amounts may be made up with stamps affixed to the face of the order.

MONEY ORDERS.

Ordinary and Telegraphic.

Money Orders are granted in the United Kingdom at the following rates:—

For sums not exceeding £1	2d.
" above £1 and not exceeding £3	3d.
" " £3 " " £10 " " " " " "	4d.
" " £10 " " £20 " " " " " "	6d.
" " £20 " " £30 " " " " " "	8d.
" " £30 " " £40 " " " " " "	10d.

No order may contain a fractional part of a penny.

Money may be sent by Telegraph Money Order at the same rate of poundage as for ordinary Inland Money Orders, plus supplementary fee of 2d. and cost of official Telegram of Advice, the minimum charge being 6d. Amounts to £40 can be wired from and to any Telegraphic Money Order Office.

POST OFFICE SAVINGS BANKS

No deposit of less than 1s. is received, nor any pence and not more than £50 in one year. No further deposit is allowed when the sum standing in depositor's name amounts to £200, including interest. Interest is allowed at the rate of 3 per cent. (or 6d. in the £) per annum—that is 3d. 7½c. 6 per month. Separate accounts may be opened in the name of wife and children.

INVESTMENTS IN GOVERNMENT STOCKS.

Depositors in Post Office Savings Banks may invest not less than 1s. or more than £200 in any one year ending December 31st or £500 in all, in Two and Half per Cent. Consolidated Stock (1903); Two and Three-Quarters per Cent. Annuities (1903); Two and a Half per Cent. Annuities; Local Loans Three per Cent. Stock; Guaranteed Two and Three-Quarters Stock, and Guaranteed Three per Cents.

LIFE INSURANCE AND ANNUITIES.

The Post Office undertakes the Insurance of lives (children between 8 and 14 years old for £5, and persons between 14 and 65 years old from £5 to £100) and granting of Annuities, Immediate or Deferred, from £1 up to £100. For full particulars, see *Post Office Guide*.

FOREIGN AND COLONIAL POSTAL INFORMATION.

RATES OF POSTAGE AND PRINCIPAL REGULATIONS.

THE rate of postage on letters to British Possessions generally, the United States, Egypt, Morocco, and the Malay Peninsula, where there are British Post Office Agencies, is 1d. per oz. The charge to all other places abroad is 2½d. per oz., and 1½d. per oz. above. The following is a list of the British Colonies and Dependencies (including Egypt) to all of which the letter postage is 1d. per oz.

Aden (including Perim)	British Guiana	Hawaii (Sandwich Isls.)	Orange River Colony
Afghanistan (extra local postage payable beyond the Indian frontier)	British Honduras	Hong Kong and its Agencies in China (see <i>Post Office Guide</i>)	Papua
Antigua	British New Guinea (Papua)	India (<i>Post Office Guide</i>)	Rhodesia
Ascension	British North Borneo (<i>but not Dutch Borneo</i>)	Jamaica	St. Helena
Australia (including South Australia, West Australia, Victoria, New South Wales, Queensland, Tasmania, British New Guinea, and Norfolk Island; also New Zealand)	Brunei	Labrador	St. Kitts
Bahamas	Canada	Labuan	St. Lucia
Bahrain	Cape Colony	Lagos	St. Vincent
Barbados	Cayman Islands	Malay States	Sandwich Islands
Basutoland	Ceylon	Malta	Sarawak
Bechuanaland	Cook Islands	Mauritius	Seychelles
Bermudas	Cyprus	Montserrat	Sierra Leone
British Central Africa	Dominica	Muscat	Somaliand
British East Africa and Uganda	Egypt	Natal	Strait Settlements
	Ellice Islands	Nevis	Tobago
	Falkland Islands	Newfoundland	Tonga
	Fanning Island	New Guinea (British but not German)	Tortola
	Fiji Islands	New Zealand	Transvaal (including Swaziland)
	French India	Nigeria, Northern and Southern	Trinidad
	Gibraltar	Norfolk Island	Tristan d'Acunha
	Greenada	Nyasaland	Turk's and Caicos Islands
			United States
			Zanzibar

LETTERS must in no case exceed 2 feet in length, or 1 foot in width or depth; and the transmission by post of numerous articles, particularly coin, gold, silver, precious stones, jewellery, and dutiable commodities (except under regulations as to payment of charges) is prohibited to many Foreign Countries.

POSTCARDS, single, are charged 1d. postage to all British Colonies and to all foreign countries; reply postcards, 2d. each. The maximum size limit is 5½ in. by 3½ in. and many places abroad object to the transmission of pictorial postcards with correspondence on the left hand half of the address side. For the countries permitting this see *Post Office Guide*; the British Post Office can give no guarantee that foreign offices will allow the privileges it permits as to attachments to picture or other postcards.

PRINTED PAPERS pass through the post to all places abroad at the rate of ½d. per 2 oz.; COMMERCIAL PAPERS at the rate of 1d. for the first 2 oz., and ½d. per oz. thereafter. To Foreign Countries in the Postal Union the size-limit is 1½ feet in length by 1 foot in width or depth; to all other destinations

abroad packets may be 2 feet in length. Rolls in all cases may reach 30 in. in length, and 4 in. in diameter. The maximum weights vary.

SAMPLES (under regulations given in *Post Office Guide*) pass at the rate of 1d. for the first 4 oz. and ½d. per 2 oz. thereafter. To Foreign Countries in the Postal Union the maximum allowable size for sample packets is 12 in. by 8 in. by 4 in., or if in rolls 12 in. long by 6 in. in diameter. To all other destinations the maximum size-limits for printed papers are observable. The regulations as to advertising and other prohibitions, customs charges, etc., should be carefully regarded by senders; as also the top-weight regulations at different places.

REGISTRATION for all articles abroad is 2d.; registered articles may secure acknowledgment of delivery on payment of a further fee of 2½d. Letter insurance abroad costs 2d. for £10 and 1½d. for every additional £10 to the maximum limit, which varies; is not uniform, while in many cases there is no insurance service. See *Post Office Guide*.

FOREIGN AND COLONIAL PARCELS POST.

PARCELS sent to the Colonies and Foreign Countries through the Post Office are subject to the Customs regulations of the country to which they are addressed and to many prohibitions. Declarations have to be made by the sender on forms obtainable at the Post Office. Generally an invoice may be inclosed in the parcel, but not a letter. The weight and dimension limits, and the amount insurable on values, vary considerably. For full particulars see *Post Office Guide*. The following are the rates of postage on parcels to the more important countries:—

Argentina.—3 lb. 1s.; 7 lb. 3s.; 11 lb. 4s.
Australia (by P. and O. or Orient Line direct, 44 days to Sydney).—1 lb. 1s.; and 6d. per lb. for each additional lb. up to 11 lb. By Italy (6 days faster), 1 lb. 2s.; 6d. for each lb. additional up to 11 lb.
Austria-Hungary (*via Germany*).—3 lb. 1s. 4d.; 7 lb. 1s. 8d.; 11 lb. 2s.; *via Ostend* 3½d. Flushing, 3 lb. 1s. 7d.; 7 lb. 1s. 11d.; 11 lb. 2s. 3d.
Barbados.—Up to 3 lb. 1s.; up to 7 lb. 1s.; up to 11 lb. 2s.
Belgium.—3 lb. 1s.; 7 lb. 1s. 4d.; 11 lb. 1s. 9d.
Brazil.—Up to 3 lb., 3s. 6d.; to 6½ lb. (limit), 4s.
British Honduras.—Same as Barbados.
Bulgaria.—*via Ostend* or Flushing, 3 lb. 2s. 6d.;

7 lb. 2s. 10d.; 11 lb. 3s. 2d. By Hamburg, 3 lb. 2s. 4d.; 7 lb. 2s. 8d.; 11 lb. 3s.
Canada.—3 lb. 1s.; up to 7 lb. 2s.; up to 11 lb. 3s.
Cape Colony.—See *S. Africa*.
Ceylon.—From the Thames direct (25 days), as Barbados. By Marseilles (19 days), Naples, or Brindisi, 3 lb. 1s.; 7 lb. 1s.; 11 lb. 2s.
China (all places except Macao, by P. & O.).—3 lb. 2s.; 7 lb. 2s.; 11 lb. 4s.; *via Italy*, 3 lb. 3s.; 7 lb. 4s.; 11 lb. 5s.
Denmark (*via Harwich*).—3 lb. 1s.; 7 lb. 1s. 4d.; 11 lb. 1s. 7d.; *via Ostend* or Flushing, 3 lb. 1s. 7d.; 7 lb. 1s. 11d.; 11 lb. 2s. 3d.
Egypt.—3 lb. 1s.; 7 lb. 1s. 9d.; 11 lb. 2s. 6d.; *via Italy*, 3 lb. 2s.; 7 lb. 2s. 6d.; 11 lb. 3s.
France.—3 lb. 1s. 4d.; 7 lb. 1s. 9d.; 11 lb. 2s. 2d.
Germany (by sea to Hamburg direct, 3 to 4 days).—3 lb. 1s. 7d.; 7 lb. 1s. 11d.; 11 lb. 2s. 7d.; *via Ostend* or Flushing (1 to 3 days), 3 lb. 1s. 2d.; 7 lb. 1s. 6d.; 11 lb. 2s. 10d.
Gibraltar.—As Barbados.
Greece.—3 lb. 1s. 4d.; 7 lb. 1s. 8d.; 11 lb. 1s. 9d.
Holland.—3 lb. 1s.; 7 lb. 1s. 4d.; 11 lb. 1s. 6d.
Hong Kong.—From the Thames direct (5 weeks), 3 lb. 1s.; 7 lb. 1s.; 11 lb. 2s.; *via Marseilles* or Brindisi (4 weeks), 3 lb. 1s. 8d.; 7 lb. 1s. 8d.; 11 lb. 3s. 8d.

India (British).—From the Thames (23 days to Bombay, 25 to Calcutta), 3 lb., 1s.; 7 lb., 2s.; 11 lb., 3s. *via* Marseilles or Brindisi (5 week faster), 3 lb., 1s. 8d.; 7 lb., 2s. 8d.; 11 lb., 3s. 8d.
Italy (*via* France).—3 lb., 1s. 6d.; 7 lb., 1s. 10d.; 11 lb., 2s. 2d. By Belgium, 3 lb., 2s.; 7 lb., 2s. 6d.; 11 lb., 2s. 10d.
Jamaica.—3 lb., 1s.; 7 lb., 2s.; 11 lb., 3s.
Japan.—3 lb., 1s.; 7 lb., 2s.; 11 lb., 4s.; (*via* Russia) up to 7 lb., 6s.
Madeira.—3 lb., 1s. 4d.; 7 lb., 1s. 8d.; 11 lb., 2s.
Malta.—As Barbados if by P. and O. steamers if *via* France and Italy, 2s., 3s., and 4s.
Mexico.—3 lb., 1s.; 7 lb., 2s. 6d.; 11 lb., 3s. 6d.
Natal.—See *S. Africa*.
Newfoundland, as Barbados.
New Zealand, as Barbados.
Nigeria.—As Barbados. Northern Nigeria at additional charge and addressees' risks.
Norway.—3 lb., 1s.; 7 lb., 1s. 4d.; 11 lb., 1s. 7d.
Russia in Europe.—3 lb., 1s.; 7 lb., 1s. 3d.; 11 lb., 1s. 7d. (Slightly higher rates are in vogue by alternative routes to places in Transcaucasia and Asiatic Russia.)
S. Africa (including Cape Colony, Natal, Orange Free State, and Transvaal).—For each lb. or fraction thereof up to 11 lb., 6d.
Spain.—3 lb., 1s. 6d.; 7 lb., 1s. 10d.; 11 lb., 2s. 2d.
Sweden.—3 lb., 1s. 2d.; 7 lb., 1s. 10d.; 11 lb., 2s. 6d.
Switzerland (by Belgium).—3 lb., 1s. 7d.; 7 lb., 1s. 10d.; 11 lb., 2s. 3d. By France, 3 lb., 1s. 4d.; 7 lb., 1s. 8d.; 11 lb., 2s.
Transvaal (and Orange River Colony).—See *S. Africa*.
Trinidad.—As Barbados.

Turkey.—By Liverpool to Constantinople or Smyrna (3 weeks), 3 lb., 1s.; 7 lb., 1s. 4d.; 11 lb., 1s. 8d. Other routes faster, but costlier.
United States of America.—For New York City, Brooklyn, Jersey City, or Hoboken, 3 lb., 1s. 3d.; 7 lb., 2s. 3d.; 11 lb., 3s. 3d. For any other part of the United States, 3 lb., 1s. 6d.; 7 lb., 1s. 10d.; 11 lb., 2s. 6d. By Official Service, 3 lb., 1s. 3d.; 7 lb., 1s. 6d.; 11 lb., 2s. 3d.
Venezuela.—3 lb., 1s. 6d.; 7 lb., 1s. 10d.; 11 lb., 2s.
Zanzibar.—As Barbados.
A system is in force by which in many cases the senders of parcels can pay the Customs duties to which the parcels may be liable in the country of destination; for particulars, see the *Post Office Guide*.

MONEY ORDERS PAYABLE ABROAD.

Money Orders payable abroad in the British Colonies and most important Foreign Countries are issued at the following rates of poundage:—
For sums not exceeding £1 0 3
" " £2 0 6
" " £3 0 9
" " £4 1 0
" " £5 1 3
" " £10 1 6
To some Colonies and Foreign Countries sums up to £20 and £40 can be sent by Money Order, at proportionate poundage; and there is Telegraphic Money Order service to a number of places abroad. In many British Possessions overseas, Postal Orders are also issued and paid. See *Post Office Guide*.

TELEGRAPHIC SERVICE.

INLAND.

In inland telegrams addresses are charged. The charge for transmission—6d. for the first twelve words, and 3d. for every additional word—includes *delivery* within three miles of the receiving office, but, if a head office, within the postal delivery area when it extends beyond three miles. Beyond these distances, 3d. per mile is charged. The sender must pay the postage. *Replies* up to forty-eight words may be prepaid. *Repetitions* (refunded if the part of the message questioned prove a Post Office error), half the original cost of transmission, minimum 3d., and 3d. reckoned the smallest fraction. *Multiplication* of one telegram to more than one person within the same radius or district, ad. each copy and 3d. for each word in the addresses. *Late fees*: Telegrams may be taken after the usual hours. The charges are 1s. to 3s. in addition to the telegraphic rate (payable on one telegram only).
COUNTING.—Words not forming part of a European language or Latin are counted five letters to a word. Figures count five to one word, and fractions are counted each figure and one figure for the division between, thus "2½" is five figures or one word. The addition of a letter to a figure counts as one word, thus "42A" is two words. A few hyphenated words, such as "Newcastle-on-Tyne," "mother-in-law," and "forty-eight," count as one word; but not double names, such as "Smith Jones," which is two words. Exceptional names—e.g., "McLean," "O'Connor," and "De la Rue"—are counted as one word. The contractions "don't," "can't," etc., count as one. Each initial is reckoned as one word, but E.C. and other London postal districts as one word for the combination; "Drury Lane" and the like count, however, as two words. When words are underlined or placed in parentheses or inverted commas, one extra word is charged for. The symbols "c/o," "a/c," "v/o," and "6/c" each count as one word.

REGISTERED ABBREVIATED ADDRESS.—A charge of £1 1s. per year is made for the registration of abbreviated addresses, such as "Colonizers, London." Telegrams addressed to persons, care of such addresses, must be written thus—"Jones, c/o Colonizers, London."

CANCELLING TELEGRAMS.—The sender may have his telegram cancelled; and if it be cancelled before the commencement of transmission, the sum paid—less a fee of 6d. for cancelling—will be returned on application to the secretary at any time within three calendar months. If transmission has been completed,

an official telegram, prepaid by the sender, will be sent to the postmaster at the terminal office. If the official telegram should arrive too late, the sender will be informed that the attempt to cancel his telegram failed, but the sums paid will not be refunded.

MISCELLANEOUS REGULATIONS.—Telegrams may be handed to rural postmen on their way to telegraph offices. If the addressee of a telegram is known to the messenger, the messenger may be delivered to him by the messenger wherever on the road the messenger may meet him; if the place where they meet is within the free delivery area, no charge is made for postage; but, if beyond, postage is charged to the place of meeting at the rate of 3d. per mile or part of a mile, calculated from the delivering office door.

HOURS OF ATTENDANCE.—Week days, 8 A.M. to 8 P.M.; Sundays (England and Ireland), 8 A.M. to 10 A.M.; (Scotland), 9 A.M. to 10 A.M. There are offices in London and large provincial centres open all night, and many which are open to 12 mid.night.

FOREIGN.

Telegrams in ordinary language are reckoned by words, each not exceeding fifteen letters for European telegrams, and ten for extra-European; code words must be selected from English, French, German, Italian, Spanish, Portuguese, Dutch, and Latin dictionaries, and not more than ten letters; cypher telegrams count five figures to a word in European, and three to a word in extra-European telegrams. The address of the receiver must consist of not less than two words and must be paid for. The following are some of the most important rates per word; in no case, however, is a less amount than 10d. charged for a telegram or reply.

European.—Austria, 2d.; Belgium, 2d.; Bulgaria, 3d.; Denmark, 2d.; France, 2d.; Germany, 2d.; Gibraltar, 3d.; Greece, 5d.; Holland, 2d.; Italy, 2d.; Malta, 4d.; Norway, 2d.; Portugal, 3d.; Russia, 4d.; Spain, 3d.; Sweden, 2d.; Switzerland, 2d.; Turkey, 6d.

Extra-European.—Argentina, 2s. 6d. and 2s. 9d.; Australia and New Zealand (including New South Wales, Victoria, Western Australia, South Australia, Queensland and Tasmania), 2s. and 2s. 9d.; Brazil, 2s. 7d. to 5s. (Pernambuco only, 1s. 7d.); Canada, 8d. to 2s. 1d.; Cape Colony, 2s. 6d.;

Ceylon, 2s. (or, via Turkey, 1s. 11d.); Chile, 2s. 6d. to 2s. 9d.; China, 3s. 6d.; Dutch East Indies, 3s. 7d.; Egypt, 1s. to 1s. 4d.; India, 2s. (via Turkey, 1s. 10d.); Japan, 2s. 11d.; Mexico, 1s. 9d. to 2s. 4d.; Natal, 2s. 6d.; Newfoundland, 1s.; Orange River Colony, 2s. 6d.; Rhodesia, Southern, 2s. 8d.; Rhodesia, Northern, 2s. 11d.; Transvaal Colony, 2s. 6d.; United States, 11d. to 2s. 9d.; West Indies: Barbados, 4s. 9d.; Havana, 1s. 8d.; Jamaica, 3s.; Trinidad, 5s. 1d.; Zanzibar, 2s. 6d.; Zululand, 2s. 6d.

CABLE LETTERS.

A system of day and week-end cable letters, whereby letters of from 20 to 50 words can be cabled at very low rates, the messages being accepted at any Telegraph Office in the United Kingdom on the condition that they will not be delivered before the second day after they are received at the Cable Companies' Stations. Thus 20 words can be cabled to Canada or New York for 6s.; to California for 10s.; and various other places on the North American Continent, up to 50 words *pro rata*. The rates for week-end cable letters, sent on Saturday night and delivered the following Tuesday, are still lower. (See *Postal Guide*.)

Shore telegram letters between places in the United Kingdom (50 words for 6d.) which can be sent up to midnight and delivered at their destination the next morning's letters is also promised.

MAIL DAYS.

The principal mails for abroad are made up in London as follows:—

Canada.—Every Thursday evening and Wednesday afternoon; Saturday morning and afternoon.
United States.—See special detailed table, following.
Newfoundland.—Every alternate Friday evening.
West Indies.—Every alternate Wednesday and alternate Saturday.
Australia and New Zealand.—Every Friday evening.
India.—Every Friday evening.
China, Japan and Ceylon.—Every Monday, Wednesday, and Friday.
South Africa.—Every Saturday afternoon.
West Africa.—Every Friday evening.
Provincial letters should reach London six hours before the mails are made up.

AMERICAN MAILS.

Mails for America.

Days of Sailing.	Line.	Mails close in London.	Mails close in Paris.
Wed.	† N. G. Lloyd.	Tues., midn't.	Tuesday
Wed.	† White Star.	Wed., 6 p.m.	Tuesday
Fri.	† Hamburg.	Thurs., midn't	Thursday
Sat.	† American.	Fri., midn't	Friday.
Sat.	† Cunard.	Sat., 2 p.m.	Friday.

- * Must be addressed, "Per American Steamer."
- † Must be addressed, "Per N. G. Lloyd Steamer."
- ‡ Must be addressed, "Per Hamburg Steamer."

The Mail closes on Wednesday at the General Post Office, St. Martin's-le-Grand, and Queenstown, White Star Line, at 6 p.m.

Late fee of 1d. at 7 p.m.
Late fee of 2d. at 7.15 p.m.
Late fee of 3d. at 7.30 p.m.

Late fee of 2d. at Euston Station, where letters may be sent up to the train leaving, at 8.45 p.m.
The Mail closes on Saturday at the General Post Office, St. Martin's-le-Grand, and Queenstown, Cunard Line, at 2 p.m.

Late fee of 1d. at 2.30 p.m.

Late fee of 2d. at Euston Station, where letters may be sent up to the train leaving, at 4 p.m.

Mails from America.

Day of Sailing.	Line.	Due in London.
Tuesday . .	N. G. Lloyd	Mon. to Wed.
Wednesday .	American	Wednesday
Wednesday .	White Star	Wed. to Fri.
Thursday . .	Hamburg-American	Thursday
Saturday . .	Cunard	Saturday

The German services are suspended during the war.

DISTINCTIVE MARKS OF ATLANTIC STEAMERS.

Line	Funnel Marks	Lights.	Flags.
Allan	Red, narrow black band in centre of red, white band under black top.	Three blue lights in the form of a triangle.	Red, white, and blue, perpendicular stripes, red pennant above flag.
American	Black, white band near top.	Blue light forward and aft, and red light on bridge.	White, with blue eagle in centre.
Anchor	Black	Red and white lights alternately.	White swallow tail, red anchor in centre.
Atlantic Transport . .	Red, black top	A Roman candle throwing six stars, showing colours green, white, red, green, white, red.	Blue and white stars, American Union Jack
Cunard	Red, two narrow black bands, black top.	Blue light and two Roman candles, each throwing six blue stars.	Red, with yellow lion rampant in centre holding globe.
Dominion	Red, white band, red band, black top.	Roman candle throwing six red stars.	Red, white diamond and blue ball in centre.
Hamburg-America . . .	All yellow	A Roman candle, red, turning to white, turning to blue.	White and blue, with anchor and yellow shield in centre. H. A. with black initials A. G.
North German Lloyd . .	All cream	Two lights, blue, red; one forward, one aft.	White, blue key and anchor crossed, oak-leaf wreath in centre.
White Star	Cream, black top . . .	Two green lights burning simultaneously.	Red swallow tail, with five-point white star in centre.
Wilson Line	Red, black top	Two red lights simultaneously.	White pennant with red ball.

FOREIGN MONARCHS, PRESIDENTS, ETC.

		Succeeded
Abyssinia, Emperor Menelek II.	1889	
Afghanistan, Ameer Habibullah Khan	1901	
Albania, William I.	1914	
Argentina, Pres. Saenz Peña	1910	
Austria-Hungary, Emperor Francis Joseph	1848	
Bavaria, King Ludwig III.	1913	
Belgium, King Albert I.	1909	
Bolivia, Pres. Ismael Montes	1913	
Brazil, Pres. De Wenceslao Braz	1913	
Bulgaria, Czar Ferdinand I.	1887	
Chile, Pres. Ramon Barros Luco	1910	
China, Pres. Yuan Shi-Kai	1912	
Colombia, Pres. Carlos E. Restrepo	1910	
Costa Rica, Pres. Ricardo Jimenez	1910	
Cuba, Pres. Mario G. Menocal	1913	
Denmark, King Christian X.	1912	
Dominica, Pres. José Bordas	1913	
Ecuador, Pres. Leonidas Plaza	1912	
Egypt (Proper), Khedive Abbas II.	1862	
France, Pres. Raymond Poincaré	1911	
Germany, Emperor William II.	1888	
Greece, King Constantine I.	1913	
Guatemala, Pres. Dom M. E. Cabrera	1910	
Haiti, Pres. Michel Orestes	1913	
Holland, Queen Wilhelmina	1890	
Honduras, Pres. Francisco Bertrand	1913	
Italy, King Victor Emmanuel III.	1900	
Japan, Emperor Yoshihito	1912	
Liberia, Pres. D. E. Howard	1911	
Mexico,		
Monaco, Prince Albert	1889	
Montenegro, King Nicholas I.	1860	
Morocco, Emperor Muley Yusef	1912	
Nicaragua, Pres. Adolfo Diaz	1913	
Norway, King Haakon VII.	1905	
Panama, Belisario Porras	1912	
Paraguay, Pres. Eduardo Scherer	1912	
Persia, Sultan Ahmed Mirza, Shah	1912	
Peru, Pres. (provisional) Col. Oscar Benavides	1914	
Portugal, Pres. Manuel D'Arriaga	1911	
Roumania, King Charles I.	1881	
Russia, Emperor Nicholas II	1894	
Salvador, Pres. Carlos Melendez	1913	
Saxony, King Augustus III.	1904	
Serbia, King Peter I.	1903	
Sierra Leone, King Vajiravudh	1910	
Spain, King Alfonso XIII	1886	
Sweden, King Gustavus V.	1907	
Switzerland, Pres. Arthur Hoffmann	1914	
Turkish Empire, Sultan Mohamed V.	1909	
United States, Pres. Dr. Woodrow Wilson	1913	
Uruguay, Pres. Don José Battle y Ordonez	1911	
Venezuela, Pres. Juan Vicente Gomez	1908	
Wurtemberg, King William II.	1891	

TABLE FOR ASCERTAINING THE NUMBER OF DAYS FROM ANY ONE DAY IN THE YEAR TO ANY OTHER DAY.

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	D
1	32	60	91	121	152	182	213	244	274	305
2	33	61	92	122	153	183	214	245	275	306
3	34	62	93	123	154	184	215	246	276	307
4	35	63	94	124	155	185	216	247	277	308
5	36	64	95	125	156	186	217	248	278	309
6	37	65	96	126	157	187	218	249	279	310
7	38	66	97	127	158	188	219	250	280	311
8	39	67	98	128	159	189	220	251	281	312
9	40	68	99	129	160	190	221	252	282	313
10	41	69	100	130	161	191	222	253	283	314
11	42	70	101	131	162	192	223	254	284	315
12	43	71	102	132	163	193	224	255	285	316
13	44	72	103	133	164	194	225	256	286	317
14	45	73	104	134	165	195	226	257	287	318
15	46	74	105	135	166	196	227	258	288	319
16	47	75	106	136	167	197	228	259	289	320
17	48	76	107	137	168	198	229	260	290	321
18	49	77	108	138	169	199	230	261	291	322
19	50	78	109	139	170	200	231	262	292	323
20	51	79	110	140	171	201	232	263	293	324
21	52	80	111	141	172	202	233	264	294	325
22	53	81	112	142	173	203	234	265	295	326
23	54	82	113	143	174	204	235	266	296	327
24	55	83	114	144	175	205	236	267	297	328
25	56	84	115	145	176	206	237	268	298	329
26	57	85	116	146	177	207	238	269	299	330
27	58	86	117	147	178	208	239	270	300	331
28	59	87	118	148	179	209	240	271	301	332
29		88	119	149	180	210	241	272	302	333
30		89	120	150	181	211	242	273	303	334
31		90		151		212	243		304	335

Examples.—1. From Jan. 1 to Aug. 17, both days inclusive, the number of days is 229. To find this look down the column headed Jan. to 17, and then carrying the eye in a horizontal line to the column headed Aug., you find 229, the number required.

2. If it be desired to know the number of days from any other given day after the 1st of Jan. to some other specific day, the number opposite the first day must be deducted from the number opposite to the second. For instance, to find the number of days between March 15 and Aug. 23, deduct from 235, the number in the table opposite to 23, and under Aug., 74, the number opposite to 15, and the number 161 is the number required.

In leap years, one must be added to the number after Feb. 28.

THE NATIONAL INSURANCE ACT. ITS BENEFITS AND PROVISIONS.

The National Insurance Act, which dates its operation from July 15, 1912, as far as regards its contributory sections—that is, the payment of premium moneys—came into full benefit force on January 15, 1913, except as to disablement benefit, which does not begin until July 15, 1914.

BENEFITS TO THE INSURED.

The benefits now in force are the following:—

- (1) Sick pay—10s. a week for 26 weeks for a man, and 7s. 6d. a week for a woman.
- (2) Medical benefit.
- (3) Medicine and surgical appliances.
- (4) Maternity benefit (30s. for each child born).
- (5) Sanatorium benefit for consumption cases.

The disablement benefit to come into force on July 15, 1914, will amount to 5s. a week for men and women alike, commencing after 26 weeks from the beginning of the illness and continuing as long as the disablement lasts or until the age of 70. No disablement can accrue until an insured person has contributed for two years, hence July 15, 1914, is the earliest date at which any insured person can be entitled to disablement allowance.

WHAT IS REQUIRED OF INSURED PERSONS.

On January 15, 1913, every person falling within the operation of the Insurance Act was presumed to have taken steps to fulfil the conditions of membership, that is, he or she must have made up the necessary 26 weekly contributions, which contributions must have been made by stamps affixed to cards of membership, effected either through the medium of an approved society or through the Post Office. The contributions payable are 7d. per week in the case of men and 6d. in the case of women, the employer being made liable for the payments and authorised to deduct the amount from the remuneration paid.

By January 15, 1913, every person then entitled to medical benefit is supposed to have received a ticket entitling him or her to medical benefit until April 30, 1913. These tickets are issued to members of approved societies by the societies themselves, and in the case of Post Office deposit contributors are issued to them direct by the Insurance Commissioners. Where a person has not received a ticket, application must be made either to his or her society or to the Commissioners.

CONTRIBUTIONS BY EMPLOYERS AND EMPLOYED.

The contributions of 7d. a week for men and 6d. for women must be seen to by the employer, who himself pays 3d. in each case towards the weekly sum. It is the duty of the employer to fix the stamp of the value of the joint contribution on the card on each occasion of payment of wages. Contributions are not paid in periods of sickness, nor do they count as arrears during such time; nor are they payable in cases of unemployment, although arrears in the latter case may affect the rate of benefit.

ON WHOM INSURANCE IS MADE COMPULSORY.

Practically all workers of either sex, between the ages of 16 and 70, whose wages do not amount to more than £100 a year, come in under the Act. There are special exceptions and exemptions, however, too numerous to be enumerated here, including soldiers, sailors, Government officials, and others.

HOW TO OBTAIN SICK PAY.

Members of approved societies should apply to the local secretary, and a certificate from the doctor must be sent to him. The sick pay of 10s. a week in the case of men and 7s. 6d. in the case of women is payable as from the third day after the illness begins. The insured person may go to or call in any doctor on the local panel list and ask to be treated. On accepting the insured person for treatment the doctor will sign the card, and the person will in future be counted as his patient. Where difficulty of any kind arises, the local Insurance Committee will deal with it. It amounts to this, that within the range of the panels, which in most cases offer an extensive list, there is a wide choice of doctors.

MEDICINE AND SURGICAL APPLIANCES.

When a doctor gives a prescription for an insured person, any chemist who has agreed to come on the Insurance List will make it up without charge, such list being put up in the local post offices. Nor is there anything to pay to the chemist for the medicine; that comes out of the Insurance funds. In the same way the insured person is entitled to such surgical appliances as the doctor may advise.

MATERNITY BENEFIT.

Every woman who is herself insured, and the wife of every insured man, is entitled to a payment of 30s. in respect of each confinement, provided that at least 26 weekly stamps have been put on the cards before the child is born. If both father and mother are insured under the Act, the mother is entitled to 7s. 6d. a week sickness pay as well as the 30s. This benefit is paid on application to the member's society, or, in the case of a deposit contributor, to the local Insurance Committee.

SANATORIUM BENEFIT.

Any insured person suffering from consumption can be treated either in a sanatorium or hospital; or the insured person may call at a dispensary from time to time for treatment, or be treated by a doctor in his or her own home. The local arrangements as to consumptive patients, however, will be under the control of the local Committee, and sufferers will be arranged for by them according to the provisions existing.

DEPOSIT CONTRIBUTORS.

Deposit contributors must apply to the local Insurance Committee when desiring to obtain sickness or maternity benefits, special forms being provided for this purpose. It must be borne in mind that deposit contributors can only claim benefit according to what the stamps on their cards entitle them; whereas those connected with approved societies have all the funds of their particular society against which to draw.

DISPUTES.

In the event of difficulty or dispute arising, the matter has to be settled according to the rules which apply by action in the county court. Where an insured person is unable to obtain his or her benefit by reason of the employer having neglected to affix the proper stamps, the employer may be proceeded against for recovery of the medical benefit which the insured person would otherwise receive.

ENGLISH MONEY AND ITS FOREIGN EQUIVALENTS.

Denominations.	United States Value.	French, Belgian, Swiss, Italian, and Greek Value.	German Value.
	<i>Dols. Cents.</i>	<i>Frs. Cents.</i>	<i>Mks. Pfings.</i>
Sovereign	4 84	25 15	20 0
Half-Sovereign	2 42	12 57	10 0
Crown (ss.)	1 21	6 24	5 0
Four-Shilling piece	0 96	5 3	4 0
Half-Crown	0 60	3 12	2 50
Florin	0 48	2 51	2 0
Shilling	0 24	1 25	1 0
Sixpence	0 12	0 63	0 50
Threepence	0 6	0 31	0 25
Penny	0 2	0 10	0 8
Halfpenny	0 1	0 5	0 4
Farthing	0 0½	0 2½	0 2

French, Swiss, and Belgian *francs*, Greek *drachma*, and Italian *lire* possess the same value, and circulate within the countries named other than their own; with the exception of the Italian coin, which will not pass readily either in France, Switzerland, or Belgium. Spanish and Papai Silver is *below par*, though often found.

The above values are, of course, nominal, and a slight deviation from them in the way of money-changers' profit is to be expected.

FRENCH MONEY AND ITS ENGLISH VALUE.

100 Francs	£ 4 0 0
50 "	2 0 0
20 "	0 16 0
10 "	0 8 0
5 "	0 4 0
2 "	0 2 0
1 "	0 1 0
50 Centimes	0 0 5
20 "	0 0 2
10 "	0 0 1
5 "	0 0 0½

DISCOUNT TABLE.

Per cent.	In the £ s. d.	Per cent.	In the £ s. d.
2½	= 0 6	20	= 4 0
3	= 0 7½	25	= 5 0
4	= 0 9½	30	= 6 0
5	= 1 0	40	= 8 0
6	= 1 2	50	= 10 0
7½	= 1 6	75	= 15 0
10	= 2 0	80	= 16 0
15	= 3 0		

Intermediate Rates are obtained by addition.

INTEREST TABLE.

For £100 at 2½, 3, 3½, 4, 4½, and 5 per cent.

Days.	2½ per cent.	3 per cent.	3½ per cent.	4 per cent.	4½ per cent.	5 per cent.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
1	0 1½	0 2	0 2½	0 3	0 3½	0 4
2	0 3	0 4	0 5	0 6	0 7	0 8
3	0 4½	0 6	0 7½	0 9	0 10½	0 12
4	0 6	0 8	0 10	0 12	0 14	0 16
5	0 7½	0 10½	0 12½	0 15	0 17½	0 19
6	0 9	0 12	0 15	0 18	0 21	0 23
7	0 10½	0 14	0 17	0 21	0 24	0 27
8	0 12	0 16	0 19	0 24	0 27	0 30
9	0 13½	0 18	0 21	0 27	0 30	0 33
10	0 15	0 20	0 23	0 30	0 33	0 36
20	0 30	0 40	0 46	0 60	0 70	0 72
30	0 45	0 60	0 69	0 90	1 05	1 08
40	0 60	0 80	0 92	1 20	1 40	1 44
50	0 75	1 00	1 15	1 50	1 75	1 80
60	0 90	1 20	1 36	1 80	2 10	2 16
70	1 5	1 40	1 54	2 10	2 45	2 52
80	1 20	1 60	1 78	2 40	2 70	2 80
90	1 35	1 80	1 96	2 70	3 00	3 12
100	1 50	2 00	2 16	3 00	3 30	3 48
120	2 10	2 40	2 58	3 60	4 20	4 40
140	2 70	3 00	3 24	4 20	4 80	5 04
160	3 30	3 60	3 84	4 80	5 40	5 76

The amount of interest accruing in connection with other sums at any of these rates, and for any number of days, can be reckoned by very simple calculation.

WAGES TABLE.

Per Year.	Per Quarter.	Per Month.	Per Week.	Per Day.
£ 1 is	£ s. d.	£ s. d.	£ s. d.	£ s. d.
2	0 5 0	0 1 8	0 9 4	0 0 0½
3	0 10 0	0 3 4	0 0 9½	0 0 0½
4	0 15 0	0 5 0	0 1 11	0 0 1
5	1 0 0	0 6 8	0 1 6½	0 0 1½
6	1 5 0	0 8 4	0 1 11	0 0 2
7	1 10 0	0 10 0	0 2 3	0 0 4
8	1 15 0	0 11 8	0 2 8	0 0 4½
9	1 20 0	0 13 4	0 3 0½	0 0 5½
10	2 5 0	0 15 0	0 3 5	0 0 6
11	2 10 0	0 16 8	0 3 10	0 0 6½
12	2 15 0	0 18 4	0 4 2	0 0 7½
13	3 0 0	0 20 0	0 4 7½	0 0 8
14	3 5 0	0 21 8	0 4 11½	0 0 8½
15	3 10 0	0 23 4	0 5 4	0 0 9½
16	3 15 0	0 25 0	0 5 9	0 0 10½
17	4 0 0	0 26 8	0 6 1	0 0 11½
18	4 5 0	0 28 4	0 6 6½	0 0 12½
19	4 10 0	0 30 0	0 7 1	0 0 13½
20	4 15 0	0 31 8	0 7 6½	0 0 14½
21	4 20 0	0 33 4	0 7 11	0 0 15½
22	4 25 0	0 35 0	0 8 1	0 0 16½
23	4 30 0	0 36 8	0 8 6	0 0 17½
24	4 35 0	0 38 4	0 8 11	0 0 18½
25	4 40 0	0 40 0	0 9 1	0 0 19½
26	4 45 0	0 41 8	0 9 6	0 0 20½
27	4 50 0	0 43 4	0 9 11	0 0 21½
28	4 55 0	0 45 0	0 10 1	0 0 22½
29	5 0 0	0 46 8	0 10 6	0 0 23½
30	5 5 0	0 48 4	0 10 11	0 0 24½
31	5 10 0	0 50 0	0 11 1	0 0 25½
32	5 15 0	0 51 8	0 11 6	0 0 26½
33	5 20 0	0 53 4	0 11 11	0 0 27½
34	5 25 0	0 55 0	0 12 1	0 0 28½
35	5 30 0	0 56 8	0 12 6	0 0 29½
36	5 35 0	0 58 4	0 12 11	0 0 30½
37	5 40 0	0 60 0	0 13 1	0 0 31½
38	5 45 0	0 61 8	0 13 6	0 0 32½
39	5 50 0	0 63 4	0 13 11	0 0 33½
40	5 55 0	0 65 0	0 14 1	0 0 34½
41	6 0 0	0 66 8	0 14 6	0 0 35½
42	6 5 0	0 68 4	0 14 11	0 0 36½
43	6 10 0	0 70 0	0 15 1	0 0 37½
44	6 15 0	0 71 8	0 15 6	0 0 38½
45	6 20 0	0 73 4	0 15 11	0 0 39½
46	6 25 0	0 75 0	0 16 1	0 0 40½
47	6 30 0	0 76 8	0 16 6	0 0 41½
48	6 35 0	0 78 4	0 16 11	0 0 42½
49	6 40 0	0 80 0	0 17 1	0 0 43½
50	6 45 0	0 81 8	0 17 6	0 0 44½

Variant annual rates of salary may be worked out to their quarterly or other proportions with ease by employment of the figures here tabulated.

BRITISH WEIGHTS AND MEASURES.

Since January 1, 1826 there has been compulsory uniformity of Weights and Measures.

AVOIRDUPOIS WEIGHT.

27 11.32 grains	make 1 drachm=27 11.32 grains.
16 drams	" 1 ounce=437 1/4
16 ounces	" 1 pound (lb.)=7000 "
28 pounds	" 1 quarter (qr.).
4 quarters	" 1 hundredweight (cwt.).
20 cwt. (112 lbs. each)	" 1 ton (2240 lbs.)

This is the weight in common use in all ordinary trade dealings.

TROY WEIGHT.

4 grains	make 1 carat.
6 carats (or 24 grains).	" 1 pennyweight.
20 pennyweights	" 1 ounce.
12 ounces	" 1 pound.
25 pounds	" 1 quarter.
100 pounds	" 1 hundredweight.
20 hundredweights	" 1 ton of gold or silver.

The precious metals are weighed by this scale.

Gold plate, or any manufacture of gold, may be of any of the standards of 18, 15, 12, or 9 carats fine gold in every pound troy. The relative value of the carat of gold is 10 pennyweights.

APOTHECARIES' WEIGHT.

20 grains make 1 scruple.	8 drachms make 1 ounce.
3 scruples	" 1 drachm. 12 ounces " 1 pound.

The pound and ounce are the same as in troy weight. Medicines are compounded by this weight, but drugs are bought and sold by avoirdupois.

APOTHECARIES' LIQUID MEASURE.

60 minims make 1 drachm.	60 drops make 1 drachm.
8 drachms	" 1 ounce. 4 drms. " 1 tablespoonful.
20 ounces	" 1 pint. 2 ozs. " 1 wine-glassful.
8 pints	" 1 gallon. 3 ozs. " 1 teacupful.

There are 437 1/4 grains in a fluid ounce.

DRY MEASURE.

4 gills	make 1 pint.
2 pints	" 1 quart.
2 quarts (4 pints)	" 1 potle.
2 potles (4 quarts)	" 1 gallon.
2 gallons	" 1 peck.
4 pecks	" 1 bushel.
3 bushels	" 1 bag.
4 bushels	" 1 coomb.
5 bushels (or porter's load)	" 1 sack of flour.
8 bushels	" 1 quarter.
12 bags (36 bushels)	" 1 chaldron.
3 quarters (40 bushels)	" 1 wey or horse-load.
3 weys (120 quarters)	" 1 last.

WINE AND SPIRIT MEASURE.

4 gills	make 1 pint	=pt.
2 pints	" 1 quart	=qt.
4 quarts	" 1 gallon	=gal.
63 gallons	" 1 hogshead = hhd.	
84 gallons	" 1 puncheon = pun.	
2 hogsheads or 126 gallons	" 1 pipe or butt = pipe.	
4 hogsheads or 252 gallons	" 1 tun	=tun.

ALE, BEER, AND PORTER MEASURE.

4 gills	make 1 pint	=pt.
2 pints	" 1 quart	=qt.
4 quarts	" 1 gallon	=gal.
9 gallons	" 1 firkin	=fir.
2 firkins	" 1 kilderkin	=kild.
2 kilderkins	" 1 barrel	=bar.
3 kilderkins	" 1 hogshead	=hhd.
2 hogsheads	" 1 butt	=butt.
30 gallons	" 1 American barrel = Am. bar.	

SCOTCH LIQUID MEASURE.

4 gills	make 1 mutchkin.
2 mutchkins	" 1 choppin.
8 choppins	" 1 pint.

MISCELLANEOUS LIQUID MEASURES.

The Imperial Standard Gallon comprises 10 Imperial Standard Pounds weight of distilled water weighed in air, with water and air at the temperature of 62 deg. Fahrenheit, and the barometer at 30 inches.	
The measure of an Imperial Standard Gallon is 277.274 cubic inches.	
1 hogshead of Claret	46 gallons.
1 pipe of Sherry	108 "
1 pipe of Port	115 "
1 pipe of Madeira	92 "
1 pipe of Tenerife	100 "
1 pipe of Lisbon	117 "
1 pipe of Malaga	105 "
1 pipe of Cider	100 to 118 "
1 hogshead of Hock, Rhine, and Moselle	30 "
1 hogshead of Cape	92 "
1 hogshead of Tent	54 "
1 hogshead of Marsala Bronte	93 "
1 hogshead of Brandy	57 "
1 hogshead of Rum	54 to 60 "
1 puncheon of Scotch Whisky	112 to 120 "
1 puncheon of Brandy	100 to 110 "
1 puncheon of Rum	90 to 100 "
Quarter-cask of Brandy	28 "
American barrel of Beer	30 "
Pipe or butt	126 "
Tun of Wine	252 "

LINEAL MEASURE.

3 barleycorns	make 1 inch (in.).
12 inches	" 1 foot (ft.).
3 feet	" 1 yard (yd.).
5 1/2 yards	" 1 pole (po.), rod, perch.
4 poles, or 22 yards	" 1 chain.

MISCELLANEOUS MEASURES OF LENGTH.

1 Mile Geographical, Admiralty Knot, or Nautical Mile, 6,080 Feet = 1 1/16 Mile Statute.
League = 3 Miles.
Degree = 60 Geographical, or 69 1/2 Statute Miles.
Inch (lin.) = 72 Points, or 12 Lines.
Nail (1-16) = 2 1/2 Inches.
Palm = 3 Inches.
Hand = 4 Inches.
Link = 7 1/2 Inches.
Quarter (or a Span) = 9 Inches.
Foot = 12 Inches.
Cubit = 18 Inches.
Yard = 36 Inches.
Pace, Military = 2 Feet 6 Inches.
Pace, Geometrical = 5 Feet.
Fathom = 6 Feet.
Rod, Pole, or Perch = 16 1/2 Yards.
Chain (100 Links) = 22 Yards (4 Poles).
Cable's Length = 100 Fathoms, 600 Feet.
Furlong = 40 Rods, 220 Yards.
1 Mile = 8 Furlongs, 80 Chains, 320 Rods, 1,760 Yards, 5,280 Feet, 63,360 Inches.

The old *Scottish Mile* was 5,920 feet; ten *Scotts Miles* being about equal to 11 1/2 *Statute Miles*. Eleven *Irish Miles* were equal to 14 *Statute Miles*.

SQUARE, SURFACE, OR LAND MEASURE.

The square Foot contains 144 square inches.	
Yard = 9 feet = 1,296 inches.	
Rod, Pole, or Perch = 30 1/2 yards = 272 1/2 feet.	
Chain = 16 rods = 484 yards = 4,356 feet.	
Rood = 40 rods = 1,210 yards = 10,890 feet.	
Acre = 4 roods = 160 rods = 4,840 yards.	
Yard of Land = 30 acres = 120 roods.	
Mile = 100 acres = 400 roods.	
Mile = 640 acres = 2,560 rods = 6,400 chains = 102,400 rods, poles, or perches, or 3,072,000 square yards.	
An Acre roughly stated has four equal sides of 69 1/2 yards: accurate measurement gives each side 208 1/2 feet.	
The sides of a square half-acre would be 147 3/8 feet, and of a square quarter-acre, 104 3/5 feet.	

CUBIC OR SOLID MEASURE.

Cubic Foot = 1,728 Cubic Inches
Cubic Yard = 27 Cubic Feet, 21'033 Bushels.
Stack of Wood = 108 Cubic Feet.
Shipping Ton = 40 Cubic Feet merchandise.
Shipping Ton = 42 Cubic Feet of Timber.
Ton of Displacement of a Ship = 35 Cubic Feet.

MEASURES OF TIME.

60 Seconds = 1 Minute.
60 Minutes = 1 Hour.
24 Hours = 1 Day.
(24h. 56m. 4s. = 1 Sidereal Day.)
7 Days = 1 Week.
28 Days = 1 Lunar Month.
28, 29, 30, or 31 Days = 1 Calendar Month.
12 Calendar Months = 1 Year.
365 Days = 1 Common Year.
366 Days = 1 Leap Year.
365d. 5h. 48m. 46s. = 1 Tropical Year.

METRIC WEIGHTS AND MEASURES.

Linear Measure.

The unit for length is the metre.

	yds.	ft.	in.	
10 millimetres, or	0	0	0'3937	= 1 centimetre.
10 centimetres ..	0	0	3'9370	= 1 decimetre.
10 decimetres ..	1	0	3'3708	= 1 METRE.
10 metres ..	10	2	9'7079	= 1 decametre.
10 decametres ..	109	1	7'079	= 1 hectometre.
10 hectometres ..	1093	1	7'079	= 1 kilometre.

Surface, or Square Measure.

acres, sq. yds.

100 centiares, or 0 110'6033 = 1 A.R.E.
100 ares .. 2 226'3326 = 1 hectare.
A centiare measures 1'190033 sq. yard.

Solid Measure (Wood).

cu. ft.

10 centistères, or 3'3317 = 1 decistère.
10 decistères .. 35'317 = 1 stère.
A centistère measures 610'78 cubic inches.

Capacity.

The unit for capacity is the litre.
gals. qts. pints.

10 millilitres, or	0	0	0'176077	= { 1 centilitre or 10
10 centilitres ..	0	0	1'76077	= { cub. cent.
10 decilitres ..	0	1	7'6077	= { 1 decilitre, or
10 litres ..	2	1	7'6077	= { 100 cub. c.
10 decalitre ..	22	0	7'77	= { 1 litre or cub.
10 hectolitres ..	220	0	7'77	= { cent.
				= { 1 decalitre, or
				= { centistère.
				= { 1 hectolitre, or
				= { 1 kilolitre, or
				= { stère, or cubic
				= { metre.

A millilitre measures 1'00176 of a pint, or 1'0000275 of a bushel.

Weight.

The unit for weight is the gram.

lb. oz. drams.

10 milligrammes, or	0	0	0'0056438	= 1 centigramme.
10 centigrammes ..	0	0	0'056438	= 1 decigramme.
10 decigrammes ..	0	0	0'56438	= 1 gramme.
10 grammes ..	0	0	5'6438	= 1 decagramme.
decagrammes ..	0	5	6'438	= 1 hectogramme.
hectogrammes ..	2	3	4'38	= 1 kilogramme.

A milligramme measures 1'0543 of a grain.

ELECTRICAL MEASURES.

The chief units as generally accepted by electricians are as follows:—

Volt Electromotive force is equal to about 92½ per cent. of that given by one Daniell's battery cell.
Ohm Resistance equals the resistance offered to the passage of a current of electricity by a thread of mercury 106 cm. long and 1 mm. cross section at the temperature of melting ice.

Megohm Equals one million ohms.
Ampere Current equals the current 1 volt will drive through 1 ohm.
Coulomb Quantity equals 1 ampere flowing for 1 second of time.
Microfarad Capacity equals 1'000001 coulomb at 1 volt pressure.

Watt Power equals 44 ft. lbs. per minute.
Board of Trade Unit, officially defined as "the energy contained in a current of one thousand amperes flowing under an electromotive force of 1 volt during an hour."

Kilowatt equals one Board of Trade Unit. One Board of Trade Unit will keep a 16-candle incandescent lamp alight for about 16 hours.
746 Watts equals 1 horse-power.

HAY AND STRAW MEASURE.

Truss of Straw, 36 lbs. Truss of Old Hay, 56 lbs.
Truss of New Hay (to September 1st), 60 lbs.
Load, 36 Trusses—Straw, 11 cwt. 8 lbs.; Old Hay, 18 cwt.; New Hay, 19 cwt. 1 qr. 4 lbs.

WOOL WEIGHT.

Clove, *cl.* = 7 lbs.
Stone, *st.* = 7 Cloves 14 lbs.
Tol, *td.* = 2 Stones 1 qr.
Wey, *wy.* = 64 Tol 1 cwt. 2 qrs. 14 lbs.
Pack, *pk.* = 20 lbs.
Sack, *sk.* = 2 Weys 13 qrs.
Last, *la.* = 12 Sacks 39 cwt.

WORSTED YARN MEASURE.

Wrap, 80 yards; Hank, 560 yards = 7 Wraps. Counts are reckoned according to the number of hanks in a lb.

COTTON WOOL WEIGHT.

Cotton Wool, Bale variable; U.S.A. average 477 lbs.; Egyptian, 719 lbs.; East Indian, 396 lbs.; Brazilian, 220 lbs.

COTTON YARN AND SILK MEASURE.

Thread = 1½ yards.
Lea, or Skein = 120 yards.
Hank = 7 Skeins, or Leas.
Spindle = 18 Hanks.
Reels of Cotton vary from 30 to 1,760 yards, but the length must be correctly specified.

FISH MEASURE.

Herrings are sold by the *Cran*, containing 66½ imperial gallons except on the West Coast, Isle of Man, and in Ireland, where they are sold by the *Maas*, which contains 4 long hundreds of 125 each. On the East coast of England they are sold by the *Last*, which contains 13,200 fish. They are counted by the *Warp*, which is 4. 33 Warps = 1 Long Hundred, 132; 10 Hundred = 1 Thousand, 1,320; 10 Thousand = 1 Last, 13,200.

BREAD WEIGHT. lbs. oz. drs

1 peck loaf 17 6 2
1 half peck loaf 8 11 1
1 quarter loaf 4 5 8½
1 quarter (or quarter peck) of flour 3 8 0
Bakers are not allowed to sell bread by the peck or quarter. It is generally sold in 4 lb. and 2 lb. loaves (usually called quarter and half quarter loaves).

COAL WEIGHT.

14 lbs. 1 stone
28 lbs. 1 quarter
112 lbs. 1 cwt.
20 cwt. 1 ton
1 sack 1 cwt.
1 large sack 2 cwt.
21 tons 4 cwt. 1 barge or keel
20 keels (244 tons) 1 ship load
7 tons 1 room

GENERAL NUMBERS.

12 articles	1 dozen
12 dozen	1 gross
12 gross	1 great gross
12 articles	1 score
5 score	1 hundred
8 score	1 great hundred

MISCELLANEOUS WEIGHTS.

Almonds	12 to 14 cwt.
Beef	25 lbs.
Bristles	30 lbs.
Bullion	10 cwt.
Campbor	15 to 30 lbs.
Candles	1 cwt.
Cinnamon	120 lbs.
Cochineal	92½ lbs.
70,000 insects	1 lb.
Iron	140 lbs.
bag	200 lbs.
Cocoa	1 cwt.
bag	12 cwt.
Coffee	1 to 1½ cwt.
barrel or robin	5 to 7 cwt.
tie	2 to 3 cwt.
Currants	5 to 9 cwt.
barrel	15 to 20 cwt.
butt	1 cwt.
Feathers	24 lbs.
Figs	32 lbs.
frail (Turkey)	24 lbs.
frail (Faro)	32 lbs.
frail (Malaga)	25 lbs.
Galls	1 cwt.
Ginger	12 cwt.
bag (Barbadoes)	1 cwt.
bag (E. Indies)	1 cwt.
bag (Jamaica)	1 cwt.
Gum	4 cwt.
chest (Turkey)	4 cwt.

Gum Arabic	6 cwt.
Gunpowder	100 lbs.
barrel	24 barrels
last	12 lbs.
Honey	24 cwt.
gallon	24 cwt.
case	15 to 23 cwt.
Madder	1 cwt.
Magnesia	200 lbs.
Nutmegs	200 lbs.
Potash	1 to 3 cwt.
Prunes	20 cwt.
punchon	84 lbs.
Quicksilver	44 to 5 cwt.
bottle	24 cwt.
Rags	24 cwt.
bale (Mediterranean)	24 cwt.
bag (Hamburg)	24 cwt.
Raisins	24 cwt.
drum (Valencia)	1 cwt.
bag (Malaga)	22 lbs.
box	24 cwt.
Rice	24 cwt.
bag (E. Indies)	1 cwt.
bag (America)	1 cwt.
Sago	56 lbs.
bag	64 lbs.
Salt	256 lbs.
Soap	32 cwt.
firkin	1 to 1½ cwt.
barrel	13 to 18 cwt.
Sugar	1 to 1½ cwt.
bag (E. Indies)	10 to 14 cwt.
hoghead (W. Indies)	7 to 9 cwt.
mat or bag (Mauritius)	1 cwt.
tie (W. Indies)	1 cwt.
Tapioca	12 cwt.
barrel	80 lbs.
Tea	60 to 80 lbs.
chest (Congo)	84 lbs.
bag (Hyson)	4,000
bag (ordinary)	12 to 18 cwt.
Tiles	30 lbs.
Tobacco	1 cwt.
head	1 cwt.
Vermilion	1 cwt.
Walnuts	1 cwt.

PAPER.

Paper is sold by the ream (twenty quires), each ream consisting of from 480 to 500 sheets. In ordering paper it is necessary to give the size of the sheet and weight per ream, as well as the quality.

PRINTING PAPER.

Printing paper is made from wood pulp, treated by the sulphite process, the proportion being three to one. The sizes, with their names, are:—

Inches.	Inches.
Post 19½ × 15½	Super Royal 27½ × 30½
Demy 22½ × 17½	Double Crown 30 × 20
Sheet & Half Post 23½ × 19½	Imperial 30 × 22
Medium 24 × 19	Double Post 31½ × 19½
Royal 25 × 20	Double Demy 35 × 22½
Double Foolscap 27 × 17	Double Royal 40 × 25

(The weight varies, according to the thickness and quality of the paper, from 10 to 100 lbs.)

BOOK PAPER.

Book paper of the cheapest make resembles printing or news-paper, and is made of the same materials. It is used in the better qualities in an increasing proportion. It is made in white and various tints.

The following terms are used in the description of various papers:—

"S. & C." or sized and calendered. Sizing is a vegetable matter resembling resin, which is mixed with the wood pulp to make it impervious to ink. Other substances are used for "sizing," including china clay and gelatine, according to the quality of the paper. "Calendering" consists of passing the paper through hot revolving cylinders in close contact.

"S. & S.C." implies that the paper has been "sized" and "super-calendered." The latter is a second process, giving the paper a glossy finish.

"Enamelled" or "art" paper is that which has been coated on one or both sides with a mixture of China clay finely ground and mixed with gelatine.

"Antique" paper is of a high quality, which has not been calendered or enamelled.

The sizes are the same as in printing paper; but book paper is usually folded to the following sizes (edges uncut). The most common size is crown 8vo.

Inches.	Inches.
Demy 8vo 8½ × 5½	Demy 16mo 5½ × 3½
Post 8vo 7½ × 5	Imperial 24mo 5½ × 3½
Crown 8vo 7½ × 5	Foolscap 12mo 5½ × 3½
Demy 12mo 7½ × 4½	Royal 24mo 5½ × 3½
Foolscap 8vo 6½ × 4½	Demy 24mo 4½ × 3½
Demy 16mo 5½ × 3½	Crown 24mo 3½ × 2½

WRITING PAPER.

Cheap writing paper is made of wood pulp. The better classes of paper are made from selected rags, whilst high-class writing paper is made exclusively of linen, highly sized, and either "calendered" or "antique."

BRISTOL BOARD.

The uses of Bristol Board are numerous. It derives its name from the fact that it was first manufactured at that city, but the majority of large paper firms now produce it. The board is made in several sizes:—22 × 28, 18 × 28, and 25½ × 30½ ins. It can be obtained in almost any weight up to 160 lbs.

BROWN PAPER.

Used for wrapping; is made in a few stock sizes, of which the following are those most usually found:—

Casing 46 × 36	Imperial Cap 29 × 21
Double Imperial 45 × 29	Haven Cap 26 × 21
Elephant 34 × 24	Bag Cap 24 × 19½
Double Four Pound 31 × 21	Kent Cap 21 × 18

PSEUDONYMS UNDER WHICH WELL-KNOWN WRITERS AND OTHERS HAVE BEEN OR ARE KNOWN.

Achurch, Janet, Mrs. Charrington.
Adams, Mrs. Leith, Mrs. R. S. de C. Laifan.
Adams, Stephen, Michael Maybrick.
Adeler, Max, Charles Heber Clark.
Albani, Mdm., Mdm. Gye.
Alexander, Mrs., Mrs. Alexander Hector.
Allen, Mrs. Baker.
Allen, F. M., Edmund Downey.
Amateur, An, Pierce Egan the Younger.
Amateur Casual, James Greenwood.
Amyand, A., Captain E. Arthur Haggard.
Anderson, Mary, Mme. A. Navarro.
Ane of that ilk, Prof. W. E. Aytoun.
Angler, An, Sir Humphry David.
Ansted, Hope, Miss Burdett.
Anstey, F., Thomas Anstey Guthrie.
Ape (*Family Fair* caricatures), Carlo Pellegrini.
Arion, C. L., Chertsey.
Artist (Unknown), Joseph Pennell.
Ashwell, Lena, Mrs. Arthur Playfair.
Astor, Adelaide, Mrs. George Grossmith, Jun.
Atlas, Edmund Yates.
Aureole, Mrs. Berens.
Austin, Arthur, Prof. John Wilson.
Bab, W. S. Gilbert.
Baird, Dorothea, Mrs. H. B. Irving.
Banks, Archibald, Oswald Crawford.
Baron de Book Worms, H. W. Lucy in *Punch*.
Bede, Cuthbert, Rev. Edward Bradley.
Bell, Acton, Anne Brontë.
Bell, Currer, Charlotte Brontë.
Bell, Ellis, Emily J. Brontë.
Bell, Nancy, Mrs. A. Bell.
Belloc, M. A., Mrs. Lowndes.
Berwick, Mary, Adelaide Ann Proctor.
Bibliophile, Jacob, Paul Lacroix.
Bibliophile, Un, C. Uzanne.
Bickerdyke, John, C. H. Cook.
Biglow, Hosea, James Russell Lowell.
Billings, Josh, Henry Wheeler Shaw.
Bird, Isabella, Mrs. Bishop.
Blackburn, E. Owens, Mrs. Elizabeth Casey.
Blacksmith, The Learned, Elihu Burritt.
Bobbin, Tim, John Collier.
Bodkin, Tammas, W. D. Latta.
Boidewood, Rolf, T. A. Browne.
Bolina, Jack is, Augustus Victor Vecchi.
Bon Gaultier, Prof. W. E. Aytoun and Sir Theo. Martin.
Bouverie, Bartholomew, Rt. Hon. W. E. Gladstone, M.P.
Boz, Charles Dickens.
Braddon, Miss M. E., Mrs. Maxwell.
Brettmann, Hans, Charles G. Leland.
Brown, Tom, Thomas Hughes.
Brown, Tom, the Younger, Thomas Moore.
Browne, Matthew, W. B. Rands.
Bystander, The, Goldwin Smith.
Caliban, Jules Claretie, also M. Bergerat.
Callum Beg, J. C. O. Mac.
Cambridge, Ada, Mrs. George F. Cross.
Carroll, Lewis, Rev. C. Lutwidge Dodgson.
Caskoden, Edwin, Mr. Charles Mayor.
Chrystabel, Florence G. Attenborough.
Chudleigh, Arthur, Mr. Lillias.
C. K., Charles Kent.
Clare, Austin, Miss W. M. James.
Claribel, Mrs. Charles Barnard.
Clarinda, Mrs. MacLehose.
Clear, Claudius, Dr. Robertson Nicoll.
Cleave, Lucas, Mrs. Kingscote.
Cleishbottam, Jedediah, Sir Walter Scott.
Cobbleigh, Tom, Walter Raymond.
Collett, Stephen, T. Buryer.
Collingwood, Harry, W. J. C. Lancaster.

Collins, Mabel, Mrs. K. Cook.
Colman, R. W., James Hogg.
Colmore, George, Mrs. Gertrude Colmore Dunn.
Connor, Marie, Mrs. Robert Leighton.
Connor, Ralph, Rev. C. W. Gorlon.
Conway, H. Derwent, Henry W. Inglis.
Conway, Hugh, F. J. Fergus.
Coo-ee, W. Sylvester Walker.
Cordeux, Alfred, Honore de Balzac.
Cornwall, Barry, Bryan Waller Procter.
Cottonet, Alfred de Musset.
Country Parson, Rev. A. K. H. Boyd.
Craddock, C. E., Mary Nouilles Murfree.
Craig, Isa, Mrs. Knox.
Crawley, Capt., G. F. Parton.
Crayon, Christopher, J. Ewing Ritchie.
Crayon, Geoffrey, Washington Irving.
Cromarty, Doss, Mrs. Watson.
Crowfield, Christopher, Mrs. H. Beecher-Stowe.
Cruiser, Benedict, G. A. Sala.
Curate, A., Richard Rowe.
Cushing, Paul, Roland Wood-Seys.
Cynicus, Martin Anderson.
Dagonet, G. R. Sims.
Dale, Darley, Fanny M. Steele.
Danby, Frank, Mrs. Julia Frankau.
Dangerfield, John, Oswald Crawford, C.M.G.
Dart, Stephen, Adeline Sergeant.
Daryl, Sydney, Sir Douglas Straight.
Dean, Mrs. Andrew, Mrs. Alfred Sidgwick.
D'Anvers, N., Mrs. A. Bell.
D'Hardelot, Guy, Mrs. Rhodes.
Delta, David Macbeth Mon.
Democratic Tory, A., John Skelton.
Devereux, Roy, Mrs. Devereux Peimber.
Doctor Syntax, William Coombe.
Dods, Meg, Mrs. Johnstone.
Donovan, Dick, J. E. Muddock.
Dookey, Mr., E. P. Dunne.
Dowie, Menie Muriel, Mrs. E. A. Fitzgerald.
Downey, Edmund, F. M. Allen.
Druid, The, H. H. Dixon.
Duncan, Sarah Jeannette, Mrs. Everard Cotes.
Duran, Carolus, G. Auguste Emile Durand.
Egerton, George, Mrs. Egerton Clairmonte.
Eha, E. H. Atken.
Elbitt, Theodore, John Sterling.
Elia, Charles Lamb.
Ellot, George, Mrs. J. W. Cross, *nee* Marion Evans.
Ellot, Max, Mrs. Granville A. Ellis.
Emerald Isle, D. D. Hepburn.
Emery, Winifred, Mrs. Cyril Maude.
English Gentleman, An, Thos. Newte.
English Opium Eater, Thomas de Quincey.
Ennis, Graham, Mrs. Molesworth.
Ennuyée, Mrs. A. Jameson.
"Erskine Gower," Duchess of Sutherland.
Etchell, Mabel, Charlotte Phillips.
Etcher, An, Philip Gilbert Hamerton.
Ettrick Shepherd, James Hogg.
E. V. B., Hon. Mrs. Boscawen.
Ex-Trap, An, Frank Bellaw.
Fairleigh, Frank, Frank E. Smedley.
Falconer, Lanoe, Mrs. Mary Eliz. Hawker.
Fane, Violet, Lady Currie.
Farningham, Marianne, Mary Anne Hearn.
Fern, Fanny, Mrs. James Paston.
Field, Martyn, F. W. Horner.
Field, Michael, Miss Bradley and Miss Cooper.
Fieldmouse, Junon, W. B. Rands.
Filomena, Mrs. Fenwick Miller.
Fin-Bec, Blanchard Jerrold.
Fisher, Paul, A. W. Chatto.
Fitsvictor, John, Percy Bysshe Shelley.
Five of Clubs Richard A. Proctor.

Flaneur, The, Edmund Yates.
 Fleming, George, John C. Fletcher.
 Florry, J., Frank Kernan.
 Forbes, Athol, Rev. Forbes A. Phillips.
 Forrester, Frank, H. W. Herlieth.
 Forsyth, Jean, Jean W. Milwraith.
 Foucher, Paul, Victor Hugo.
 Foxcar, Nicolas, Rev. Francis Jacox.
 Francis, M. E., Mrs. Francis Blundell.
 Froissart, Jean, Alphonse Daudet.
 Garrett, Edward, Mrs. Isabella Fyvie Mayo.
 Gaultier, Bon, Sir Theodore Martin and W. E. Aytoun.
 Gerard, Dorothea, Mme. Longard de Longarde.
 Gerard, Emily D., Mme de Lazowski.
 Gerard, Morice, Rev. T. Jessop Teague.
 Gift, Theo, Theo. Boulger.
 Glyn, Elmor, Mrs. Clayton Glyn.
 Goodwell, Godek, Horace Greeley.
 Goolet, Paul, Chas. Lever.
 Gothamite, A., Colonel Thomas Picton.
 Graduate of Oxford, John Ruskin.
 Graham, Eunice, Mrs. Moleworth.
 Gray, Maxwell, Miss M. G. Tuttle.
 Great Tincianan Doctor, The, William Mitchell.
 Grey, Roland, Miss Brown.
 Grier, Sydney C., Miss Hilda Greig.
 Gubbins, Nathaniel, Edward Spencer Mort.
 Gushington, Angelina, Lady Duffern.
 Gushington, Impubia, Lady Duffern.
 Gyp, Comtesse de Martel.
 Hackle, Palmer, Robert Blakey.
 Hal, Dane, Haklane M'Fall.
 Haliburton, Hugh, James Logie Robertson.
 Halifax, Clifford, Dr. L. Beaumont.
 Hall, Owen, Mr. James Davis and Mr. H. H. Lusk.
 Hamilton, Gail, Mary Alison Dodge.
 Hamlet, Edith, Hon. Mrs. Alfred Lyttelton.
 Haunergaffersstein, Hans, Henry W. Longfellow.
 Harbst, Ophar, Ralph Thomas.
 Herbert, Lady, *née* Eliza a-Court.
 Hesba Stretton, Sarah Smith.
 Hewitt, Martin, Arthur Morrison.
 Hill, Heaton, F. Grangier.
 Historicus, Sir W. Vernon Harcourt, also George Grote.
 Hobbes, John Oliver, Mrs. Craque.
 Hoffman, Professor, Angelo Lewis.
 Holbeach, Henry, W. B. Rains.
 Holdreth, Lionel H., Percy Greg.
 Homely, Josias, John Bradford.
 Hookam, Bee, S. R. Wigram.
 Hope, Anthony, Anthony Hope Hawkins.
 Hope, Ascott R., N. Hope Moncreiff.
 Hope, F. T. L., Dr. Farrar.
 Hope, Graham, Jessie Hope.
 Hossup, H. M. Feist.
 Howart, Keble, Keble Bell.
 H. R. N., Captain J. T. Duane.
 Hughes, Annie, Mrs. Edmund Maurice.
 Hutton, C. M., Mrs. Mona Cuid.
 Hyacinthe, Pere, Charles J. M. Toyson.
 Ian MacLaren, Rev. John Watson.
 Iconoclast, Charles Bradlaugh, M. P.
 Ignatius, Father, Rev. J. L. Laine.
 Ignotus, James Franklin Fuller.
 Ik, Marvel, Donald Grant Mitchell.
 Impenitent, The, H. D. Lowry.
 Ingoldshy, Thomas, Rev. R. H. Barham.
 Iota, Mrs. Mammington Caffyn.
 Iron, Ralph, Olive Schreiner (Mrs. Cronwright).
 Isa, Craig, Mrs. John Knox.
 Jersey, Mr. Mrs. Langtry.
 Johnston, Edith, Mrs. Walter Ruding.
 Jules Verne, M. Olchewitz.
 Katharine Tynan, Mrs. H. A. Hinkson.
 Kaye, Eff, Mrs. Price, *née* Konstam.
 Kaye, Lorin, Lorin G. Lathrop, and Miss Konstam.
 Keith, Leslie, Miss G. I. Keith Johnston.
 Kendal, Mrs., Mrs. W. H. Grimston.
 King, Alice, Mrs. A. King Hamilton.
 Kipling, Alice M., Mrs. T. M. Fleming.
 Kirke, Edmund, James Roberts Gilmore.
 Knickerbocker, Washington Irving.
 Lafanque, Philip, Dr. Joseph Henry Philpot.
 Latouche, John, Oswald Crawford.

Laurence Slingsby, George Henry Lewis.
 Le Breton, John, Miss M. Harle-Potts and T. Murray Ford.
 Le Fanu, J. S., J. Sheridan.
 Lee, Holme, Harriet Parr.
 Lee, Vernon, Miss Violet Paget.
 Lehmann, Eliza, Mrs. Herbert Bedford.
 Leigh, Aston, Mrs. Diehl.
 Limer, Luke, Lord Leighton.
 Lewis, Angelo, Professor Hoffman.
 Lindsay, Harry, H. Lindsay Hudson.
 Lindsay, Mayne, Mrs. Clarke.
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 Logroller, Richard Le Gallienne.
 London Antiquary, J. Camden Hotten.
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 Lothrop, Amy, Anna B. Warner.
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 Lumbard, Peter, Canon Beulian.
 Lusca, Sidney, Harry Harland.
 Lyall, Edna, Miss Ada Ellen Bayly.
 Lys, Christian, Percy J. Brebner.
 Maartens, Maarten, J. H. W. Van der Parren.
 McGrath, Terence, Sir Henry Arthur Bikes.
 McIntosh, Marjoe, Mrs. W. Graham Brown.
 Mackay, Marion, Marie Corilli.
 Mackenzie, Marian, Mrs. Smith Williams.
 McLaren, Ian, Rev. John Watson.
 MacNab, Frances, Miss Agnes Fraser.
 McQuill, Thursty, Wallace Bruce.
 Madge (in *Truth*), Mrs. C. E. Humphry.
 Maitland, Edward, Herbert Anshe.
 Maitland, Thomas, Robert Buchanan.
 Matlaw, John Wilson, William Watson.
 Malet, Lucas, Mary St. Leger Harrison.
 Man in the Row, Fred J. Ryner.
 Man of Kent, Dr. Robertson Nicoll.
 Marchant, Bessie, Mrs. J. A. Comfort.
 Mantelburgher, Pieter, Rev. T. Jackson.
 Market Gardener, A., R. D. Blackmore.
 Markham, Mrs., Mrs. C. P. Brown.
 Marlet, F. Henriette Eugenie, John.
 "Marquise," of *Truth*, C. E. Birmingham.
 Marry, at, Florence, Mrs. F. Lean.
 Mathers, Helen, Mrs. Reeves.
 Meade, L. T., Mrs. Toulmin Smith.
 Medium Teni Plum, Mostyn I. Piggott.
 Mercurius Rusticus, Dr. T. B. Duina.
 Meredith Owen, Lord E. R. Butler Lytton.
 Merlin (*The Examiner*), Lord Tennyson.
 Merriman, Henry Scott, H. S. Scott.
 Milford Earl, The, John Loftand.
 Miller, Joaquin, C. H. Miller.
 Mona, Maclean, Miss Todd.
 Montbard, G., Charles Auguste Loyes.
 Montgomery, Charles Montague, Sir T. Dick Lauder.
 Moore, Eva, Mrs. Henry Esmond. (Bart)
 More, Margarita, Miss Anne Muning.
 Morris, Peter, John Gibson Lockhart.
 Mortimer, Grace, Miss M. B. Stuart.
 Mulholland, Rosa, Lady Gilbert.
 Muloch, Dinah Maria, Mrs. Craik.
 Murphy, Dennis Jasper, Rev. Robert Charles Maturin.
 My Baronite, H. W. Lucy.
 Myrtle, Harriet, Mrs. Hugh Miller.
 Nancy Bell, N. d'Anvers.
 Nauticus, Owen Seaman.
 Neilson, Julia, Mrs. Fred Terry.
 Nerida, Miss Norman, Lady Hallé.
 Nesbit, E., Mrs. Hubert Bond.
 Nilsson, Mme. Christine, Countess Miranda.
 Nimrod, C. J. Apperley.
 North, Christopher, Prof. John Wilson.
 Nunquam, Robert Blatchford.
 Oates, Sergeant, J. B. Vawter.
 Ogilvy, Gavin, J. M. Barrie.
 O'Kara Family, J. and M. Banlin.
 O. K. (Olga Kireff), Madame de Novikoff.
 Old Skekarr, Major H. A. Leveson.
 Oldcastle, John, Wilfrid Meynell.
 Oldstyle, Jonathan, Washington Irving.

Oliver, Stephen, A. W. Chatto.
 One of the Crew, P. D. Haywood.
 One of the Family, Pierce Egan.
 Oram, Mona K., Mrs. Arthur Grenville.
 O'Reil, Max, Paul Blouet.
 Otter, H. J. Alfred.
 Ouida, Louise de la Ramée.
 Owen, J. A., Mrs. Owen Visger.
 Page, H. A., A. H. Japp.
 Pansy, Mrs. S. M. Alden.
 Paoli, Betty, Elizabeth Glick.
 Parley, Peter, William Martin.
 Paston, George, Miss E. M. Symonds.
 Pathfinder, H. C. Dean.
 Paul, Jean, Jean Paul F. Richter.
 Pauli, M. A., Mrs. John Ripley.
 Pawkie, James, John Galt.
 Pendennis, Arthur, W. M. Thackeray.
 Pendragon, Henry Sampson.
 Penn, Arthur, J. Brander Matthews.
 Penn, William, Jeremiah Everts.
 Peppercorn, Peter, M. D., Thomas Love Peacock.
 Percy, Keuben, Thomas Byerley.
 Percy Sholto, J. L. Robertson.
 Perier, Jules, Alfred Joseph Xavier.
 Periwinkle, Paul, Percy B. St. John.
 Persic, Peregrine, James Morier.
 Petroleum, V. Nasby, David Locke.
 Pfal, Hans, Edgar Allan Poe.
 Phelps, Eliza Stuart, Mrs. Herbert D. Ward.
 Phelps, Mrs. S. S., Frances J. B. Griswold.
 Philz, Hablot K. Browne.
 Physician, A. William Kitchener.
 Peter Pindar, John Wolcott.
 Plymley, Peter, Sydney Smith.
 Poet Wheelman, The S. Conant Foster.
 Pollex, D., and others, Wm. Allingham.
 Poor Richard, Benjamin Franklin.
 Porcupine Peter, William Cobbett.
 Prendergast, Paul, Douglas Jerrold.
 Prescott, E. L., Edith K. Spicer-Jay.
 Preston, George, Mrs. Nancy Hurston Banks.
 Prevost, Francis, H. F. Prevost-Batterby.
 Priggings, Peter, Rev. H. Hewlett.
 Prisoner in England, A. Charles Andrews.
 Prutchard, Martin J., Augustus Moore (Mrs.).
 Prout (Father), F. S. Mahony.
 Puck, John Proctor.
 Q., A. T. Quiller-Couch.
 Queen of the Dead Heads, Ida Pfeiffer.
 Query, Peter, Esq., Martin Farquhar Tupper.
 Quiz, Charles Dickens.
 Rae, Leonard, John Douglass.
 Rag, Tag, and Bobtail, J. C. Lees, D.D.
 Railway Reader, The, J. Spedding.
 Raymond, C. E., Elizabeth Robins.
 Raine, Allen, Mrs. Brynon Puddicombe.
 Raleigh, Cecil, Cecil Kewlands.
 Rumble, Robert, John Frost.
 Ramsbottom, Mrs., Theodore Hook.
 Ranger, The, Captain Black.
 Rapier, Alfred F. T. Watson.
 Reddie, Miss Sarah Tytler.
 Red Spinner, William Senior.
 Remus, Uncle, Joel Chandler Harris.
 Rip, Rowland Hill.
 Rita, Mrs. W. D. Humphreys.
 Rob Roy, John MacGregor.
 Roberts, Capt. A. C., Robert Pasha.
 Robinson, A. M., F. Mmo. Darneester.
 Rochester, Mark, Charles Kent.
 Rochford, Bernard, Aubyn Trevor-Battya.
 Rockwood, Thomas Dykes.
 Roe, Owen, Eugene Davis.
 Roslyn, Guy, Joshua Hatton.
 Ross, Adrian, Arthur Reed Ropes.
 Ross, Albert, Lynn B. Porter.
 Rover, Alfred Gibson.
 Roving Englishman, Hon. E. C. Grenville-Murray.
 Rowel, M., Waldemar Adolf Thisted.
 Rowlands, Cadwallader, J. S. Roberts.
 Rowley, Thomas, Thomas Chatterton.
 Roy, John, Sir Mortimer Durrand.
 Runnymede, Rt. Hon. B. Disraeli Earl of Beaconsfield.

Rusticus, J. K. Fowler.
 Rutherford, Mark, W. Hale White.
 Sadie, Miss Sarah Williams.
 St. Aubyn, Alan, Frances Marshall.
 St. Barbe, Douglas Sladen.
 St. Clair, William, William Ford, C.S.I.
 St. George, George, Joseph Snowe.
 Saladin, Mr. W. Stewart Ross.
 Sand, George, Madame Dudevant.
 Sandys, George Windle, Oswald Crawford.
 Saunders, Richard, Benjamin Franklin.
 Sauzade, John S., James Payn.
 Savonarola, Jeremy, Francis S. Mahony.
 Schreiner, Olive, Mrs. Cronwright.
 Scott, Leader, Mrs. Baxter.
 Scriblerus, Martinus, Swift, Pope, and Arbuthnot.
 Seyram, Adolphus, P. J. Hamerton.
 Selkirk, J. B., John Brown.
 Senex, Robert Reid.
 Seth, Andrew, Andrew Seth Pringle Pattison.
 Setoun, Gabriel, Thomas Napier Hepburn.
 Severin, Paul, Raymond Brucker.
 Seymour, Gordon, Charles Walstein.
 Shapcott, Keuben, W. Hale White.
 Sharp, Luke, Robert Barr.
 Shirley, Sir John Skelton.
 Shufflebottom, Abel, Robert Southey.
 Silverpen, Eliza Metcayard.
 Sir Marmaduke, Theodore Tilton.
 Sketcliley, Arthur, Rev. Gorge Rose.
 Slick, Sam, Hon. T. C. Halburton.
 Slingsby, Jonathan Freke, Dr. J. F. Waller.
 Slingsby, Philip, N. P. Willis.
 Slop, Dr., Sir J. Stoddart.
 Sloper, Ally, Charles H. Koss.
 Sniff, Sam, Trustram Curtis.
 Smith, Shirley, Fila Curtis.
 Son of the Marjans, A. Mrs. J. A. Owen Visger; also
 Denham Jordan.
 Son of the Soul, A. J. S. Fletcher.
 South Simeron, J. MacGregor.
 South Theophilus, Edward Chitty.
 Southerner, A., Edward Alfred Pollard.
 Sparks, Timothy, Charles Dickens.
 Spectator, A. B. Valkley.
 Spinner, Alice, Mrs. Fraser.
 Spy, Leslie Ward.
 Staccato, A. Kalisch.
 Stahl, Arthur, Madame Valeska Voigtl.
 Sterling, Mmie, Antoinette, Mrs. J. M'Kinlay.
 Stonechink, Mr. T. F. Dale.
 Stonehenge, J. H. Walsh.
 Stretton, Hesba, Sarah Smith.
 Strvelyn, Elvac, Sir Joseph Noel Paton.
 Stuart, Esme, Miss Leroy.
 Surfaceman, Alexander Anderson.
 Swan, Annie S., Mrs. Burnett Smith.
 Swears, Ernest, Wells.
 Sylva, Carmen, Queen of Roumania.
 Sylvan, R. W. Procter.
 Sylvander, Robert Burns.
 Talepitcher, Arthur M. Binstead.
 Tasma, Mmie Jessie Couvreur.
 Taylor, Theodore, John Camden Hotten.
 Teeins, Mrs. Mrs. Fred Horner.
 Tennant, Dorothy, Lady Stanley.
 Teufelsdröckh, Herr, Thomas Carlyle.
 Thackeray, Anna Isabella, Mrs. Ritchie.
 Thacker, Octave, Alice French.
 Thomas, Anne, Mrs. Peender-Curllip.
 Thompson, Alice, Mrs. Wilfred Meynell.
 Thompson, Elizabeth, Lady Butler.
 Thundertentrunkh, Arminius von, Matthew Arnold.
 Thurston, Henry T., Francis Turner Palgrave.
 Tun Bobbin, John Collier.
 Tinto, Dick, F. B. Goodrich.
 Titcomb, Timothy, J. G. Holland.
 Tivoli, Horace W. Blackley.
 Tohy, M. P., H. W. Lucy.
 T. P., T. P. O'Connor.
 Trafford, F. C., Mrs. J. H. Riddell.
 Traveller, A., John Francis Campbell.
 Travers, Graham, Margaret C. Todd.
 Trusta. H., Mrs. Elizabeth Phelps.

Turner, Ethel, Mrs. H. R. Curlewis.
 Twain, Mark, Samuel Langhorne Clemens.
 Two Brothers, Alfred (afterwards Lord) and Chas.
 Tennyson.
 Two Brothers, Archduke J. C. and Aug. W. Hare.
 Tynan, Katharine, Mrs. H. A. Hinkson.
 Tytler, Sarah, Miss Henrietta Keddie.
 Ubique, Capt. Parker Gillmore.
 Uncle Remus, Joel Chandler Harris.
 Vacuum Vistor, Thomas Hughes.
 Vagrant, R. C. Lehmann.
 Vane, Derek, Mrs. B. Eaton-Back.
 Varick, M. Palmer.
 Varley, Mrs. G. L. Banks.
 Vedette, Rev. W. H. Fitchett.
 Vera, Lady Colin Campbell.
 Verses, Henry Dunckley, L.L.D.
 Verses, Jules, M. Olchewitz.
 Vindes, Henry Rogers.
 Violinist, A., Eric Mackay.
 W. A., William Archer.
 Wagstaffe, Launcelot, Washington Irving, also Charles
 Mackay.
 Walker, Patricius, William Allingham.

Wallace, Jenny, Mary J. Menison.
 Walter, Sir, Cecil Rowlands.
 Ward, Artemus, Charles F. Browne.
 Warden, Florence, Mrs. G. James.
 Warden, Gertrude, Mrs. Wilton Jones.
 West, Florence, Mrs. Lewis Waller.
 Wetherell, Elizabeth, Susan Warner.
 Wharton, Grace, Mrs. K. Thomson.
 White, Violet, Mrs. Stannard.
 Williams, F. Harold, Rev. F. W. Orde Ward.
 Winter, John Strange, Mrs. Arthur Stannard.
 Wizard, The, J. Corlett.
 Woodroffe, Daniel, Mrs. J. C. Woods.
 Worboise, Emma J., Mrs. Etherington Guyton.
 Wynman, Margaret, Ella Hepworth Dixon.
 Wynne, Charles Whitworth, C. W. Cayzer.
 Yendys, Sydney, Sydney Dobell.
 Yorick, Laurence Sterne.
 Yorke, Curtis, Mrs. Richmond Lee.
 Yorke, Oliver, Francis S. Mahony.
 Yorke, Stephen, Miss Linskill.
 Z. Z., Louis Zangwill.
 Zuck, Gwendoline Kents.
 Zadkiel, R. J. Morrison.
 Zeta, J. A. Froude.

SIGNATURES OF ENGLISH CHURCH BISHOPS.

Bishops of the Anglican Church sign thus, prefixing their baptismal name (or initials), as "Randall Cantuar" in the case of Dr. Davidson, and "A. F. London" in that of Dr. Winnington-Ingram. The signatures simply indicate (in most instances) Christian names, along with the Latin title of the see, surnames being ignored. Many Catholic bishops follow the example of the home prelates.

Canterbury, Arbp. *Randall Cantuar.*
 York, Arbp. *Cosmo Ebor.*
 London, Bp. *A. F. London.*
 Durham, Bp. *Handley Durolim.*
 Winchester, Bp. *Edw. Winton.*
 Bangor, Bp. *H. H. Bangor.*
 Bath and Wells, G. W. Bath & Wells.
 Birmingham, Bp. *Birmingham.*
 Bristol, Bp. *Bristol.*
 Carlisle, Bp. *C. H. Carlisle.*
 Chelmsford, Bp. *Chelmsford.*
 Chester, Bp. *F. J. Cest.*
 Chichester, Bp. *C. J. Linc.*

Elly, Bp. *Ely.*
 Exeter, Bp. *A. Exon.*
 Gloucester, Bp. *Edgar C. S. Gloucester.*
 Hereford, Bp. *Hereford.*
 Lichfield, Bp. *Lichfield.*
 Lincoln, Bp. *Lincoln.*
 Liverpool, Bp. *Liverpool.*
 Llandaff, Bp. *Llandaff.*
 Manchester, Bp. *Manchester.*
 Newcastle, Bp. *Newcastle.*
 Norwich, Bp. *Norwich.*
 Oxford, Bp. *C. Oxon.*
 Peterborough, Bp. *E. C. Peterburg.*
 Ripon, Bp. *Ripon.*

Rochester, Bp. *J. R. Koffen.*
 St. Albans, Bp. *Edgar Alban.*
 St. Asaph, Bp. *A. G. Asaph.*
 St. David's, Bp. *St. David.*
 St. Edmundsbury and Ipswich, Bp. *St. Edmundsbury and Ipswich.*
 Salisbury, Bp. *F. F. Sarum.*
 Sheffield, Bp. *Sheffield.*
 Sodor & Man, Bp. *Sodor and Man.*
 Southwark, Bp. *Southwark.*
 Southwell, Bp. *Southwell.*
 Truro, Bp. *Wimfrid O. Truron.*
 Wakefield, Bp. *Wakefield.*
 Worcester, Bp. *Hughes Worcester.*

ABBREVIATIONS IN COMMON USE IN WRITTEN AND PRINTED MATTER.

Az.—First class (at Lloyd's).
 A.A.G.—Assistant Adjutant-General.
 A.A. and Q.M.G.—Assistant Adjutant and Quarter-master-General.
 A.B.—Able Seaman.
 A.B.—Bachelor of Arts.
 A.B.A.—Associate of the British Archaeological Association.
 Abp.—Archbishop.
 Ac.—Acre.
 A.C.—*Anno Christum* (before Christ).
 A.C.—acct. (account).
 A.C.A.—Associate of Chartered Accountants.
 Acad.—Academy.
 A.C.S.—Additional Curates' Society.
 A.D.—Anno Domini.
 A.D.C.—Aide-de-Camp.
 Ad eund.—*Ad eundem gradum* (admitted to the same degree).
 Ad fin.—*Ad finem* (to the end).
 Adj.—Adjutant.
 Ad. Lib.—*Ad libitum* (at discretion).
 Adm.—Admiral.
 Adv.—Advocate.
 Advt.—Advertisement.
 A.T.—*Aetat.*—*Aetatis* (aged).
 A.F.A.—Associate Faculty of Actuaries.

A.G.—Attorney-General.
 A.H.—*Anno Henrici* (the year of the Flight).
 A.I.A.—Associate Institute of Actuaries.
 A.K.C.—Associate King's College, London.
 Ala.—Alabama (U.S.).
 Alba.—Albion.
 A.L.S.—Associate of the Linnean Society.
 A.M.—*Anno Mundi* (Year of the World); *Anno Meridien* (before mid-day); Master of Arts (*Artium Magister*).
 A.M.I.C.E.—Associate Member of Institute of Civil Engineers.
 A.M.I.E.E.—Associate Member of Institute of Electrical Engineers.
 Anat.—Anatomy; Anatomical.
 Anon.—Anonymous.
 Ans.—Answer.
 A.O.D.—Ancient Order of Druids.
 A.O.F.—Ancient Order of Foresters.
 App.—Appendix.
 A.R.A.—Associate of the Royal Academy.
 A.R.A.M.—Associate of the Royal Academy of Music.
 A.R.C.E.—Academical Rank of Civil Engineers.
 A.R.C.O.—Associate of Royal College of Organists.
 A.R.I.B.A.—Associate of the Royal Institute of British Architects.
 Ark.—Arkansas (U.S.).

A.R.S.A.—Associate of Royal Scottish Academy.
A.R.W.S.—Associate of Royal Society of Water-
Colours.
A.S.—Anglo-Saxon.
A.S. Corps.—Army Service Corps.
Assoc. Sc.—Associate in Science.
Ass.—Assistant.
Ass.-Commis.-Gen.—Assistant-Commissary-General.
Ath.—Athabasca (Canada).
Atty. Gen.—Attorney-General.
A.U.C.—*Anno urbis condita*, "from the foundation of
the city" (Rome).
A.V.—Authorised Version.
Av.—Avenue.
Avoird.—Avoirdupois.
B.—Baron.
b.—born.
B.A.—Bachelor of Arts
Ball.—Balliol.
bar.—Barometer.
Barr.—Barrister.
Bart. or Bt.—Baronet.
Batt.—Battalion.
B.C.—Before Christ.
B.C.—British Columbia.
B.Chir.—Bachelor of Chirurgery (Surgery).
B.C.L.—Bachelor of Civil Law.
B.C.S.—Bengal Civil Service.
B.D.—Bachelor of Divinity.
B.Eng.—Bachelor of Engineering.
Beds.—Bedfordshire.
Berks.—Berkshire.
B.L.—Bachelor of Letters or of Law.
B.M.—Bachelor of Medicine.
B.M.A.—British Medical Association.
B.N.C.—Barnes College.
B.O.S.—Bombay Civil Service.
Bo.S.C.—Bombay Staff Corps.
Bot.—Botany; Botanical.
Bp.—Bishop.
Brev.—Brevet.
Brig.—Brigade; Brigadier.
Brit. Ass.—British Association.
Brit. Mus.—British Museum.
B.P.—British Public.
B.S.—Bachelor of Surgery.
B.Sc.—Bachelor of Science.
B.S.C.—Bengal Staff Corps.
B.Th.—Bachelor of Theology.
B.V.M.—Blessed Virgin Mary.
Bucks.—Buckinghamshire.
c.—Cents; centimes; centigrade.
C.—Roman numeral for 100.
C.—Conservative.
C.A.—Chartered Accountant.
C.A.—County Alderman.
Cal.—California (U.S.).
Cams.—Cambridgeshire.
Cantab.—Of Cambridge University.
Canter.—Of Canterbury.
Cap.—Chapter (Latin, *capitulum*).
Capt.—Captain.
C.B.—Companion of the (Order of the) Bath.
C.C.—County Councillor.
C.C.—Cricketer; Cycling Club; County Court.
C.C.C.—Corpus Christi College.
C.C.S.—Ceylon Civil Service.
C.E.—Civil Engineering.
C.E.T.S.—Church of England Temperance Society.
C.F.—Chaplain of the Forces.
Cf.—*compare* (compare).
C.G.H.—Cape of Good Hope.
Chanc.—Chancellor; Chancery.
Ch. Ch.—Christ Church.
Ch. Coll.—Christ's College.
Ch.M.—Master of Surgery (Chirurgery).
Chm.—Chairman.
C.I.—Imperial Order of the Crown of India.
C.I.E.—Companion of the Order of the Indian Empire.
Cir.—Circus.
Circ.—Circus.
C.J.—Chief Justice.
Cl.—Class.
Clk.—Clerk.

C.L.—Commander of the Order of Leopold.
C.M.—Church Missionary.
C.M.—Master in Surgery.
C.M.—Certificated Master.
C.M.G.—Companion of St. Michael and St. George.
C.M.S.—Church Missionary Society.
C.O.—Commanding Officer; Colonial Office.
Co.—County; Company.
C.O.D.—Cash on Delivery.
Col.—Colonel, Colony, or Colonial.
Coll.—College; Collegiate.
Col.-Sergt.—Colour-Sergeant.
Colo.—Colorado (U.S.).
Com.-in-Chf.—Commander-in-Chief.
Comm.—Commander.
Conn.—Connecticut (U.S.).
Corp.—Corporal.
Corr. Mem. or Fell.—Corresponding Member or Fellow.
C.P.R.—Canadian Pacific Railway.
cr.—created.
Cr.—Creditor.
Cr.—Crown.
Cres.—Crescent.
C.S.—Civil Service.
C.S.I.—Companion of the Order of the Star of India.
C.T.C.—Cyclists' Touring Club.
C.U.—Cambridge University.
C.U.A.C.—Cambridge University Athletic Club.
C.U.B.C.—Cambridge University Boating Club.
C.U.C.C.—Cambridge University Cricket Club.
C.U.F.C.—Cambridge University Football Club.
Curr.—Current.
C.V.O.—Commander of the Royal Victorian Order.
Cwt.—Hundredweight.
D.—Duke; 500 (Roman numerals).
d.—Pence (Lat. *denarii*); also died; daughter.
D.A.G.—Deputy Assistant Adjutant-General.
D.A.G.—Deputy Adjutant-General.
D.C.—District of Columbia (U.S.).
D.C.L.—Doctor of Civil Law.
D.D.—Doctor of Divinity.
D.D.S.—Doctor of Dental Surgery.
deg.—Degree.
Del.—Delaware (U.S.).
del.—(L. *delinquent*), he drew.
Dele. or d.—Delete, cancel.
D.G.—(*Dei Gratia*), by the Grace of God; also
Dragon (united).
Dioc.—Diocese; Diocesan.
Dist. R.—(Metropolitan) District Railway.
Ditto or do.—The same.
D.L.—Deputy-Lieutenant.
D.L.I.—Durham Light Infantry.
D.Litt. or D.Lit.—Doctor of Literature.
Dol. or \$.—Dollar.
D.O.M.—Deo Optimo Maximo.
Dom.—Dominus.
Dow.—Dowager.
D.P.H.—Diploma in Public Health.
Dr.—Doctor, deltor.
dr.—Drachm.
Dr. Univ. Par.—Doctor of the University of Paris.
D.Sc.—Doctor of Science.
D.S.O.—Companion of the Distinguished Service Order.
D.Theol.—Doctor of Theology.
D.V.—(L. *Deo volente*), God willing.
D.V.H.—Doctor in Veterinary Hygiene.
D.V.Sc.—Doctor in Veterinary Science, Melbourne
University.
D.V.S.M.—Doctor in Veterinary State Medicine.
E.—East; Earl.
Eblan.—(Eblanensis) of Dublin.
Ebor.—(Eboracensis) of York.
E.C.—East Central (London postal district).
Ecc.—Ecclesiastical.
E.C.U.—English Church Union.
Ed.—Editor; Edition.
Edin.—Edinburgh.
E.E.—Early English.
e.g.—(L. *exempli gratia*), for example.
E.I.—East Indian.
Ency. Brit.—Encyclopedia Britannica.
Eng.—England.
eng.—Engineer.

Et al.—*Et alibi*, "and elsewhere."
 Etc., &c.—*Et cetera*, "and other things."
 Et seq.—and the following.
 E. & W.L.R.—East and West London Railway.
 f.—fathom; franc.
 F.A.—Football Association.
 Fahr.—Fahrenheit.
 F.A.I.—Fellow of the Auctioneers' Institute.
 F.A.S.—Fellow of the Antiquarian Society.
 F.B.A.—Fellow of the British Academy.
 F.B.O.U.—Fellow of the British Ornithologists' Union.
 F.B.S.—Fellow of the Botanical Society.
 F.B.S.E.—Fellow of the Botanical Society of Edinburgh.
 F.C.A.—Fellow of Chartered Accountants.
 Fcp.—Fool-cap.
 F.C.P.—Fellow of the College of Preceptors.
 F.C.S.—Fellow of the Chemical Society.
 F.D.—*Fides Defensor*, "Defender of the Faith."
 F.E.I.S.—Fellow of the Educational Institute of Scotland.
 F.E.S.—Fellow of the Entomological Society.
 F.F.A.—Fellow of the Faculty of Actuaries.
 F.G.H.S.—Fellow of the Genealogical and Historical Society.
 F.G.S.—Fellow of the Geological Society.
 F.I.A.—Fellow of the Institute of Actuaries.
 F.I.C.—Fellow of the Institute of Chemistry.
 F.I.Inst.—Fellow of the Imperial Institute.
 F.J.I.—Fellow of the Institute of Journalists.
 Fla.—Florida (U.S.).
 F.L.S.—Fellow of the Linnean Society.
 F.M.—Field-Marshal.
 Fo.—Folio (one sheet).
 F.O.—Foreign Office; also Field Officer.
 Fob.—Free on Board.
 F.P.—Fire-plug.
 F.P.S.—Fellow of the Philological Society; Fellow of the Philosophical Society of Great Britain.
 Fr.—French.
 F.R.A.M.—Fellow of the Royal Academy of Music.
 F.R.A.S.—Fellow of the Royal Astronomical Society; or of the Royal Asiatic Society.
 F.R.C.I.—Fellow of the Royal Colonial Institute.
 F.R.C.O.—Fellow of the Royal College of Organists.
 F.R.C.P.—Fellow of the Royal College of Physicians.
 F.R.C.S.—Fellow of the Royal College of Surgeons.
 F.R.C.V.S.—Fellow of the Royal College of Veterinary Surgeons.
 F.R.G.S.—Fellow of the Royal Geographical Society.
 F.R.Hist.S.—Fellow of the Royal Historical Society.
 F.R.Hort.S.—Fellow of the Royal Horticultural Society.
 F.R.I.B.A.—Fellow of the Royal Institute of British Architects.
 F.R.M.S.—Fellow of the Royal Microscopical Society.
 F.R.Met.S.—Fellow of the Royal Meteorological Society.
 F.R.P.S.G.—Fellow of the Royal Faculty of Physicians and Surgeons, Glasgow.
 F.R.S.—Fellow of the Royal Society.
 F.R.S.A.—Fellow of the Royal Society of Antiquaries of Ireland.
 F.R.S.E.—Fellow of the Royal Society of Edinburgh.
 F.R.S.N.A.—Fellow of the Royal School of Naval Architecture.
 F.R.S.L.—Fellow of the Royal Society of Literature.
 F.S.A.—Fellow of the Society of Antiquaries.
 F.S.I.—Fellow of the Surveyor's Institution.
 F.S.S.—Fellow of the Statistical Society.
 F.S.Sc.A.—Fellow Society Science and Art, Lond.
 Ft.—Feet.
 Fur.—Furlongs.
 F.Z.S.—Fellow of the Zoological Society.
 G.A.—General Assembly.
 Ga.—Georgia (U.S.).
 G.C.B.—Knight Grand Cross of the Bath.
 G.C.H.—Knight Grand Cross of Hanoverian Guelphic Order.
 G.C.I.E.—Knight Grand Cross of the Indian Empire.
 G.C.I.H.—Grand Cross of the Legion of Honour.
 G.C.M.G.—Knight Grand Cross of St. Michael and St. George.
 G.C.R.—Great Central Railway.

G.C.S.I.—Knight Grand Cross of the Star of India.
 G.C.V.O.—Knight Grand Cross of Royal Victorian Order.
 Gdns.—Gardens.
 Gen.—*genus*, kind.
 Gen.—General.
 G.E.R.—Great Eastern Railway.
 Gib.—Gibraltar.
 G.F.S.—Girls' Friendly Society.
 G.L.—Grand Lodge (Masonic).
 Glos.—Gloucestershire.
 G.M.—Grand Master.
 G.M.I.E.—Grand Master of the Order of the Indian Empire.
 G.M.S.I.—Grand Master of the Star of India.
 G.N.R.—Great Northern Railway.
 Goth.—Gothic.
 Govt.—Government.
 G.P.O.—General Post Office.
 Gr.—Greek.
 g.s.—grandson.
 Gr B.—Great Britain.
 G.W.R.—Great Western Railway.
 H.A.C.—Honourable Artillery Company.
 Hants.—Hampshire.
 Harv.—Harvard.
 H.B.C.—Hudson Bay Company.
 H.B.M.—His Britannic Majesty.
 H.C.—House of Commons.
 H.C.M.—His (or Her) Catholic Majesty.
 H.E.—His Excellency; His Eminence.
 Heb.—Hebrew.
 H.E.I.C.—Honourable East India Company.
 H.E.I.C.S.—Honourable East India Company's Service.
 Heir app.—Heir apparent.
 Heir pres.—Heir presumptive.
 Herts.—Hertfordshire.
 H.G.—Horse Guards.
 H.H.—His (or Her) Highness.
 Hhd.—Hog-head.
 H.I.H.—His (or Her) Imperial Highness.
 H.I.M.—His (or Her) Imperial Majesty.
 H.L.L.—Highland Light Infantry.
 H.M.—His (or Her) Majesty.
 H.M.C.—His (or Her) Majesty's Customs.
 H.M.I.—His Majesty's Inspector.
 H.M.I.N.—His Majesty's Indian Navy.
 H.M.S.—His Majesty's Ship; or Service Ship.
 Hon.—Honourable.
 (Hon.)—Honourary.
 h.p.—horse power (or half pay).
 H.Q.—Headquarters.
 (H.R.)—Home Ruler.
 H.R.—House of Representatives.
 H.R.H.—His (or Her) Royal Highness.
 H.R.I.—Holy Roman Empire.
 H.S.H.—His Serene Highness.
 Hum.—Humanity (Latin).
 Hunts.—Huntingdonshire.
 H.W.M.—High Water Mark.
 I.—*Imperator*, or *Imperatrix*, Emperor or Empress.
 Ia.—Iowa (U.S.A.).
 Ib. or Ibid.—*ibidem* (in the same place).
 I.B.S.A.—Innate Bird Shooting Association.
 I.C.S.—Indian Civil Service.
 Id.—Idaho (U.S.A.).
 Id.—*idem* (the same).
 I.D.B.—Illicit diamond buying.
 I.e.—*ad. ex.* (that is).
 Ign.—*ignotus* (unknown).
 I.H.S.—*Jesus Hominum Salvator* (Jesus, the Saviour of Men).
 Ill.—Illinois (U.S.).
 I.L.P.—Independent Labour Party.
 I.M.D.—Indian Medical Department.
 Imp.—Imperial.
 I.M.S.—Indian Medical Service.
 in.—Inch.
 I.N.—Indian Navy.
 Incog.—*Incognito* (in secret).
 Ind.—Indiana (U.S.).
 Inf.—*infra*, below.
 Insp.—Inspector.
 Insp.-gen. of hosp.—Inspector-general of Hospitals.

Inst.—Instant; Institute.
 Int.—Interest.
 Inv. (*invested*).—He designed.
 I.O.M.—Isle of Man.
 I.O.G.T.—Independent Order of Good Templars.
 I.O.O.F.—Independent Order of Odd Fellows.
 I.O.U.—I owe you.
 I.Q.—*idem quod* (the same as).
 I.R.—Inland Revenue.
 Ir.—Irish.
 Irel.—Ireland.
 I.R.O.—Inland Revenue Office.
 I.S.C.—Indian Staff Corps.
 I.S.O.—Imperial Service Order.
 I.T.—Indian Territory (U.S.).
 Ital.—Italics.
 Ital. or It.—Italian.
 I.W.—Isle of Wight.
 J.A.—Judge-Advocate.
 Jas.—James.
 Jes.—Jesus.
 Joh., Jno.—John.
 J.P.—Justice of the Peace.
 J.U.D.—Doctor of both Civil and Canon Law (Lat. *Juris utriusque Doctor*).
 Jun.—Junior.
 Jun. Op.—Junior Optime.
 K.—King.
 Kan.—Kansas (U.S.).
 K.A.—Knight of the Order of St. Andrew.
 K.B.—Knight of the Bath; Knight Bachelor.
 K.C.—King's College; King's Counsel.
 K.C.B.—Knight Commander of the Bath.
 K.C.H.—Knight Commander of the Hanoverian Guelphic Order.
 K.C.I.E.—Knight Commander of the Indian Empire.
 K.C.L.—King's College, London.
 K.C.M.G.—Knight Commander of St. Michael and St. George.
 K.C.S.I.—Knight Commander of the Star of India.
 K.C.T.S.—Knight Commander of the Tower and Sword.
 K.C.V.O.—Knight Commander of the Royal Victorian Order.
 K.D.G.—King's Dragoon Guards. [Order.
 Keb.—Kebble College, Oxford.
 K.G.—Knight of the Order of the Garter.
 K.H.—Knight of the Hanoverian Guelphic Order.
 Kil.—Kilometre.
 Kilo.—Kilogramme.
 K.M.—Knight of Malta.
 Knt. Leg. Hon.—Knight of the Legion of Honour.
 K.O.S.B.—King's Own Scottish Borderers.
 K.P.—Knight of the Order of St. Patrick.
 K.R.R.—King's Royal Rifles.
 K.S.—King's Scholar.
 K.T.—Knight of the Order of the Thistle.
 Kt. or (Knt.).—Knight.
 K.T.S.—Knight of the Tower and Sword.
 Ky.—Kentucky (U.S.).
 L.—go (Roman numerals).
 (L.).—Liberal.
 £.—*Libra*, Pounds (sterling).
 L.—left.
 L.A.—Literate in Arts; Legislative Assembly.
 La.—Louisiana (U.S.).
 L.A.C.—London Athletic Club.
 L.A.C.—Licentiate of the Apothecaries Company.
 L.-Corp., or Lance-Corp.—Lance-Corporal.
 Lancs.—Lancashire.
 lat.—Latitude.
 Lat.—Latin.
 lb.—pound (weight).
 L.C.C.—London County Council.
 L.Ch.—Licentiate in Surgery (Chirurgery).
 L.C.J.—Lord Chief Justice.
 L.C.P.—Licentiate of the College of Preceptors.
 L.Div.—Licentiate in Divinity.
 L.D.S.—Licentiate of Dental Surgery.
 L.F.I.Inst.—Life Fellow Imperial Institute.
 L.F.P.S.—Licentiate of the Faculty of Physicians and Surgeons.
 L.G.—Life Guards. [Surgeons.
 L.H.D.—(*Literarum Humaniorum Doctor*) Doctor of Literature.
 L.I.—Light Infantry.

Lic. Med.—Licentiate in Medicine.
 Linc. or Lincs.—Lincolnshire.
 Lit.—Literature; Literary.
 lit.—literally.
 Lit. Hum.—Classics.
 Litt.D.—Doctor of Letters.
 L.J.—Lord Justice.
 L.L.—Lord-Lieutenant.
 L.L.A.—Lady-Lieutenant in Arts.
 L.L.B.—Bachelor of Laws.
 L.L.D.—Doctor of Laws.
 L.L.M.—Master of Laws.
 long.—longitude.
 loc. cit. (*loco citato*).—In the place quoted.
 Loq.—*Loquitur* (speaks).
 L.P.—Lord Provost.
 L.R.C.P.—Licentiate of the Royal College of Physicians.
 L.R.C.P.E.—Licentiate Royal College of Physicians, Edinburgh.
 L.R.C.S.—Licentiate of the Royal College of Surgeons.
 L.R.C.S.E.—Licentiate of the Royal College of Surgeons, Edinburgh.
 L.R.C.V.S.—Licentiate of the Royal College of Veterinary Surgeons.
 L.S.—*Locus sigilli*, place for the seal.
 L.S.A.—Licentiate of the Society of Apothecaries.
 £ s. d.—Pounds, shillings, pence; Money.
 Lt.—Light (*e.g.*, Light Infantry).
 Lt. or Lieut.—Lieutenant.
 Lt. Col.—Lieutenant-Colonel.
 Ltd.—Limited.
 Lt. Gen.—Lieutenant-General.
 L.Th.—Licentiate in Theology.
 (L.U.).—Liberal Unionist.
 L. & N.W.R.—London and North-Western Railway.
 L. & W.R.—London and South-Western Railway.
 L. & Y.R.—Lancashire and Yorkshire Railway.
 L.B. & S.C.R.—London, Brighton, and South Coast Railway.
 L.C. & D.R.—London, Chatham, and Dover Railway.
 L.W.M.—Low water mark.
 M.—Member; Monsieur; moon.
 m.—married.
 M.A.—Master of Arts.
 M.A.B.—Metropolitan Asylums Board.
 Mag.—Magdalen; Magdalene.
 Maj. Gen.—Major-General.
 Man.—Manitoba (Canada).
 Marq.—Marquis.
 Mass.—Massachusetts (U.S.).
 Math.—Mathematics; Mathematical.
 M.B.—Bachelor of Medicine.
 M.C.—Master of Ceremonies.
 M.C.C.—Marylebone Cricket Club.
 M.Ch.—Master in Surgery (Chirurgery).
 M.C.S.—Madras Civil Service.
 M.D.—Doctor of Medicine.
 Md.—Maryland (U.S.).
 Me.—Maine (U.S.).
 M.E.—Mining Engineer.
 Mem.—Memorandum.
 M.Eng.—Master of Engineering.
 Met.R.—Metropolitan Railway.
 M.F.B.—Metropolitan Fire Brigade.
 M.F.H.—Master of Foxhounds.
 Mich.—Michigan (U.S.).
 Mil. Sec.—Military Secretary.
 Minn.—Minnesota (U.S.).
 Miss.—Mississippi (U.S.).
 M.Inst.C.E.—Member of Institute of Civil Engineers.
 M.J.I.—Member of Institute of Journalists.
 M.J.S.—Member of the Japan Society.
 M.L.—Licentiate in Medicine.
 M.L.A.—Member of Legislative Assembly.
 M.L.C.—Member of Legislative Council.
 Mile.—*Mademoiselle* (Miss).
 mm.—Millimetres.
 MM.—Messieurs; Gentlemen.
 Mme.—Madame.
 Mngt.—Monsignor.
 Mo.—Missouri (U.S.).
 mo.—month.
 Mods.—Moderations; First public exam. at Oxford.

Mon.—Montana (U.S.)
 Most Rev.—Most Reverend (of an Archbishop).
 M.P.—Member of Parliament.
 M.P.S.—Member of Pharmaceutical Society.
 M.R.—Master of the Rolls; Midland Railway.
 M.R.A.S.—Member of the Royal Asiatic Society.
 M.R.C.P.—Member of the Royal College of Physicians.
 M.R.C.P.E.—Member of the Royal College of Physicians, Edinburgh.
 M.R.C.P.Lond.—Member of the Royal College of Physicians, London.
 M.R.C.S.—Member of the Royal College of Surgeons.
 M.R.C.S.E.—Member of the Royal College of Surgeons, Edinburgh.
 M.R.C.V.S.—Member of the Royal College of Veterinary Surgeons.
 M.R.I.—Member of the Royal Institution.
 M.R.I.A.—Member of the Royal Irish Academy.
 M.R.I.P.W.C.—Member of the Royal Institute of Painters in Water Colours.
 M.R.S.P.W.C.—Member of the Royal Society of Painters in Water Colours.
 M.R.U.S.I.—Member of the Royal United Service Institute.
 M.S.—Master of Surgery.
 M.S.A.—Member of the Society of Arts.
 M.S.H.—Master of Stag-hounds.
 MS.—Manuscript, Manuscripts.
 M.Sc.—Master of Science.
 Mt.—Mountain.
 Mus.B.—Bachelor of Music.
 Mus.D.—Doctor of Music.
 Mus.M.—Master of Music.
 M.V.O.—Member of the Royal Victorian Order.
 N.—North.
 N.—Nationalist.
 n.—nephew.
 N.B.—North Britain; (*L. Nota Bene*), note well, New Brunswick.
 N.C.—North Carolina (U.S.).
 N.C.U.—National Cyclists' Union.
 N.D.—No date.
 N.Dak.—North Dakota (U.S.).
 N.E.—North-east.
 Neb.—Nebraska (U.S.).
 Nemi. Con.—*Venire contradicente* (no one contradicting; unanimously).
 Nemi. Dis.—*Venire dissentiente* (no person disagreeing; unanimously).
 N.E.R.—North-Eastern Railway.
 Net. Nert.—(*It. Netto*) (free from all deductions).
 Nev.—Nevada (U.S.).
 New M.—New Mexico (U.S.).
 N.F.—Newfoundland.
 N.G.—New Granada.
 N.H.—New Hampshire (U.S.).
 N.I.—Native Infantry.
 N.J.—New Jersey (U.S.).
 N.L.F.—National Liberal Federation.
 N.N.E.—North-north-east.
 N.N.W.—North-north-west.
 No.—Numero, number.
 Non seq.—*Non sequitur* (it does not follow).
 Northants.—Northamptonshire.
 Notts.—Nottinghamshire.
 N.P.—Notary Public.
 N.R.A.—National Rifle Association.
 N.S.—Nova Scotia; New Style in the Calendar (in Great Britain since 1752); National Society.
 N.S.A.—National Skating Association.
 N.S.P.C.C.—National Society for Prevention of Cruelty to Children.
 N.S.W.—New South Wales.
 N.T.—New Testament; Northern Territory of South Australia.
 N.U.T.—National Union of Teachers.
 N.W.—North-west.
 N.W.P.—North-western Provinces.
 N.W.T.—North-western Territories.
 N.Y.—New York, City or State.
 N.Y.C.—New York City.
 N.Z.—New Zealand.
 o.—only.
 %.—per cent; or in the hundred.

O.—Ohio (U.S.).
 Ob.—Died.
 Ob.—Obsolete.
 o.c.—only child.
 O.H.M.S.—On his Majesty's Service.
 O.K.—Slang term for all correct (or *kreki*).
 O.L.—Officer of the Order of Leopold.
 O.M.—Order of Merit.
 Ont.—Ontario.
 O.P.—*Ordinis Prædicatorum*—of the Order of Preachers (Dominican Ecclesiastical Title).
 O.P.—Opposite to prompter; stage term.
 op. cit.—(*Opere citate*).—In the work referred to.
 Ore.—Oregon (U.S.).
 O.S.—Old style in the Calendar (of Great Britain before 1752); ordinary seaman.
 o.s.—only son.
 O.S.B.—Order of St. Benedict.
 O.S.N.C.—Orient Steam Navigation Co.
 O.T.—Old Testament.
 O.U.—Oxford University.
 O.U.A.C.—Oxford University Athletic Club.
 O.U.B.C.—Oxford University Boating Club.
 O.U.C.C.—Oxford University Cricket Club.
 O.U.F.C.—Oxford University Football Club.
 Oxon.—Oxfordshire; of Oxford.
 oz.—Ounces.
 Pa.—Pennsylvania (U.S.).
 Parl. Agt.—Parliamentary agent.
 P.A.S.I.—Professional Associate Surveyors' Institute.
 P.C.—Privy Councillor; Police Constable, Perpetual Curate.
 p.c.—*per centum* (by the hundred); postcard.
 P.C.M.O.—Principal Colonial Medical Officer.
 P.E.—Protestant Episcopal.
 P.E.I.—Prince Edward Island.
 Per pro.—Per procurator.
 Ph.B.—Bachelor of Philosophy.
 Ph.D.—Doctor of Philosophy.
 pmx.—(He) painted it.
 Pl.—Place; Plural.
 P.L.C.—Poor Law Commissioner.
 P.M.—*Post Meridiem* (after midday); Pacific Mail.
 P.M.G.—Postmaster-General; *Pail Mail Gazette*.
 P.M.O.—Principal Medical Officer.
 P.&O.—Peninsular and Oriental Steamship Co.
 P.O.—Post Office, Postal Order.
 P.O.—Post Office Order.
 Pop.—Population.
 P.P.—Parish Priest.
 Pp.—pages.
 P.P.C.—Fr. *Pour prendre congé* (To take leave).
 P.P.S.—Further postscript.
 P.Q.—Province of Quebec.
 P.R.—Prize Ring (The).
 P.R.A.—President of the Royal Academy.
 Prob.—Prebendary.
 Pres.—President.
 P.R.I.—President of the Royal Institute of Painters in Water Colours.
 Pnn.—Principal.
 Prof.—Professor.
 Pro tem.—*Pro tempore* (for the time being).
 Prov.—Provost.
 Prox.—*Proximo* (next).
 P.K.S.—President of the Royal Society.
 P.S.—*Postscriptum* (postscript).
 p.s.—passed school of instruction (of officers).
 p.s.c.—passed Staff College.
 P.S.N.C.—Pacific Steam Navigation Co.
 Pt.—Pint.
 Pte.—Private (soldier).
 P.T.O.—Please turn over.
 P.W.D.—Public Works Department (roads, buildings, Government railways, telegraphs, etc.).
 Q.—Queen.
 Q.B.—Queen's (now K.B.—King's) Bench.
 Q.C.—Queen's (now K.C.—King's) Counsel.
 Q.E.D.—*Quod erat demonstrandum* (which was to be demonstrated), applied to a theorem.
 Q.E.F.—*Quod erat faciendum* (which was to be done) applied to a problem.

Q.M.G.—Quartermaster-General.
 Qto.—Quarto (folded in four).
 Quant. suff.—*Quantum sufficit*, a sufficient quantity.
 Queensl.—Queensland.
 U.I.—Queen's University in Ireland.
 q.v.—*quod vide* (which see).
 (R.)—Radical.
 R.—Résumé.
 —right.
 R.A.—Royal Academician; Royal Artillery.
 R.A.C.—Royal Agricultural College.
 R.A.M.—Royal Academy of Music.
 R.A.M.C.—Royal Army Medical Corps.
 R.Art.—Royal Artillery.
 R.A.S.—Royal Astronomical, or Asiatic, Society.
 R.B.—Rifle Brigade.
 R.E.A.—Royal Society of British Arts.
 R.C.—Roman Catholic.
 R.C.V.S.—Royal College of Veterinary Surgeons.
 R.D.—Royal Dragoon.
 R.D.—Rural Dean.
 R.E.—Royal Engineers; Royal Society of Painter Etchers.
 R.Eng.—Royal Engineers.
 Rd.—Road.
 Rear-Adm.—Rear-Admiral.
 Rec.—Recorder.
 Rect.—Rector.
 Res.—Resigned; reserve.
 Reg. Prof.—Regius Professor.
 Regt.—Regiment.
 Rev.—Reverend.
 R.F.A.—Royal Field Artillery.
 r.f.p.—retired on full pay.
 R.G.A.—Royal Garrison Artillery.
 R.H.A.—Royal Hibernian Academy; Royal Horse Artillery.
 R.H.G.—Royal Horse Guards.
 R.H.S.—Royal Humane Society.
 R.I.—Royal Institute of Painters in Water Colours.
 R.I.—Rhode Island (U.S.).
 R.I.B.A.—Royal Institute of British Architects.
 R.I.C.—Royal Irish Constabulary.
 R.I.M.—Royal Indian Marine.
 R.I.P.—*Requiescat in pace* (may he or she rest in peace).
 R.L.O.—Returned Letter Office.
 R.M.—Royal Marines.
 R.M.A.—Royal Marine Artillery; Royal Military Academy, Woolwich.
 R.M.C.—Royal Military College, Sandhurst.
 R.M.L.I.—Royal Marine Light Infantry.
 R.M.S.—Royal Microscopical Society; Royal Meteorological Society; Royal Mail Steamers.
 R.N.—Royal Navy.
 R.N.R.—Royal Naval Reserve.
 Rock, The.—Gibraltar.
 R.S.A.—Royal Scottish Academy.
 R.S.E.—Royal Society of Edinburgh.
 R.S.L.—Royal Society of Literature.
 R.S.O.—Railway Sub Office (Postal).
 R.S.P.C.A.—Royal Society for Prevention of Cruelty to Animals.
 R.S.V.P.—Fr. *Répondez s'il vous plaît* (please answer).
 R.S.W.—Royal Scottish Water Colour Society.
 R.T.S.—Religious Tract Society; Royal Toxophilite Society.
 Rt. Hon.—Right Honourable.
 Rt. Rev.—Right Reverend (of a Bishop).
 R.U.—Rugby Union.
 R.U.I.—Royal University of Ireland.
 R.V.—Revised Version.
 R.W.S.—Royal Society of Water Colours.
 R.Y.S.—Royal Yacht Squadron.
 s.—succeeded; or son; shillings.
 (S.)—Socialist.
 S.—South; Saints.
 S.A.—South Australia.
 Salop.—Shropshire.
 Sarum.—Salisbury.
 S.C.—South Carolina (U.S.).
 s.c.—Student at the Staff College.
 Sc.—*Scilicet*, to make known; to wit.

S.C.A.P.A.—Society for Checking the Abuses of Public Advertising.
 Sch.—Scholar.
 S.C.L.—Student in Civil Law.
 Sco.—Scottish or Scotch.
 scr.—scruple.
 sculp.—*sculptor* (he engraved).
 Sculpt.—Sculptor.
 S. Dak.—South Dakota (U.S.).
 S.D.F.—Social Democratic Federation.
 S.E.—South-east.
 Sec.—Secretary.
 Selw.—Selwyn Coll., Cambridge.
 S.E.R.—South-Eastern Railway.
 Serjt.—Serjeant.
 S.G.—Solicitor-General.
 S.H.—Somerset Herald.
 S.J.—Society of Jesus (Jesuits).
 S.L.—Serjeant-at-Law.
 S.M.—Surgeon-Major.
 S.M.E.—School of Military Engineering.
 Sovs.—Sovereigns.
 S.O.—Sub Office (Postal).
 s.p.—*sine prole* (without issue).
 S.P.C.C.—Society for the Prevention of Cruelty to Children.
 S.P.C.K.—Society for Promoting Christian Knowledge.
 S.P.C.—Society for the Propagation of the Gospel.
 S.P.Q.R.—*Senatus Populusque Romanus* (The Senate and People of Rome).
 Sq.—Square.
 S.S.—Steamship; Saints.
 S.S.C.—Solicitor before Supreme Court (Scotland).
 St.—Street; Saint.
 St. Alb. Hall.—St. Alban Hall.
 St. Edm. Hall.—St. Edmund Hall.
 Stip.—Stipend; Stipendiary.
 S.T.L.—*Sacrae Theologiae Lector* (Reader or a Professor of Sacred Theology).
 S.T.P.—*Sacrae Theologiae Professor* (Professor of Divinity, old form of D.D.).
 Supt.—Superintendent.
 Surv.—Surviving.
 S.W.—South-west.
 Syn.—Synonymous; synonym.
 Tasm.—Tasmania.
 T.C.D.—Trinity College, Dublin.
 T.R.H.—Their Royal Highnesses.
 Temp.—Temperature; Temporary.
 Tenn.—Tennessee (U.S.A.).
 Ter. or Terr.—Terrace.
 Tex.—Texas (U.S.).
 Tn.—Ton.
 T.O.—Turn over.
 tr.—Transpose.
 T.R.C.—Thames Rowing Club; Tithe Rent Charge.
 Trin.—Trinity.
 T.Y.C.—Thames Yacht Club; Two Year Old (or Thousand Yards) Course.
 (U.)—Unionist.
 U.C.—Upper Circle.
 U.K.A.—Ulster King at Arms.
 U.K.—United Kingdom.
 U.K.—United Kingdom of Great Britain and Ireland.
 Ult.—*Ultimo* (last).
 Univ.—University.
 U.S.—United States.
 U.S.A.—United States of America.
 U.S.C.—United States of Colombia.
 U.S.L.—United States Legion.
 U.S. List.—On Unemployed Supernumerary List.
 U.S.M.—United States Mail.
 U.S.N.—United States Navy.
 v.—*Versus* (against).
 V.—Five (Roman numeral); Version; Vicar; Viscount; Vice.
 v. or vid.—*Vide* (see).
 V.A.—Victoria and Albert.
 Va.—Virginia (U.S.).
 V.C.—Victoria Cross.
 V.D.—Volunteer Officer Decoration.
 V.D.L.—Van Dieman's Land.
 Ven.—Venerable (of an Archdeacon).
 Very Rev.—Very Reverend (of a Dean).

Vet.—Veterinary.
V.G.—Vicar-General.
V.I.—Vancouver's Island.
Vice-Adm.—Vice-Admiral.
Vict.—Victoria.
Visc.—Viscount.
Viz.—*videlicet* (namely).
V.L.—Vice-Lieutenant.
V.P.—Vice-President.
V.R.—*Victoria Regina* (Queen Victoria).
V. R. et I.—*Victoria Regina et Imperatrix* (Victoria Queen and Empress).
Vt.—Vermont (U.S.)
Vol.—Volume.
W.—West.
W.A.—West Australia.
Wadh.—Wadham.
Wash.—Washington State (U.S.).

W.I.—West Indies.
Wilts.—Wiltshire.
Wis.—Wisconsin (U.S.).
W.L.F.—Women's Liberal Federation.
Wm.—William.
W.O.—War Office.
W.S.—Writer to the Signet.
W. Va.—West Virginia (U.S.).
Wyo.—Wyoming (U.S.).
X.—Ten (Roman numerals)
Xmas.—Christmas.
yds.—yards.
Y.H.—York Herald (at Arms).
Y.M.C.A.—Young Men's Christian Association.
Yorks.—Yorkshire.
Yrs.—Years.
Y.W.C.A.—Young Women's Christian Association.

FAMILIAR FOREIGN PHRASES AND CLASSICAL QUOTATIONS.

Fr., French. Gr., Greek. Ger., German. L., Latin. Sp., Spanish.

ab ante (L.), from before.
à bas (Fr.), down with!
à bâtons rompus (Fr.), by fits and starts.
abattu, fem. abattue (Fr.), cast down.
à bene placito (It.), at pleasure.
ab extra (L.), from without.
ab initio (L.), from the beginning.
ab intra (L.), from within.
à bon droit (Fr.), with justice.
à bon marché (Fr.), cheap.
ab origine (L.), from the beginning.
à bras ouverts (Fr.), with open arms.
absit omen (L.), may there be no ill omen.
absolvi meam animam (L.), I have relieved my mind.
ab uno dyce omnes (L.), from one learn all.
at urbe condita (L.), from the year of the foundation.
a capite ad calcem (L.), from head to heel.
Acherontis pinguis (L.), food for Acheron.
à cheval (Fr.), on horseback.
à compte (Fr.), on account.
à couvert (Fr.), under cover.
actum est de republica (L.), it is all over with the republic.
ad astra (L.), to the stars.
à demi (Fr.), by halves, half.
à Deo et rege (L.), from God and the king.
ad hoc (L.), for this.
ad hominem (L.), to the man.
ad idem (L.), to the same.
ad infinitum (L.), without end.
ad internum (late L.), in the meantime.
ad libitum (L.), at pleasure.
ad misericordiam (L.), in pity.
ad nauseam (L.), disgustingly.
ad referendum (L.), for further consideration.
adsum! (L.), I am here!
ad valorem (L.), according to value.
affaire d'amour (Fr.), a love affair.
affaire de cœur (Fr.), an affair of the heart.
affaire d'honneur (Fr.), an affair of honour.
affiche (Fr.), an advertisement.
à fortiori (L.), with stronger reason.
à gauche (L.), to the left.
à genoux (Fr.), on the knees.
alter idem (L.), another exactly similar.
altum silentium (L.), deep silence.
amabilis insania (L.), a pleasing delusion.
amata bene (L.), well loved (fem.).
a maximis ad minima (L.), from the greatest to the least.
a mensis ad orem (L.), from bed and board.
à merveille (Fr.), wonderfully.
amicus curiae (L.), a friend in court.
amor patriæ (L.), love of country.
amor sceleratus habendi (L.), the accursed love of possession.
amor vincit omnia (L.), love conquers all things.

ancien régime (Fr.), the old order of things.
Anglice (L.), in English.
anguis in herba (L.), snake in the grass.
anno Christi (L.), in the year of Christ.
anno Domini (L.), in the year of our Lord.
anno mundi (L.), in the year of the world.
anno salutis (L.), in the year of redemption.
annus mirabilis (L.), year of wonders.
ante bellum (L.), before the war.
ante lucem (L.), before light.
ante meridiem (L.), before noon.
à outrance (Fr.), to the bitter end.
à pied (Fr.), on foot.
audaces fortuna juvat (L.), fortune favours the brave.
audacter et sincere (L.), boldly and sincerely.
audax et cautus (L.), bold and cautious.
au désespoir (Fr.), in despair.
audi alteram partem (L.), hear the other side.
au fait (Fr.), well acquainted with a matter: expert.
au fond (Fr.), at the bottom.
auf wiedersehen! (Ger.), till we meet again.
au mieux (Fr.), on the best of terms.
au pis aller (Fr.), at the worst.
au premier (Fr.), on the first floor.
au quatrième (Fr.), on the fourth floor.
au revoir (Fr.), until we meet again.
auri sacra fames (L.), accursed hunger for gold.
au sérieux (Fr.), seriously.
aut Cæsar aut nullus (L.), Cæsar or nobody.
avant-coureur (Fr.), a forerunner.
avant-gout (Fr.), a foretaste.
avec permission (Fr.), by consent.
à verbis ad verbera (L.), from words to blows.
a vinculo matrimonii (L.), from the bond of matrimony.
à volonté (Fr.), at pleasure.
à vostra beneplacito (It.), at your pleasure.
à votre santé (Fr.), to your health.
bona fides (L.), good faith.
bona sui norint (L.), if they but knew their own blessings.
bon gré, mal gré (Fr.), willing or unwilling.
bonhomme (Fr.), good nature.
bonne bouche (Fr.), a choice morsel.
borgen macht sorgen (Ger.), borrowing makes sorrow.
bouleverser, an overturning.
brevet d'invention (Fr.), a patent.
brûler la chandelle par les deux bouts (Fr.), to burn the candle at both ends.
bruten fulmen (L.), a forceful thunderbolt.
comme il faut (Fr.), as it should be.
compagnon de voyage (Fr.), travelling companion.
compos mentis (L.), of sound mind.
compte rendu (Fr.), an account rendered.
con amore (It.), lovingly.
conditio sine qua non (L.), an indispensable condition.

consensus facit legem (L.), consent constitutes law.
 consilio et prudentia (L.), by wisdom and prudence.
 con spirito (It.), with spirit.
 contra bonos mores (L.), against good manners
 contretemps (Fr.), an unlucky occurrence.
 copia verborum (L.), abundance of words.
 coram domino rege (L.), before our lord the king.
 coram nobis (L.), before us.
 coram populo (L.), before the public.
 cordon bleu (Fr.), blue ribbon.
 corpus delicti (L.), the body of the offence.
 corrigenda (L.), list of corrections.
 coup de soleil (Fr.), sunstroke
 coup de vent (Fr.), a gust of wind, a gale.
 crème de la crème (Fr.), the very best.
 crescit eundo (L.), it grows as it goes.
 cucullus non facit monachum (L.), the cowl does not
 make the monk.
 cui bono? (L.), for whose good?
 culpa levis (L.), a small fault.
 cum grano salis (L.), with a grain of salt.
 cum privilegio (L.), with privilege.
 currente calamo (L.), with the pen of a facile writer.
 damnum absque injuria (L.), loss without injury.
 de bono augurio (L.), of good augury.
 de bonne grâce (Fr.), willingly
 de die in diem (L.), from day to day.
 de facto (L.), actually.
 de gustibus non est disputandum (L.), there is no
 disputing about tastes.
 de haut en bas (Fr.), from top to bottom.
 Dei gratia (L.), by the grace of God.
 de jure (L.), in law.
 delenda est Carthago (L.), Carthage must be destroyed
 [Cato's saying].
 de mal en pis (Fr.), from bad to worse.
 de novo (L.), anew.
 dernier ressort (Fr.), a last resource.
 deus ex machina (L.), the one who puts matters right
 at a critical moment.
 dieu fugaces . . . labuntur anni! (L.), alas! the fleet-
 ing years slip by.
 ein mal, kein mal (Ger.), just once doesn't count.
 embarras de (du) choix (Fr.), embarrassment in choice.
 en avant! (Fr.), forward!
 en passant (Fr.), in passing.
 en plein jour (Fr.), in broad day.
 en rapport (Fr.), in sympathy with.
 en règle (Fr.), in order.
 entente cordiale (Fr.), cordial understanding.
 en tout (Fr.), wholly.
 en tout cas (Fr.), in any case.
 entre nous (Fr.), between ourselves.
 e pluribus unum (Late L.), many in one.
 errare est humanum (L.), to err is human.
 exceptio probat regulam (L.), the exception proves
 the rule.
 fait accompli (Fr.), something already achieved.
 falsus in uno, falsus in omnibus (L.), false in one thing,
 false in all.
 fava clamosa (L.), a current scandal.
 fama nihil est celerius (L.), nothing flies faster than
 rumour.
 far niente (It.), doing nothing.
 Fata obstant (L.), the Fates oppose.
 Fata viam inveniunt (L.), the Fates will discover a way.
 faute de mieux (Fr.), for want of better.
 faux pas (Fr.), a false step.
 felicitas multos habet amicos (L.), prosperity has many
 friends.
 femme incomprise (Fr.), a woman misunderstood.
 femme savante (L.), a learned woman.
 fendre un cheveu en quatre (Fr.), to split a hair in four.
 festina lente (L.), hasten gently.
 fiat justitia, ruat cælum (L.), let justice be done
 though the heavens fall.
 fiat lux (L.), let there be light.
 fide et amore (L.), by faith and love.
 fide et fiducia (L.), by faith and confidence.
 fide et fortitudine (L.), by faith and fortitude.
 fidei defensor (L.), defender of the faith.
 fide non armis (L.), by faith, not by arms.
 fides et iustitia (L.), fidelity and justice.
 filius nullius (L.), son of nobody a bastard

finis coronat opus (L.), the end crowns the work.
 flagrant delicto (L.), in the very act.
 floreat (L.), let it flourish.
 flosculi sententiarum (L.), flowers of wisdom.
 fons et origo (L.), the source and origin.
 fons lacrimarum (L.), fount of tears.
 force majeure (Fr.), superior force.
 formaliter (Late L.), formally.
 forti et fidei nihil difficile (L.), to the brave and faith-
 ful nothing is difficult.
 fortis cadere, cedere non potest (L.), the brave man
 may fall, he cannot yield.
 fortiter et recte (L.), bravely and uprightly.
 fortiter, fideliter, feliciter (L.), firmly, faithfully,
 felicitously.
 fortiter in re, suaviter in modo (L.), forcibly in act,
 gently in manner.
 fortuna favet fatuis (L.), fortune favours fools.
 fortuna favet fortibus (L.), fortune favours the bold.
 fortuna fortes adjuvat (L.), fortune favours the brave.
 forum conscientiae (L.), the court of conscience.
 Heimweh (Ger.), home-sickness.
 hic et ubique (L.), here and everywhere.
 hic jacet (L.), here lies.
 hic labor, hoc opus est (L.), this is the labour, this the
 toil.
 hic sepultus (L.), here buried.
 hinc illæ lacrimæ (L.), hence these tears.
 hoc age (L.), this do.
 hoc anno (L.), in this year.
 hoc genus omne (L.), and all that kind.
 hoc loco (L.), in this place.
 hoc tempore (L.), at this time.
 hoc volo, sic jubeo, sit pro ratione voluntas (L.), this I
 will, thus I command, be my will sufficient.
 hodie mihi, cras tibi (L.), to-day is mine, to-morrow
 thine.
 hoc polloi (Gr.), the rabble.
 hominibus plenum, amicis vacuum (L.), full of men,
 empty of friends.
 hominis est errare (L.), it belongs to man to err.
 homme d'esprit, a man of wit.
 homo alieni juris (L.), one under another's control.
 homo antiquæ virtutis ac fidei (L.), a man of the antique
 virtue and loyalty.
 homo homini lupus (L.), man is a wolf to man.
 homo multarum litterarum (L.), a man of many literary
 accomplishments.
 homo nullus coloris (L.), a man of no colour.
 homo sui juris (L.), one who is his own master.
 homi soit qui nial y pense (O. Fr.), evil to him who evil
 thinks.
 honneur et patrie (Fr.), honour and country.
 honores mutant mores (L.), honours alter manners.
 honoris causa (L.), for honour's sake.
 honor virtutis præmium (L.), honour is the reward of
 virtue.
 honos alit artes (L.), honour nourishes the arts.
 hore subsecivæ (L.), leisure hours.
 hore fugit (L.), the our flies.
 horrible dictu (L.), horrible to relate.
 hors de combat (Fr.), disabled.
 hors concours (Fr.), out of the contest.
 hors de propos (Fr.), away from the purpose.
 hors de saison (Fr.), out of season.
 humanum est errare (L.), to err is human.
 ich dien (Ger.), I serve.
 idée fixe (Fr.), a fixed idea.
 idem (L.), the same.
 idem sonans (L.), sounding the same.
 idem velle atque idem nolle (L.), to like and to dislike
 the same things.
 id est (L.), that is.
 id genus omne (L.), all that kind.
 ignota nulla cupido (L.), for a thing unknown there is
 no desire.
 gran dolori sono muti (It.), great griefs are silent.
 il dolci far niente (It.), the sweet state of do-nothing.
 il penseroso (It.), the pensive man.
 impayabile (Fr.), invaluable.
 imperium et libertas (L.), empire and liberty.
 imperium in imperio (L.), a government within another.
 lapsus memorie (L.), a slip of the memory.
 lares et penates (L.), household gods.

laudator temporis acti (L.), one who praises past times.
 laus Deo (L.), praise to God.
 l'avvenir (Fr.), the future.
 le beau monde (Fr.), the fashionable world.
 leitmotif (Ger.), musical phrase denoting a certain person or idea, in an opera or oratorio.
 le jeu ne vaut pas la chandelle (Fr.), the game is not worth the candle.
 le style est l'homme même (Fr.), the style is the man himself [from Buffon].
 lettre de cachet (Fr.), a sealed letter.
 lever de rideau (Fr.), to raise the curtain.
 lex non scripta (L.), unwritten law.
 lex scripta (L.), statute law.
 lex talionis (L.), the law of revenge.
 licentia vatium (L.), poetic licence.
 litera scripta manet (L.), what is written down is permanent.
 locum tenens (L.), a deputy.
 locus penitentiae (L.), room for repentance.
 locus standi (L.), a right to interfere.
 lucri causâ (L.), for the sake of gain.
 lusus naturæ (L.), a freak of nature.
 magna est veritas et prævalebit (L.), truth is great and will prevail.
 magni nominis umbra (L.), the mere shadow of a mighty name.
 magnum bonum (L.), a great good.
 magnum opus (L.), a master work.
 maladie du pays (Fr.), home-sickness.
 malâ fide (L.), with bad faith.
 mal à propos (Fr.), ill-timed.
 mal de mer (Fr.), sea-sickness.
 malgré nous (Fr.), in spite of us.
 mandamus (L.), a command issued by a higher court to a lower.
 mariage de convenance (Fr.), marriage for convenience.
 materfamilias (L.), the mother of a family.
 materia medica (L.), medicines generally.
 matinée (Fr.), morning performance.
 matre pulchrâ filia pulchrior (L.), a daughter fairer than her fair mother.
 mauvaise honte (Fr.), bashfulness.
 mauvais sujet (Fr.), worthless fellow.
 meâ culpâ (Late Lat.), by my own fault.
 medio tutissimus ibis (L.), the middle course is safest.
 memento mori (L.), remember that you must die.
 memorabilia (L.), things to be remembered.
 mens sana in corpore sano (L.), a sound mind in a sound body.
 mens sibi conscia recti (L.), a mind conscious of rectitude.
 meo periculo (L.), at my own risk.
 misalliance (Fr.), marriage with one of lower station.
 meum et tuum (L.), mine and thine.
 mirabile dictu (L.), wonderful to relate.
 mirabile visu (L.), wonderful to see.
 mirabilia (L.), wonders.
 modus (L.), manner.
 modus operandi (L.), plan of working.
 modus vivendi (L.), a way of living or agreeing.
 more suo (L.), in his own way.
 motu proprio (L.), of his own accord.
 multum in parvo (L.), much in little.
 particeps criminis (L.), an accomplice.
 parvi componere magna (L.), to compare great things with small.
 pater patriæ (L.), the father of his country.
 per aspera ad astra (L.), to the stars by rough ways.
 per fas et nefas (L.), through right and wrong.
 personnel (Fr.), persons employed.
 pia desideria (L.), pious regrets.
 pia fraus (L.), pious fraud.
 pièce de résistance (Fr.), the substantial joint.
 pied-à-terre (Fr.), temporary lodging.
 pus aller (Fr.), the last shift.
 pleno jure (L.), with full authority.
 poeta nascitur, non fit (L.), the poet is born, not made.
 point d'appui (Fr.), point of support.
 populus vult decipi (L.), the people wish to be fooled.
 post mortem (L.), after death.
 post obitum (L.), after death.
 pour passer le temps (Fr.), to pass the time.
 pour pendre congé, or P.p.c. (Fr.), to take leave.

prescriptum (L.), a thing prescribed.
 preux chevalier (Fr.), a brave knight.
 primâ facie (L.), at the first glance.
 pro aris et focis (L.), for faith and home.
 profanum vulgus (L.), the rabble.
 pro pudor! (L.), oh, for shame!
 pro patriâ (L.), for our country.
 pro tanto (L.), for so much.
 pro tempore (L.), for the time being.
 pulvis et umbra sumus (L.), we are dust and a shadow.
 quære (L.), inquire.
 queritur (L.), the question is asked.
 qualis ab incepto (L.), as from the beginning.
 quantum mutatus ab illo! (L.), how much changed from what he was!
 quid rides? (L.), why do you laugh?
 quieti non movere (L.), let sleeping dogs lie.
 quis custodiet ipsos custodes? (L.), who will watch the watchers?
 qui s'excuse s'accuse (Fr.), he who excuses himself accuses himself.
 quis separabit? (L.), who shall separate?
 qui tacet consentit (L.), who is silent consents.
 quo va? (Fr.), where does there?
 quod avertit Deus? (L.), which may God avert?
 quod bonum, felix, faustumque sit (L.), may this be right, happy, and of good omen.
 quod erat demonstrandum (L.), or Q.E.D., which was to be demonstrated. [donec]
 quod erat faciendum (L.), or Q.E.F., which was to be done.
 quod hoc sibi vult? (L.), what does this mean?
 quod vide (L.), which see.
 quod jure? (L.), by what right.
 rara avis (L.), a rare bird, a prodigy.
 réchauffé (Fr.), warmed up again.
 reculer pour mieux sauter (Fr.), to draw back to take a better leap.
 redolet lucernâ (L.), it smells of the lamp.
 religio loci (L.), the religious spirit of the place.
 réponse, s'il vous plaît, or R.S.V.P. (Fr.), reply, if you please.
 requiescat in pace! or R.I.P. (L.), may he rest in peace!
 resque fiam (L.), look to the end.
 résumé (Fr.), an abstract.
 resurgam (L.), I shall rise again. [subject].
 reveillons nos moutons (Fr.), let us return to our ubique (L.), everywhere.
 ultima ratio regum (L.), the last argument of kings.
 ultima thule (L.), the utmost limit.
 ultra vires (L.), beyond one's powers.
 usque ad nauseam (L.), to disgust.
 utile dulci (L.), the useful with the pleasing.
 ut infra (L.), as below.
 ut supra (L.), as above.
 vade in pace (L.), go in peace.
 vade mecum (L.), a constant companion.
 vae victis! (L.), woe to the conquered!
 vale (L.), farewell.
 variae lectiones (L.), various readings.
 variorum notæ (L.), the notes of various authors.
 verbum sapienti sat est (L.), a word is enough for a wise man.
 veritas odium parit (L.), truth begets hatred.
 versus or v. (L.), against.
 via media (L.), a middle course.
 via trita, via tuta (L.), the beaten path is the safest.
 vice (L.), in the place of.
 vice versa (L.), the terms being exchanged.
 videlicet (L.), namely.
 vi et armis (L.), by force and arms; by main force.
 vigilate et orate (L.), watch and pray.
 virginibus puerisque (L.), for young people.
 vis comica (L.), comic power.
 vis inertiae (L.), passive resistance.
 vita brevis, ars longa (L.), life is short, art is long.
 vivat regina! (L.), long live the queen.
 vivat rex! (L.), long live the king!
 viva voce (L.), by the living voice.
 vive, vaeque! (L.), life and health to you!
 voilà tout (Fr.), that is all.
 volo, non valeo (L.), I am willing, but unable.
 vox et præterea nihil (L.), a voice and nothing else.
 vox populi, vox Dei (L.), the voice of the people is the voice of God.

HOW TO CORRECT PRINTERS' PROOFS.

caps. The frequent use of soap being absolutely indis-
 pensable it is important to obtain it free from *e/*
 noxious ingredients. Too often, however, the most *y/*
 poisonous adulterations are found in toilet *soaps,* *th/*
l.c. causing numerous skin troubles, the origin of which
 is unsuspected. It is with the fullest confidence
nom. that the proprietors of Pears' Transparent Soap *bolder*
 recommend their manufacture ~~to~~ the notice of *stet*
 those not already acquainted with its long-
NP. established merits. [This soap, which has enjoyed *if*
s. caps. the highest reputation amongst the aristocracy
 since its invention in 1789, is prepared solely from
 the purest materials, and undergoes a refining
 process, by which all excess of alkaline matter is *g/*
 expelled, and a beautiful transparency imparted to *#*
rich/ it; whilst its amber colour is acquired by age only,
 without the addition of any foreign matter. For *f/*
 its delightful fragrance "and beautiful appearance," *3/*
 it commends itself as the greatest luxury of the *1 =*
run on toilet.
 No medicinal properties are claimed for Pears' *o*
 Transparent Soap, but the above-mentioned special *ital.*
 characteristics, together with its absolute purity, *H*
 have obtained for it testimonials of the highest *H*
 order (which may be seen at their Depot). The *o/*
 recommendation of the following eminent author-*H*
 ities, amongst numerous others, is sufficient *leg#*
 to guarantee for the excellence of its soap. *the/*
 As there are numerous imitations of Pears'
 Transparent Soap, it is necessary to obtain it of a *=*

EXPLANATION OF CORRECTIONS

- Line 1—Capital letters, not lower case.
 .. 2—Alter "a" to "e."
 .. 3—Insert comma.
 .. 4—Transpose "o" and "s."
 .. 5—Change to small (lower case) letter.
 .. 6—Full-point, not comma.
 .. 7—Change *diaks* to Roman letters; change to bolder type.
 .. 8—Let it stand.
 .. 9—Insert "l."
 .. 10—Commence new paragraph.
 .. 11—Alter to small capitals.
 .. 12—Change bad letter.
 .. 13—Delete "s."
 .. 14—Push down space between words.
 .. 15—Insert the word "rich."

- Line 17—Change full-point to semi-colon; *alter capital* "F" to lower case.
 .. 18—Insert quotation marks.
 .. 19—Straighten type.
 .. 20—Not new paragraph.
 .. 21—Turn letter.
 .. 22—Alter Roman to *italic* letters.
 .. 23—Delete commas, insert rules.
 Lines 23, 24, 25—Range lines at side
 Line 25—Change to accented letter.
 .. 26—Insert hyphen.
 .. 27—Equalise spacing between words.
 .. 28—Change wrong-fount letter; alter word "its" to "the."
 .. 29—Push down space.
 .. 30—Take out space and close up.

The following shows how the opposite page will read after the corrections have been made :—

THE frequent use of soap being absolutely indispensable it is important to obtain it free from noxious ingredients. Too often, however, the most poisonous adulterations are found in toilet soaps, causing numerous skin troubles, the origin of which is unsuspected. It is with the fullest confidence that the proprietors of **Pears' Transparent Soap** recommend their manufacture to the notice of those not already acquainted with its long-established merits.

This soap, which has enjoyed the HIGHEST REPUTATION amongst the aristocracy since its invention in 1789, is prepared solely from the purest materials, and undergoes a refining process, by which all excess of alkaline matter is expelled, and a beautiful transparency imparted to it; whilst its rich amber colour is acquired by age only, without the addition of any foreign matter; for its delightful fragrance "and beautiful" appearance, it commends itself as the greatest luxury of the toilet. No medicinal properties are claimed for Pears' Transparent Soap, but *the* above-mentioned special characteristics—together with its absolute purity—have obtained for it testimonials of the highest order (which may be seen at their Dépôt). The recommendation of the following eminent authorities, amongst numerous others, is sufficient guarantee for the excellence of the soap.

As there are numerous imitations of Pears' Transparent Soap, it is necessary to obtain it of a

SIZES OF TYPE

The following are the names and sizes in ordinary use for printed matter in books, pamphlets, and newspapers:—

DIAMOND

A hundred and twenty years ago PEAR'S Soap was invented, and its popularity has increased from decade to decade, it being known and used in every part of the world.

PEARL

A hundred and twenty years ago, PEAR'S SOAP WAS

RUBY

A hundred and twenty years ago, PEAR'S SOAP WAS

NONPAREIL

A hundred and twenty years ago, PEAR'S S

MINION

A hundred and twenty years ago, PEAR'S

BREVIER

A hundred and twenty years ago, P

BOURGEOIS

A hundred and twenty years ago, P

LONG PRIMER

A hundred and twenty years ag

SMALL PICA

A hundred and twenty years

PICA

A hundred and twenty y

ENGLISH

A hundred and twent

STYLES OF TYPE

ROMAN OLD STYLE

"Pears' Annual" has the largest sale

ROMAN MODERN

"Pears' Annual" has the largest sale

CASLON OLD FACE

"Pears' Annual" has the largest sale

CHELTEMHAM OLD STYLE

"Pears' Annual" has the largest sale of

REED'S CLARENDON

"Pears' Annual" has the larges

BOOKLET

"Pears' Annual" has the largest

HADDON

"Pears' Annual" has the lar

DE VINNE ITALIC

"Pears' Annual" has the large

MORLAND

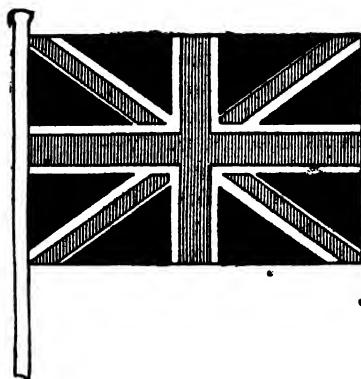
"Pears' Annual" has the la

BOLD SANS

"Pears' Annual" has the l

SCHOEFFER

"Pears' Annual" has the largest sale of



THE UNION JACK.

The present Union Jack is composed of three heraldic crosses, viz., the cross of St. Andrew, forming the blue and white basis; upon which lies the red and white cross of St. Patrick; and upon the whole rests the red and white cross of St. George, dividing the flag vertically and horizontally. The original Union Jack combined only the St. George and St. Andrew crosses, and was adopted on the accession of James VI. of Scotland to the throne of England under the title of James I. in 1603. No further alteration was made in the flag until January 1st, 1801, when the Irish Parliament was dissolved and the Act of Union came into force.

MOTOR-CAR SPEED PROHIBITION AND CAUTION SIGNS

FROM THE ROYAL AUTOMOBILE CLUB YEAR BOOK

The following are the signs employed on highways:—

1. For 10 miles or lower limit of speed, a white ring, 18in. in diameter, with plate below giving the limit in figures.

Example:



2. For prohibition, a solid red disc, 18in. diameter.

Example:



3. For caution (dangerous corners, cross roads, or precipitous places) a hollow red equilateral triangle, 18in. sides.

Example:



4. All other notices under the Act to be on diamond-shaped boards.

Example:



The above signs are placed on the near side of the road facing the driver, with their lower edges not less than 8 ft. from the ground, and about 50 yards from the spot to which they apply.

MOTOR-CAR INDEX MARKS ALPHABETICALLY ARRANGED.

The following is a list, alphabetically arranged, of the index marks allotted to the County and Borough Councils of Great Britain and Ireland by the Local Government Board.

It will facilitate the reading of the marks still further if automobilists bear in mind that all the marks containing an "S" belong to Scotland, and those containing an "I" to Ireland. With the exception of the six County Boroughs denoted in the list, all the Irish marks are those of counties.

A London.	B H Buckinghamshire.	C R Southampton.	E F West Hartlepool.
A A Hampshire (Southampton).	B I Monaghan.	C T Lincolnshire, parts of Kesteven.	E H Hanley and Stoke-upon-Trent.
A B Worcestershire.	B J East Suffolk.	C U South Shields.	E I Shgo.
A C Warwickshire.	B K Portsmouth.	C W Burnley.	E J Cardiganshire.
A D Gloucestershire.	B L Berkshire.	C X Huddersfield.	E K Wigan.
A E Bristol.	B M Bedfordshire.	C Y Swansea.	E L Bourne-mouth.
A F Cornwall.	B N Bolton.	D Kent.	E M Bootle.
A H Norfolk.	B O Cardiff.	D A Wolverhampton.	E N Bury.
A I Meath.	B P West Sussex.	D B Stockport.	E O Barrow-in-Furness.
A J Yorkshire, N. Riding.	B R Sunderland.	D C Middlesbrough.	E P Montgomeryshire.
A K Bradford (Yorks.)	B S Orkney.	D E Pembroke-shire.	E S Perth.
A L Nottinghamshire.	B T Yorkshire, E. Riding.	D H Walsall.	E T Rotherham.
A M Wiltshire.	B U Oldham.	D I Roscommon.	E U Herecknockshire.
A N West Ham.	B W Oxfordshire.	D J St. Helens.	E W Huntingdonshire.
A O Cumberland.	B X Carmarthenshire.	D K Rochdale.	E X Great Yarmouth.
A P East Sussex.	B Y Croydon.	D L Isle of Wight.	E Y Anglesey.
A R Hertfordshire.	C Yorkshire, W. Riding.	D M Flintshire.	F Essex.
A S Nairn.	C A Denbighshire.	D N York.	F A Burton-on-Trent.
A T Kingston-upon-Hull.	C B Blackburn.	D O Lincolnshire, parts of Holland.	F B Bath.
A U Nottingham.	C C Camaronshire.	D P Reading.	F C Oxford.
A W Salep.	C D Brighton.	D R Devonport.	F D Dudley.
A X Monmouthshire.	C E Cambridgeshire.	D S Peebles.	F E Lincoln.
A Y Leicestershire.	C F West Suffolk.	D U Coventry.	F F Merionethshire.
B Lancashire.	C G Derby.	D W Newport (Mon.).	F H Gloucester.
B A Salford.	C I Queen's County.	D X Ipswich.	F I Tipperary, N. Riding.
B B Newcastle-on-Tyne.	C J Herefordshire.	D Y Hastings.	F J Exeter.
B C Leicester.	C K Preston.	E Staffordshire.	F K Worcester.
B D Northamptonshire.	C L Norwich.	E A West Bromwich.	F L Peterborough (Soke of).
C N Lancashire.	C M Birkenhead.	E B Isle of Ely.	F M Chester.
B E Lincolnshire, parts of Lindsey.	C O Gateshead.	E C Westmorland.	F N Canterbury.
	C P Plymouth.	E D Warrington.	F O Radnorshire.
		E E Grimsby.	

F P Rutland.	I T Leitrim.	N A Manchester.	S O Elginshire.
FR Blackpool.	I U Limerick.	N H Northampton.	S P Fifehire.
FT Tynemouth.	I W Londonderry.	N I Wicklow.	S R Forfarshire.
FX Dorsetshire.	I X Longford.	N S Sutherland.	S S Haddingtonshire.
F Y Southport.	I Y Louth.	O Birmingham.	S T Invernesshire.
G Glasgow.	I Z Mayo.	O A Birmingham.	S U Kincardineshire.
H Middlesex.	I Durham (County).	O I Belfast (County).	S V Kinrossshire.
H A Smethwick.	I I Tyrone.	O S Wigtownshire.	S W Kirkcudbrightshire.
H B Merthyr Tydfil.	J S Ross and Cromarty.	O S Wigtownshire.	S X Linlithgowshire.
H C Eastbourne.	K Liverpool.	P Surrey.	S Y Midlothian (Edinburghshire).
H D Dewsbury.	K I Waterford.	P A Surrey.	T Devonshire.
H E Barnsley.	K S Roxburghshire.	P I Cork (County).	T I Limerick (County).
H F Wallasey.	K T Kent.	P S Zetland.	T S Dundee.
H I Tipperary.	L Glamorgan.	R Derbyshire.	T S Leeds.
H S S. Riding.	L A London.	R I Dublin (County).	U Londonderry (County Borough).
I A Renfrewshire.	L B London.	R S Aberdeen (City).	U U Govan.
I B Antrim.	L C London.	S Edinburgh.	V Lanarkshire.
I C Armagh.	L D London.	S A Aberdeenshire.	V S Greenock.
I D Carlow.	L E London.	S B Argyllshire.	W Sheffield.
I E Cavan.	L F London.	S D Ayrshire.	W I Waterford (County Borough).
I F Clare.	L H London.	S E Banffshire.	W S Leith.
I H Cork.	L I Westmeath.	S H Berwickshire.	X Northumberland.
I M Donegal.	L N London.	S J Buteshire.	X S Paisley.
I J Down.	L S Selkirkshire.	S K Calthness.	Y Somersetshire.
I K Dublin.	M Cheshire.	S L Clackmannanshire.	Y S Partick.
I L Fernmanagh.	M I Wexford.	S M Dumfriesshire.	
I N Kerry.	M S Surlingshire.	S N Dumbartonsire.	
I O Kildare.	M X Middlesex.		
I P Kilkenny.	N Manchester.		
I R King's County.			

EXPECTATIONS OF LIFE.

At decennial ages according to various mortality tables extracted from the official sources by the ROYAL INSURANCE COMPANY, LIMITED, based on:—

- (1) General Population Statistics, Census Returns and Registers of Deaths for England and Wales.
- (2) The experience of the Life Assurance Companies in respect of their Assured Lives.
- (3) The experience of the Government in respect of their Annuitants.
- (4) The experience of the Life Assurance Companies in respect of their Annuitants.

(1) Census Returns and Registers of Deaths.

Two English Life Tables based respectively on the mortality in the periods:—

Age.	1878-1884.		1891-1900.	
	Males.	Females.	Males.	Females.
At Birth	39'91	41'85	44'73	47'77
10	47'05	47'67	49'63	51'97
20	39'48	40'29	41'02	43'44
30	32'76	33'81	33'07	35'39
40	26'06	27'34	25'64	27'82
50	19'54	20'75	18'90	20'64
60	13'53	14'34	12'93	14'10
70	8'45	9'02	8'05	8'78
80	4'32	5'26	4'62	5'05
90	2'84	3'01	2'58	2'87

(2) British Life Offices' Experience.

Age.	Period ending 1863.	Period 1863 to 1893.
20	42'06	43'68
30	34'68	35'37
40	27'40	27'86
50	20'31	20'61
60	13'83	14'07
70	8'30	8'71
80	4'74	4'74
90	2'36	2'43

(3) and (4) Annuitants' Experience.

Age.	Government Annuitants. 1808 to 1875.		60 British Life Offices' Annuitants. 1863 to 1893.	
	Males.	Females.	Males.	Females.
40	26'04	29'84	28'31	30'16
50	20'26	22'92	21'23	23'49
60	14'38	16'26	14'82	17'01
70	9'31	10'30	9'54	10'88
80	5'07	6'14	5'66	6'31
90	—	—	3'13	3'45

SPORTS RECORDS.

ROWING.

UNIVERSITY BOAT RACE.

Instituted 1829. Present Course, Putney to Mortlake, $\frac{1}{2}$ miles.
Including 1914, 71 races rowed. Oxford won 39; Cambridge, 31. Dead heat, 1 (1877).

	min	sec	Lengths won by.		min.	sec.	Lengths won by
1905 Oxford	20	35	3	1910 Oxford	20	14	3
1906 Cambridge	19	24	31	1911 Oxford	*18	29	2
1907 Cambridge	20	26	4	1912 Oxford	122	5	6
1908 Cambridge	19	22	24	1913 Oxford	20	53	1
1909 Oxford	19	59	31	1914 Cambridge	20	23	41

The first race rowed in outriggers was in 1846. First race in present style of boats without keels 1857.
Sliding seats used for the first time 1873.

* Record Time.

† Both boats were water-logged on Saturday, March 30, and race declared void; re-rowed on Monday, April 1, with the result shown.

HENLEY ROYAL REGATTA.

Course, 1 mile 550 yards

Grand Challenge Cup for Eight Oars. Instituted 1839.

	min.	sec.		min.	sec.
1902 Third Trinity, Cambridge	7	17	1908 Christ Church College, Oxford	7	10
1903 Leander Club	7	6	1909 Club Nautique de Gand, Belgium	7	8
1904 Leander Club	7	20	1910 Magdalen (Oxford)	7	19
1905 Leander Club	6	58	1911 Magdalen (Oxford)	7	2
1906 Nautique de Gand (Belgium, first foreign victory)	7	6	1912 Sydney R.C.	7	6
1907 Nautique de Gand (Belgium)	7	31	1913 Leander Club	7	11
			1914 Harvard B.C. (U.S.A.)	7	20

HENLEY DIAMOND CHALLENGE SCULLS.

Open to all amateurs duly entered according to rules.

	min.	sec.		min.	sec.
1902 F. S. Kelly, Balliol College, Oxford	8	59	1906 A. McCulloch, Leander R.C.	8	25
1903 F. S. Kelly, Leander Club	8	41	1907 A. A. Stuart, Kingston R.C.	8	20
1904 L. F. Scholes, Toronto R.C. Canada	8	23	1908 W. D. Kinnear, Kenyon R.C.	8	21
1905 F. S. Kelly, Leander Club	8	10	1909 W. D. Kinnear, Kenyon R.C.	8	14
1906 H. T. Blackstaffe, Costa R.	8	35	1910 E. W. Powell, Vikings R.C.	8	49
1907 Capt. W. H. Darrell, Household Brigade	9	24	1911 C. McVilly, Tasmania	8	49
			1912 Giuseppe Sinigaglia, Italy	9	0

* Record.

DOGGETT'S COAT AND BADGE.

Course—London Bridge to Chelsea

Instituted in 1715 by Mr. Thomas Doggett, an actor, for the encouragement of good rowing amongst Thames watermen.

1902 R. G. Odell, Lambeth	1907 A. T. Cook, Hammersmith	1911 W. J. W. Fisher, Millwall
1903 E. Barry, Brentford	1908 J. Graham, Frith	1912 J. L. Francis, Kingston
1904 W. A. Pizzey, Lambeth	1909 Geo. Kolb Luck, Erith	1913 G. H. J. Gobbett, Greenwich
1905 H. Silver, Hammersmith	1910 R. J. Pock, Frith	1914 S. G. Mason, Charlton
1906 E. L. Brewer, Putney		

SWIMMING.

KING EDWARD VII. CHALLENGE CUP.

Open to All Nations.

1903 220 yds. (breast stroke) W. W. Robinson, Liverpool	England	1907 O. Schiele, Halberstad Germany
440 yds. (any stroke) D. Billington, Bacup		1908 (England), S. Blatherwick, Sheffield
880 yards (any stroke) J. A. Jarvis, Leicester		1909 O. Schiele, Magdeburg
1904 H. Johansson, Stockholm Sweden		1910 (No contest)
1905 W. W. Robinson, Liverpool England		1911 E. J. Finlay, Australia
1906 F. J. Matthews, Liverpool England		1912 W. Morris, Amateur S. C.
		1913 O. Schiele, Magdeburg

Since 1904 the conditions of the competition allow of one competitor only winning the contest consisting of two Rescue events of 150 to 440 yards, the competitor—who must be attired in walking costume, minus coat—securing the highest aggregate number of points being the winner.

† Tied, 25 points each.

RUNNING.

English Championships.

100 YARDS.

	Sec.		
1902-1903 A. F. Duffey	10	1909 R. E. Walker	
1904 J. W. Morton	10	1910 F. L. Ramsdell	10 1-5
1905 " "	10	1911 " "	10 2-5
1906 " "	10 2-5	1912 G. H. Patchung (S. Africa)	9 4-5
1907 " "	10 4-5	1913 W. R. Applegarth	
1908 R. Kerr	10	1914 " "	

British Record: A. F. Duffey, Leicester, July 20, 1901, 9 3-5 sec. World's Record: D. J. Kelley, Spokane, Washington, June, 1906, 9 3-5 sec

220 YARDS.

	Sec.		Sec.		Sec.
1904 C. H. Jupp	22 4-5	1908 R. Kerr	22 2-5	1911 F. L. Ramsdell	22 1-5
1905 H. A. Hyman	22 2-5	1909 N. J. Cartmell	22	1912 W. R. Applegarth	
1906 C. H. Jupp	22 3-5	1910 F. L. Ramsdell	22 2-5	1913 " "	
1907 J. P. George	22 4-5			1914 " "	

British and World's Record W. R. Applegarth, Stamford Bridge, 1914 21 1-5
World's Record B. J. Weiers, Manhattan, N.Y.
D. J. Kelley, Spokane, Wash., 1896 21 1-5

QUARTER-MILE.

	Sec.		Sec.		Sec.
1902 G. W. White	50 1-5	1907 E. H. Montague	50 2-5	1912 C. N. Seedhouse (Blackheath)	49 4-5
1903 C. McLachlan	52 1-5	1908 W. Halswell	49 2-5	1913 G. H. Nicol	49 2-5
1904 R. I. Watson	51 4-5	1909 A. Patterson	51 1-5	1914 C. N. Seedhouse	
1905 W. Halswell	50 4-5	1910 L. J. de B. Nevel	51		
1906 W. Halswell	50 4-5	1911 F. J. Halhaus (Canada)	50 4-5		

British Record { H. C. L. Tindall, Stamford Bridge, 1889 } 48 1/2 sec.
World's Record { E. C. Bredin, Stamford Bridge, 1895 }
H. W. Long, N.Y., 1900 47 "

HALF-MILE.

		m. sec.
British Record	M. W. Sheppard, Stadium, London, 1908	1 54
World's Record	E. Lungli, Montreal, 1909	1 52 1-5

ONE MILE.

		m. sec.
British Record	J. Binks, Stamford Bridge, 1902	4 16 4-5
World's Record	T. P. Conneff, N.Y., 1895	4 15 3-5

FOUR MILES.

		m. sec.
British Record	A. Shrubbs, Glasgow, 1904	19 25 2-5

WALKING.

TWO MILES. FOUR MILES. SEVEN MILES. ONE HOUR'S WALKING.

C. E. Lamer holds each of these four records (British and World). Times: Two Miles, 13 min. 11 2-5 sec.; Four miles, 27 min. 14 sec.; Seven Miles, 50 min., 50 4-5 sec. One Hour's Walking, 8 miles 436 yards

JUMPING.

LONG JUMP.

		ft. in.
British Record	P. J. O'Connor, Dublin, 1901	24 11 1/2

HIGH JUMP.

		ft. in.
British Record	P. J. Leahy, Millstreet, 1898	6 4 1/2
World's Record	M. F. Sweeney, N.Y., 1895	6 5

POLE JUMP.

		ft. in.
British Record	{ E. T. Cooke } Stadium, London, 1908, 12ft. 2in.	
World's Record	{ A. C. Gilbert } W. R. Dray, Danbury, Conn., 1908, 12ft. 9 1/2 in.	

THROWING THE 16LB. HAMMER.

(From 7 ft. circle; prior to 1908, 9 ft. circle.)

		ft. in.
British Record	J. J. Flanagan, Stadium, London, 1908, 170ft. 4 1/2 in.	
World's Record	M. J. McGrath, Montreal (7ft. circle), 1907, 173ft. 7 in.	
	J. Flanagan, Celtic Park, U.S.A. (9ft. circle), 1908, 179ft. 6 1/2 in.	

CRICKET.

COUNTY CHAMPIONSHIP.

1873 (Notts. Gloucestershire.	1882 (Notts. Lancashire.	1892 Surrey. Yorkshire.	1904 Lancashire. Yorkshire.
1874 Derbyshire.	1883 Notts.	1893 Surrey.	1905 Kent.
1875 Notts.	1884 Notts.	1894 Surrey.	1906 Notts.
1876 Gloucestershire.	1885 Notts.	1895 Yorkshire.	1907 Yorkshire.
1877 Gloucestershire.	1886 Notts.	1896 Lancashire.	1908 Kent.
1878 Middlesex.	1887 Surrey.	1897 Yorkshire.	1909 Kent.
1879 (Notts. Lancashire.	1888 Surrey.	1898 Surrey.	1910 Warwickshire.
1880 Notts.	1889 (Notts. Lancashire.	1899 Yorkshire.	1911 Kent.
1881 Lancashire.	1890 Surrey.	1900 Yorkshire.	1912 Kent.
	1891 Surrey.	1901 Yorkshire.	1913 Surrey.
		1902 Middlesex.	

SUMMARY.

Notts. 11	Lancashire. 6	Gloucestershire 3	Warwickshire 1
Yorkshire. 9	Kent 4	Middlesex 2	Derbyshire 1
Surrey 9			

In 1873 Notts and Gloucester tied, and in 1870, 1882, and 1899 Notts and Lancashire tied.

ENGLAND v. AUSTRALIA TEST MATCHES.

From 1877 to 1912 inclusive fourteen representative English cricket teams have visited Australia, and played in all 52 test matches there against Australian teams. Of these England won 23, lost 27, and 2 were drawn. Lillywhite's was the first team to go out, in 1877; Lord Harris's followed in 1879; Shaw's in 1881-1882; the Hon. T. Bligh's in 1882-1883; Shaw's again in 1884-1885, and also in 1887; a combined English team in 1888; Lord Sheffield's team in 1892; A. E. Stoddart's in 1894-1895, and again in 1897-1898; MacLaren's in 1901-1902; Warner's (M.C.C.) in 1901-1904; A. O. Jones's (M.C.C.) in 1907-1908, and Warner's (M.C.C.) in 1911-1912. Thirteen visits have been paid to England by Australian teams, accounting for 42 test matches, of which England has won 17 and lost 8, while 17 have been drawn. The years of these test matches were 1880, 1882, 1884, 1886, 1888, 1890, 1893, 1896, 1899, 1902, 1905, 1909, and 1911.

SUMMARY.

In Australia: 52 matches. England won 23, Australia won 27, drawn 2
In England: 42 matches. England won 17, Australia won 8, drawn 17
Total: 94 matches. England won 40, Australia won 35, drawn 19

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RESULT OF MATCHES.

England won 1; Australia won 0; drawn 2.	England won 3; South Africa won 0; drawn 0.
Australia won 2; South Africa won 0, drawn 1	

ETON AND HARROW MATCHES.

Instituted 1805. Played 88 matches. Harrow won 35, Eton 35, drawn 18.

FOOTBALL.

ASSOCIATION—INTERNATIONAL MATCHES.

ENGLAND v. SCOTLAND

Up to 1914. Games played 43. Scotland won 18, England won 13, drawn 12.

	goals		goals
1901 Crystal Palace, Drawn	2 2	1908 Glasgow, Drawn	1 1
1902 Birmingham, Drawn	2 2	1909 Crystal Palace, England	2 0
1903 Sheffield, Scotland.	2 1	1910 Glasgow, Scotland	2 0
1904 Glasgow, England	1 0	1911 Everton, Drawn	1 1
1905 Crystal Palace, England	1 0	1912 Glasgow, Drawn	1 1
1906 Glasgow, Scotland	2 1	1913 Stamford Bridge, England	1 0
1907 Newcastle, Drawn	1 1	1914 Glasgow, Scotland	3 1

ENGLAND v. WALES.

Played 36—England won 28, Wales 2; drawn 6. Goals—England 112, Wales 29

ENGLAND v. IRELAND.

Played 33—England won 28, Ireland 2, drawn 3. Goals—England 150, Ireland 22.

SCOTLAND v. WALES.

Played 38—Scotland won 27; Wales 4; drawn 7.

WALES v. IRELAND.

Played 33—Wales won 10; Ireland won 12; drawn 5.

SCOTLAND v. IRELAND.

Played 31—Scotland won 26; Ireland 2; drawn 3.

LEAGUE—FIRST DIVISION CHAMPIONS—from 1900.

1900 Aston Villa	1905 Newcastle United	1910 Aston Villa
1901 Liverpool	1906 Liverpool	1911 Manchester United
1902 Sunderland	1907 Newcastle United	1912 Blackburn Rovers
1903 Sheffield Wednesday	1908 Manchester United	1913 Sunderland
1904 Sheffield Wednesday	1909 Newcastle United	1914 Blackburn Rovers

ASSOCIATION CUP.

				Goals					Goals
1900-1	*Tottenham Hotspur	beat	Sheffield United	by 3 1	1907-8	Wolverhampton Wanderers	beat	Newcastle United	by 3 1
1901-2	*Sheffield United	"	Southampton	" 2 1	1908-9	Manchester United	"	Bristol City	" 1 0
1902-3	Bury	"	Derby County	" 6 0	1909-10	Newcastle United	"	Barnsley	" 2 0
1903-4	Manchester City	"	Bolton Wanderers	" 1 0	1910-11	Bradford City	"	Newcastle United	" 1 0
1904-5	Aston Villa	"	Newcastle United	" 2 0	1911-12	*Barnsley	"	West Bromwich Albion	" 1 0
1905-6	Everton	"	"	" 1 0	1912-13	Aston Villa	"	Sunderland	" 1 0
1906-7	Sheffield Wednesday	"	Everton	" 2 1	1913-14	Burnley	"	Liverpool	" 1 0
					1914-15	Sheffield United	"	Chelsea	" 3 0

* After a draw.

RUGBY.

INTERNATIONAL MATCHES.

ENGLAND v. SCOTLAND.

Up to 1914 played 41—Scotland won 17; England 15; drawn 9

	G.	T.	G.	T.		G.	T.	G.	T.
1901 Scotland	3	1	0	1	1908 Scotland	3	1	2	0
1902 England	0	2	0	1	1909 Scotland	3	1	1	1
1903 Scotland	1 (d)	0	0	2	1910 England	1	3	1	0
1904 Scotland	0	2	0	1	1911 England	2	1	1	1
1905 Scotland	1	1	0	0	1912 Scotland	1	1	0	1
1906 England	0	3	0	1	1913 England	0	1	0	0
1907 Scotland	1	1	0	1	1914 England	2	2	2 (d)	2

ENGLAND v. IRELAND.

	G.	T.	G.	T.		G.	T.	G.	T.
1901 Ireland	2	0	1 (p)	1	1908 England	2	1	1 (p)	0
1902 England	0	2	0	0	1909 England	1	2	1	0
1903 Ireland	1 (p)	1	0	0	1910 Draw	0	0	0	0
1904 England	2	3	0	0	1911 Ireland	0	1	0	0
1905 Ireland	1	4	0	1	1912 England	0	5	0	0
1906 Ireland	2	2	0	2	1913 England	1 (p)	4	1 (d)	0
1907 Ireland	2 (lm)	3	1 (p)	1	1914 England	1	4	2 (d)	1

ENGLAND v. WALES.

	G.	T.	G.	T.		G.	T.	G.	T.
1901 Wales	2	1	0	0	1908 Wales	5 (d)	1 (p)	3	1
1902 Wales	1 (p)	2	1	1	1909 Wales	1	1	0	0
1903 Wales	3	2	1	0	1910 England	2	1	0	2
1904 England	2 (p)	2	3 (lm)	0	1911 Wales	1	4	1	2
1905 Wales	2	5	0	0	1912 England	1	1	0	0
1906 Wales	2	2	0	1	1913 England	2 (d)	1	0	0
1907 Wales	2	4	0	0	1914 England	2	0	2 (d)	0

SCOTLAND v. IRELAND.

Played 37. Scotland won 25; Ireland won 9, drawn 3.

SCOTLAND v. WALES.

Played 72. Scotland won 13; Wales won 16; drawn 1.

IRELAND v. WALES.

Played 29. Wales won 19; Ireland won 9; drawn 1.

OXFORD v. CAMBRIDGE.

Played 47. Oxford won 18; Cambridge won 14, drawn 6.

	G.	T.	G.	T.		G.	T.	G.	T.
1900-1901 Oxford	2	0	1	1	1907-1908 Oxford	1	4	0	0
1901-1902 Oxford	1	1	0	0	1908-1909 Drawn	0	0	1	0
1902-1903 Drawn	1	1	1	1	1909-1910 Oxford	4	5	0	1
1903-1904 Oxford	3	1	2	1	1910-1911 Oxford	4	1	3	1
1904-1905 Cambridge	3	0	1	0	1911-1912 Oxford	2	3	0	0
1905-1906 Cambridge	3	0	2	1	1912-1913 Cambridge	0	0	1	0
1906-1907 Oxford	0	4	1	1	1913-1914 Cambridge	1 (d)	3	0	1

COUNTY CHAMPIONSHIP.

First officially recognised 1888-9.

Summary of results: Yorkshire 7; Durham 6; Kent 2; Lancashire 1; Gloucestershire 2; Northumberland 1; Cornwall 1; Midland Counties 1 (Winners in 1914). Devon and Durham joint holders (1906-7), having played a draw at West Hartlepool, April 13, 1907 (one try each), and a draw at Exeter, April 20, 1907 (no score).

NORTHERN UNION CHALLENGE CUP.

Instituted 1897.

1897 Batley.	1902 Bronghton R.	1907 Warrington.	1911 Bronghton R.
1898 Batley.	1903 Halifax.	1908 Hunslet.	1912 Dewsbury.
1899 Oldham.	1904 Halifax.	1909 Wakefield T.	1913 Huddersfield.
1900 Swinton.	1905 Warrington.	1910 Leeds.	1914 Hull.
1901 Batley.	1906 Bradford.		

GOLF.

AMATEUR CHAMPIONSHIP.

Instituted 1886.

Year	Winner.	Where played.
1905	A. G. Barry	Prestwick.
1906	James Robb	Hoylake.
1907	John Ball	St. Andrews.
1908	E. A. Laven	Sandwich.
1909	Robert Maxwell.	Muirfield.

Year	Winner.	Where played.
1910	John Ball	Hoylake.
1911	H. H. Hilton.	Prestwick.
1912	John Ball	Westward Ho!
1913	H. H. Hilton	St. Andrews.
1914	J. L. C. Jenkins	Sandwich.

LADIES' CHAMPIONSHIP.

Year	Winner.	Where played.
1905	Miss B. Thompson.	Cromer.
1906	Mrs. Kennon	Burnham (Som.)
1907	Miss M. Hezlet	Newcastle, Co. D.
1908	Miss M. Titterton	St. Andrews.
1909	Miss D. I. Campbell	Birkdale.

Year	Winner.	Where played.
1910	Miss Grant Suttie	Westward Ho!
1911	Miss D. Campbell	Portrush.
1912	Miss E. Ravenscroft	Turnberry.
1913	Miss M. Dodd	St. Anne's-on-Sea.
1914	Miss C. Leitch	Hunstanton.

LADIES' INTERNATIONAL CHAMPIONSHIP.

Instituted 1901.

Year	Country.	Year	Country.
1901	Ireland.	1905	Scotland.
1902	England.	1906	Scotland.
1903	Ireland.	1907	Ireland.
1904	Scotland.	1908	Scotland.

Year	Country.	Year	Country.
1909	Scotland.	1912	England.
1910	Scotland.	1913	England.
1911	England.	1914	England.

CYCLING.

1,000 MILES.

Year	Time	Country.
1909	3 days 15 hr 57 min	W. Welsh (safety)

100 MILES.

Year	Time	Country.
1897	4 hr 10 min	A. A. Chase (paced)
1910	4 hr 50 min	F. H. Grubb (ordinary bicycle)
1912	4 hr 30 min	R. J. and A. F. Hsley (tandem safety)
1902	4 hr 30 min	H. Green

50 MILES.

Year	Time	Country.
1909	2 hr 12 min	H. Green (safety)
1903	2 hr 51 min	E. H. Grunsell and C. Bryer (tandem safety)

24 HOURS.

Year	Time	Country.
1898	428 miles	F. R. Goodwin (paced, safety)
1901	394	H. Green (safety, unpaced)
1891	312	J. F. Walsh (ordinary bicycle)
1895	397½	M. A. Holbein and J. A. Bennett (tandem safety)

12 HOURS' SAFETY ROAD RECORD.

Year	Time	Country.
1900	220½ miles	H. Green (unpaced)
1900	245	F. R. Goodwin (paced)

LAND'S END TO JOHN O' GROATS RECORD.

Year	Time	Country.
1908	2 days 19 hr 50 min	H. Green (safety)

ENGLISH 1 HOUR RECORD (PATH).

Year	Time	Country.
1895	45 min	Safety, W. T. Hall, C. T.
1891	21 min	Ordinary, H. W. Attlee.
1897	31 min	Tandem Safety, E. James and G. A. Nelson
1898	29 min	Amateur Tandem Safety, C. Heydon and H. Thackthwaite
1908	30 min	Amateur Safety Record, W. J. Pett.

HOCKEY.

ENGLAND v. IRELAND. (Instituted 1895).
Played 20 matches. England won 17; Ireland 1; drawn 2.

ENGLAND v. WALES. (Instituted 1898).
Up to 1914 played 17 matches. England won 17.

ENGLAND v. SCOTLAND. (Instituted 1903).
Played 12. England won 10; Scotland 1; drawn 1.

IRELAND v. WALES. (Instituted 1895).
Played 20. Ireland won 20.

IRELAND v. SCOTLAND. (Instituted 1902).
Played 13. Ireland won 10; Scotland won 2; drawn 1.

SCOTLAND v. WALES. (Instituted 1903).
Played 12. Scotland won 8; Wales won 3; drawn 1.

LACROSSE.

ENGLISH CHAMPIONSHIP. (Instituted 1890.)

Year	Team	Goals.	Year	Team	Goals.
1903	Stockport	beat Woodford 9 5	1909	South Manchester	beat Catford 15 3
1904	South Manchester	beat Catford 12 4	1910	Old Hulmeians	beat Catford 20 6
1905	Stockport	beat Surbiton 7 3	1911	Stockport	beat Lee 15 5
1906	South Manchester	beat Surbiton 10 6	1912	Stockport	beat Lee 18 8
1907	Old Hulmeians	beat Surbiton 12 10	1913	Abandoned.	
1908	Old Hulmeians	beat Surbiton 4 1	1914	Old Hulmeians	beat Lee 21 2

LAWN TENNIS.

ENGLAND CHAMPIONSHIP.

(Instituted 1877.)

1902 to 1906 (inclusive) H. L. Doherty
1907 N. E. Brookes (Australia).
1908-1909 A. W. Gore.
1910 A. F. Wilding.

1911 A. F. Wilding.
1912 A. F. Wilding.
1913 A. F. Wilding.
1914 N. E. Brookes (Australia).

* Holder did not defend title.

LADY CHAMPIONS (Since 1903).

(Instituted 1884). Singles.

1903-1904	Miss D. K. Douglass.
1905	Miss M. Sutton (America).
1906	Miss D. K. Douglass.
1907	Miss M. Sutton (America).
*1908	Mrs. Sterry.
1909	Miss D. Boothby.

1910	Mrs. Lambert Chambers.
1911	Mrs. Lambert Chambers.
1912	Mrs. Larcombe.
*1913	Mrs. Lambert Chambers.
1914	Mrs. Lambert Chambers.

* Holder did not defend title.

YACHTING.**AMERICA CUP.**

The first race for the Royal Yacht Squadron Cup, now known as the America Cup, was sailed on Aug. 29, 1851, the course being round the Isle of Wight. Fifteen vessels started, including the American schooner *America*, which completely out sailed the British yachts, with the result that the trophy went to the New York Yacht Club, where it still remains, in spite of the repeated efforts which have since been made by British yachtsmen to recover it. There have been sixteen contests in all since 1851, and all on American waters, but not until nineteen years after the first race was the challenge taken up again on this side. Canada competed in 1876, and again in 1881, but with no better result; nor did Scotland's attempt in 1887 meet with any better fate. The more recent endeavours to wrest the Cup from America's keeping have been those of Sir Thomas Lipton, who in 1899, 1901, and 1903 made gallant but vain efforts to out sail the American yachts. He is again a challenger for 1914.

MOTOR RACING.**BRITISH CAR RECORDS.**

Distance.	Time.	Avg. miles	By whom	Where run.	Year
	H. M. S.	per hour.			
1 Kilometre . . . F	0 0 20	111 8	Lee Guinness	Saltburn	1907
1 Kilometre . . . S	0 0 32 1/2	63 0	Lee Guinness	Blackpool	1906
1 Mile F	0 0 37 2/5	96 3	C. Earp	Blackpool	1906
1 Mile S	0 0 45 1/2	78 9	Lee Guinness	Blackpool	1906
50 Miles F	0 37 45 9	79 4	S. F. Edge	Brooklands	1908
150 Miles F	1 46 6 17	84 8	F. Newton	Brooklands	1908
1,000 Miles S	14 54 15 5	67 1	S. F. Edge	Brooklands	1907
Time.	Distance.	m. yds			
1 Hour F	76 453	70 3	C. Earp	Brooklands	1907
1 Hour F	151 148 8	75 5	C. Earp	Brooklands	1907
12 Hours S	790 1,600	60 7	S. F. Edge	Brooklands	1907
24 Hours S	1,581 1,310	65 9	S. F. Edge	Brooklands	1907

* World's record also

F Flying Start

S. Standing Start.

POLO.**HURLINGHAM CHAMPION CUP.**

Instituted 1876. Open to any Polo Teams.

In 1833 to 1893 (inclusive) the Sussex team held the cup; in 1895 and 1896 the Freebooters; in 1897-8-9 Rugby, and from 1900 the holders have been:

1904	Old Cantabs (Capt. Heseltine, W. McCreery, F. M. Freake, W. S. Buckmaster).	1910	Old Cantabs (Capt. G. E. Belville, F. M. Freake, W. S. Buckmaster, Lord Wodehouse).
1905	Roehampton (C. Nickalls, Capt. Wilson, P. W. Nickalls, Capt. Lloyd).	1911	Eaton (C. P. Nickalls, G. A. Miller, P. W. Nickalls, C. D. Miller).
1906	Roehampton (C. Nickalls, Capt. Wilson, P. W. Nickalls, Capt. Lloyd).	1912	Old Cantabs (W. S. Buckmaster, Capt. G. Belville, F. M. Freake, Lord Wodehouse).
1907	Freebooters (Capt. L. C. D. Jenner, R. N. Grenfell, F. O. Grenfell, Duke of Roxburghe).	1913	Quidunnes (Duke of Penderland, Capt. H. Tomkinson, Capt. E. W. Palmer, Capt. F. W. Barrett).
1908	Old Cantabs (Capt. G. Belville, F. M. Freake, W. S. Buckmaster, Lord Wodehouse).	1914	Old Cantabs (W. S. Buckmaster, Capt. G. Belville, F. M. Freake, Lord Wodehouse).
1909	Roehampton (R. N. Grenfell, Capt. H. Wilson, A. N. Edwards, Capt. J. H. Lloyd).		

ALL-IRELAND OPEN CUP.

(Instituted 1878.) Open to all *hona rida* Club, County, and Vice-regal Staff Teams.
The records since 1904 are:-

1904	Woodpeckers (W. Bass, Hon. A. Hastings, Capt. Wilson, Capt. Lloyd (and Capt. Millar)).	1909	Woodpeckers (Sir W. A. H. Bass, Bart., Hon. A. Hastings, A. N. Edwards, Capt. H. Wilson).
1905	Irish County P.C.U. (A. Rotherham, S. A. Watt, Major O'Hara, P. P. O'Kelly).	1910	Woodpeckers (Sir W. Bass, Hon. A. Hastings, Capt. H. Wilson, Capt. J. H. Lloyd).
1906	Woodpeckers (W. Bass, Hon. A. Hastings, Capt. Wilson, Capt. Lloyd).	1911	Eaton (C. P. Nickalls, Duke of Westminster, P. W. Nickalls, Earl of Kockswage).
1907	Rugby (Duke of Westminster, R. N. Grenfell, G. A. Miller, C. D. Miller).	1912	Abandoned because of bad weather.
1908	Old Cantabs (Lt. Bell, F. M. Freake, W. S. Buckmaster, Lord Wodehouse).	1913	Hillmorton (H. Rich, W. Bolding, J. Drage, S. Barton).

RACKETS.

AMATEUR CHAMPIONSHIPS.

SINGLES (Instituted 1888).

1905 E. M. Baerlein.
1906 Major S. H. Sheppard.1907 E. B. Noel.
1908-1911 E. M. Baerlein.1912-1913 R. S. Foster.
1914 H. W. Leatham.

DOUBLES (Instituted 1890).

1904-1905 E. H. Miles, E. M. Baerlein.
1906 E. H. Miles, F. D. Longworth.
1907 Capt. W. L. Foster, B. S. Foster.
1908 F. D. Longworth, V. H. Pennell.
1909 E. M. Baerlein, P. Ashworth.1910 B. S. Foster, Hon. C. N. Bruce.
1911 B. S. Foster, Hon. C. N. Bruce.
1912 H. W. Leatham, H. A. Denison.
1913 B. S. Foster, H. Brougham.
1914 E. M. Baerlein, G. G. Kershaw.

PUBLIC SCHOOLS' CHALLENGE CUP.

(Instituted 1868).

Played 47.

won 19, Charterhouse 8, Eton 8, Malvern 3, Rugby 3, Wellington 3, Winchester 2, Marlborough 1.

SHOOTING.

THE KING'S PRIZE (£250 and the N.R.A. Medal).

(Instituted 1866.)

The competitions took place at Wimbledon down to 1889. Subsequently at Bisley. Open only to Volunteers and Retired Volunteers. Service Rifles. Winners since 1900 have been:—

1900 Private Ward, 1st Devon.
1901 Lance-Corporal Ommundsen, Queen's Edin.
1902 Lieutenant Johnson, 1st London.
1903 Colour-Sergeant Davies, 3rd Glam.
1904 Private S. J. Perry, Canada.
1905 Armoury-Sergeant A. J. Comber, 2nd Surrey.
1906 Captain R. F. Davies, 1st Middlesex V.R.C.
1907 Lieutenant W. C. Addison, Australia.1908 Private Gray, 5th Scottish Rifles.
1909 Corporal H. C. Burr, London R.B.
1910 Corporal F. K. Radice, Oxford University.
1911 Private W. J. Clifton, Canada.
1912 Private A. G. Fulton, Queen's Westminsters.
1913 Private W. Hawkins, Canada.
1914 Sergeant J. L. Dewar, 4th Royal Scots.

"NATIONAL" CHALLENGE TROPHY.

(Instituted 1864.)

Open to one team of 20 Volunteers from England, Scotland, Ireland and Wales respectively. Service Rifle.

Highest possible score, 2,100

	Scores
1910 Scotland	1,844
1911 England	1,800
1912 England	1,882
1913 England	1,821
1914 Scotland	1,910

	Scores
1905 England	1,924
1906 Scotland	1,860
1907 England	1,974
1908 Scotland	1,944
1909 England	1,801

* Highest Score.

	Scores
1910 Scotland	1,671
1911 England	1,873
1912 England	1,866
1913 England	1,906
1914 England	1,932

ELCHO SHIELD. (Instituted 1862).

Open to one team of eight from England, Scotland, Ireland, and Wales respectively. Match Rifle.

Highest possible score, 1,800.

Contests to 1914: 52. England won 27; Ireland 14; Scotland 10; Wales has never competed. The winners since 1900 have been:—

	Scores
1900 Ireland	1,537
1901 England	1,500
1902 England	1,587
1903 Ireland	1,553
1904 England	1,570

	Scores
1905 Scotland	1,677
1906 England	1,658
1907 Ireland	1,634
1908 Declared void	—
1909 England	1,717

	Scores
1910 England	1,678
1911 England	1,644
1912 England	1,687
1913 Scotland	1,732
1914 Scotland	1,612

THE ST. GEORGE'S CHALLENGE VASE (Founded 1862).

1880 Corporal King, and Wiltshire.
1881 Sergeant Heiton, and Renfrew.
1882 Lieutenant Stevens, 13th Middlesex.
1883 Private Wilson, 13th Middlesex.
1884 Private Osborne, 1st Warwick.
1885 Private Fergusson, and Perthshire.
1886 Private G. Marr, 1st Cheshire.
1887 Lieutenant Hole, and Somerset.
1888 Sergeant Ford, and South Staffordshire.
1889 Sergeant Lawson, 1st Lanark.
1890 Captain Gibbs, Gloucester Engineers.
1891 Corporal Ritchie, and Renfrew.
1892 Private Gray, 1st Norfolk.
1893 Private Henry, 20th Middlesex.
1894 Staff-Sergeant King, Canada.
1895 Sergeant M'Neill, R. O. S. B.
1896 Sergeant Fulton, 13th Middlesex.
1897 Sergeant Mansfield, and West Surrey.

1898 Lance-Corporal Fleming, 4th Surrey Rifles.
1899 Corporal Ommundsen, 5th Royal Scots.
1900 Sergeant Fulton, 13th Middlesex.
1901 Private J. Mahy, 1st Guernsey.
1902 Sir D. Murchie, 1st Lanark Engineers.
1903 Captain Johnson, London Rifle Brigade.
1904 Major J. Howard, 4th Lond. Imp. Yeomanry.
1905 Lieut.-Col. R. P. Sandeman, Gloucester I. Y.
1906 Colonel Wilson, and Liverpool.
1907 Private R. T. Gibson, and Lanark.
1908 Sergt. W. M. Foster, 6th Hampshire.
1909 Private J. P. Welch, West Kent Yeomanry.
1910 Lieutenant Humphrey, Cambridge Univ.
1911 T. A. Sparks, late 21st London.
1912 Lt.-Col. H. A. Mann, H.A.C.
1913 Pte. A. G. Fulton (G.M.), Queen's Westminster.
1914 Private G. M. Corrie (7th H.L.I.)

THE CONNOISSEUR CHART OF CHINA MARKS.					
BRISTOL.		DOW.		CAVENLEY.	
 	 	 	 	NANT-GARW C.W. NANTGARW. P P PN 300	
CROWN DERBY.		DERBY CHELSEA.		LONDON HALL.	
XII 21 2 + 	 <i>Nottingham Works. Brameld.</i>	SWANSEA 	 	 	 <i>Flight & Barr</i>
PLYMOUTH.		ROCKINGHAM.		SWANSEA.	
BERLIN.		CARPDI MONT.		DRESDEN.	
FURSTENBURG.		HYMPHENBURG.		VENICE.	

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Useful Terms for China Collectors.

CHINA.—A modern descriptive term applied to pottery which is made semi-transparent by adding bone to the other materials used in its manufacture.

PORCELAIN.—Semi-transparent pottery made from natural clays, no bone being used. For example:—Chinese, Dresden, Limoges, &c.

LUSTRE WARE.—Pottery decorated with gold, silver, or copper.

BISCUIT.—The first stage of china after being fired. It is white and porous, and ready for decoration.

IRONSTONE CHINA, SEMI-PORCELAIN, SILICON CHINA, &c.—Trade terms applied to fine qualities of earthenware.

EARTHENWARE.—A descriptive term to distinguish opaque pottery from china, stoneware, terra-cotta, &c.

ON-GLAZE.—Decoration on the ware, after it has been glazed.

UNDER-GLAZE.—Decoration on the ware when it is in biscuit state.

THE LONDON

1697 to June 1730.
June 1730 to 1756.

1756 to 1784.

1784 to 1821.

- (1) Britannia (Fig. A). (2) Maker's Mark. (3) Date Letter. (4) Lion's Head erased (Fig. B).
(1) Leopard's Head Crowned (Fig. C). (2) Maker's Mark. (3) Date Letter. (4) Lion
Passant (Fig. D).
(1) Leopard's Head Crowned (Fig. E). (2) Maker's Mark. (3) Date Letter. (4) Lion
Passant (Fig. F).
(1) Leopard's Head Crowned (Fig. E). (2) Maker's Mark. (3) Date Letter. (4) Lion
Passant (Fig. F). (5) Reigning Sovereign's Head. The first two years of King's
Head, *i.e.*, 1784-1785 the head is to Left and intaglio, after that it was turned to
Right in relief.



A



B







































































































C



D












































































































E

	1697 Mar. to May.		1716-17		1756-7		1756-7		1776-7
	1697-8		1717-18		1757-8		1757-8		1777-8
	1698-9		1718-19		1758-9		1758-9		1778-9
	1699-1700		1719-20		1739-40		1739-60		1779-80
	1700-01		1720-21		1740-41		Geo. III. 1760-61		1780-81
	1701-2		1721-2		1741-2		1761-2		1781-2
	Anne. 1702-3		1722-3		1742-3		1762-3		1782-3
	1703-4		1723-4		1743-4		1763-4		1783-4
	1704-5		1724-5		1744-5		1764-5		1784-5
	1705-6		1725-6		1745-6		1765-6		1785-6
	1706-7		1726-7		1746-7		1766-7		1786-7
	1707-8		Geo. II. 1727-8		1747-8		1767-8		1787-8
	1708-9		1728-9		1748-9		1768-9		1788-9
	1709-10		1729-30		1749-50		1769-70		1789-90
	1710-11		1730-1		1750-51		1770-71		1790-91
	1711-12		1731-2		1751-2		1771-2		1791-2
	1712-13		1732-3		1752-3		1772-3		1792-3
	1713-14		1733-4		1753-4		1773-4		1793-4
	Geo. I. 1714-15		1734-5		1754-5		1774-5		1794-5
	1715-16		1735-6		1755-6		1775-6		1795-6

SILVER MARKS.

1821 to 1890. (1) Leopard's Head Uncrowned (Fig. G). (2) Maker's Mark. (3) Date Letter. (4) Lion
 1890 to 1896. As above but without Sovereign's Head as Duty on Silver was withdrawn.
 1896 to present day (1) Leopard's Head Uncrowned (Fig. J). (2) Maker's Mark. (3) Date Letter. (4) Lion
 Passant (Fig. K).

NOTE.—The date letter is usually changed at the end of May, and that accounts for two years appearing
 opposite each mark.

 F	 G	 H	 J	 K
 1796-7	 1816-17	 1836-7	 1856-7	 1876-7
 1797-8	 1817-18	 Vic. 1837-8	 1857-8	 1877-8
 1798-9	 1818-19	 1838-9	 1858-9	 1878-9
 1799-1800	 1819-20	 1839-40	 1859-60	 1879-80
 1800-01	 Geo. IV. 1820-21	 1840-41	 1860-61	 1880-81
 1801-2	 1821-2	 1841-2	 1861-2	 1881-2
 1802-3	 1822-3	 1842-3	 1862-3	 1882-3
 1803-4	 1823-4	 1843-4	 1863-4	 1883-4
 1804-5	 1824-5	 1844-5	 1864-5	 1884-5
 1805-6	 1825-6	 1845-6	 1865-6	 1885-6
 1806-7	 1826-7	 1846-7	 1866-7	 1886-7
 1807-8	 1827-8	 1847-8	 1867-8	 1887-8
 1808-9	 1828-9	 1848-9	 1868-9	 1888-9
 1809-10	 1829-30	 1849-50	 1869-70	 1889-90
 1810-11	 Will. IV. 1830-31	 1850-51	 1870-71	 1890-91
 1811-12	 1831-2	 1851-2	 1871-2	 1891-2
 1812-13	 1832-3	 1852-3	 1872-3	 1892-3
 1813-14	 1833-4	 1853-4	 1873-4	 1893-4
 1814-15	 1834-5	 1854-5	 1874-5	 1894-5
 1815-16	 1835-6	 1855-6	 1875-6	 1895-6

LIQUOR DEALERS', TOBACCO, MOTOR SPIRIT AND OTHER LICENCES AND DUTIES INCLUDED IN THE FINANCE BILL, 1909-10.

The figures below are those applying to the ante-war period. In present changing conditions we refrain from giving later figures which may be superseded any day.

LIQUOR MANUFACTURERS' LICENCES.

Brewer of Beer for sale: according to quantity brewed in preceding year, viz., not exceeding 100 barrels, £1; exceeding 100, £1 for the first 100, and 12s. for every further 50.
 Distiller of Spirits: not exceeding 50,000 gallons, £10; exceeding 50,000, £10 for the first 50,000, and £10 for every further 25,000.

Rectifier of Spirits	£ s. d.
Sweets (including Brit. Wine), Maker of	15 15 0
	5 5 0

LIQUOR DEALERS' (WHOLESALE) LICENCES.

Beer	£ s. d.
Spirits	10 10 0
Sweets	15 15 0
Wine	5 5 0
	10 10 0

LIQUOR RETAILERS' ON-LICENCES.

Beer (Beer-house Licence): a Duty equal to a third of the annual value of the premises, subject to a minimum of from £3 10s to £2 10s, according to population of district. There is an option to pay in proportion to the annual "compensation value" in certain cases of large beer-houses and "seasonal" hotels.

Cider: from £2 5s where annual value is under £30, up to £6 where it is £100 or over.

Spirits (Publican's Licence): a Duty equal to half the annual value of the premises, subject to a minimum of from £5 to £35 according to population of district. There is an option to pay in proportion to the annual "compensation value" in certain cases of large public-houses and "seasonal" hotels.

(Hotels and Restaurants): duty to be charged according to proportion that receipts from intoxicating liquors bear to total receipts, or optionally, 25 per cent. of the "annual licence value"; subject in either case to a minimum charge.

(Clubs): an Excise Duty of 6d. in the £ on their purchases of intoxicating liquors, but no Licence Duty.

(Theatres, Music Halls and Refreshment Rooms): The Bill has special provisions.

Sweets: the same scale as for Cider.

Wine: from £4 10s. where annual value is under £30, up to £12 where it is £100 or over.

LIQUOR RETAILERS' OFF-LICENCES.

Beer: from £1 10s. where annual value does not exceed £10, up to £10 where it exceeds £500.

Cider: from £10 (annual value not exceeding £500) up to £50 (annual value exceeding £500).

Spirits: from £10 (annual value not exceeding £500) up to £50 (annual value exceeding £500).

Sweets: from £2 10s. (annual value not exceeding £500) up to £10 (annual value exceeding £500).

OTHER LIQUOR LICENCES.

Passenger Vessel: £10 (annual); £2 (one day).
 Railway Restaurant Car: £1 0 0
 Occasional Licences: 10s. per day (5s. if for beer and wine only)

Motor Spirit, manufactured in U.K. the gallon £0 0 3
 Duty repayable to persons using otherwise than for motive power for motor cars, and half duty repayable when used for trade cars or hackney carriages, or by a medical man for professional purposes.

Motor Spirit Manufacturer, annual licence £1 0 0
 Dealer 0 5 0

(One pint at a time may be sold without a licence.)

Spirits, made in U.K.: 3s. 9d. additional,

making total duty . . . per proof gallon £0 14 9

Tobacco, grown in Ireland (from April 30, 1909), or

grown in England or Scotland (from Jan. 1, 1910):

Manufactured in bond per lb. £ s. d.

Unmanufactured, if containing 10 per cent. 0 4 8

moisture per lb. 0 3 6

Less than 10 per cent. moisture . . . 0 3 12

Tobacco Growers, Cultivators or Curers,

England and Scotland, annual licence . . 0 5 0

RECEIPTS.

Receipts for the payment of £2 or upwards . . . 1d.

(Persons receiving the money to pay the duty.)

Penalty for giving a receipt liable to duty not duly

stamped, £10.

Letters acknowledging the safe arrival of Bills of Exchange, etc., and other securities for money, are no longer exempt from the Stamp Act, but must have a stamp affixed.

HOUSE DUTY.

On inhabited houses, occupied as farm-house, in the £

public-house, coffee-shop, shop, or

lodging-house, of the annual value of £20,

and not exceeding £40 0 0 2

Exceeding £40, and not exceeding £60 . . . 0 0 4

60 0 0 6

Other houses of the annual value of £20, and

not exceeding £40 0 0 3

Exceeding £40, and not exceeding £60 . . . 0 0 9

60 0 0 9

LETTERS PATENT.

(For Inventions)

On application for provisional protection . . £1 0 0

On filing complete specification . . . 3 0 0

Upon application for certificate of renewal, before

the expiration of the 4th year and in respect of the 5th

year, £5; 6th year, £6; 7th year, £7; 8th year, £8;

9th year, £9; 10th year, £10; 11th year, £11; 12th

year, £12; 13th year, £13; 14th year, £14.

Every Patent is granted for the term of 14 years from

the date of application, subject to the payment,

before the expiration of the 4th and each succeeding

year during the term of the Patent, of fees as above,

and of other small fees prescribed by the Treasury and

the Board of Trade from time to time. The patentee

may pay the whole or any portion of the aggregate of

such prescribed annual fees in advance. Formerly

the fees were much higher than the above.

REGISTRATION OF BIRTHS, MARRIAGES AND DEATHS.

An infant must be registered within 42 days after its birth. No fee is payable; but after six weeks the registration must take place in the presence of the Superintendent Registrar, when—besides liability to a penalty for neglect—a fee is chargeable.

In Scotland every child has to be registered within 21 days after its birth.—A marriage must be registered within three days after the occurrence.—A death must be registered within eight days after the demise

THE FRENCH METRICAL SYSTEM.



The above diagram illustrates the method of calculation adopted in working out the French Metrical System, which is based on the assumed length of the distance from the Equator to the North Pole. The 10,000,000th part of this distance is adopted as the unit of length and called a *metre*, and all other measurements are derived from this unit. Thus, the cube of the tenth part of the metre is the unit of capacity, called a *litre*, and the weight of a millilitre of water at a temperature of 4° Centigr. or 39 1/5 Fahr. is the unit of weight called a *gramme*. The unit of land measurement is 100 sq. metres, called an *are*. The multiples in Greek are:—

	100	1,000	10,000
	<i>hecto.</i>	<i>kilo</i>	<i>myria.</i>
10th		100th	1,000th
<i>deci</i>		<i>centi</i>	<i>milli</i>

EQUIVALENTS OF METRIC WEIGHTS AND MEASURES IN TERMS OF IMPERIAL WEIGHTS AND MEASURES FOR USE IN TRADE.

METRIC TO IMPERIAL.

LINEAR MEASURE.

1 millimetre (mm.) (1-1000th m.)	=	0.03937 inch.
1 centimr. (1-100th m.)	=	0.3937 "
1 decimetre (1-10th m.)	=	3.937 inches.
1 METRE (m.)	=	{ 39.370113 INCHES.
		{ 3.280843 FEET.
		{ 1.093613 YARDS.
1 decametre (10 m.)	=	10.936 yards.
1 hectometre (100 m.)	=	109.36 "
1 kilometre (1000 m.)	=	0.62137 mile.

SQUARE MEASURE.

1 square centimetre	=	0.15500 sq. inch.
1 sq. decimetre (100 sq. centimr.)	=	15.500 sq. inches.
1 sq. metre (100 sq. decimr.)	=	{ 10.7639 sq. feet.
		{ 1.1960 sq. yards.
1 are (100 sq. metres)	=	119.6 "
1 hectare (100 ares or 10,000 sq. metres)	=	2.4721 acres.

CUBIC MEASURE.

1 cubic centimetre	=	0.0610 cubic in.
1 cubic decimetre (c.d.) (1,000 cubic centimetres)	=	61.084 cubic ins.
1 cubic metre (1,000 cubic decimetres)	=	{ 35.3166 cubic feet.
		{ 1.357954 " yds.

MEASURES OF CAPACITY.

1 centilit. (1-100th litre)	=	0.070 gill.
1 decilitre (1-10th litre)	=	0.176 pint.
1 LITRE	=	1.7606 PINTS.
1 decalitre (10 litres)	=	2.20 gallons.
1 hectolitre (100 litres)	=	2.27 bushels.

WEIGHT.

1 milligram (1-1000th grm.)	=	0.015 grain.
1 centigram (1-100th grm.)	=	0.154 "
1 decigram (1-10th grm.)	=	1.543 grains.
1 gramme (1 grm.)	=	15.432 "
1 decagram (10 grm.)	=	5.644 drams.
1 hectogram (100 grm.)	=	3.527 oz.
1 KILOGRAM (1,000 grm.)	=	{ 2.2046223 LB. or
		{ 15.4323654 GRAINS.
1 myriagram (10 kilog.)	=	22.346 lb.
1 quintal (100 kilog.)	=	1.108 cwt.
1 tonne (1,000 kilog.)	=	0.984 ton.
		<i>Troy.</i>
1 gramme (1 grm.)	=	{ 0.03215 oz. troy.
		{ 15.432 grains.
		<i>Apothecaries.</i>
1 gramme (1 grm.)	=	{ 0.0375 drachm.
		{ 0.7716 scruple.
		{ 15.432 grains.

IMPERIAL TO METRIC.

LINEAR MEASURE.

1 inch	= 25.400 millimetres.
1 foot (12 inches)	= 0.3048 metre.
1 YARD (3 feet)	= 0.914387 METRE.
1 fathom (6 feet)	= 1.8288 metres.
1 pole (54 yards)	= 50.929 "
1 chain (100 yards)	= 201.168 "
1 furlong (220 yards)	= 201.168 "
1 mile (8 furlongs)	= 1.6093 kilometres.

SQUARE MEASURE.

1 square inch	= 6.4516 sq. centimetres.
1 square foot (144 sq. inches)	= 9.2903 sq. decimetres.
1 square yard (9 sq. feet)	= 0.836126 sq. metre.
1 perch (304 sq. yards)	= 25.293 sq. metres.
1 rood (40 perches)	= 10.117 ares.
1 acre (4,840 square yards)	= 0.40468 hectare.
1 square mile (640 acres)	= 259.00 hectares.

CUBIC MEASURE.

1 cubic inch	= 16.387 cub. centimetres.
1 cubic foot (1728 cubic inches)	= 0.028317 cubic metre.
1 cubic yard (27 cubic feet)	= 0.764553 " "

MEASURES OF CAPACITY.

1 gill	= 1.42 decilitres.
1 pint (4 gills)	= 0.568 litre.
1 quart (2 pints)	= 1.136 litres.
1 GALLON (4 quarts)	= 4.545963 LITRES.
1 peck (2 gallons)	= 9.092 litres.
1 bushel (8 gallons)	= 3.637 dekalitres.
1 quarter (8 bushels)	= 2.909 hectolitres.

APOTHECARIES MEASURE.

1 minim	= 0.059 millilitre.
1 fluid scruple	= 1.284 millilitres.
1 fluid drachm (60 minims)	= 3.552 "
1 fluid ounce (8 drachms)	= 28.4133 centilitres.
1 pint	= 0.568 litre.
1 GALLON (8 pints or 160 fluid ounces)	= 4.545963 litres.

AVOIRDUPOIS WEIGHT.

1 grain	= 0.0648 gramme.
1 dram	= 1.772 grammes.
1 ounce (16 drachms)	= 28.350 "
1 POUND (16 ozs. or 7,000 grains)	= 0.45359243 KILOGRAM.
1 stone (14 lb.)	= 6.350 kilograms.
1 quarter (28 lb.)	= 12.70 "
1 hundredweight (cwt.) (112 lb.)	= 50.80 "
1 ton (20 cwt.)	= 1.0160 tonnes or 1.016 kilograms.

TROY WEIGHT.

1 grain	= 0.0648 gramme.
1 pennyweight (24 grains)	= 1.5552 grammes.
1 troy ounce (20 pennyweights)	= 31.1035 "
1 troy pound (12 oz.)	= 373.2430 "

APOTHECARIES WEIGHT.

1 grain	= 0.0648 gramme.
1 scruple (20 grains)	= 1.360 grammes.
1 drachm (3 scruples)	= 3.888 "
1 oz. (8 drachms)	= 31.1035 "

NOTE.—One litre equals 1,000 cubic centimetres, and one millilitre equals one cubic centimetre.

WATCH AND TIME REGULATIONS ON SHIPS.

A ship's crew is mustered in two divisions: the Starboard (right side, looking forward) and the Port (left). The day commences at noon, and is thus divided:—

Afternoon Watch	noon to 4 p.m.
First Dog	4 p.m. to 6 p.m.
Second Dog	6 p.m. to 8 p.m.
First	8 p.m. to midnight.
Middle	12 a.m. to 4 a.m.
Morning	4 a.m. to 8 a.m.
Forenoon	8 a.m. to noon.

This makes seven WATCHES, which the crew keep alternately, the *Watch* which is on duty in the forenoon one day having the afternoon next day, and the men who have only four hours' rest one night have eight hours' the next. This is the reason for *Dog Watches*, which are made by dividing the hours between 4 p.m. and 8 p.m. into two *Watches*.

Time is kept by means of "Bells." Two strokes of the clapper at the interval of a second, then an interval

of two seconds, then two more strokes with a second's interval apart, then a rest of two seconds, thus:—
BELL, ONE SECOND; B., TWO SECS.; B. S.; B. S.

1 Bell is struck at 12.30, and again at 4.30, 6.30, 8.30 p.m.; 12.30, 4.30, and 8.30 a.m.
2 Bells at 1 (struck with an interval of a second between each—B. S., B.), the same again at 5, 7, and 9 p.m., 1, 3, and 5 a.m.
3 Bells at 1.30 (B. S., B. S., B.), 5.30, 7.30, and 9.30 p.m.; 1.30, 5.30, and 9.30 a.m.
4 Bells at 2 (B. S., B. S., B. S., B.), 6 and 10 p.m.; 2, 6, and 10 a.m.
5 Bells at 2.30 (B. S., B. S., B. S., B. S., B.) and 10.30 p.m.; 2.30, 6.30, and 10.30 a.m.
6 Bells at 3 (B. S., B. S., B. S., B. S., B. S., B.) and 11 p.m.; 3, 7, and 11 a.m.
7 Bells at 3.30 (B. S., B. S., B. S., B. S., B. S., B. S., B.) and 11.30 p.m.; 3.30, 7.30, and 11.30 p.m.
8 Bells (B. S., B. S., B. S., B. S., B. S., B. S., B. S., B.) every 4 hours, at noon, at 4 p.m., 8 p.m., midnight, 4 a.m., and 8 a.m.

ROMAN NUMERALS.

I	1	XI	11	XXX	30	C	100	D	500
II	2	XII	12	XL	40	CX	110	DC	600
III	3	XIII	13	L	50	CXC	111	DCCC	800
IV	4	XIV	14	LV	55	CXC	112	DCCCLXXXVI	866
V	5	XV	15	LX	60	CC	120	CM	900
VI	6	XVI	16	LXX	70	CCC	130	CMXCIX	999
VII	7	XVII	17	LXXX	80	CCXXIV	124	M	1000
VIII	8	XVIII	18	LXXXVIII	88	CCC	130	MD	1500
IX	9	XIX	19	LXXXIX	90	CCCXX	132	MDC	1600
X	10	XX	20	XCIX	99	CD	140	MM	2000

FLAGS OF THE BRITONS



ROYAL STANDARD



MERCANTILE MARINE



UNION JACK



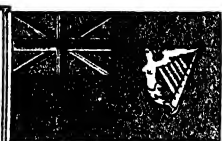
BLUE ENSIGN



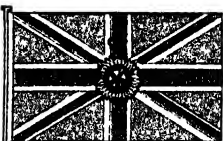
WHITE ENSIGN



SCOTLAND



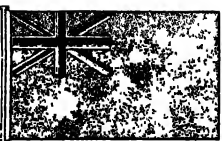
IRELAND



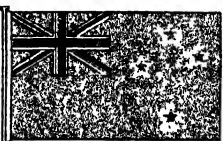
INDIA



CANADA



AUSTRALIA



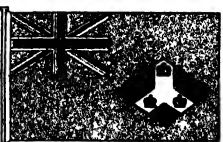
NEW ZEALAND



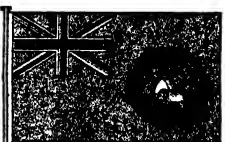
UNION OF S. AFRICA



NEWFOUNDLAND



STRAITS SETTLEMENTS



CEYLON



JAMAICA



BRIT GUIANA



BRIT. EAST AFRICA

FLAGS OF THE WORLD



UNITED KINGDOM
RED ENSIGN



UNITED KINGDOM
BLUE ENSIGN



UNITED KINGDOM
UNION JACK



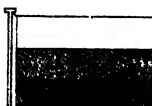
UNITED STATES



FRANCE



GERMANY
MERCHANT



RUSSIA
MERCHANT



ITALY
MERCHANT



AUSTRIA-HUNGARY
MERCHANT



NETHERLANDS
MERCHANT



BELGIUM
MERCHANT



SWITZERLAND



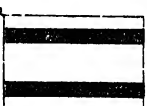
NORWAY
MERCHANT



SWEDEN
MERCHANT



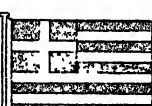
DENMARK
MERCHANT



SPAIN
MERCHANT



PORTUGAL
MERCHANT



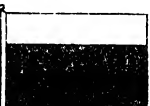
GREECE
MERCHANT



TURKEY
MERCHANT



RUMANIA
MERCHANT



BULGARIA
MERCHANT



SERVIA
MERCHANT



JAPAN
ENSIGN



CHINA



BRAZIL
MERCHANT



ARGENTINA
MERCHANT



CHILE
MERCHANT

PEARS' COMPLETE GAZETTEER.



Pears' Gazetteer of the World

In this section are set forth the names and brief descriptions of the principal countries, states, cities, towns, seas, mountains, rivers, lakes and other geographical features of the world, together with notes of the chief historical and other events connected with those places, and the latest statistical information, based upon the most recent census returns. It will be found to include many places which have only come into prominence in recent years by the changeful course of events. Brevity is a necessity of the compilation, but so far as the facts stated go they may be depended on for accuracy.

For this edition the Census figures of 1911 are inserted as far as regards the chief places in the United Kingdom.

THE ABBREVIATIONS ADOPTED ARE AS UNDER:

agr. = agriculture.
alt. = altitude.
bor. = borough.
C. = cape.
c. = city.
cap. = capital.
co. = county.
dep. = department.
dist. = district.
div. = division.
E. = east.

ft. = feet.
G. = gulf.
isl. = island.
L. = lake.
m. = miles.
mfg. = manufacturing.
mkt. = market.
mtn. = mountain.
N. = north.
N.S.W. = New South Wales.
p. = population.

par. = parish.
parly. = parliamentary.
prov. = province.
R. = river.
ry. stn. = railway station.
S. = south.
spl. = square.
sq. m. = square miles.
t. = town.
vil. = village.
W. = west.

Aa, the name given to numerous small streams in Germany, Switzerland, France, Russia, and Holland.

Aach, *t.* Baden, *p.* 950.

Aachen, (See Aix-la-Chapelle.)

Aadorf, *t.* Switzerland, *p.* 2,500.

Aafjord, *t.* Trondhjem, *dist.* Norway, *p.* 3,800.

Aagard, *vil.* in N. Jutland, N. Denmark, *p.* 1,500.

Aakirkeby, *t.* on *vil.* of Bornholm, Denmark, *p.* 974.

Aal, *t.* on R. Ustedal, Norway, *p.* 4,000. [31,457.

Aalborg, *c.* and *spt.* in Jutland, *prov.* Denmark, *p.* 1.

Aalbu, *min.* near in Wurttemberg, S.W. Germany.

Aalen, walled *t.* in Wurttemberg, *p.* 7,500. [11,672.

Aalesund, *spt.* Norway, centre of herring fishery.

Aalsmeer, *vil.* nr. Amsterdam, *p.* 4,500.

Aalten, *vil.* Netherlands, *prov.* Gelderland, *p.* 6,800.

Aalum, *vil.* Jutland *prov.* Denmark, fine Norman church.

Aar, *R.* in Switzerland, flows through the Brentz and Thun lakes, and thence into the Rhine.

Aarau, *t.* Switzerland, *cap.* canton Aargau, *p.* 7,824.

Aarburg, *t.* on K. Aar, *p.* 2,100. [many, *p.* 1,500.

Aarce, *isl.* on Little Belt, off Hadersleben, N. Ger-

Aardenburg, *t.* *prov.* Zealand, Netherlands, *p.* 1,812.

Aargau, canton in N. Switzerland, *area*, 512 sq. m.; has extensive vineyards, *p.* 200,408.

Aarhus, *c.* and principal *spt.* on E. coast of Jutland, Denmark; famous Gothic cathedral, *p.* 51,814.

Aarlanderveen, *t.* in S. Holland, *p.* 3,000.

Aaril, *prov.* Arabia, containing Riadh city, *cap.* of the country, *p.* (of prov.) 110,000. [1, 2,500.

Aarmühle, health resort, canton Bern, Switzerland.

Aba, *t.* in Hungary, *p.* 3,000.

Abach, *t.* nr. Ratisbon, in Bavaria, on the Danube, *p.* 2,800.

Abaco, Great and Little, two of the Bahama Islands, the greater *isl.* (sometimes called Lucaya) has an area of 1,600 sq. m.; Little Abaco, lying to the N.W., is 28 miles long.

Abad, *vil.* on R. Theiss, Hungary, *p.* 2,700.

Abadeh, *t.* in Persia, *p.* 4,500. [1, and R. in Abyssinia.

Abai, *t.* and *harbour* on N.W. coast of Borneo; also

Abate, *R.* in Brazil, flowing in R. San Francisco.

Abakan, *R.* in Siberia, affluent of the Yenisei, from the Altai mtns.; also a fortified town on the R., *p.* 4,100.

Abalak, *t.* id.

Abancay, *t.* and *prov.* in Peru, in the silver mine dis., *p.* 6,500.

Abanill, fortified *t.* in N.E. Spain, *p.* 6,100.

Abano, *t.* in N. Italy, *prov.* Padua, sulphur waters and mud baths, *p.* 4,750.

Abar, *mtns.* in Assam, N.E. India.

Abari, *R.* in British Guiana [p. 50,000.

Abasia, *prov.* of Circassia, on E. coast of Black Sea,

Abatamagomaw, *L.* in N.W. Territory, Canada.

Abatsho, *t.* on R. Benue, W. Africa, *p.* 1,500.

Abazai, fortified *vil.* N.W. Ind. *p.* on Swat R.

Abb, *t.* in Yemen, Arabia, *p.* 5,500.

Abba Yared, *mtn.* in Abyssinia, one of the Samen range, 14,918 ft. high.

Abbadia San Salvatore, *t.* in N. Italy, *p.* 3,500.

Abbazia, *t.* and health resort on the Gulf of Fiume, Austria, *p.* 2,343.

Abbeokuta, *t.* in W. Africa, 50 in north of Lagos, *p.* 160,000.

Abbeville, *co.* and *t.* in South Carolina, U.S.A., *p.* 45,000.

Abbeville, *mfg.* *c.* in N. France, on the R. Somme.

Has large factories for the manufacture of black cloths, velvets, cottons, linens, serges, hosiery, etc., station on the Northern Railway, and connected with Paris and Belgium by canals. Church of St. Wolfman, fine Gothic structure of the time of Louis XII, *p.* 20,008.

Abbeyfeale, *par.* and *t.* Limerick, Ireland, *p.* 916.

Abbeygreen, *vil.* in co. Lanark Scotland, on the Nethian; sometimes called Lesmahagow, *p.* 1,450.

Abbeyleix, par. and t. in Queen's co., Ireland, p. 1,367.
Abbey St. Bathans, par. in Scotland, co. Berwick, p. 1,367.
Abbiatrasio, t. N. Italy, prov. Milan. Has silk factories, p. 12,000.
Abbitibi, L. and R. in N.W. Canada.
Abbotabad, t. British India, headquarters of the Hazara dist. of the Punjab, p. 10,000.
Abbotsford, residence built by Sir Walter Scott, on the S. bank of the Tweed, about 3 m. from Melrose, co. Roxburgh. [Scotland, p. 7,500]
Abbotshall, par. now merged in Kirkcaldy and Dysart, Scotland, p. 8,669.
Abbot's Langley, vil. and par. in Herts, birthplace of Nicholas Breakspere (Adrian IV.) the only Englishman ever raised to the Papacy.
Abb's Head, a promontory at the entrance to the Firth of Forth. [p. 500,000]
Abda, prov. W. Africa, on the Morocco Coast, Abd-el-Kuri, *vil.* in Indian Ocean, p. 250.
Abdie, par. in Scotland, co. Fife, p. 647.
Aberaeron, sp. Cardigan, Wales, p. 1,312.
Aberavon, parly. and municipal bor. in Glamorganshire, Wales; on R. Avon, 8 m. E. of Swansea, large coal and iron industries. Has a good harbour, Port Talbot. As one of the Swansea dist. boroughs returns a member to Parly, p. 1,556.
Abercarn, mining t. co. Monmouth. Ten m. N.W. of Newport, p. 16,445.
Aberchirder, par. of Scotland, co. Banff, p. 1,048.
Aberconway.—(See Conway.)
Abercorn, par. in co. Louth, Scotland, on the Forth. Roman wall built by Antoninus began here, and extended to Kirkpatrick on the Clyde, p. 813.
Aberdare, t. in Glamorganshire, Wales, on the R. Cynon, 4 m. S.W. of Merthyr Tydvil; valuable coal and iron industries. [p. 50,844]
Aberdaron, par. and vil. in Carnarvonshire, Wales.
Aberdeen, royal burgh and t. co. of Aberdeenshire. Chief sp. N. of Scotland "the granite city," famous for its University and fine buildings. Has large textile industries, p. 161,684
Aberdeen, former ship on Hunter R., 159 m. N. of Sydney, N.S.W.
Aberdour. There are two *par.* and *vil.* of this name in Scotland, one in co. Aberdeenshire, the other in co. Fife. The latter, the smaller of the two places, is in repute for its sea-bathing.
Aberdovey, sp. in Monmouthshire, Wales, p. 1,750
Aberfeldy, par. t. 150 m. from Melbourne, Victoria
Aberfeldy, t. in Perthshire, famed for its "birks," p. 1,592
Aberfraw, par. and vil. in Holyhead, Wales, p. 1,000
Aberford, vil. in Tadcaster, co. York, p. (reg. dist.) 22,355
Aberfoyle, par. and ry. sta. in Perthshire, p. 1,147
Abergavenny, t. in Monmouthshire on the R. Usk at a point where it is joined by a stream called the Gaveny, p. 8,511 [in Scotland]
Abergeldie, the name of a royal residence on Deeside.
Abergele, small watering-place in co. Denbigh, Wales, p. 5,572
Aberlady, vil. in Scotland, co. Haddington, p. 963.
Aberlour, par. and ry. sta. co. Banff, p. 2,644.
Abernethy, t. in Perthshire on the right bank of the Tay, 7 m. below Perth; once the cap. of the Pictish king; p. 513
Abernethy, par. in co. Inverness, Scotland, p. 1,228.
Abert, L. in Oregon, U.S.A.
Abertan, t. Bohemia, p. 4,000.
Aberthaven, vil. in Perthshire, Scotland
Aberyschan, t. Monmouth, ur. Pontypool, p. 24,661
Aberystwith, a colony and manufacturing par. of Monmouthshire, p. 51,671.
Aberystwith, mkt. and sp. in Cardiganshire, Wales, municipal and partly bor. situated about the centre of the coast-line of Cardigan Bay. A popular watering-place, with fine scenery in the neighbourhood, including the Devil's Bridge, p. 8,412.
Abeshir, t. Soudan, cap. of Wadal, p. 10,500.
Abington, t. in Berkshire on R. Thames, 7 m. S. of Oxford. Was an important town in the days of the Heptarchy, and was incorporated by Queen Mary. Parly and municipal bor., p. 6,810.

Abington, vil. in Scotland, co. Lanark. There are places of the same name in Northamptonshire and in Cambridgeshire (Great and Little Abington), and in cos. Limerick and Tipperary, Ireland; as well as in Plymouth co., Massachusetts and Washington co., Virginia, U.S.A.
Abihaman, t. in Madras Presidency, p. 7,500.
Abistada, salt L. in Afghanistan, m. Ghazni.
Abo, sp. formerly capital of Finland, European Russia; industries: timber, pitch, and tar, p. 34,904.
Abou, t. on Niger, Africa, 80 m. from the coast; p. 8,550.
Abomey, cap. of Dahomey, West Africa, p. 60,000.
Abou-Arish, walled t. in Arabia, p. 8,000.
Aboukir, t. and bay on the coast of Egypt. Lord Nelson defeated the French fleet here in 1798.
Abouye and Glentanner, par., vil. and ry. sta. in N. Wales, Aberdeenshire, p. 1,525 [1759]
Abraham, Plains of, ur. Quebec. Wolfe's victory, p. 7,000. Here the French were gallantly resisted by Wellington in 1813. [mines, p. 4,978]
Abudubanya, t. in S.E. Hungary, famous for its gold
Abruzzi and Molise, a cap. of Italy on the Adriatic, including the provs of Aquila, Teramo, Chieti, and Campobasso, p. nearly one and a half millions.
Abu, famous mtn. resort, 5,650 ft. alt. in Rajputana, India, p. 6,500.
Abu-Arish, t. in Arabia, on the borders of Red Sea.
Abu-Klea, vil. on R. Nile, r. Soudan. British victory over Mahdists, Jan. 17th, 1895
Abuna, t. R. in Bolivia, S. America.
Abury.—(See Avebury.)
Abydos, a ruined t. in upper Egypt, celebrated for its temple of Osiris; about an ancient castle, t. in Natolia, on the Dardanelles, which desperately resisted Philip of Macedonia, and famous for the love story of Hero and Leander.
Abyssinia, a powerful country in Eastern Africa; part of ancient Ethiopia. Chief t. Adowa. The total area of the Abyssinian Empire, as reconstructed under the Emperor Menelik, is 320,000 sq. m. 11 m. millions.
Acadie, Acadie, old French name of Nova Scotia and New Brunswick.
Acapulco, sp. San Salvador, Central America
Acapulco, vil. on Pacific coast, Mexico, p. 6,000. From this castle port the Spanish galleons in old days sailed with the wealth of the West.
Acari, t. and R. in Peru, p. of town, 6,000.
Acarnania, with Atolia, prov. of Greece, cap. Missolonghi, p. 12,000.
Accadia, t. in prov. of Avellino, S. Italy, p. 4,800
Accettura, t. in Naples, ur. Potenza, p. 4,750.
Accra, t. and British settlement on the Gold Coast, W. Africa, seat of government of the colony, p. 17,892
Accrington, mfg. t. in Lancashire, 22 m. N. Man. Chester, p. 45,040.
Acerezza, t. in Italy, prov. Basilicata, p. 4,500.
Acerno, t. in Italy, prov. Salerno, p. 2,111
Acerra, a very ancient t. in S. Italy, 30 m. N.E. of Naples, p. 15,000.
Achaia, with Ellis, prov. Greece, p. 20,000; chief t. Achalzik, formerly t. Russia, government Tiflis, p. 15,500.
Acheen, and state N.W. of Sumatra, E. Indies; p. 20,000 and of state about 50,000.
Achenkoi, Indian t. pass and temple, Iravancore.
Acheron, R. and post t. 75 m. N.E. of Melbourne, Victoria.
Achill, is. and Head, off the W. coast of Ireland, co. Mayo, p. 4,667. Head, 2,162 ft. above sea-level.
Achiras, t. Argentina, 300 m. N.W. Buenos Ayres, in ship building dist.
Achray, par. in co. Sligo, Ireland, p. 12,500.
Achray, Loch, t. and small t. in Perthshire, Scotland, 17 m. N.W. of Stirling.
Achros, Point, a C. in Galway, Ireland
Achtyrka, t. in Kharkov, Russia, p. 24,500.
Acidra, R. in Greece [t. t. p. 35,450]
Acid Reale, sp. in Sicily, seat of Sec. at foot of Mt. Achen, castle t. on the filer in Sicily, p. 6,000.
Acklin, is. Bahamas, W. Indies, p. 2,000.
Acworth, par. and ry. sta. nr. Pontefract, Yorks, p. 2,500.

- Aconcagua**, *mt.*, one of the Andes of Chili, S. America, alt. 23,920 ft. Also a *prov.* of Chili, p. 113, 156, cap. San Felipe.
- Aconquija**, *mt.*, range in Argentina between Catamarca and Tucumán.
- Acquaviva**, *t.* in S. Italy, prov. of Bari, p. 8,000.
- Acqui**, an ancient walled *t.* in N. Italy, prov. Alessandria, p. 13,786, famous for its cathedral, sulphur baths, and silk-worm industry.
- Acra**, *c.* and *ep.* of Syria, key of Palestine, famous for its many sieges during and since the Crusades, p. 11,000, principally Moslems.
- Acton**, *t.* in co. Middlesex, Eng., residential suburb of London, p. 37,593.
- Actopan**, *t.* *R.* and *dist.* in Mexico, State of Hidalgo, *Ad.* *viz.*, Ohio, U.S.A., p. 3,100. [p. 12,000.]
- Adalia**, *ep.*, and very ancient *c.* on S. coast of Asia Minor, p. 30,000.
- Adamawa**, *country* of W. Africa, divided between Brit. Northern Nigeria and the Cameroons; area, **Adam Bay**, N.W. coast of Australia, 170,000 sq. m.
- Adams**, *mt.*, *t.* in Mass., U.S.A., p. 11,134.
- Adam's Island**, one of the Marquesas group, just below the equator in the Pacific, 17,420 ft.
- Adam's Peak**, conical sacred *mt.* in S. Ceylon, alt. Adamson Peak, *mt.* in Southern Tasmania.
- Adam's Run**, in Colleton co. S. Carolina, p. 5,000.
- Adamstown**, *viz.*, Northumberland co., N.S.W., 8-10 m. N. of Sydney.
- Adana**, *prov.* in Asiatic Turkey, including the ancient Cilicia, p. 405,000; cap. Adana, p. 31,000.
- Adare**, *mkt.* *t.* in Ireland, co. Limerick, p. 300.
- Adda**, *R.* in N. Italy, affluent of the Po. It drains L. Como.
- Addanki**, *t.* in India, Madras pres., p. 6,500.
- Addingham**, *viz.* W. Riding of Yorks, p. 2,450.
- Adelton**, *c.* in co. the prov. of Ontario, Canada. Several parishes in England are thus named; one nr. Croydon, in Surrey, was the seat of an Arch-episcopal palace.
- Addison's Flat**, mining *t.* in N. Zealand, p. 2,500.
- Adel**, Lough, in co. West Meath, Ireland.
- Adel**, or **Adel**, *viz.* nr. Leeds, in W. Riding of Yorks, famous for its Roman remains and fine old Norman church.
- Adelaide**, *cap.* of S. Australia, on Torrens R. named in honour of Queen of William IV.; p. with suburbs, 152,094. Possesses a university.
- Adelmannsfelden**, *t.* in Wurtemberg, p. 1,800.
- Adelsburg**, *t.* in the prov. of Carinthia, Austria, 20 m. N.E. of Trieste; famous for its extensive grotto and stalactite cavern, p. 3,096.
- Aden** (with Perim), small *isl.* and important British coaling station on S. coast of Arabia at entrance of Red Sea, p. 46,105.
- Adenau**, *t.* in Rhenish Prussia, p. 1,500.
- Adenar**, oasis in Sahara Desert, chief *t.* Wadan.
- Adernon**, *t.* at foot of Etna, Sicily, p. 25,873.
- Aderton**, *par.* nr. Ludlow in co. Hereford, p. 250.
- Adige**, *R.* in W. Italy, enters Adriatic N. of Po.
- Adirondacks**, *Mts.* in New York State. Highest peak, Mt. Marcy, 5,402 ft. In this range rises the R. Hudson.
- Adjai**, *R.* in Bengal, India, joins the Bhagirathi.
- Admiralty G.**, N.W. of Western Australia.
- Admiralty Inlet**, Washington Territory, U.S.A., opening to Puget Sound.
- Admiralty Isls.**, S. Pacific Ocean, N.E. of New Guinea, comprise some 40 small islands, abundant in coconut trees, belong to Germany.
- Ado**, *t.* on Slave Coast, W. Africa, p. 30,000.
- Adoni**, *t.* Madras, India, p. 26,000.
- Adony**, *t.* in Hungary, on R. Danube, p. 4,500.
- Adour**, *R.*, 180 m. in S.W. France, rises in Pyrenees and after a course of 200 m. enters B. of Biscay below Bayonne.
- Adowa**, or **Adua**, *t.* Tigré, Abyssinia, alt. 6,000 ft.; 145 m. N.E. Gondar. Here the Italians were decisively defeated in 1896 by King Menelik, p. 3,000.
- Adra**, *ep.* *t.* in Spain on the Mediterranean, p. 12,000.
- Adramytti**, *ep.* of Asia Minor, nr. Smyrna; exports olives, wool, etc., p. 5,200 in prov.
- Adria**, *ep.* Rovigno, Italy; formerly on coast, now 14 m. inland. An old Etruscan *c.*, p. 16,500.
- Adrian**, *c.* in Michigan, U.S.A., 73 m. W. of Detroit, p. 9,654.
- Adrianople**, *c.* European Turkey, prov. of Romelia, on the left bank of the Maritza, founded or greatly developed by Emperor Adrian, in 125. From 1362 to 1453 residence of the Sultans, p. of prov. 2,000,500, of city, 70,000.
- Adriatic Sea** (area 52,000 sq. m., length 450 m.), a branch of the Mediterranean, between Italy and Turkey. Forms the G. of Venice on the N.; chief trading ports, Venice, Trieste, and Ancona on the N. and Brindisi on the S.
- Adrigole Harbour**, in Cork, Ireland.
- Adrigool**, *par.*, co. Galway, nr. Dunmore, p. 2,000.
- Adullam**, *dist.* Palestine, S.E. Jerusalem. Here was formerly the Canaanite city and cave which furnished David with his hiding place from King Saul.
- Adur**, *R.* 20 m. in Sussex, flowing into English Channel.
- Advent**, *viz.* nr. Camelford, co. Cornwall.
- Adventure**, *B.*, on the E. coast of Brunei Isl., nr. the South extremity of Tasmania. [Channel.]
- Advocate Harbour**, *ep.* Nova Scotia, on Minas
- Adwalton**, *hamlet* in Drighlington township, nr. Bradford, W.K. Yorks. On Adwalton Moor Fairfax was defeated by the Royalist forces under Lord Newcastle in 1644.
- Aegades**, group of rocky *isls.* off W. coast of Sicily, chief *t.* Favignana, on *isl.* of that name, p. 5,000.
- Aegean Sea**, a branch of the Mediterranean, studded with *isls.* between Greece and Asia Minor, called the Grecian Archipelago.
- Aegina**, *isl.* of Greece, in G. of same name, p. 6,000.
- Aeroe**, *isl.* in the Baltic, off the coast of Denmark, p. 12,000.
- Aerschot**, *t.* in Belgium, prov. S. Brabant, p. 4,800.
- Aetolia**, (See Arcanania.)
- Afghanistan**, mountainous *country* N. of Baluchistan, between Persia and India. Important as "buffer" state between British and Russ dominions. Chief towns, Kabul, Herat, and Kandahar. The principal rivers are the Kabul and Helmand, 500 m. N. to S., 600 miles from Herat frontier to Kابل pass; 278,700 sq. m.; p. four to five millions. [Minor, p. 1,800.]
- Afin-Kara-Hissar**, *c.* important trade centre of Asia Afragola, Neapolitan *isling* *t.* (straw hats, etc.), p. 20,330.
- Africa**, the second largest *continent*, area 12,000,000 sq. m. The Mediterranean separates it from Europe on the N., the Red Sea and the Indian Ocean on the E., the Southern Ocean on the S., and the Atlantic on the W. Adjacent Asia at the Isthmus of Suez. Nearly the whole of this continent has been partitioned among various European powers. England is the dominant power in the S., centre, and E., and France in the N. and W.; p. estimated about 200,000,000. The only independent states in Africa are Abyssinia and Morocco. British possession or control extends to Egypt, Anglo-Egyptian Sudan, Gambia, Sierra Leone, Ashantee, Gold Coast Colony, Yomba, Lagos, Nigeria, Rhodesia, Transvaal Colony, Orange River Colony, Bechuanaland, Natal, Cape Colony, Zululand, Uganda, and Somaliland. All kinds of big game except the tiger are found in Africa.
- African Isles**, group of low-lying islets in Indian Ocean.
- Aizalgari**, *t.* in India, N.W. prov., p. 8,150.
- Agades**, *cap.* of Air or Aghem oasis, Sahara, p. 16,000.
- Agartara**, *t.* nr. Calcutta in India, called also Intrackpur, p. 30,000.
- Agassiz**, *viz.* and *ep.* *stm.* on Central Pacific line Canada, 380 m. W. of Donald.
- Age**, *ep.* *t.* in France, dept. Hérault, p. 8,500.
- Agden**, two separate parishes in co. Chester, one nr. Knutsford, the other nr. Malpas.
- Agen**, *t.* on R. Garonne, cap. dept., Lot-et-Garonne, 85 m. from Bordeaux, p. 22,000.
- Ageroe**, a Norwegian *isl.* off the West coast, prov. Trondhjem, p. 4,500.
- Aghabog**, *par.* in co. Monaghan, Ulster, p. 5,000.
- Aghery**, Lough, in co. Down, Ireland.
- Aghrim**, or **Aughrim**, *par.* co. Galway; site of battle between troops of James II. and William III. 1691.
- Aghris**, Point, a *c.* in Sligo, Ireland.

Agincourt, *viz.* in the dept. of Pas-de-Calais, France, famed for battle in 1415 between English, led by Henry V., and French under d'Albert.

Agira, or San Filippo d'Agira, *f.* Sicily, *p.* 15,000.

Agnes, *St. Agn.* in Truro, co. Cornwall, once famous for its "Holy" well, *p.* 6,000.

Agnone, *f.* in S. Italy, prov. Campobasso, *p.* 6,500.

Agra, *c.* on Jumna R., N.W. prov. India, Bengal, Pres., 140 m. from Delhi and 840 from Calcutta formerly cap. of Mogul Empire. Famed for its white marble mausoleum inlaid with precious stones where the Emperor Shah Jahan and his favourite wife are buried. It occupied 25 years in building and employed 20,000 men continuously, *p.* 182,449.

Agram, or Zagreb, *c.* cap. of Croatia and Slavonia, Austria, on R. Save, has important manufactures, and a University; *p.* 57,000.

Agua de Linares, *f.* in Puerto Rico, *p.* 17,000.

Agua Calientes, *c.* and State in Mexico, 6,000 ft. above sea, famous for hot springs, *p.* (of city) 40,000.

Aquila, *f.* and port of Spain, on the Mediterranean, *p.* 13,000. [Southernly pt. of Africa]

Aguilhas, *c.* 100 m. E. of Cape of Good Hope, most Abien, *f.* in Westphalia, *p.* 4,000.

Ahmedabad, *c.* and *f.* in Gujarat, India, 200 m. from Bombay, *p.* (of *c.*) 150,000.

Ahmednagar, or Dowlatabad, *c.* in Decan, 120 m. E. of Bombay; large trade in cotton and silk goods, *p.* 45,000.

Ahmedpur, *f.* in Punjab, India, *p.* 10,000. [*p.* 35,000.]

Ahmedpur-Barra, *f.* in Bahawalpur, N. India.

Ahwuz, *f.* in Persia, formerly the winter residence of the Shah.

Aidone, *f.* in Sicily, prov. Catania, *p.* 8,000. [*p.* 3,500.]

Aiguillon, *f.* in France, dep. Lot-et-Garonne.

Aigun, *c.* of Manchuria, China, on bank of Amur R.; centre of "Boxer" rising in 1900, *p.* 20,000.

Ailisa Craig, rocky *is.* off Ayrshire coast, alt. 1,174 ft.

Ain, *R.* and dept. of E. France, mainly agricultural, *p.* 349,005.

Ainad, *f.* in Arabia, prov. Hadramaut, *p.* 10,000.

Ainsty, *dist.* W.R. Yorks, *p.* 13,000.

Aintab, *c.* on N. frontier of Syria, military centre in the Middle Ages, many Armenians massacred there in 1895, *p.* 45,000.

Aintree, a suburban *dist.* of Liverpool in the W. Air, or Asben, *oasis* in Soudan, cap. Agade.

Airdrie, *infg.* *f.* in N.E. I. mark, 10 m. E. of Glasgow, *p.* 24,388.

Airds Moss in S. Ayrshire, battle of Covenanters fought on the moor, 1686.

Aire (70 m.), *R.* in W.R. Yorks, *trib.* of Ouse.

Aire, two *f.* in France, one, principal, dep. Landes, *p.* 5,000; the other, fortified, dep. Pas-de-Calais, *p.* 9,500.

Airlie, *f.* in Forfar, Scotland, castle seat of the Earls Airlie, *par.* in co. Stirling, on R. Forth, *p.* 1,519.

Aisne (150 m.), *R.* in N.E. France, *trib.* of Oise; also sugar-growing and agr. dep., *p.* 524,201. [*p.* 36,000.]

Aivali, *f.* in the Levant, opposite *is.* of Mitylene, *Aif*, *infg.* *f.* in France, 17 m. N. Marseilles, *p.* 30,000.

Aix-la-Chapelle, cathedral *c.* Rhén. Prussia, 44 m. from Cologne, celebrated for its baths, *p.* 135,235.

Aix-les-Bains, health resort, Savoy, France, residential, *p.* 5,000. [*p.* 27,700.]

Ajaccio, *cap.* of Corsica, birthplace of Napoleon, 1769.

Ajakh, native State, central India, area 800 sq. m., *p.* 93,008.

Ajda, or Guzel-Hissar, *f.* in Asia-Minor, 81 m. from Smyrna. Exports rawins, figs, etc., *p.* 38,000.

Ajmer-Merwara, *c.* and *prov.* in Rajputana, British India, *p.* (of *c.*) 86,373; (of *prov.*) 501,395. Ajmer suffered severely from the famine of 1899-1900, more than a fourth of the population receiving relief.

Ajurua, *f.* in Brazil, prov. Minas Geraes, *p.* 18,500.

Akaba, *harb.* and *c.* at N.E. of Red Sea. Was in the 10th century, as Haila or Alila; the great port of Palestine. [*p.* 87 sq. m., *p.* 82,052.]

Akalkot, native State in Decan div. of Bombay, area Akerman, Russ. *f.* on Black Sea, at mouth of Dniester, *p.* 28,303, or, including the suburbs, 40,000.

Akhaltzyk, fortified Russian *f.* in Transcaucasia, *p.* 15,397, mainly Armenian.

Ak-Hissar, *f.* in Asia Minor, 50 m. N.E. Smyrna. The ancient Thyatira, on the Roman road from Pergamos to Laodicea, *p.* 13,000. [52,705 in dist.]

Akola, *f.* and *dist.* of Berar, India, *p.* 21,000 in *t.* and *Acron*, *infg.* *c.*, Ohio, U.S.A., cap. Summit *co.*, *p.* 60,707. [*p.* 15,000.]

Ak-Shehr, *f.* in Asia Minor (the classical Philomelon). Ak-Su, *f.* and *R.* in Eastern Turkistan. The town is walled, and forms an important trading centre on the caravan route, *p.* 30,000. The R. Ak-Su, rising in the Tian-shan mts., runs into the Tarim.

Alabama, *state*, U.S.A., cap. Montgomery, chief port, Mobile, minerals, cotton, sugar, 52,250 sq. m., *p.* 1,268,667.

Alabama, *f.* in N. America, length over 600 m., Montgomery, the State cap. of Alabama, is situated on *the* banks. Navigable for half its length by large steamers.

Alabaster, one of the Bahama *is.* famous for pine-apples and fine gypsum rock.

Alagoas, maritime *prov.* Brazil, the chief *c.* is also named Alagoas, *p.* 30,000.

Alais, *f.* in Cevennes *dist.*, dep. of Gard, France, extensively engaged in sericulture, *p.* 25,000.

Alajuela, *c.* and *prov.* of Costa Rica, *p.* (of *cap.*) 7,000.

Alameda, *c.* (Cal. U.S.A.), *p.* 20,000, also an old Andalusian *t.* in Spain, *p.* 4,300.

Aland, *Isles*, a group belonging to Russia, at the entrance of the Gulf of Bothnia, *p.* of group, 15,000.

Alapur, *f.* in the N.W. prov. of Italy, *p.* 57.

Ala-Shehr, *f.* in Anatolia, Asiatic Turkey, anciently called Philadelphia, *p.* 22,000.

Alaska, U.S.A. *terr.*, 580,000 sq. m.; bought from Russia in 1867; chief settlement Sitka, largest *t.* Juneau on U.S. route to Klondike, *p.* 63,392.

Alasio, *infg.* in Genoa, N. Italy, *p.* 5,250.

Alas, *mt.* ranges in Asiatic Russia.

Alatri, *f.* in Italy, prov. Rome, *p.* 13,500. [*p.* 11,500.]

Alatyr, *f.* on the Sum (trib. of the Volga) in Russia.

Alava, a Basque *prov.* in N. Spain, chief *t.* Victoria, *p.* 95,000. [an Aquila, Italy, *p.* 7,200]

Alba, *f.* in prov. of Cuneo, N. Italy, *p.* 22,500; also a *t.* Albacete, *f.* and *prov.* in S.E. Spain, *p.* (of *t.*) 22,000, of *prov.* 120,000.

Albania, in May, 1913, a prov. of Europ. Turkey, now an independent state, bounded on the east by Serbia and on the west by the Strait of Otranto, ceded by Turkey after the Balkan War of 1912-13, area, alt. 12,000 sq. m., *p.* 2,000,000.

Albane, *c.* in Rome, Italy, has saline springs.

Albans, *St.* cathedral *c.* Heils, Eng., *p.* 18,132.

Albany, *state* *cap.* of New York, U.S.A., situated on R. Hudson, *p.* 100,000; also *c.* Oregon, U.S.A. also *t.* Georgia, U.S.A. also *R.* 1920 m. N.W. Canada, falls into James Bay; also *t.* div. of Cape Colony, S. Africa, also *pt.* in West Australia, *p.* 4,000.

Albay, *f.* Luzon, Philippine *Is.*, *p.* 34,000.

Albemarle, *Is.* the largest of the Galapagos in the Pacific Ocean, alt. summit, 5,200 above sea-level.

Albemarle Sound (60 m.), inlet N. Carolina coast.

Albert, pastoral *dist.*, N.S.W. area 56,88 sq. m.

Albert (10 m.), *R.* in N. Queensland.

Alberta (215,000 sq. m.), *prov.* in N.W. Canada, separated from Brit. Columbia by Rocky Mts., *p.* 24,000.

Albert Edward Nyanza, one of the Nile basin lakes of Equatorial Africa. Drained by Semlike R. Length 50 m., width 30 m., alt. 3,500 ft.

Albert Nyanza, another great reservoir of the White Nile, extreme length 100 m., genl. breadth 30 m., alt. 2,100 ft. Greater part of shores of this *f.* fall to British E. Africa, Uganda Protectorate [Ainstab, *p.* 3,500.]

Albion and Queenstown, *infg.* of Adelaide, S. Aus., *cap.* of Tarn dept. France, *p.* 20,000.

Albia, *c.* cap. Montevideo, U.S.A., *p.* 2,500.

Albion, *f.* in Michigan, U.S.A., *p.* 5,000.

Albion Park, *f.* co. Camden, N.S.W., *p.* 1,000.

Albox, *f.* Spain, prov. Almeria, *p.* 17,000.

Albuera, *c.* in Badajoz, in Estremadura, Spain. French def. by Brit 1811.

Albufeira, *infg.* Portugal, prov. Algarves, *p.* 5,000.

Albula Pass, Alps, Canton Grisons, leading to U'p Eng. *idm.*

Albunol, *f.* in S. Spain, 40 m. S.E. Granada, *p.* 10,000.

Albuquerque, *t.* in Spain, 25 m. N. of Badajoz, p. 8,000; also *C.* of New Mexico, U.S.A., on Rio Grande R., p. 6,238.

Albury, *t.* on Murray R., N.S.W., p. 6,000; there are also English parishes of this name, in the co.'s of Surrey, Oxford, and Hertford.

Alcala de Guadaira, *t.* nr. Seville, Spain, p. 10,000.

Alcala de Henares, *t.* in Spain, 30 m. E. of Madrid, p. 14,000. [Cadiz, p. 10,500.]

Alcala de Los Gazules, *t.* in Spain, 32 m. E. of S. of Alcala in Real, *t.* in Andalusia, Spain, p. 16,000.

Alcala, *t.* in Sicily, 30 m. S. of Palermo. Originally a Saracenic *t.* producing wines, p. 51,811.

Alcandete, *t.* nr. Jaen, Spain, p. 10,000.

Alcantara, fortified *t.* in Spain on the Tagus, p. 11,000.

Alcazar de San Juan, *t.* nr. Ciudad Real, Spain, p. 10,000.

Alcester, *t.* in Warwickshire, Eng. Needle and fish-hook mfrs., p. (of rural dist.) 11,868.

Alcira, *t.* in Spain, 30 m. S. of Valencia, p. 20,000.

Alclston, *par.* nr. Lewes, co. Sussex, England.

Alcoy, *t.* 25 m. N. of Alicante, Spain, p. 32,000.

Aldan, navigable R. (300 m.) of Siberia, and mtn. range surrounding sea of Kentsk, average alt. 4,000 ft.

Aldborough, *vill.* in W. R. Yorks, nr. Boroughbridge, the Isurium of the Romans, also *par.* in Holderness, E. R. Yorks; also township in N. R. Yorks, nr. Richmond; also *par.* nr. Aylesham, co. Suffolk.

Aldbrough, wat. place in Suffolk, 30 m. from Ipswich, p. 2,374.

Alderney, most N. of the Channel Islands, 8 m. in circumference, 30 m. off English coast, and 10 m. W. of C. La Hague, p. 2,000. [p. 35,175.]

Aldershot, *t.* in Hants, prin. milit. camp in England.

Aldinga, *t.* in S. Australia, nr. Adelaide, p. 1,050.

Aldston Moor, *t.* in Cumberland on Northumberland border, p. 6,000.

Aleamor, Loch, co. Selkirk, Scotland.

Alemquer, sm. *t.* in Estremadura prov. of Portugal; also *t.* on the Amazon R. in Brazil, p. 3,500.

Alemtejo, maritime prov. of Portugal, 9,360 sq. m., p. 400,000. [Famous for its lace, p. 20,000.]

Alençon, *cap.* Orne dep., France, on R. Garthe.

Aleppo, *C.*, southerly point of Asia Minor, at mouth of Euphrates, opposite Isle of Rhodes.

Aleppo, *a.* chief trade centre in N. Syria, Turkish. Earthquake in 1822 killed 20,000 persons, p. 127,150.

Alesbki, *t.* in Russia, on the Dnieper, opposite Kherson, p. 10,190.

Alessandria, *c.* in N. Italy; *cap.* of the prov. of the same name, on the Tanaro, 46 m. E. of Turin, near Marengo; Napoleon's victory in 1800 over Austrians; p. 70,000.

Alessio, *t.* nr. Scutari, European Turkey, p. 3,510.

Aleutian Isls., chain of Isles between C. Alaska and Kamchatka. The Fox Islands form a portion.

Alexandra, mining *t.* on Goulburn R., Victoria, 30 m. N.E. of Melbourne.

Alexandra Nile, *a.* of Equatorial Africa, affluent of Victoria Nyanza, one of the chief feeders of the Nile, traverses a lake of the same name.

Alexandretta, prin. port of the Aleppo vilayet, p. 8,000.

Alexandria, chief port of Egypt. The city was founded by Alexander the Great in 332 B.C. Forts destroyed by English Fleet in 1882, p. 330,000; also *t.* Scotland, Dumfriesshire (p. 8,329); also in U.S.A., *c.* on R. Potomac, Virginia (p. 14,528); *t.* in Louisiana (p. 5,648); and *c.* of Madison, Indiana; also *t.* in Roumania, nr. the Danube (p. 12,675); also dist. *t.* in Russia, on the Ingueta, nr. Poltava (p. 14,500).

Alexandrina, *a.* L. in S. Australia; the Murray R. falls into it.

Alexandropol, *t.* in Russian Armenia, p. 30,477.

Alexandrov, *t.* in Govt. Vladimir, Russia, p. 7,200.

Alexandrovsk, fortified *t.* on the Dneiper, Russia, p. 16,500. [Aberdeenshire, Scotland, p. 1,464.]

Alford, *t.* Lincolnshire, Eng., p. 2,394; also *par.*

Alfordville, *t.* in France, dep. Seine, p. 11,614.

Alfred Port, in C. Colony, 38 m. S.E. of Grahamstown.

Alfreton, industrial *t.* in Derbyshire, Eng., p. 19,040.

Algarve, most southerly prov. of Portugal, area 1,073 sq. m., p. 254,307. [p. 15,520.]

Algeiras, *t.* in Spain, prov. Cadiz, on Gibraltar Bay,

Algeria, N. African prov. of France, bounded on the N. by the Mediterranean, W. by Morocco, S. by the Great Desert of Sahara, and E. by Tunis; area 235,000 sq. m., p. 5,079,840.

Algebra, *dist.* in Asiatic Turkey, between the Euphrates and the Tigris. [p. 10,000.]

Alghero, *t.* in Italy on the W. coast of Sardinia.

Algiers, *cap.* and naval *pt.* of Algeria, strongly fortified; great trade centre, p. 140,000.

Algoa Bay, about 425 m. E. of the Cape of Good Hope, Port Elizabeth chief seaport.

Algoma, *dist.* Ontario on L. Superior and Huron; area 150 sq. m., p. 25,670.

Algoña, *t.* lower Bay of Biscay, off coast of Pengu.

Alguada, reef in Bay of Biscay, Spain; noted for its hot springs, p. 8,500. Also *t.* in the prov. of Murcia, p. 8,356. [Granada, Spain.]

Alhambra, famous Moorish Palace and citadel near Alicante, *t.* and prov. E. Spain, noted for its wine, fruits, and minerals; p. (prov.) 500,000, (of *t.*) 51,540.

Alicuri, westernmost of the Lipari Isls. N. of Sicily, *t.* m. long.

Aligarh, *dist.* Merut, N.W. prov. Brit. India, between Ganges and Jumna, p. 1,203,047. *Chf.* C. Aligarh (also known as Koil), 86 m. from Calcutta, p. 70,127.

Alifoa, *Isle* in the Pacific, W. of Lower Carolina.

Alima, *R.* Central Africa, trib. of Congo, discovered by Brazza, 1878. Agency, area 837 sq. m., p. 72,000.

Alirajpur, native state of India, under Bhopawar.

Alise, *t.* in dep. Côte d'Or, 30 m. N.W. of Dijon, usually identified with Alesia, the ancient cap. of Central Gaul.

Alisal, North and South, *dis.* in Cape Colony, N. Alisal is on the Orange R., and S. Alisal on Mosel Bay. [Sikhs, 1245.]

Alisal, *t.* in N.W. prov. India, Brit. victory over Alkhan, *par.* in co. Kent, Eng., nr. Dover, p. 660.

Alkmaar, *t.* on N. Holland Canal, 20 m. from Amsterdam, p. 18,475. [Manchester, Eng.]

Alkington, a factory township, 5 m. N.E. of Allahabad, *cap.* of N.W.F. India, 130 m. from Delhi, 560 m. from Calcutta, p. 175,748. Allahabad dist. contains close upon 11 million souls, and covers an area of 8,252 sq. m.; entire division comprises 17,265 sq. m., with a total p. of over 51 millions.

Alisan, Bridge of, *vill.* in co. Perth, Scotland.

Alleghany, U.S.A., joins the Ohio R., Pittsburg, Pa., 350 m. long.

Alleghany, or Allegheny, American iron and steel mfg. *t.* on Alleghany R., opposite Pittsburg, p. 130,000.

Alleghany, or Appalachian Mtns., a series of parallel ranges between Atlantic and Mississippi. Highest peaks, Black Dome, 6,707 ft., and Mt. Washington, 6,288 ft.

Allen, Bog of, a group of peat morasses in Kildare and Queen's co.'s, Ireland, 372 sq. m. in extent.

Allen, *a.* in N. Carolina, U.S.A., 10 m. N. of Kildare, and Allen Lough, *a.* L. with an area of 8,000 acres, in co. Leitrim, one of the sources of the R. Shannon.

Allendale, min. *t.* Northumberland, Eng., p. 4,920; also *a.* in S. Carolina, U.S.A., p. 1,050.

Allendorf, *t.* on R. Werra, Hesse-Nassau, Prussia.

Allenstein, *t.* on the Alle R. in E. Prussia, 63 m. S. of Königsberg, p. 24,307.

Allentown, *t.* on Lehigh R., Pennsylvania, U.S.A., p. 31,913; also a borough in Monmouth co., New Jersey, p. 695.

Alleguash, *R.* in Northern Maine, U.S.A., branch of Aleppi, *pt.* S. India, state of Travancure, p. 24,000.

Allen, *t.* in Spain, prov. Oviedo, p. 12,000.

Allier, *dep.* France, centrally situated, occupied by mining industry, p. 422,082.

Allier (330 m.), *R.* in Cent. France, trib. of Loire.

Alligator Swamp, marsh in N. Carolina, U.S.A., area 3,000 sq. m.

Alloa, *mfr.* and *pt.* *t.* on R. Forth, Scotland, p. 17,130.

Alloyay, *par.* with ruined Kirk, S. Ayrshire, Scotland, noted famous by Burns in "Tam o' Shanter."

All Saints' Bay, harbour on Bahia coast, Brazil.

Allstedt, *t.* in Saxe-Weimar, Germany, p. 3,550.

Alma, *R.* in Crimea. Great victory over Russia by Allies, 1854; also villages in S. Australia (nr.

Adelaide) and Victoria (nr. Melbourne); also Isl. in Saguenay R., Canada. [English Crusaders, p. 8,000.

Almada, *t.* on Tagus, opposite Lisboa, founded by **Almaden**, *t.* in Sierra Morena, Spain. The ancient **Siagpon**, famous for its quicksilver mines, p. 9,000.

Almagro, lake mfg. *t.* Spain, 12 m. E. of Ciudad Real, p. 9,000.

Almaraz, *t.* in Albacete prov., Spain, p. 10,000.

Almaraz, sm. *t.* in Spain, on R. Tagus.

Almada, Portugal, fort on Span. frontier, prov. Beira, p. 2,500. Captured by French in 1810 and retaken by Wellington. [brandy industry, p. 10,000.

Almendralejo, *t.* in Spain, prov. Badajoz; wine and **Almería**, *t.* and met. prov. of E. Spain; p. (prov.) 350,000 (of town) 45,000.

Almódovar, *t.* prov. of Ciudad Real, Spain, p. 13,500; also a small Spanish *t.* on the River Guadalquivir, near Cordova. [Scottish R. falling to the Forth.

Almond, R. in Scotland, trib. of Tay; also a second **Almond**, populous *par.* adjoining Huddersfield, W.R. Yorks, woollen mfg., p. 24,734. [remains.

Almondsbury, *vil.* in Gloucestershire, Eng., Saxon **Almanta**, *stn.* on C. F. Ry., Canada, 35 m. W. of Ottawa.

Almora, *t.* in N.W. P. India, p. 8,000 Almora dist. is in the Kumaon div. and lies among the mts. between the upper waters of the Ganges and the Gogra, area 5,416 sq. m., p. 465,876.

Almudena, *sf.* in Spain, on Meditern., p. 8,500.

Alney, an *ist.* in R. Severn, nr. Gloucester. Battle between Canute and Edmund Ironside, 1016.

Alnmouth, watering place on Northumbrian coast, midway between Newcastle and Berwick, p. 593.

Alnwick, *t.* Northumberland, Eng., p. 7,041.

Alora, *t.* in Spain, old prov. of Andalusia, p. 11,000.

Alot, *t.* of Belgium, 17 m. S.E. of Ghent, p. 30,000.

Alpena, *t.* on Thunder Bay, Mich., U.S.A., p. 12,000.

Alpes-Basses, Frontier dept. in S.E. France, chief, *t.* Digne, p. 111,763. [Basses, p. 106,857.

Alpes-Hautes, *S.d. dept.* France, adjoining Alpes-Alpes-Maritimes, *S.d. dept.* France; formerly Nice, ceded by Italy in 1860, chief, *t.* Nice; p. 320,822.

Alpa, highest mts. in Europe; 600 m. long from G. of Genoa to near Vienna; 130 m. broad in Tyrol. The principal peaks are Mont Blanc (15,784 ft.); Mont Rosa (14,217 ft.); Mont Cervin (14,771 ft.); Finsteraarhorn (12,006 ft.); Jungfrau (13,671 ft.); Monte Viss (12,595 ft.); and Mont Genis (12,605 ft.).

Alpa, Australian, *mtm.* range between E. Victoria and N.S.W.; highest peak, Mt. Townsend, 7,350 ft.

Alpe, Southern, *mtm.* ridge between Westland and Canterbury, New Zealand.

Alresford, *t.* in Hants, Eng., p. 7,537.

Alsace-Lorraine, a *prov.* of the German Empire, total area, 5,601 sq. m. Taken from France in 1871, p. 1,719,451. [area 130 sq. m., p. 25,000.

Alsen, *ist.* on coast of Denmark, in the Little Belt.

Alsfeld, sm. *t.* in Grand Duchy of Hesse, 41 m. S.W. of Cassel.

Alster, R. in Prussia, it joins the Elbe about 70 m.

Alston, market *t.* in Cumberland, Penrith Parly, div., Eng., p. 3,075. [p. 750.

Alstonefield, *par.* in co. Stafford, Eng., on R. Dove.

Alstonville, post *t.* in N.S.W., 367 m. E.N.E. from Sydney.

Alt (or **Alutra**), an affluent of the Danube in Hungary (300 m.), also a R. in co. Lancaster, Eng., falling into the Irish Sea.

Altai, *mts.* S. Boundary of Siberia, from sources of Ob to Pacific, and extending more than 2,500 m. Bielika peak, alt. 12,000 ft. [Atlantic, 139 m.

Altamaha, R. in Georgia, U.S.A., flowing into Altamaha, the name given to twelve different towns in as many of the U.S.A. [p. 2,500.

Altamonte Springs, a resort in Florida, U.S.A., p. 20,000.

Altamura, *t.* South Italy, at foot of the Apennines, p. 20,000.

Altar, sm. *t.* and R. in Mexico, latter flowing into G. of California; also volcano in Eastern Andes of Ecuador, alt. 12,735 ft.

Altamun, *t.* ou R. Oder, in N. Germany, nr. **Altstadt**, sm. *t.* in E. Prussia, nr. the Baltic Sea.

Altord, sm. *t.* in Franconia, Bavaria, on R. Schwarzbach, 13 m. S.E. of Nuremberg.

Altos, *sf.* in Spain, prov. Alicante, p. 6,500.

Altena, *t.* in Prussia, prov. Westphalia, p. 18,699.

Altenburg, *t.* *cap.* of the Duchy of Saxe-Altenburg, N. Germany, p. 37,150.

Altenburg, commune of Prussia on the Rhine, embracing colonies of Krupp's workpeople, incorporated in 1901 with Essen, p. 62,350. [p. 17,199.

Altenessen, Colliery commune of Prussia, nr. [p. 17,199.

Altilla, sm. *t.* in Central Italy, alt. 20 m. North of Benevento, the ancient Sepinum, fortified by Nero.

Alton, *t.* Illinois, U.S.A., p. 12,210, also mkt. *t.* Hants, Eng., p. 5,555. [adjoining Hamburg, p. 161,307.

Altona, *sf.* and commercial *t.* Prussia, on the Elbe, Altona, *t.* Penn., U.S.A., Blair Co., p. 59,127.

Altort, *t.* Switzerland, cap. of the canton of Uri, on R. Reuss; here William Tell won independence for Switzerland, p. 2,095.

Altstätt, sm. *t.* in Upper Bavaria, on the R. Mörn, a famous resort of Rom. C. pilgrims. [p. 17,815.

Altrincham, *t.* Cheshire, Eng., 8 m. S.W. Manchester.

Altwater Mts., in Northern Moravia; highest in group, Gross Altwater, alt. 4,850 ft.

Altwasser, industri. *t.* Prussia, prov. Silesia, p. 22,000.

Altyn, Siberia, 75 m. by *st.* traversed by R. Obi.

Altyn, *par.* in Scotland, co. Elgin, in midst of peat morass. [p. 19,571.

Altzbese, iron mfg. *t.* nr. Gleiwitz, Prussia.

Alva, *par.* and *t.* in Scotland, co. Clackmannan, among the Ochil hills, p. 5,065.

Alva, *par.* in Scotland, co. Banff, beautifully situated on the R. Deveron, nr. the lofty hill of Alva, p. 1,220. [p. 6,990.

Alvarado, *t.* in Mexico, 60 m. S.E. of Vera Cruz.

Alverstoke, *par.* Hants, Eng., including the town of Gosport, which see; p. 33,301. [Yorks.

Alverthorpe, populous suburb of Wakefield, W.R.

Alves, *par.* in Scotland, nr. Elgin, p. 1,500. [p. 590.

Alvie, *par.* in Scotland, on the Spey, co. Inverness.

Alwar, native state in India in Rajputana agency, area, 3,051 sq. m., p. 88,288; *cap.* (same name), p. 56,740. [p. 2,537.

Alzth, *par.* and mfg. *t.* in Scotland, co. Perth.

Alzey, *t.* in Hesse, on R. Selz, sacked by Spolins in 1600, p. 6,600. [long.

Amadeus, large salt L. in W. of S. Australia, 150 m.

Amakusa, *ist.* of Japan, prov. Higo, producing kaolin.

Amalfi, *t.* of Italy, prov. Salerno, p. 7,320.

Amara, *t.* on the Tigris, Asiatic Turkey, p. 5,500.

Amassara, formerly *cap.* of the Burmese empire on E. bank of Irawadi, now a sub-division of the Mandalay dist. Contains many pagodas and ruined dwellings, p. div. 62,310. [p. 30,000.

Amasia, *t.* and trade centre Asia Minor, Siras vilayet.

Amatongaland, Brit. *dist.* S.E. Africa, N. of Zululand, incorporated with Colony of Natal, 1897, area, 12,000 sq. m., p. (abt.) 100,000. [Ionian Islands, p. 6,500.

Amazichi, *spt.* *t.* and *cap.* of Santa Maura, one of the Amazon, A. S. America, largest basin and extent of water in any river in the world; rises among the Andes and flows 4,000 m. to the Atlantic. One of its affluents, the Madeira, is 1,800 m. long. Drains nearly three million sq. m.

Amazonas, most N. *prov.* of Brazil, area 732,250 sq. m., p. 150,000; also an interior dept. of Peru, area, 13,943 sq. m., p. 72,530; also a territory in Venezuela, area 90,000 sq. m., with few civilised inhabitants.

Ambara (or **Umbala**), *dist.* Punjab, B. India, area 4,014 sq. m., p. 200,000. Also the name of the *cap.* p. 80,000.

Ambelema, *t.* on Magdalena R., Columbia, p. 23,000.

Ambas Bay, Bight of Biafra, W. Africa.

Ambasamudram, *t.* India, Madras Pres., p. 9,500.

Ambato, *t.* in Ecuador, S. of Quito, on slope of Mt. Chimborazo, alt. 8,850 ft., p. 14,000.

Amberg, *t.* in Bavaria, S. Germany, p. 22,059.

Ambert, *t.* in France, dep. Puy-de-Dôme, p. 10,150.

Ambleside, *t.* in lake dist., Westmorland, nr. L. Windermere, p. 2,553.

Ambietuse, *decayed* *sf.* in France, nr. Boulogne.

Ambolée, *t.* in Centr. France, 15 m. E. of Tours; famous for its castle and prison, p. 1,500.

Ambonyne, Dutch *t.* and *st.* in the Moluccas or Spica Isl., E. India, area of Residency, 19,840 sq. m., p. 300,000; *cap.* protected by Fort Victoria, p. 30,500.

Ambriz, coast *t.* and *dist.* in Angola, W. Africa, p. 6,000. [p. 12,500.]

Amber, *t.* in India, Madras Pres., 79 m. N. of Bangalore, America (area 164 million sq. m., p. 140,000,000). The two west div. of this continent are joined by the narrow Isthmus of Panama. The most North point, Murchison, Penn., is over 9,000 m. distant from C. Horn, the extreme S. point. N. America has an area of 8,600,000 sq. m., being about 5,500 miles in length, and varying in breadth from 200 to 3,000 m. The three main divisions of N. Am. are the Pacific Slope, the Atlantic Slope, and the great central plain dividing them. S. America has an area of over 7,000,000 sq. m., and extends from north to South 4,500 m., and at its widest part has a breadth of 3,200 m.

Americus, *c.* of Georgia, U.S.A., p. 7,624.

Amerfoort, *t.* on Ems R., Holland, p. 18,000.

Amerham, *t.* in Bucks, England, p. 3,202.

Amebury, *t.* in Mass., U.S.A., 40 m. N. Boston, p. 10,000; also par. m. Wilts, Eng., within the confines of which lie the ancient British monuments of Stonehenge, p. 1,230.

Ambar, *cap. prov.* Abyssinia, cap. Gondar.

Ambar, *spt. t.* and *dist.* in Tennessee prov. of Lower Burma; also *spt. t.* in Nova Scotia; also *t.* in Victoria; also a *t.* (with State Agricultural College) in Hampshire, co. Mass., U.S.A.

Amiens, on R. Somme, N. France; famous for its fine cathedral and velvet mfrs., p. 70,758. [of Seychelles.]

Amirante Is., Brit. group in the Indian Ocean, S.W. Amrit, R., running from Mississippi to Louisiana, U.S.A., 280 m.

Amiwlch, on N. coast of Anglesey, Wales, p. 2,730.

Ammer, R., Wurtemberg; joins Neckar nr. Tübingen.

Ammergau, — (See Ober-Ammergau.)

Amoy, *t.* India, Bombay dist., p. 4,700.

Amol, *t.* Persia, 80 m. N. Teleran, p. 10,000.

Amoor, — (See Amur.)

Amoy, *t.* and *travelling port* on isl. of Hainan, prov. of Fuhkien, China, E. of Canton, Imp. trade, p. 400,000 natives, 350 foreign residents. Carries on a large trade with Japanese.

Amphill, *t.* Beds., Eng., p. 2,270.

Amraoti, *t.* and *dist.* in Berar, India, p. 675,000.

Amrawati, *vil.* of Brit. India, Madras Pres.; contained ruins of finest Buddhist temple in India.

Amritsar, *c.* in Punjab, India. Holy city of the Sikhs, p. 226,228.

Amroha, *t.* N.W. prov. India, p. 36,000. [p. 750.]

Amrohen, *vil.* Prussia, prov. Schleswig, area, 11 sq. m., p. 1,000.

Amstel, *sal.* R. Holland, flowing through cap. c.

Amsterdam, commercial cap. of Holland at junction of R. Amstel and the Y. It is built on 96 isls. joined by 300 bridges, harbour can hold 1,000 ships; p. 558,000; also *t.* on Mohawk R. in N.Y. State, p. 30,000; also *isl.* about midway between the Cape and Tasmania, in S. Indian Ocean, uninhabited.

Amu Daria, *dist.* of Russian Central Asia, area 37,000 sq. m., p. 250,000. This name is also applied to the R. Oxus, flowing through Bokhara and Khiva, 1,500 m., into Sea of Aral.

Amur (or Sakhalin) R. 3,000 m. flows from Mongolia between Manchuria and E. Siberia into the Pacific, opposite the isl. of Saghalien; also Russian prov. in E. Asia, area 172,848 sq. m., comprising country N. of the Amur R., and S. of the Yablonoi mts. Blagoveshchensk, the chief *t.*, was the scene of a terrible massacre of Chinese by the Russians.

Anacoenda, mining *vil.* Montana, U.S.A.

Anacortes, *c.* Fidalgo Isl., Puget Sound.

Anadyr, R., Siberia, falls into the Gulf of Anadyr.

Ananief, *t.* in Russia, nr. Odessa, p. 17,000.

Anantapur, *t.* in India, Madras Pres., p. 7,000.

Anatolia, W. parts of Asia Minor.

Ancaster, *vil.* and extensive building stone quarries in Lincolnshire, Eng., p. 1,700. [the Humber.]

Anchelm, R. in Eng. rises in Lincolnshire and joins Ancon, *spt. c.* Peru, 31 m. N. of Lima.

Ancona, *prov.* and *vil.* in Central Italy, on the Adriatic Sea, founded by Dorians, A.C. 1300, p. 55,825. [Moor, p. 958.]

Ancon, *vil.* in Scotland, co. Roxburgh, nr. Anconium

Andalusia, one of the old divisions of S. Spain; 33,340 sq. m., p. 2,500,000; also *vil.* in Alabama.

Andamans and Nicobars, group of *isls.* in Bay of Bengal, area 843 sq. m.; total population of the Indian Govt. There are about 25,000 inhabitants, including officers and ex-convicts. Nicobars comprise 19 isls. [Mause, p. 8,000.]

Andenne, *t.* in Belgium, prov. in Namur, on the Anderby, *par.* nr. Alford, co. Lincoln, Eng., p. 300.

Andermatt, *vil.* at foot of Gotthard, canton Uri, Switzerland, p. 850. [p. 43,000.]

Anderlecht, *mfg. t.* in Belgium, prov. Brabant.

Andernach, *t.* in Rhenish Prussia, on the Rhine, 70 m. N.W. of Coblenz, p. 7,500.

Anderson, *cap.* of Madison co., Ind., U.S.A., p. 20,178; also *t.* S. Carolina, U.S.A., p. 5,498; also *terr. N.* of W. Australia.

Anderson Lake, Brit. Columbia, Cariboo dist.

Anderson's Springs, Lake co., California.

Andes, great mtn. system of S. America, 4,500 m. long; from Panama to C. Horn, 40 m. broad; volcanic; several of the peaks are over 10,000 ft. high.

Andes, Los, a state of Venezuela, area 14,719 sq. m., p. 555,000. [of Khans of Khokan, p. 28,750.]

Andorra, in Russian Turkistan, formerly residence Andorra, 154 sq. m., small *rev.* in E. Pyrenees, indep. since A.D. 790, p. 12,000.

Andover, *t.* in Hants, Eng., 66 m. S.W. of London, p. 7,395; also *t.* in Mass., U.S.A., on the Merrimack, p. 6,813.

Andreanov Is., Alaska, centre of Aleutian Is.

Andreasberg, summer resort in Hanover, nr. Göttingen. [University, p. 7,651.]

Andrews, St., Royal burgh, co. Fife, Scotland, seat of Andra, *c.* in S. Italy, p. 98,000.

Andria, *vil.* Greek Arch., p. 25,000; also a small isl. in the Bahamas.

Andros, *c.* in N. W. Hampsh., and Maine, affluent of Kennebec, 175 m.

Andujar, *t.* on Guadalquivir R., Spain, p. 16,000.

Anegada, northernmost of the Virgin Is., West Indies; area 13 sq. m.

Angara, R. in Siberia, chief trib. of Yenisei, 1,300 m.; navigable almost its entire length, rises nr. and flows through L. Baikal.

Angela, Los, N. York State, p. 102,479.

Angelia, *vil.* N. York State.

Angerman, R., Sweden, falls into G. of Bothnia, 200 m.

Angermünde, *t.* in Prussia, 40 m. N.E. Berlin, p. 7,000.

Angers, *c.* on Sarthe R., 215 m. S.W. of Paris, p. 28,966.

Angle, *par.* co. Pembroke, Wales, on Milford Haven, p. 840.

Anglesey, *isl.* and *co.* in N. Wales, separated from Carnarvon by Menai Straits, 300 sq. m., p. 30,943.

Angle Vale, *vil.* nr. Adelaide, S. Australia, p. 780.

Angel, *t.* Chili, 122 m. S.E. of Concepcion, p. 6,500.

Angola (area 484,390 sq. m., p. 4,200,000), Portug. *prov.* in W. Africa; cap. St. Paul de Loanda; also *vil.* in Indiana.

Angora, *vil.* in interior of Asiatic Turkey, including most of the ancient Galatia, famous for its goats, p. 900,000. Angora, the chief *t.*, stands on the Sakaria R., p. 30,000.

Angornoa, *t.* nr. L. Chad, Central Africa, p. 30,000.

Angostura, or Ciudad Bolivar, Venezuelan *p.* on Orinoco R., p. 12,000.

Angoulême, *mfg. t.* on R. Charente, France. Suffered during Huguenot Wars. Fine Cathedral, p. 35,990.

Angoy, territory in Lower Guinea, bounded S. by Congo R. and W. Atlantic.

Angra, *port* on Terceira Isl., cap. of Azores, p. 10,843.

Angra Pequena, *Ger. p.* in S.W. Africa, acquired in 1884.

Angri, *t.* Italy, prov. Salerno, p. 22,000. [p. 2,500.]

Anguilla, *vil.* in W. I. Leeward Group, area 35 sq. m., Angua, old name of Forfarsh., Scot.; also *vil.* Ontario; also mtn. in Victoria, Australia.

Anhalt (1,200 sq. m., p. 316,227), Duchy, Germany; chief *t.*, Dessau.

Anhalt, *spt. t.* E. coast of Gulf of Siam.

Anholt, *vil.* in Cattegat, Denmark.

Anhwel, *prov.* of China.

Aal, a ruined Armenian *c.*, now possessed by Russia, situated between Arpa Chai and a deep ravine.

Aniches, industrial *t.* in France, dep. Nord, p. 7,200.
 Anizeh, trade centre in Najd, Arabia, p. 30,000.
 Anjar, *t.* India Cutch State, p. 13,500.
 Anjar, *spt.* on Sunda Str., Java; destroyed by inundation caused by eruption of Krakatoa in 1883.
 Anklam, *t.* Prussia, prov. Pomerania, iron foundries and factories, p. 14,000.
 Ankobar, cap. of Sioa, Abyssinia, p. 15,000.
 Annaberg, mining *t.* Saxony, in Chemnitz, p. 15,957.
 Annalong, *vul.* and *harb.*, co. Down, Ireland, nr. Killeel.
 Annam (area of old state proper, 27,000 sq. m., p. 31 millions). In the Eastern part of the Indo-Chinese Peninsula. Until 1885 an indep. empire, then declared a French Protectorate; cap. Hué.
 Annam, *spt.* and *Brit. Station* in W. Africa, nr. Cape Coast Castle, p. 5,000.
 Annan, *t.* and Royal burgh, in Dumfries, Scotland (p. 4,292), stands on E. bank of K. Annan, which flows to Solway Firth.
 Annandale, valley of R. Annan, Dumfries, 30 m. long.
 Annapolis, port on Bay of Fundy in Nova Scotia, p. 3,000; also cap. of Maryland, U.S.A., p. 8,402.
 Annapolis, *t.* in Michigan, U.S.A., on the Huron; University of Michigan, p. 14,560.
 Annbank, colliery *v.d.* in Scotland, co. Ayr, nr. Tarbolton. [Savoie, p. 13,611.]
 Anncy, industrial *t.* in France, dep. of Haute-Marne.
 Anniston, *c.* in iron-mining region of Alabama, U.S.A., p. 10,000.
 Annobon, Span. *isl.* in Bight of Biafra, W. Africa.
 Annony, mfg. *t.* in France, dep. Ardèche, p. 17,600.
 Anoka, *c.* Minn., U.S.A., p. 5,000, on Rum R.; also *t.* in Indiana; and also *t.* in New York, U.S.A.
 Anson, *vul.* Jones co. Texas.
 Anson Bay, 22 m. broad, 12 m. long, S. Australia.
 Ansonia, *c.* in New Haven, co. Connecticut, U.S.A., clock-making industry, p. 12,687. [Nuremberg.]
 Anspack, or Ansbach, *t.* in Bavaria, 31 miles from Anstorf, *par.* in W. R. Yorks, nr. Notts border, p. 950.
 Anstruther (Easter and Wester), fishery *t.* in co. Fife, Scotland, p. 1,600.
 Anus Is., in the Pacific, off the coast of New Guinea.
 Anta, *sin.* *t.* in Peru, nr. Cuzco.
 Antananarivo, cap. of Madagascar, p. (with suburbs) 80,000.
 Antarctic Ocean, expanse round S. Pole; it contains Enderby Land, Sabrina Land, and Adelle Land, Victoria Land, with volcanoes, Mt. Erebus (12,000 ft.), and Mt. Terror (10,000 ft.); also several isls.
 Antelope, the name given to several towns in various parts of the U.S.A.; also a station on the C.P. Ry. in Canada, nr. Winnipeg; to numerous creeks, rivers, plains, springs, hills, and a mtn. range (Nevada) in America.
 Antibes, *spt.* France, dep. Alpes Maritimes, p. 6,600.
 Antioch, *laven.* *isl.* in the N. of R. St. Lawrence, British N. America. Now used as a game preserve.
 Antietam Creek, Maryland. Falls into Potomac R., nr. Harper's Ferry. Here a great battle was fought (Sharpsburg) in 1862 between the Federal and Confederate Forces.
 Antigo, *t.* Wisconsin, Langdale co., U.S.A., p. 5,145.
 Antigua, one of the Leeward Group, of the Brit. W. India Is. St. John is the cap., sugar, molasses, rum; tot sq. m. area, p. 41,000.
 Antigua, *t.* and *prov.* Philippine Islands.
 Antiguiti, *sin.* *t.* in Mex. co. on the banks of the Ohio, U.S.A., p. 1,150.
 Antilles, great chain of *isl.* West Indies, comprising the Archipelago enclosing the Caribbean Sea and G. of Mexico.
 Antioch, ancient *c.*, Syria, on R. Orontes; earthquake in 1879 reduced *p.* from 18,000 to 4,000. Present *p.* 25,000. [22,316 sq. m., p. 500,000; Medellin.]
 Antioquia, *dep.* of Republic of Columbia; area Antiparos, *isl.* one of the Cyclades, Greece, between Paros and Siphanto.
 Antipodes, a group of *isl.* in S. Pacific, uninhabited.
 Antivari, *t.* in Montenegro, nr. the Adriatic, p. 2,514.
 Antofagasta, *t.* and *prov.* Chili, on Pacific Coast, *p.* of cap. 19,500. Area of *prov.* 47,978 sq. m., p. 65,000.
 Aotea Taurus Mtns., Asiatic Turkey, a range running parallel to the Taurus.

Antrim, maritime *co.* in the extreme N.E. of Ireland; Belfast, *co. t.*; famous Giant's Causeway is on the N. coast; p. 478,603. Antrim *t.* on the Six-Mile Water, p. 1,885.
 Antwerp, *spt.* Belgium, on R. Schelde, famous Gothic cathedral spire, 366 ft., contains works of Rubens. Vandyke born here in 1590. Great trading port, p. 285,600 (including suburbs of Borgerhout and Berchem, 350,000).
 Anuradhapura, chief *t.* in N. Central prov. of Ceylon, p. 3,000. [Ocean.]
 Anxiety Point, on the coast of Alaska, in the Arctic Anxious Bay, Great Australian Bight.
 Anzû, *t.* in dep. Nord, France; extensive metal industries, p. 14,500. [Ocean.]
 Anzusa, *isl.* one of the Comoro group, in the Indian Archipelago, nr. Leper's Isl., one of the New Hebrides.
 Aosta, *t.* in prov. of Turin, N. Italy, p. 7,670.
 Apamea, anc. *c.* of Syria, on R. Orontes, 50 m. S.E. of Antioch, overthrown by an earthquake in 1132.
 Aparri, *spt.* *t.* Luzon, Philippines, p. 3,200.
 Apadza, *t.* in Hungary on the Danube, p. 14,000.
 Apeldoorn, mfg. and ry. junction nr. Zutphen, Holland, p. 25,767.
 Apennines, the mtn. "backbone" of Italy. Length, 800 m.; width, 70 to 80 m. Highest pt. Mt. Corno, in Gran Sasso d'Italia, 9,585 ft.
 Apenrade, *spt.* in Schleswig-Holstein, on fjord of same name, p. 6,000.
 Apia, *ch. t.* of Upolu, Samoa Is.; centre of German commerce in the Pacific, p. 5,050.
 Apolda, *t.* in Saxe-Weimar, Central Germ., p. 22,000.
 Apollonia, *dist.*, *c.* and *port* on Gold Coast, Brit. W. Africa.
 Appalache, *R.* in Georgia, U.S.A., 80 m.
 Appalachian Mts. (See Alleghany Mts.).
 Appalachicola, *port* and *R.* on coast of Florida.
 Appenzell, *t.* and *canton* in N.E. Switzerland; *p.* (of *t.*) 5,000; of *canton* (with Inner Rhoden) 88,770.
 Appin, *canton* *vul.*, co. Argyll, Scotland, nr. Oban; p. 2,760; also *t.* N.S.W., nr. Sydney, p. 1,200.
 Appleby, *c. t.* of Westmorland on R. Eden, p. 1,736.
 Applecross, *par.* and *ham.* Scotland, Ross-shire, p. 1,440. [p. 3,500; also *sin.* *t.* nr. Tenterden, Kent.]
 Appledore, *par.* co. Devon, England, nr. Bideford.
 Appleton, *c.* in Wisconsin, U.S.A., p. 15,083; also *vul.* Minnesota.
 Appomattox R., Virginia, joins James R. at City Point, 150 m. At the *vil.* of the same name on R. bank, Genl. Lee surrendered to Genl. Grant on April 9th, 1865.
 Apsheron, *pen.* on W. side of the Caspian, noted for petroleum wells (nr. Bakul) and mud volcanoes.
 Apsley, *t.* Victoria, co. Lonsdale, p. 750.
 Apt, *t.* in France, dep. Vaucluse, p. 6,500.
 Apulia, 7,370 sq. m., p. 2,000,000, S.E. div. of Italy; a treeless, pastoral plain. [of Orinoco.]
 Apure, R. (1,000 sq. m.), Venezuela, S. America; trib. Apurimac, R. (500 m.) and *prov.* of Peru; area of *prov.* 8,187 sq. m.; p. 180,000.
 Aquambo, *countryside* of Upper Guinea, E. of R. Volta.
 Aquila, *t.* and *prov.* in the central Apennines, Italy; *p.* (of *t.*) 21,215; (of *prov.*) 197,645.
 Arabah, Wadi-El- (or El Ghor) desert valley nr. Dead Sea, Arabia. (peninsula of same name.)
 Arabat, Crimean fortress, on Sea of Azof, and Arabat, the most W. of the three great pen. of Asia. Area about 900,000 sq. m.; *p.* (approximately) 5,000,000. Politically divided into 3 Turkish provs., 1 Egyptn. dist., 1 Brit. col. and prot., and several indep. States. [Arabia and India.]
 Arabian Sea, N. part of Indian Ocean, between Arabian, *prov.* of Persia (formerly known as Khiristan), p. 200,000, mostly Arabs.
 Arabkir, *t.* in Asia Minor, on trib. R. Euphrates. Its large Armenian *p.* (before 1890) 20,000, suffered heavily during the massacres of that year. [p. 10,000.]
 Aracaju, *c.* and *pt.* of Brazil, cap. state of Sergipe.
 Aracan, or Arakan, 18,540 sq. m., 675,899; *div.* of Lower Burma, cap. Akyab.
 Aracaty, *t.* and commercial shipping centre of Brazil, p. 18,000.
 Arad, Old and New, joins on Maros R., Hungary; *p.* of O. Arad, 55,987, of N. Arad, 6,044.

- Arafura Sea**, N. of Australia, S.W. of Papua, and E. Aragon, *div.* and R. of Spain. [of Timor.
- Aragona**, *i.* Sicily, prov. Girgenti, p. 22,000.
- Argua**, *i.* Venezuela, and valley of the same name, E. of L. Valencia.
- Aracua** (1,000 m.), R. in Brazil, trib. of Tocantins.
- Aras Sea**, 26,166 sq. m.; large salt L. in Russ. Cent. Asia; receiving the Amu and Sir Daria rivers; no outlet, alt. 160 ft. above ocean level.
- Aran**, *ss.*, group in Galway B., Ire.; 11,287 acres.
- Aranjuez**, *t.* on R. Tagus, Spain, p. 10,000. [p. 3,000.
- Aransas Bay**, arm of Gulf of Mexico.
- Aranyos**, gold-bearing R. of Transylvania, 85 m.
- Arasphoe Peak**, *mt.* in Colorado, U.S.A., alt. 12,500 ft.
- Ararat**, *mt.* Armenia, supposed resting place of Noah's Ark, now the converging point of three Empires, Russia, Turkey, and Persia.
- Aras R.** (the ancient Araxes), rising in Armenia, and flowing through Transcaucasia to the Kur, 500 m.
- Arasgaal**, *par.* in Inverness co., Scotland, on Loch-na-gaul. [about 20,000 warlike natives.
- Araucania**, *Ind. Terr.* in S. of Chili; inhabited by Arauco, *fort* and *i.* of Chili, south of Concepcion, p. 4,000. [5,650 ft.
- Aravalli Mts.**, range in Rajputana, India; Mt. Abu, Arawan, trading *i.* in Sahara desert, N. Timbuctoo, p. 5,000.
- Araxa**, *i.* Brazil, prov. of Minas Geraes, p. 14,000.
- Arbeia**, *i.* in Syria, E. of the Tigris (modern Erbil), p. 4,000.
- Arboga**, *i.* Sweden, nr. Westeras, p. 5,000.
- Arbois**, *t.* France, dep. Jura, p. 6,050.
- Arbroath**, *t.*, *mfgr.*, Forfarshire, Scotland; royal and parliamentary burgh, p. 20,648.
- Arbutnot**, *par.* Scotland, co. Kincardine, p. 674.
- Archon**, popular watering place in France, dep. Groupe, p. 8,000.
- Arcadia**, *div.* of Peloponnesus, Greece, p. 167,092; also *spt.*, p. 3,000. There are numerous sm. t's in U.S.A. called Arcadia, and one in Nova Scotia.
- Archangel**, *prov.* N. Russia, includes Nova Zembla, p. 347,580; also *spt.* (extensive fisheries), p. 22,500.
- Archbald**, *i.* Lachawanna co., Pennsylvania, U.S.A., p. 5,396.
- Archer**, R., C. York Peninsula, Queensland, Australia.
- Archidona**, *i.* Andalusia, Spain, p. 8,500.
- Archipelago**, *ss.* in *i.* *ss.* between Greece and Asia Minor.
- Arco**, *i.* in Spain, prov. Cadiz, p. 17,500.
- Arco**, *i.* India, 65 m. W. of Madras, memorable for its defence by Clive in 1751; p. 13,000. N. and S. Arco are two dists. of the Madras Pres. with a conjoint p. of 5,000,000.
- Arctic Ocean**, the waters in the N. polar area, opening into the Atlantic by Davis Str., etc., and into the Pacific by Behring Sea.
- Arceuil**, *i.* in France, dep. Seine, p. 6,500.
- Ard**, Loch, sm. L. in Scotland, co. Perth.
- Ardara**, *i.* in Ireland, co. Longford, p. 2,200.
- Ardabil** (or Ardabil), *chf. t.* prov. Azerbaijan, N.W. Persia, p. 10,000.
- Ardèche**, *dep.* S. France; area, 2,145 sq. m., p. 349,961.
- Ardee**, *par.* co. Kildare, Ireland, nr. Athy.
- Ardee**, *t.* in co. Louth, Ireland; p. 1,883.
- Arden**, *ry. stn.* on Manitoba line, Canada.
- Ardennes**, *dep.* N. E. France, cap. Metz, area 2,000 sq. m., p. 315,589; also forest extending from S.E. Belgium to N. France.
- Ardona**, *par.* on Loch Tay, co. Perth, Scotland.
- Ardery**, Lough, in Ireland, co. Galway. [p. 1,913.
- Ardersier**, *par.* on Moray Firth, Inverness, Scotland.
- Ardglass**, fishery *viz.*, co. Down, Ireland, p. 554.
- Ardingley**, *par.* nr. Cuckfield, co. Sussex, England, p. 1,200.
- Ardmore**, sm. watering place in co. Waterford, Ireland, p. 750; also *t.* of Chickasaw Nation, Indian Terr., U.S.A., p. 5,688.
- Ardnamurchan**, most westerly point of Scotland, on Argyle coast; lighthouse, p. 1,542.
- Ardoch**, *par.* nr. Grief, Perthshire, Scotland, p. 863.
- Ardra**, *i.* Dahomey, 20 m. inland, p. 20,000.
- Ardres**, *i.* France, dep. Pas-de-Calais, p. 2,223; nr. here was the "Field of the Cloth of Gold," where Henry VIII. and Francis I. met in 1520.
- Ardriahalg**, *spt.* in Argyleshire, p. 2,000.
- Ardrossan**, *spt.* Ayr Coast, Scotland; 30 m. S.W. Glasgow, p. 5,760. [p. 184,933.
- Ardwick**, populous suburb of Manchester, England.
- Aresibo**, *c.* on coast of Porto Rico, p. 10,000.
- Aresdal**, *spt.* in Norway, on coast of Christiansand, p. (including suburbs) 17,000.
- Arensburg**, *spt. isl.* of Esel, G. of Finland, p. 3,800.
- Arequipa**, *a. dep.* in the S. of Peru, between the Pacific and Bolivia, p. 229,007; t. cap. of dep. at foot of volcano (20,330 ft.) ruined by earthquake in 1868; pres. p. 35,000.
- Arewa**, *dist.* of Nigeria, French W. Africa.
- Arezzo**, *c.* in central Italy, p. 44,350; cap. of prov. of Arezzo, p. 272,350. [p. 34,000.
- Argao**, *t.* on E. Coast of Cebu, Philippine Isls., Argentin, *t.* dep. Orne, France, p. 6,821.
- Argenteuil**, *t.* in France, dep. Seine-et-Oise, p. 17,424.
- Argentina** (1,113,346 sq. m., p. 7,391,822), Rep. in S. America; formerly called La Plata (River of Silver); cap. Buenos Aires.
- Argentine**, *c.* Wyandotte, co. Kansas, U.S.A., p. 5,887.
- Argenton**, *t.* in France, dep. Indre, p. 6,281.
- Argolis**, *prov.* in N.E. Morea, Greece, p. 80,652.
- Argos**, *i.* Greece, on the Argolic Gulf, the leading Doran city prior to the 8th cent.; p. 10,047.
- Argostoli**, *cap.* of Cephalonia Isl., Greece, p. 10,000.
- Argenteuil**, *t.* in France, dep. Argenteuil, noted for springs.
- Arguin**, *isl.* off W. Africa, nr. Cape Blanco, Fren. the Shilka to form the Amur. [W. Scotland.
- Argyleshire**, (3,165 sq. m.), p. 70,901. Largest co. in Argryro Kastorn (or Ergero), *t.* in Albama, Turkey, p. 9,000.
- Ariano**, *t.* in Italy, prov. Avellino, p. 17,000.
- Arica**, *t.* and *port* in N. Chili, p. 4,000. [Nova Scotia.
- Archat**, *spt.* on Madame Isl. off Cape Breton Isl., p. 12,000.
- Arche**, *t.* in France, dep. Ariège, noted for springs.
- Arche**, R. (50 m.) and dep. in S. France; area of prov. 1803 sq. m.; Foix, cap.
- Arigal**, *mt.* in Ireland, co. Donegal; alt. 2,462 ft.
- Arimathea**, *t.* in India, Palestine, probably the Ramah of Solomon. [Anazim.
- Arimos** (700 m.), R. in Brazil, trib. of Tapajó.
- Arish**, or El Arish, *port* in Morocco; also sm. t. on S.W. border of Palestine.
- Arispe**, or Arizpe, *t.* on Sonora R., Mexico, p. 4,000.
- Arizona**, *ter.*, U.S.A., bordering on Mexico, area 112,000 sq. m., p. 206,000. [co. p. 2,729.
- Arkadelphia**, *t.* in Arkansas, U.S.A., cap. of Clark Arkansas, *State*, U.S.A., 58,800 sq. m., p. 2,000,000. State cap., Little Rock. [p. 6,140.
- Arkansas City**, in Kansas, Cowley co., U.S.A., Arkansas *Post*, *viz.* on the R. of that name, S.E. of Little Rock. [largest trib. of the Mississippi.
- Arkansas R.**, 2,000 m., navigable 800 m.; 2nd Arklow, *p.* in co. Wicklow, 50 m. S. of Dublin, p. 4,172.
- Arizana**, sm. R. in N. Spain, trib. of the Arlanzon R., Arlberg Mts., Austrian Alps, Pass difficult, by tunnel, 6,720 yards long. [p. (with Frizington) 5,184.
- Aricedon**, *par.* nr. Whitehaven, co. Cumberland, Eng.
- Aries**, anc. Rom. c. on the Rhone, in S.E. France, p. 25,000. [p. 450.
- Arley**, *par.*, nr. Nunenton, co. Warwick, Eng.
- Arlington**, *t.* in Middlesex, co. Mass., U.S.A., p. 8,603; also U.S.A. national soldiers' cemetery, in Virginia, opposite Washington, containing remains of 16,000 victims of American Civil War.
- Arlon** or Arel, *cap.* Belgian Luxembourg, p. 10,000.
- Arisey**, *par.* nr. Baldock, co. Bedford, Eng., p. 750.
- Armadale**, *min. t.* in co. Linlithgow, Scotland, p. 4,739.
- Armagh**, *co.* and *c.* in Ulster, Ireland, p. (of co.) 119,625, (of city) 7,569.
- Armagh**, *par.* in co. Kerry, Ireland, p. 1,500; also sm. isl. off coast of Mayo.
- Armancon**, R. in France, 100 m., joins the Yonne.
- Armarvir**, the old ruined *cap.* of Armenia, on the slope of the extinct volcano Ala-phoz, site now occupied by a sm. vil. Tapadibi; also a Russian t. in the Caucasus nr. the Kuban R., p. 8,000.
- Armenia**, mountainous country between Asia Minor and the Caucasus and the Caspian divided between Turkey, Russia, and Persia. Mount Ararat stands

near the meeting point of the three empires, Armenian p. cruelly treated by Turks and Kurds. Estimated number of Armenians, nearly three millions.

Armentières, mfg. t. in N. France, 20 m. of Lille, p. 30,000.

Armidale, t. in N.S.W., 260 m. from Newcastle; also a fishing str. on Scottish coast, co. Sutherland.

Armley, populous suburb of Leeds, W.R. York, Eng.

Armora, t. India, Central prov. dist. Chanda, p. 6,000.

Armorica, anc. name of Brittany. [p. 56, 82.]

Arnheim, ch. t. of Gelderland prov., Holland.

Arni, t. in India, N. Arcot dist. Madras, p. 5,100.

Arno, R. in Central Italy, flows past Florence and Pisa into Mediterranean, 75 m.; Val d'Arno is the fruitful valley of the r.

Arnold, t. nr. Sherwood Forest, Nottinghamshire, Eng., p. 12,147.

Arnswalde, t. in Prussia, nr. Stargard, p. 8,500.

Arnprior, stn. on C.P.Ry. in Canada, Ontario div., 51 m. W. Ottawa.

Arnsberg, c. Westphalia, Prussia, 44 m. E. Munster, p. 8,174.

Arnstadt, t. in Schwarzburg, Sondershausen, Germany, p. 14,413.

Arolsen, cap. of Waldeck, Germany, p. 3,100.

Arona, t. in Italy, prov. Novaro, p. 3,000.

Arpach, c. in Northern Syria, 15 m. N. of Aleppo the modern Tel Erfad.

Arpino, t. in S. Italy, prov. of Caserta, p. 12,000.

Arqua, vil. in Italy, nr. Padua, where Petrarch died.

Arques, t. in France, dep. Pas-de-Calais, p. 2,500.

Arrah, t. in Bengal, India, famous in the Mutiny, p. 48,000.

Arram, vil. nr. Beverley, E. R. Yorks, p. 350.

Arran, isl. co. Bute, Firth of Clyde, Scotland; p. 4,819; area, 165 sq. m.; also N. group of isls. of Donegal, Ireland; S. isls. at entrance of Galway Bay, containing many remains of Druidical times.

Arranah, t. in Siam, p. 4,500.

Arras, t. in France, cap. of the dep. Pas-de-Calais, famous for tapestry, p. 25,813. [p. 1,850.]

Arretton, par. in Isl. of Wight, with extensive Down.

Arrochar, vil. in Scotland, co. Dumfries, head of Loch Long, p. 537. [p. 25,000.]

Arroo, or **Aru**, r. in Indian Archipelago, S.W. Papua.

Arroux, R. in France, trib. of the Loire, 75 m.; flows past Autun.

Arrow, r. Wales and England; flows into Lugsy nr. Llanidloes; also R. and lochs co. Sligo, Ireland; also lakes, expansions of Columbia R., Brit. Columbia; also R. and peak in Montana, U.S.A.

Arrowsmith, mtns. W. Australia, 200 m. E. Perth; also mtn. in Vancouver Isl., Canada, alt. 5,870 ft.

Arrow Town, t. in New Zealand, Lake co., p. 550, nr. Shotover diggings.

Arta, dist. and t. Thessaly in Greece, on R. Arta, p. 7,500; also gulf between Albania and Greece, nr. which the battle of Actium was fought, 29 B.C.

Arteeave, vil. in Ireland, co. Londonderry, nr. Coleraine.

Artern, t. Prussian Saxony, nr. Halle, p. 5,500.

Arth, t. in Switzerland, *canton* Schwyz, starting point of ry. up the Rigi; also R. in Cardigan co., Wales, falls into Irish Sea.

Arthur, t. Ontario, Canada, dist. Wellington, p. 4,500; also t. on Sauris R., co. Manitoba, p. 2,850; also sevl. sma. towns in U.S.A.

Arthur, mtn. New Zealand, S. Isl., alt. 8,000 ft.; also Arthur, Ben. mtn. Scotland, co. Argyll, alt. 2,991 ft.

Arthur, Port, Manchuria. (See Port Arthur.)

Arthur's Seat, famous hill, Edinburgh, Scotd., 822 ft.

Artington, par. nr. Guildford, co. Surrey, Eng., p. 780.

Artois, old prov. of France, now known as the dep. of Pas-de-Calais.

Artramon, par. nr. Wexford, Ireland, p. 640.

Arto, R. in Wales, co. Merioneth, falls into the Llanbeder. [at Littlehampton.]

Arun, R. Sussex, Eng., 40 m., flows into Eng. Channel.

Arundel, market t. W. Sussex, Eng., on the Arun, p. 2,842.

Arundel Castle, seat of Duke of Norfolk.

Arurimi, R. (1,800 m.) Central Africa, an affluent of the Congo. Stanley's famous forest march in 1887 ran along this river; station of Congo Free State.

Arva, vil. in co. Cavan, Ireland, near Killshandra, p. 420. [Rhône, nr. Geneva, 45 m.]

Arve, R. in France, dep. of Haute-Savoie; falls into Arveyron, R., trib. of the Arva, which it joins in the valley of Chamouni. [p. 8,500.]

Arvi, t. in the Central Provs., India, Wardha dist., p. 8,500.

Aryalur, t. in Madras Presidency, Trichinopoly dist., India, p. 6,100. [Russia, p. 20,502.]

Arzamas, industri. t. nr. Nijni Novgorod, on Tesla R., p. 7,400. [8,200 ft.]

Asaba, t. in Southern Nigeria, W. Africa, former administrative centre of the Royal Niger Company, p. 7,400.

Asama-Yama, volcano in Japan, N.W. of Tokio, alt. 15,769 ft.

Ascension, settlement, 12 m. S. of border line of New Mexico.

Ascension Bay, sm. inlet on E. coast of Yucatan.

Ascension Isl., S. Atlantic, 750 m. N.W. of St. Helena, so named because discovered on Ascension Day, 1501; British, Georgetown is the port; p. 180 sailors.

Asch, mfg. t. in Bohemia, Austria, p. 18,557.

Aschaffenburg, t. Bavaria, on the Main; manuf., coloured paper, cellulose, etc., p. 22,181.

Asche, t. in prov. of Brabant, Belgium, p. 6,552.

Aschersleben, t. in Saxony, nr. Halle, famous for its brine baths, p. 27,245.

Ascoq, coast vil. in Scotl., co. Bute, nr. Rothsay.

Ascoli, cathedral t. in Central Italy, cap. of prov. of same name, p. (of c.) 28,882. (of prov.) 245,883.

Ascot, t. in Sherbrooke, co. Quebec, p. 3,500, also par. in Victoria, nr. Ballarat, p. 310; also par. in co.'s Warwick and Oxford, Eng.

Ascot Heath, famous Eng. race course, Berks; 6 m. S.W. of Windsor.

Asgarby, sm. par. nr. Sleaford, co. Lincoln, Eng.

Ash, par. in co.'s Derby, Kent, Surrey, and Hants, Eng.

Ashanti (p. 2,000,000), Brit. Prot. W. Africa (Gold Coast), formerly powerful native state; cap. Coomassie (Kumasi). [p. 409.]

Ashbourne, t. in N. Derbyshire, nr. Dovedale, Eng.

Ashburnham, par. nr. Battle, co. Sussex, Eng., p. 1,250.

Ashburton, t. Dartmoor, Devon, p. 2,404; also t. S. Island, New Zealand, p. 2,500; also R. and gold field dist. in W. Australia; and mtn. range in S. Australia. [Wilt border of Berks co., Eng.]

Ashbury, par. nr. the Vale of White Horse, on the Ashby, name of 4 par. in co. Lincoln, 2 in Norfolk, and in Suffolk, Eng.

Ashby-de-la-Zouch, t. in Leicestershire, Eng.; ruined castle in which Mary Q. of Scots was imprisoned; p. 4,927.

Ashchurch, par. nr. Tewkesbury, co. Gloucester, Eng., p. 850. [Ry., 253 m. W. of Donald.]

Ashcroft, t. Brit. Columbia, p. 1,850; also stn. on C.P. Ashdod, anc. Philistine c., 20 m. S. of Jaffa, Palestine.

Ash-heo, c. in Manchuria, S. of Sungari R., p. 40,000.

Ashville, t. and winter health resort in N. Car., U.S.A.; p. 15,000.

Ashfield, t. in Suffolk, Eng.; in co. Leitrim, Ireland; t. in Ontario, Canada, p. 5,000; and t. nr. Sydney, N.S.W., p. 25,130.

Ashford, ry. t. Kent, Eng., p. 13,670; also par. nr. Staines, Middlesex; also t. co. Arrawata, N.S.W.

Ashkir, par. in Selkirk, co. Scotland, p. 320.

Ashland, t. Pennsylvania, p. 6,438; c. in Kentucky, p. 6,800; also c. in Wisconsin, U.S.A., p. 13,074.

Ashtabula, t. Ohio, U.S.A., nr. L. Erie, p. 12,949.

Ashtagram, dist. of Mysore Prov., Brit. India, area 4,899 sq. m., p. 1,500,000, [and townships in U.S.A.]

Ashton, name of numerous par. and vil. in Eng.

Ashton-in-Makerfield, t. in mineral dist., nr. Wigan, Lancashire, p. 21,540.

Ashton-under-Lyne, mfg. t. nr. Manchester, p. 45,177.

Ashuapmouchouan, L. in Quebec, Canada, outlet A. R. (170 m.).

Ashurada, Russian naval str. on Caspian Sea.

Ashwadri, R. (600 m.) in Labrador, flows to Atlantic.

Ashwell, parishes in co.'s Herts, Rutland, and Norfolk, Eng.

Asia, the largest of the five continents. Area, 17,411 mill. sq. m. (five times the size of Europe), p. 890 mill. 1. Larger portion held by three Powers—Britain, Russia, and China. Principal countries comprised in Asia:—

- Turkey, Arabia, Persia, Afghanistan, Beluchistan, India, Burma, China, Annam, Siam, Corea, Japan, Asiatic Russia, and Turkestan (q.v.).
- Asiatic**, *z.* in Italy, *prov.* Vicenza, p. 2,036.
- Asia Minor**, W. portion of Asia, part of Asiatic Turkey, area 800,000 sq. m., p. 8,000,000; chief c. Smyrna, most important pt. of the Levant.
- Asiatic**, *ist.* of the N.W. coast of Sardinia, 12 m. long, the ancient *ist.* of Hercules; G. of A., an arm of the Mediterranean.
- Asiatic**, Russian *military stn.* in Transcaspiia; base for operations S. into Persia, and E. towards India, p. 20,000.
- Askja**, a volcano in Iceland, in eruption in 1875.
- Asmen**, L. in S. Sweden, nr. Vexid.
- Assiènes**, *z.* on Seine, 5 m. from Paris, p. 2,081.
- Assia**, *sm.* *z.* in Mantua, Italy, [Eng., p. 3,339.
- Aspatris**, *par.* nr. Cockermouth, co. Cumberland.
- Aspen**, *z.* of Colorado, cap. of Pitkin co., U.S.A., p. 3,303.
- Asperg**, *z.* nr. Stuttgart, in Württemberg, p. 2,200.
- Aspinwall**, or Colon, Atlantic terminal pt. of Panama Canal, p. 3,000. [8,276.
- Aspull**, *township*, nr. Wigan, Lancashire, Eng., p. 2,081.
- Assab B., Ital. *stn.* on Red Sea coast, 50 m. N. of Perim.**
- Assal**, L., Abyssinia, nr. G. of Tadjurah, 600 ft. below sea-level, salt water.
- Assalia**, *z.* on Nile, near Khartoum.
- Assam**, *prov.* Brit. India, area 56,000 sq. m. Br. Ahm-patra R. flows through it; extensive tea plantations; p. 6,122,201. Chief town, Shillong.
- Assaye**, *val.* Nizam of Hyderabad's Dominions, S. India. Wellington's victory over Maharrats, 1803.
- Assche**, *z.* in Belgium, prov. Brabant, p. 8,000.
- Assen**, *z.* in the Netherlands, cap. of prov. of Drenthe, p. 11,500. [Belt, p. 4,500.
- Assens**, *z.* in is. of Finen, Denmark, on the Little Assens, *par.* nr. Neyland, co. Suffolk, Eng., p. 640.
- Assiniboia**, *prov.* in Dominion of Canada, W. of Manitoba, area 94,900 sq. m.; Canadian Pacific Rly. runs through it; p. 67,985; cap. Regina.
- Assiniboine R.** (1,500 m.) in Manitoba, Canada, joins Red R. at Winnipeg.
- Assinie**, French Colonial Settlement in W. Africa, on R. Assinie, which divides Ivory and Gold Coasts.
- Assisi**, *z.* in Perugia, Central Italy, birth place of St. Francis. Fine cathedral and old castle, p. 7,000 (of commune 17,000).
- Assut**, administrative cap. of Upper Egypt, 248 m. S. of Cairo, p. 45,000. Contains many fine buildings. Famous for red and white pottery.
- Assuan**, *Assuan*, or **Aswan**, frontier *z.* on Nile at 1st Cataract, Upper Egypt; ancient name Syene. Near it are famous ruins, temples, catacombs, etc. Great Nile barrage works immediately above it; p. 25,000. Popular as a winter resort.
- Assuague**, B. and *ist.* on E. coast of Virginia, U.S.A.
- Assuay**, *dep.* of Ecuador, S. America, area 239,000 sq. m., p. 150,000.
- Assumption**, or Assuncion, cap. of Paraguay, p. 34,072.
- Assynt**, maritime *par.* in S.W. of Sutherland, Scot. Loch Assynt (7 m. long) is in the N. part.
- Astara**, *stn.* on the Caspian, at Persian frontier of Russia; important trading centre.
- Astbury**, industrial *par.* nr. Congleton, in co. Chester, Eng.; silk factories; p. 20,000.
- Asten**, *z.* in Netherlands, N. Brabant, p. 3,300.
- Astery**, R. in Sussex, Eng., runs into sea at Hastings.
- Astori**, wine *z.* in Alessandria prov., Italy; fine cathedral; p. 39,000.
- Aston**, many *stns.* of this name in Eng. [p. 75,042.
- Aston Manor**, *parl. bor.* of Birmingham, Eng.
- Astorga**, *z.* in Spain, nr. Leon, p. 5,350.
- Astoria**, salmon-canning *z.* in Oregon, U.S.A., p. 8,361; also former vil. of Long Island, New York, now part of the bor. of Queen's, N.Y. City.
- Atabrad**, c. in N. (p. 25,000), chief t. of the prov. of that name, which has p. of 80,000, mostly Turcomans.
- Atakraka**, gov. Russia on Volga, area 237 sq. m., p. over 1,000,000; also c. on is. 30 m. from mouth of Volga, p. 180,000.
- Astrolabe B.**, Kaiser Wilhelm's Land, New Guinea, in arm of the Pacific Ocean. [sponges.
- Astropalis**, *ist.* in S. part of Egean Sea, noted for its
- Astura**, R. S. of Rome, falling into Mediterranean; and sm. t. at its mouth. [Biscay.
- Asturias**, old *prov.* in N. Spain, now Oviedo, on B. of Atacama, *prov.* and desert in N. Chili, area 39,375 sq. m., p. 85,000; cap. Copen.
- Asud**, *z.* in Bessarabia, Russia, on the Danube.
- Athara**, R. in Abyssinia, trib. and last affluent of Nile, length 500 m. [R.'s Louisiana, 150 m. long.
- Atchafalaya**, an outlet of the Red and Mississippi
- Atchinsk**, *z.* in Siberia, p. 7,000.
- Atchison**, c. in Kansas, cap. of co. on the Missouri, p. 15,000.
- Atessa**, *z.* in Italy, nr. Chieti, p. 10,905.
- Ath**, *z.* in Belgium, prov. of Hainaut, p. 10,646.
- Athabasca**, R. (1740 m.) and L. (area 3,085 sq. m.), in N.W.T. Canada, both navigable by steamers, save at Grand Rapids, nr. mouth of Clearwater R.
- Athboy**, *z.* in co. Meath, Ireland, on R. Athboy, p. 2,402.
- Athelney**, *ist.* or marsh nr. Taunton, Somerset, Eng., between the K.'s Tone and Parret; King Alfred's hiding place. [monastery, p. 2,000.
- Athenry**, *z.* in Ireland, co. Galway; old Dominican
- Athens**, cap. of Greece, most renowned c. in antiquity; anc. centre of Greek art and learning; p. 128,000; also name of seven towns in U.S.A., 1 in Clarke co., Georgia, p. 10,245, being the site of university.
- Atherstone**, *z.* nr. Tamworth, co. Warwick, Eng., p. 10,133. [N.W. Manchester, p. 18,980.
- Atherton**, or Chawthorn, c. Lancashire, Eng., 13 m.
- Athgarh**, native state Orissa, Bengal, India, area 108 sq. m.
- Athia**, *z.* in dep. Orne, France, nr. Paris, p. 8,701.
- Athlit**, *z.* in Galilee, Palestine; contains castle of the Pilgrims, built by Templars, 13th century.
- Athlone**, milit. *stn.* on Shannon, 80 m. W. of Dublin
- Athlone**, native state Orissa, Bengal, India, [p. 11,774.
- Athol**, c. Worcester co., Mass., U.S.A., p. 7,051.
- Athole**, *dist.* in N. Perthshire, Scot., area 450 sq. m., extensive deer forest.
- Athos**, *mt.* in Rummelia, European Turkey, known as the "Holy Mount", and the "Monks' Peninsula"; 3,000 recluses, with as many servants.
- Athy**, co. t. of Kildare, Ireland, on R. Barrow, p. 4,000.
- Athys**, *z.* in Italy, prov. Caserta, p. 2,200.
- Athys**, *z.* in Italy, and volcanic m. in Central America, in Guatemala; alt. of mtn., 22,500 ft.
- Atkarak**, Russian *z.* in gov. of Saratoff, p. 7,000.
- Atlanta**, cap. and largest c. of Georgia, U.S.A., p. 154,830.
- Atlantic City**, summer resort, New Jersey, U.S.A., p. 46,150; also cap. of Cass co., Iowa, p. 5,046.
- Atlantic Ocean**, the most important of the three great oceans, lies between the Old and New Worlds. It is 9,000 m. long, and from 1,600 to 5,000 m. broad. Total area, 100,000,000 sq. m. Greatest depth yet found, 23,290 ft., nr. St. Thomas, Gt. Britain.
- Atlas**, great *mt.* range of N.W. Africa, extending 1,500 m. through Morocco and Algeria to Tunis. Highest point, Tizi-n-Tanjart, 15,000 ft.; Jebel Ajash is 14,000 ft. high. [of Mt. S. Elias.
- Atna** (or Copper), R. in Alaska, flowing to Pacific, W.
- Atrato**, R. 275 m. in Colombia, S. America, flowing to G. of Darien. [p. 16,000.
- Atrauli**, *z.* in N.W.P. India, 16 m. from Aligarh.
- Atre**, R. of Cornwall, Eng., falls into Tamar.
- Atre**, or Attruck, R. in Persia, forming div. from Rus. Turkestan (250 m.), enters Caspian Sea.
- Atre**, c. S. Italy, prov. Teramo (the ancient Hadri), p. 13,500.
- Atsuta**, *z.* Japan, *prov.* Owari, p. 25,000.
- Attack**, *ist.* Brit. terr., New Guinea. [p. 61,705.
- Attercliffe**, *vib.* of Sheffield, W. Yorks, Eng.,
- Attica**, anc. state in Greece, cap. Athens.
- Atteborough**, *z.* Bristol co., S.E. Mass., U.S.A., p. 11,135; also *par.* in Norfolk co., Eng., p. 8,881.
- Attock**, fort on Indus R., Rawal Pindit dist., Punjab, p. 3,000.
- Atur**, *z.* in India, Salemdis, Madras, p. 8,334.
- Aube**, R. (trib. Seine, length 125 m.) and dep. in N.E. France, area of dept., 2,377 sq. m., p. 245,506.
- Aubenas**, *z.* in France, dep. Ardèche, p. 8,560.

Autrevillers, French industrial t., 5 m. N. of Paris, p. 31,215.

Aubin, or **Albin**, t. France, dep. Aveyron, p. 9,317.

Aubin, St., sm. t. in Isle of Jersey.

Aubora, par. co. Lincoln, Eng., p. 422.

Auburn, Goldenhairs "Deserted Village," co. Westmeath, Ireland, 10 m. from Athlone, nr. Lough Rea.

Auburn, t. nr. L. Owasco, Cayuga co., New York, U.S.A., p. 39,345; also t. in Androscooggin, co. Maine, p. 12,951.

Auch, industrial t., cap. Gers, dep., France, p. 13,939.

Auchinblae, vil. in Scot., co. Kincardine, p. 510.

Auchinleck, par. Scot., nr. Ayr, p. 7,124.

Auchmill, t. Scot., co. Aberdeens, p. 1,805.

Auchtermarder, t. 15 m. S. of Perth, Scot., p. 3,175.

Auchtermuchty, par. co. Fife, Scot., p. 1,853.

Auckland, *spt.* in N. Isl. of and largest c. in N.Z., cap. of Colony till 1865; extensive trade and shipping; p. 67,262 (of prov.) 175,854.

Auckland. (See Bishop Auckland.)

Auckland Isl., uninhabited group in Southern Ocean, 200 m. off N.Z., discovered by British in 1800.

Aude, R. (140 m.) and dep. area 2,436 sq. m., in S. France, p. 313 531, cap. Carcassonne.

Audenshaw, industrial t. in Lancashire, Eng., p. 7,978.

Audley, t. Staffordsh., Eng., nr. Newcastle-under-Lyme, p. 14,785.

Aue, t. in Saxony, nr. Zwickau, p. 15,246.

Augrim. (See Aggrim.)

Auglaize, R. in W. Ohio, U.S.A., trib. of the Maime.

Augsburg, auc. c. in Bavaria; founded by Emp. Augustus, 12 B.C.; p. 89,109 [Croce, p. 16,800]

Augusta, fortified *spt.* in Sicily, on Isl. off C. Santa

Augusta, t. on Savannah R., Georgia, U.S.A., p. 39,441 (18,487 negroes) [p. 11,683]

Augusta, t. on Kennebec R., cap. of Maine, U.S.A.,

Augustowa, t. of Rus. Poland, on Suwalki Canal, p. 12,745.

Auile-Ata, t. and *fort.* Rus. Turkestan, 260 m. N.E. of

Aumale, t. in Seine-Inferieure dep., France, p. 2,400; also t. in Algeria, p. 6,000.

Aundh, native state, Deccan div. Bombay, India, area 447 sq. m.; p. 63,933; chf. t. Aundh, p. 3,500.

Aurangabad, t. in Hyderabad, India, p. 26,165 (of div., same name, over a million). Suffered severely in famine, 1889-1890.

Auraiya, t. in India, N.W. Prov., Etawah dist., p. 7,350.

Auraz, or **Alrac**, t. in Morbihan dep., Brittany, p. 6,485.

Aurich, t. in Hanover, nr. Embden, p. 6,013.

Aurillac, mfg. t. France, cap. dep. Cantal, named from Emperor Aurelian, p. 17,450.

Aurora, ry. c. in Kane, co. Illinois, U.S.A., p. 24,147.

also c. in Lawrence, Massachusetts, mining region, p. 6,591.

also mfg. t. in Dearborn co., Indiana, p. 3,645.

Au Sable, R., New York, U.S.A., flows from the Adirondack Mts. to L. Champlain; also R. in Michigan, emptying into L. Huron [p. 40,000]

Aussig, t. and R. in Bohemia, on the Elbe, Austria, St. (See St. Austell)

Austerlitz, t. in Austria, prov. of Moravia, where Napoleon gained a decisive victory over Austria and Russia in 1805, p. 3,750.

Austin, cap. c. of Texas, U.S.A., on R. Colorado, p. 22,258; also t. in Minnesota, on Red Cedar R., p. 5,474.

Austral Archipelago, or **Toothoonal Isles**, a volcanic group in Polynesia, S. Pacific; French Protectorate, p. 2,010.

Australasia, div. of Oceania, comprehending Australia, Tasmania, New Zealand, and a number of adjacent Isles.

Australia, *isl.*, largest in the world, length, E. to W. 2,500 m., breadth, 1,050 m.; total area, 2,974,581 sq. m.; first visit by Europeans in 1606, then called New Holland; Cook formally took possession for Britain in 1770. The five political divs. are New S. Wales, Queensland, Victoria, S. Australia, and Western Australia; Tasmania was included, but New Zealand did not come into the compass of the Commonwealth inaugurated in 1901, when the entire population of Australia was computed at 31 millions; p. in 1911 numbered 4,555,000.

Australia, S. (See South Australia.)

Australia, Western, formerly known as the **Swan R.** Settlement; occupies the entire Western part of Australia. From north to south it extends 2,400 miles, and from east to west about 1,000 miles. Chief t. Perth, on the Swan R.; p. (of State) 260,316; area 690,000 sq. m. The chief products of the State are gold, wool, pearls, timber, fruit, wheat, coal, frozen meat, etc.

Australian Alps, *mnt.* range in E. of Victoria and N.S.W., running nearly parallel with coast; Mt. Kosciusko, p. 7,326 ft.

Australian, **Bight**, Great, an indentation on Australian S. coast, between C. Catastrophe and C. Arid.

Australian Pyrenees, the Western part of the Australian Alps, in Victoria, are sometimes so called.

Australind, post t. West Australia, Wellington dist.

Austria, Archduchy of, hereditary domain of A. Imperial family; divided by R. Enns into Upper and Lower A., provs. of Austria-Hungary.

Austria-Hungary, an extensive empire in Central Europe. Since 1867 Austria and Hungary have been united under one sovereign, but each has its own laws, parliament, and ministers. Vienna is the imperial cap.; Buda-Pesth is the cap. of Hungary; p. Austria, 20,372,000; Hungary, 21,340,000.

Autun, c. France, the ancient Augustodunum, dep. Saône-et-Loire, Roman remains, p. 15,794.

Auvergne, old French *prov.*, now Puy-de-Dôme and Auvergne Mts., branch of Cevennes in above region; highest peak, Mt. Dor, 6,188 ft.

Aux Cayes, t. Hayti, W. Indies, p. 9,000 [18,501]

Auxerre, industrial c. France, cap. dep. Yonne, p. 18,501.

Auxonne, fortified t. France, dep. Côte d'Or, on R. Saône, p. 6,706.

Ava, c. on the Iravadi R., Burma, Asia, formerly cap.; many pagodas, now ruins, p. 8,000, also t. on Shikoku Isl. in Japan, fine harbour.

Avalon, t. in France, dep. Yonne, p. 6,500.

Avalon, *pen.* in S.E. Newfoundland.

Avebury, par. and vil. of Wilts, nr. Marlborough, famous for its Druidical remains, p. 807.

Aveiro, *spt.* t. Portugal, wine-producing prov. of Beira, p. 8,860; of prov. 291,526 [18,121 t., p. 950]

Aveley, par. nr. Purfleet, co. Essex, Eng., formerly a

Avellino, t. Italy, cap. of prov. of same name, containing monastery resorted to by pilgrims to image of Virgin Mary, p. (of t.) 23,700 (of prov.) 402,895.

Averno, *l.* in Italy, 10 m. W. of Naples, crater of extinct volcano.

Averno, an Alpine valley of Switzerland, W. of the Engadine, also a trib. to the Hinter-Rhein.

Aversa, garrison t. in Italy, prov. of Caserta, p. 23,477.

Averyboro', vil. in N. Carolina, U.S.A., where Sherman repulsed the Federals under Hardee in 1865.

Aves (Bird Isles), a group in the Caribbean Sea, belonging to Venezuela.

Aveyron, dep. S. France, on rim of Central Plateau, watered by Rivers Lot, Aveyron, and Tara, cap. Rodez; p. 322,074.

Aviano, sm. t. in prov. of Udine, Italy, 46 m. N.E. of Venice.

Avigliana, sm. t. in Italy, prov. Turin, p. 4,500.

Avigliano, t. in S. Italy, prov. Potenza, on the Bianco R., p. 18,500.

Avignon, on Rhone, chf. t. in dep. Vaucluse, S.E. France. Residence of Popes from 1309-1378, and anti-Popes 1378-1418; p. 40,304.

Avila, t. on R. Adaja, Spain (p. 1,712); in prov. of same name; area, 5,270 sq. m., p. 200,000.

Aviles, *port* in prov. of Oviedo, Spain, p. 12,749 [15,100]

Avintes, t. nr. Oporto, on the Douro, Portugal, p. 6,000.

Avrona, or **Valona**, nearest *spt.* in Albania to Italy, p. 6,000.

Avoca, or **OVoca**, picturesque R. and vale in co. Wicklow; R. enters Irish Sea nr. Arklow; also t. in Victoria, co. Gladstone, p. 1,000; also sm. t. in Tasmania, co. Cornwall, p. 280; also t. in Pennsylvania, U.S.A., p. 5,500.

Avola, *spt.* on E. coast Sicily, nr. Syracuse, p. 16,000.

Avon, *loch*, in Scotland, co. Banff, in the Grampians.

Avon, R. in Wilts and Hants, Eng. (5 m. l. also R. of Bristol; also R. flowing from Northants through Warwick, Leicester, and Worcester to Severn at

- Tewkesbury; also R. in Monmouth and R. in Glamorgan, Wales, falling into Swansea Bay; also sm. R.'s in Scotland, off of Annan, Clyde, Spey, and Firth of Forth.
- Avondale, par.** in Scotland, co. Lanark, contains Strathavon t. p. 5,032; also suburb of Cincinnati.
- Avonmouth, outport of Bristol.** [Ohio, U.S.A.]
- Avon Plains, exr. township of Victoria,** 175 m. N.W. of Melbourne, p. 4,500.
- Avranches, t. on St. Michael's B., France,** p. 7,784.
- Awaji, mtns. isl. (Japanese)** at entry of Inland Sea, area 218 sq. m., p. 200,000; highest peak, Yurim-bayama, 1,998 ft.
- Awe, Loch** (16 sq. m.), Argyllsh., Scotland, 8 m. W. of Inverary, bordered by Ben Cruachan.
- Awamori, t. Japan,** Niphon Isl. on bay of same name.
- Azar, ford N. Ireland.** [opp. Yesso, p. 13,500.]
- Axbridge, par. co. Somerset, Eng. nr. Wells,** p. 6,612.
- Axe, R. in Somerset,** rising in the Mendip Hills, and falling into the Severn; also R. rising nr. Childington, Dorset, and entering the English Channel at Axmouth in Devon.
- Axedale, t. Victoria,** Bendigo co., nr. Sandhurst, p. 550.
- Axel, fort, t. in Netherlands,** prov. Zealand, p. 3,200.
- Axholme, site of, in N.W. Lincs., Eng.,** formed by Rivers Trent, Don, and Idle, and comprising seven parishes, including Epworth.
- Axim, t. on Gold Coast, Brit. W. Africa,** 73 m. W. of Cape Coast Castle.
- Axminster, t. in Honiton div. of Devonshire, Eng.,** p. over 3,000; formerly famous for its carpets. [R., p. 680.]
- Axmouth, fish. wh. Devon,** nr. Colyton, at m. of Axe
- Azum, anc. t. in Tigre, Abyssinia,** formerly the cap., p. 5,200.
- Ay or Al, t. France,** dep. Manne, nr. Rheims, p. 5,500.
- Ayacuchco, t. in Peru.** Founded by Pizarro in 1539, p. 20,000; cap. of dep. of same name (area 18,185 sq. m., p. 310,000).
- Aylesbury, cap. of Bucks., Eng.,** noted for lace and Aylesford, t. Kent, Eng., p. 17,848.
- Aylsham, mkt. t. Norfolk, Eng.,** p. 2,940.
- Ayr, co. t. at mouth of R. Ayr,** 40 m. S. Glasgow, Burns born near here, 1759; p. 32,985. One of the Ayr Burghs. [Scotland.]
- Ayrshire** (1,142 sq. m., p. 268,332), maritime co. in S.W.
- Ayton, coast par. co. Berwick, Scotl.,** p. 1,577.
- Aythia, or Yuthia,** former cap. of Siam, on R. Mekong, 30 m. N. of Bangkok, p. 50,000.
- Azamgarh, or Azimgarh, t. and dist. in N.W.P.,** Gorakhpur div., India, p. (of t.) 19,000, (of dist.) 1,500,000; extensive indigo factories. [p. 3,500.]
- Azamora, sp. at mouth of R. Morbeia, Morocco.**
- Azangoro, t. in the basin of L. Titicaca, Peru,** an important place in the time of Incas.
- Ascaput Zalco, vil. of Mexico,** 5 m. W. of the cap. Once an old Aztec town and slave market.
- Aserbaizan** (32,000 sq. m., p. 2,000,000), N.W. prov. of Persia, bounded N. by the Aras R.
- Aserley, vil. nr. Ripon, Yorks, Eng.,** p. 640.
- A-shu-ho, t. Manchuria,** 30 m. S. of the Sungari R., p. 30,000.
- Azores, or Western Isls., Portug. group** in Mid-Atlantic, 1,500 m. W. of Ireland, and 1,700 E. of Nova Scotia; area 922 sq. m., p. 255,594; cap. Ponta Delgada, in St. Michael.
- Azov, or Azof, Russ. sea and pt. on R. Don** near its mouth, p. 27,000. Length of the Azof Sea (which communicates with the Black Sea), 220 m. [p. 7,050.]
- Aspeitia, t. in Spain,** prov. Guipuzcoa; iron mts., **Asuay, prov. of Ecuador,** area 3,870 sq. m., p. 132,000; cap. Cuenca. [p. 8,000.]
- Azul, Italy, col. in S. Argentina,** prov. Buenos Ayres.
- Azurara do Beira (or Mangualde), t. in Portugal,** p. 4,300.
- Azusa, t. in Los Angeles, S. California,** p. 2,800.
- Azwang, or Atzwang, t. in the Tyrol, Austria,** nr. Rosen, p. 3,417.
- Azzano, t. in the Udine prov., Italy,** nr. St. Vito.
- Baalbec, c. Syria,** foot of Anti-Lebanon, known as the ancient Heliopolis; ruins of "Temple of the Sun," built by Antoninus Pius; pres. p. 5,000.
- Baar, vil. in Switzerland,** 24 m. N. of Zug, p. 4,000; elevated region in S.W. Wurtemberg, and S.E. Baden, above headwaters of R. Danube and Neckar.
- Baardedeel, t. in Friesland, Netherlands,** p. 6,103.
- Baba, promontory off W. coast of Asia Minor,** entrance of G. of Adramyttium.
- Babadagh, t. in Roumania,** Dobruja dist., p. 7,000.
- Babakanda, t. in Foulag Country, W. Africa,** p. 11,500.
- Babelmandeb, Strait of ("Gate of Tears"),** uniting Red Sea to Indian Ocean, 20 m. broad. [In it the Isl. of Perim (Brit.).] p. 4,400.
- Babingreda, vil. in Slavonia, Austria-Hungary,** Babuyan Isles, group in Pacific Oc. N. of Luzon, in the Philippines, p. 9,000.
- Babylon, anc. cap. of the Assyrian Empire** in the Euphrates Valley, about 60 m. S. of Bagdad; Hillah now occupies a portion of its site; also a modern t. in Long Island, New York, U.S.A., p. 7,500.
- Black Bay, the expansion of Charles R.,** now largely filled in, and forming wealthy suburb of Boston, Mass., U.S.A.
- Back, or Back's R. (called also Great Fish R.),** 360 m. long, in Brit. N. America, falls into Arctic Ocean.
- Backergunge, dist. in Dacca, div. of Bengal, Brit. India,** area 3,549 sq. m., p. 2,900,000. [p. 8,500.]
- Backnang, t. Wurtemberg, Germany,** nr. Stuttgart.
- Bacup, mltg. t. in S.E. Lancashire, Eng.,** 20 m. from Manchester, p. 22,324.
- Badagara, t. India, Chhalar dist.,** p. 8,560.
- Badagry, t. nr. Lagos, in W. Africa,** on the G. of Benin, formerly a great slave port, p. 10,000.
- Badajoz, fortified t. on Guadiana R., Spain;** stormed by British under Wellington in 1812; p. 30,000, prov. popularly called Lower Estremadura, on S.W. frontier of Spain, p. 50,000.
- Badakshan, sm. Afghan State** between Hindu Kush and upper Oxus, cap. Faizabad. Estimated p. 100,000.
- Badalona, t. in Spain,** prov. Barcelona, p. 12,165.
- Badeck, sp. C. Breton, Isl. Bras d'Or,** p. 450.
- Baden, Grand Duchy of S.W. Germany,** 5,821 sq. m., p. 2,143,000; mines, mineral springs, two universities (Heidelberg and Freiburg); chf. t. Karlsruhe.
- Baden, or Oberbaden, watering place** in Aargau, Switz., p. 4,000; also watering place (Baden-bei-Wien) 14 m. S.W. of Vienna, p. 12,447.
- Baden-Baden, famous Spa** in Black Forest, Germany; noted for its mineral springs; p. 22,066.
- Badenoch, extensive barren mountainous dist.** in Inverness-shire, Scotl., 33 m. long, 27 m. wide.
- Badenweiler, watering place** in Grand Duchy of Baden, western end of Black Forest, resident p. 1,000; visited by 5,000 people annually.
- Badminton, seat of Duke of Beaufort,** in Gloucestershire, and village; t. in India, Amraoti dist., Berar, p. 6,500.
- Badong, state and sp. Bali, Malay Archip.,** p. 130,000.
- Badulla, cap. of Uva, Ceylon,** in tea-planting dist., p. 5,600.
- Baena, t. in Spain,** prov. of Cordova, p. 14,500.
- Baesrode, t. in Belgium, E. Flanders,** p. 4,050.
- Baeza, t. in Spain,** 22 m. N.E. of Jaen; p. 16,000.
- Baffin or Baffin's Bay, great gulf west of Greenland,** communicating with the Atlantic by Davis Strait, and by Smith Sound with the Arctic Ocean; explored by Baffin, an Englishman, in 1616; open four months in the year (June-Sept.). Baffin's Land, a promontory of barren land W. of the Bay.
- Bagalhot, t. in India, Kaldid dist., Bombay,** p. 13,050.
- Bagamotya, sp. and tradg. t. on E. African coast,** nr. Zanzibar, p. 15,000. [p. 15,000.]
- Bagharia, or Bagheria, t. in Sicily,** nr. Palermo.
- Bagdad, famous c. on R. Tigris, Asiatic Turkey,** 500 m. from the sea, cap. of anc. Sarracen empire, p. 145,000. The vilayet of Bagdad stands between Persia and the Syrian Desert, includes some of the most fertile lands in the valleys of the Tigris and Euphrates, and has a p. of 800,000 Moslems, 50,000 Jews, and 8,000 Christians.
- Bagenalstown or Baginell's Town, t. co. Carlow,** on the R. Barrow, Ireland, p. 2,141. [how landed.]
- Bagenbun Head, co. Wexford, Ireland,** where Strong

Baghelband or **Bhagelkand**, dist. of Central India, E. of Bundalkhand, area, 11,304 sq. m., p. 1,554,577. Poor soil, suffers from famine.

Bagillt, t., co. Flint, N. Wales, nr. Holywell, p. 3,500.

Bagien or **Bagalen**, dist. of Dutch col. of Java (south side), area 923 sq. m., p. nearly a million; producing coffee, sugar, etc.

Bagnacavallo, t. in Italy, prov. Ravenna, p. 15,100.

Bagnara, t. S. Italy, prov. Reggio; wine, honey, p. 11,000.

Bagnères de Bigorre, watering place, French Pyrenees; mineral springs and hot baths, p. 10,120.

de Luchon, t., dep. Haute Garonne, France; noted for its thermal springs; p. 4,000.

Bagnes de Chable, watering place in Canton Valais, Switzerland, p. 5,000.

Bagni di Lucca, t. in Italy, 11 m. N. of Lucca.

Bagnoli-Ripoli, suburb of Florence, Italy, p. 10,500.

Bagnols, t., dep. of Orme, France, mineral baths, p. 14,000.

Bagnolet, suburb of Paris, France, p. 7,100.

Bagnolo, t. in Piedmont, N. Italy, p. 6,810.

Bagnolino, t., N. Italy, prov. Brescia, sulphur springs, p. 4,000.

Bagot, stn. in Canada on C.P. Ry., 71 m. W. of **Bagshot**, vil. in Surrey, Eng., adjoining the famous heath which runs along the Berkshire border.

Bahamas, Brit. chain of 121. W. Indies; first land in New World sighted by Columbus, extending 780 m. from Florida to Turk's Isls.; p. 55,000; they have a collective cap., Nassau, New Providence.

Bahawalpur, nat. t. and State on Sutlej R., Punjab, India; area of State, 17,285 sq. m., p. 720,000; cap. 61 m. from Multan, p. 18,635.

Bahia, or **San Salvador**, second largest c. in Brazil, great spt. and trading centre, p. 300,000; cap. of State of the same name covering 164,640 sq. m., and containing p. of two millions.

Bahia Honda, spt. on N. coast of Cuba, W. of Havana.

Bahlingen, t., Wurtemberg, nr. Stuttgart, p. 3,500.

Bahn, t. in Prussia, S. of Stettin, p. 3,215.

Bahrach, t. in Oudh, Faizabad div., India, p. 27,000; cap. of Bahrach dist.; area 2,080 sq. m., p. over a million.

Bahrein Isls., group in Persian G., under British protection. Famous pearl fisheries; cap. Manamah.

Bahr-el-Abad, the White Nile.

Bahr-el-Ghazal, one of the chief trib. of the White Nile.

Bahr-el-Hil, the waters of Meron, t. on Upper R. Jordan, Palestine.

Baikals, Russian fresh-water L. (13,700 sq. m.), sixth largest in the world. Frozen Nov.-May; 40 m. wide, skirted by Trans-Siberian Ry.; separates Irkutsk prov. from Transbaikalia.

Baildon, t. nr. Bradford, W. R. Yorks, Eng., p. 6,042.

Bailleul, t. 20 m. N.W. of Lille, N. France, p. 15,000.

Bain, t., France, dep. Ille-et-Vilaine, nr. Rheims.

Baireuth, (See Bayreuth.) [p. 5,000.]

Bairut, (See Beyrout.) [p. 284,055.]

Baitool, or **Betu**, dist. and t., Central Prov., India.

Baixas, t., France, Pyrenees-Orientales, p. 3,500.

Baja, t. on Danube, 90 m. S. of Budapest, p. 20,000.

Bajaur, dist. of Afghanistan, S. of Hindu Kush, p. 120,000.

Bakarganj, dist. of Dacca, Bengal, India, p. 2,300,000.

Bakau, or **Bakova**, t. in Moldavia, Roumania, p. 20,000.

Bakchiserai, or **Bakhtchiserai**, old cap. of Tartar Khan in Crimea, S. Russia, p. 16,500.

Bakel, French t. in W. Africa on R. Senegal, p. 2,995.

Baker, c. of Oregon, U.S.A., mining, p. 6,065.

Baker Is., Polynesia, Pacific Ocean, belongs to U.S.; Baker Mts., 7 m. N. frontier of Washington ter., U.S.A.; alt. 10,700 ft.

Bakewell, t. on K. Wye, nr. Chatsworth and Haddon Hall, Derbyshire, Eng., [60 m. long.]

Bakhtegan, or **Nirla**, salt L. of Fars prov., Persia.

Bakony-Wald, mtn. range and forest in Hungary, S. and W. of the Danube, formerly resorted to by robbers.

Baku, Russian petroleum t. and port on Caspian sea, p. 120,000; prov. covers parts of the plains of the Caucasus, nearly a million.

Bala, t. nr. Denbigh, and L. in Merioneth, N. Wales, emptying into the Dee; p. of t., 1,537.

Balaghar, t. in India, on Hooghly R., p. 12,500.

Balaghat, dist., Brit. India, Nagpur Div., Central Prov.; area 3,139 sq. m. p. 366,704.

Balaklava, port on Crimean coast. Famous charge of the Light Brigade, Oct. 25th, 1854; p. 750.

Balakovo, river port on the Volga, S.E. Russia.

Balapur, t. in India, Akola dist., Behar; p. 12,000.

Balasore, t. 50 m. N. of Baroda, Bombay, India, p. 10,000.

Balasor Mt., isolated mtns. in Malabar dist. of India.

Balasor, port in Orissa, Bengal, India, p. 21,000; cap. of State of same name, area 2,066 sq. m., p. 1,000,000.

Balaton Lake, or **Platten Sea**, the largest L. in Hungary, 50 m. S.W. of Buda. Length 48 m., average breadth, 4 m., empties into the Danube.

Balayan, t. at head of G. of Balayan, Luzon, Philippine Is., p. 24,700.

Balbriggan, west t., Ireland, 20 m. N. of Dublin.

Balby, t. Eng., nr. Doncaster, W. R. Yorks, p. 11,571.

Baldclutha, t. nr. Dunedin, N. Zealand, p. 1,250.

Bald Hills, t. in Victoria, 115 m. E. of Melbourne, p. 890; Bald Head Peak, Victoria, alt. 4,635 ft., highest pt. in Dividing Range; Bald Mtn., peak in Front Range, Colorado, U.S.A. alt. 12,000 ft.

Baldock, t. in Herts co., Eng., on the Great North Rd., p. 2,094.

Baleares Is., 1,860 sq. m., p. 309,000, group in Mediterranean off S.W. coast of Spain; cap. Palma.

Balestrate, t. Sicily, 22 m. W. of Palermo, p. 3,450.

Baleswar R., one of the chief distributaries of the Ganges to B. of Bengal.

Balfraush, trading t. in Mazandaran, Persia, nr. Caspian Coast, p. 50,000.

Balgach, vil. Switzerland, nr. St. Gall; sulphur.

Balgownie, stn. on C.P. Ry. in Canada, 341 m. W. Winnipeg.

Bali, vil. E. of Java, in Dutch E. Indies, area 2,222 sq. m., p. 1,250,000; mainly engaged in agriculture. (Marmora, p. 20,000.)

Balikisari, trading t. in Asia Minor, above the Sea of Balkans, mtn. range between Danube and Aegean Sea, forming boundary between Bulgaria proper and Eastern Roumelia. Highest pt. 7,800 ft., chief passes, Nadir-Derbent, Karnabad, Shipka, and Trajan.

Balkan Peninsula, dist. S.E. Europe, occupied by Turkey and other States, including the regions S. of the Save and Danube. Often used politically to indicate the ground covered by the Balkan States; i.e., Serbia, Bulgaria, Montenegro, and European Turkey, sometimes also including Roumelia, and parts of Greece.

Balkash, salt L., Asiatic Russia, nr. frontier of Western Mongolia; called also Tenghiz. Receives the Ili R., but has no outlet, length 345 m. by 55 m. wide.

Balkh, dist. of Afghan Turkestan, between the Kabul and the Oxus; corresponding to the ancient Bactra; rival of Nineveh and Babylon. The chief c. Balkh (pres. p. 6,000) associated with Zoroaster, called the "Mother of Cities." Jhenghiz Khan destroyed it in 1220.

Ballaahpur, suburb of Serampur, Hooghly dist., Ballach Loch, Scotland, co. Perth.

Ballachulish, vil., Scotland, on S. shore of L. Leven, N.E. of Oban, co. Argyll, slate quarries nr., p. 1,150.

Ballaghaderreen, t. in Ireland, co. Mayo, nr. Castle-Ballin, t. Victoria, co. Grant, 45 m. N.W. Melbourne, p. 950.

Ballaughelich, t. Victoria, Villiers co., p. 863.

Ballantrae, maritime par., Scotland, co. Ayr, p. 1,080.

Ballaipalli, forest reserve, India, Cuddapah dist.

Ballarat, c. Victoria, 70 m. N.W. Melbourne, important goldfield dist., p. 47,410.

Ballas, t. Upper Egypt, on the Nile, p. 1,270.

Ballater, vil., Aberdeenshire, Scotland, nr. the Royal Highland residence of Balmoral, p. 1,247.

Balleen, par. in co. Kilkenny, Ireland, p. 1,500.

Ballenstadt, t. in Duchy of Anhalt, at foot of Lower Harz, Germany, p. 5,000.

Ballia, t. and dist. Brit. Ind., Benares div. of N.W. Prov., p. (of t.) 16,500, (of dist.) 950,000.

Ballicottin Is., in Ballicottin Bay, co. Cork, Ireland.

Ballieston, or **Crosshill**, *t.* in Scotland, co. Lanark, mining, p. 5,191.

Ballina, *par.* on Moy R., co. Mayo, Ireland, p. 4,595; also *t.* on Richmond R., co. Ros., N.S.W., p. 2,860.

Ballinacorney, *par.* co. Longford, Ireland, nr. Killalet; here French surrendered to Lord Cornwallis in 1798.

Ballinasloe, *t.* Ireland, in co.'s Galway and Roscommon; large cattle fair, p. 5,000.

Ballinlerry, *R.* Ireland, co. Londonderry, falls into Lough Neagh; also *par.* on its banks, p. 2,400.

Ballinry, *par.* Scotl., co. Fife, p. 9,214, nr. Loch Gelly, [p. 2,840.]

Ballinrobe, mkt. *t.* Ireland, on R. Robe, co. Mayo.

Ballon d'Alsace, *mt.* (4,102 ft.) in Vosges, France; Ballon de Guebwiller, highest peak of Vosges, Upper Alsace, 4,690 ft.

Ball's Bluff, on the Potomac R., Virginia, U.S.A., where Confederates gained a victory in 1861.

Ballston Spa, *wat. pl.* Saratoga co., New York, U.S.A., p. 3,573.

Bally Lough, Ireland, co. Roscommon, nr. Castle-rough; (a very large number of Irish pars. have this prefix, which means a town or place). [p. 4,760.]

Ballycastle, *par.* and mkt. *t.* Ireland, co. Antrim, p. 3,454.

Ballydoole, or **Kilrowan**, *par.* co. Cork, Ireland, p. 1,154.

Ballydoogan Bay, Ireland, co. Cork, nr. Castletown; fishing vil. on bank.

Ballyella Bay, Ireland, co. Clare. [Derg.]

Ballyfinboy, *R.* Ireland, co. Clare, flows into Lough Ballinmahon.

Ballymahon, *t.* Ireland, co. Longford, on R. Inny, p. 890.

Ballymena, mkt. *t.* Ireland, co. Antrim, on the R. Braid; linen trade, p. 11,376. [of Belfast, p. 3,100.]

Ballymore, mkt. *t.* Ireland, co. Antrim, 40 m. N.W. Ballymore, mkt. *t.* Ireland, co. Sligo, p. 1,500.

Ballynacarrig, *par.* Ireland, co. Westmeath, on Royal Canal, p. 900. [Galway; also *t.* co. Down, p. 1,350.]

Ballynashinch, *par.* and *L.* and *R.* Ireland, co. Ballinacorney, Ireland, co. Donegal.

Ballyporeen, *par.* Ireland, co. Tipperary, p. 640.

Ballyragget, mkt. *t.* Ireland, co. Kilkenny, p. 752.

Ballyshannon, *par.* Ireland, co. Donegal, mouth of R. Erne; salmon fishery, p. 3,000. [1550]

Balmaclellan, *par.* in Scotland, co. Kircudbright, p. 11,000.

Balmain, *suburb* of Sydney, N.S.W., p. 71,450.

Balmaz-Ujvaros, *t.* Hungary, 14 m. W. of Debreczin, p. 11,000.

Balmoral, *par.* Scotland, on R. Tay, N. Fife, p. 978.

Balmoral, *vil.* Victoria, Dundas co., 204 m. W. Melbourne. [Aberlenshire.]

Balmoral, *royal residence*, on R. Dee, Scotland, W. Balmahua, smtl. *vil.* W. Scotland, Jura, co. Argyll, slate quarries.

Balotra, *t.* in Jodhpur, sr. Rajputana, India, p. 7,975.

Balquhider, *par.* Scotland, co. Perth (includes vil. of Loch-arn Head), p. 664. [the Muthy, p. 15,000.]

Balrampur, *t.* India, Gonda dist. of Oude, royal during Balrampur, *par.* on Murrumbidgee R., p. 1,204.

Balrath, *par.* Worcestershire, Eng. (suburb of Birmingham), p. 39,888.

Balta, one of the Shetland *isls.* Scotland, to the E. of Uist; also *t.* Russian Poland, on Kodyna R., p. 27,419.

Baltia, an *isl.* off the coast of Scythia, which gave its name to the Baltic Sea.

Baltic and North Sea Canal, from the Elbe to the North Sea at Kiel, constructed by Germany, at a cost of £8,000,000, between 1897 and 1898 for strategic use. [Finland.]

Baltic Port, sm. *par.* of Russia, in Esthonia, nr. G. of Baltic Provinces. The three Russian Govts. of Courland, Esthonia, Livonia, and St. Petersburg; German much spoken along the coast, though the borderland has been greatly Russified in recent years.

Baltic Sea, inland sea, Europe, an arm of the Atlantic, enclosed by Russia, Germany, Sweden, Denmark; 900 m. long; greatest width 200 m., area 780,000 sq. m.

Baltimore, smtl. *par.* Ireland, co. Cork, p. 3,400; also *c.* and *N.S.W.* in Maryland, U.S.A., near head of Chesapeake Bay; fine harbour; extensive trade; p. 28,483; also to other townships in various parts of the U.S.A.; also *t.* in Northumberland, co. Ontario, p. 3,400.

Baltinaglass, mkt. *t.* Ireland, on R. Slaney, co. Wicklow, p. 1,700. [India, p. 60,000.]

Balistan, or Little Tibet, *prov.* Cashmir, Upper Baluchistan, country Asia, S. of Afghanistan, between India and Persia, a desert. cap. Khelat.

Estimated area 130,000 sq. m., p. 800,000. Brit. garrison at Quetta.

Balvano, *t.* in Potenza, prov. Italy, p. 3,800. [Teath.]

Balvay, *R.* Scot. co. Perth, northern branch of R. Bannagwato, State of S. Africa, E. of Kalahari Desert, at source of Limpopo R., Bechuanaland Protectorate, area (with Batwana) 250,000 sq. m., p. 400,000. [producing, 100 m. N.N.E. of Ambriz.]

Bamba, *t.* and *prov.* Congo, W. Africa; coffee Bamba, negro territory. French W. Africa, cap. Sego, on Niger; p. 2,000,000. [p. 1,051.]

Bambeck, *t.* France, dep. Nord, nr. Dunkirk.

Bamberg, *t.* in Upper Franconia, on R. Regnitz, p. 41,665. [Eng., 16 m. S.E. of Berwick.]

Bamborough, *vil.* and castle on Northumbrian coast, Bambuk of Bambouk, gold and iron *dist.* in Senegambia, W. Africa, has French stations, inhabitants Mandingoes.

Baman, *t.* and *mt.* pass, Afghanistan, N.W. of Cabul, Rock-cut caves and colossal Buddhist statue.

Bamm, fortified *t.* in Persia, S.E. Kerman, p. 10,000.

Bammako, Bomboko, Bammaku, or Bammakou, French *sm.* on Upper Niger, W. Africa, formerly an important native town of the Bambara State.

Bamoni, *t.* in Rangpur dis., Bengal, India, p. 6,895.

Bampton, *t.* nr. Tiverton, co. Devon; mkt. *t.* nr. Witney, co. Oxford; and *vil.* on R. Lowther, co. Westmorland, Eng.

Bamra, feudatory state, N.W. Prov. India, area 1,988 sq. m., p. 123,280.

Banagher, *t.* on Shannon, Ireland, p. 1,000.

Banana, and *port* nr. mouth of Congo R., Africa; also sm. *t.* in Ferguson co., Queensland, 320 m. N. of Brisbane. [Africa, belonging to St. Brit.]

Banana Isls., sm. group nr. Sierra Leone, N.W. Bananal Isl., on R. Araguay, Brazil, length 200 m.

Banas, *c.* in Rajputana, India, 300 m. [widest 50 m.]

Banat, *dist.* in Hungary, between the Danube, Theiss, and Maros; chf. *t.* Temesvar. [Ireland, p. 5,000.]

Banbridge, linen mfg. *t.* on Bann R., co. Down, Banbury, *t.* Oxfordsh. 80 m. from London, famous for its Cross, cakes, ale, and chess, p. 13,463.

Banca, 4,458 sq. m., p. 100,000; famous tin *vil.* in Dutch E. Indies, off coast of Sumatra.

Banchory, *t.* in the Kincardine, Scotl., p. 1,623.

Banda, *t.* N.W. Prov. India, Allahabad Div., p. 23,000; cap. of barren *dist.*, area 3,060 sq. m., p. 631,337; greatly decreased through famine during last decade.

Banda Isls., group in Moluccas, D. E. Indies, produce nutmegs and mace, p. 6,000.

Banda Oriental. (See Uruguay.)

Banda Sea, in Malay Archipelago, N. of Timor.

Bandawe, *miss. sm.* on Lake Nassar, Central Africa.

Bandelkhand, or **Bundelkhand** (22,351 sq. m., p. 24 millions), a group of native States in N.W. Prov. India.

Bander Abbas, formerly Gonbrun, *t.* of Persia on P. Gulf, very unsalubrious, p. 10,000.

Bander Lingah, *ch. port* for prov. of Laristan, Persian Gulf, p. 10,560.

Bandon, *t.* on Brandon R., co. Cork, Ireland, p. 2,830.

Baneros, *t.* in Alicante, Spain, p. 3,295.

Banff, *co. t.* on Moray Firth, Scotland, 50 m. N. of Aberdeen, p. 3,821.

Banff-Hunayd, mkt. *t.* co. Koloza, Hungary, p. 4,500.

Banffshire (630 sq. m., p. 61,402), maritime *co.* in N.E. Scotland.

Banga, *t.* in Jalandhar dist., Punjab, India, p. 4,355.

Bangalore, *fort. t.* in Mysore, India, p. 139,630 (decreased 12 per cent. through plague during last decade).

Banganapalle, state in S. India, nr. Madras, p. 32,779.

Bangkok, cap. of Siam, on Menam R., 20 m. from the sea. Great trade, p. 628,475.

Banger, *t.* (one of the Carnarvon boroughs) on Menal Straits, N. Wales, port for Penrynshire quarries, p. 11,237; also *wat. pl.* nr. Belfast, co. Down, Ireland, p. 5,993, also port on Pembrokeshire R., Maine, U.S.A.,

p. 27,890; also t. (with slate quarries), Northampton co., Pennsylvania, U.S.A., p. 1,500.

Bangweulu, or **Bemba**, or **Bangweulu**, *L.* in Brit. E. Cent. Africa, 150 m. long by 80 wide, contains three *isls.* Dr. Livingstone died at Ilala, on S. shore of this *L.*, in 1873.

Banahuka, or **Banahuka**, *fort*, *L.* on N. frontier of Bosnia and bank of R. Verbas, p. 12,000.

Banias, *vil.* of Palestine nr. Damascus, with castled fort of the Crusaders.

Banichal Pass, over Himalayas, Kashmir, India.

Banjermassin, or **Banjerassin**, *t.* and *dist.* on Tatas Isl., chief port of Dutch Borneo, formerly a Sultanate; p. 30,000.

Banjewangi, or **Banjawaningia**, *port* on Str. of Bali, E. Java, cap. of Residency, p. 8,000.

Banks, *t.* in Formosa on R. Tamsui, p. 50,000.

Banquet, *st.* of Ratnagiri, dist. Bombay, India.

Banksia Is., group of *sm. isls.* in S. Pacific, N.E. of New Hebrides.

Banks Land, large *isl.* in Arctic Ocean, N.W. of Prince Albert Land, Brit. N. America. Banks Strait separates it from Melville Isl.

Banks Peninsula, on E. coast of S. Isl., New Zealand.

Banks Strait, separating Furneaux group from Tasmania.

Bankura, *t.* in Bengal, Bardwan div., India, p. 29,000; of dist., 1,114,185; silk and indigo industries.

Bann, Upper and Lower, *R.*, Ireland, rises in co. Down, and flows through Lough Neagh to Atlantic (90 m.) nr. Coleraine.

Bannockburn, 3 m. S. of Stirling, Scotl.; Bruce's victory over Edward II., June 24th, 1314; p. 2540; also mining t., Vincent co. (195 m. from Dunedin), New Zealand. [chf. t. Edwardesbad.

Banua, *dist.* Derajat div., Punjab, India, p. 409,092.

Banuda, native state in prov. Gujerat, Bombay, India, p. 34,000.

Banudih, *t.* India, N.W. Prov., Balia dist., 10,000.

Banugau, *t.* India, N.W. Prov., dist., Gorakhpur, Banstead, *t.* in Surrey, Eng., p. 4,200 [p. 3,660.

Banswara, native state, Rajputana Agency, India, p. 165,276. Suffered very heavily in recent famine years.

Bantam, Dutch residency, W. extremity of the Isl. of Java; suffered severely from fever and volcanic eruption; cap. Sirang, p. 709,339. [Winnipeg.

Bantry, *stm.* on C. F. Ry., Canada, 713 m. W. of Bantry, *st.* Ireland, co. Cork, at head of Bantry Bay, p. 3,200.

Banwa, *t.* in India, cap. of Kathiawar, Gujerat.

Banwy, R. Wales, co. Montgomery, trib. of Vyrnwy R.

Baraba, steppes of S.W. Siberia, comprising the Kainsk dist. of Tomsk, as well as Omsk and Tara of Tobolsk, and many large Russian villages.

Bara Banki, *t.* and *dist.* in Fizebad Div. of Oudh, Brit. India, nr. Lucknow, p. 1,750,000.

Baraboo, *t.* on R. B. Wisconsin, U.S.A., p. 6,500.

Baracalde, *t.* in Spain, prov. Biscay, on Bilbao R.; ironworks, p. 12,000.

Baracca, *st.* in and first cap. of Cuba, p. 5,000.

Barada, *R.*, Syria, in plain of Damascus (ancient Abana), falls into L. Shirkyyh.

Baradine, *t.*, 240 m. N. of Sydney, N.S.W., p. 460.

Barak (or Surma), R. Assam, India, joins Brahmaputra.

Baranagar, *t.* on R. Hooghli, India suburb of Calcutta, p. 30,000.

Barbacena, *t.* in Minas Geraes, Brazil, p. 6,000.

Barbados, *isl.*, most east of Brit. W. Ind. Is.; sugar, ginger, etc.; 266 sq. m.; p. 177,803, cap. Bridgetown.

Barbours, *st.* on W. Coast of Ceylon.

Barbery, N. part of Africa, includes Morocco, Algeria, Tunis, Tripoli, Barca, and Ferzan, 2,600 m. long; Mohammedan p. 11,000,000 [8,500.

Barbastro, *t.* on the Chm. Saragossa, Spain, p. 10,000.

Barbierino, two towns in Italy, prov. Tuscan, one 16 m. N., the other 16 m. S.W. of Florence, both over 10,000 inhab.

Barberton, mining *t.* in Transvaal col., Brit. S. Africa, on Kaap Goldfelds, p. 4,500.

Barbuda, *isl.*, one of the Brit. W. India Is. to the N. of Antigua, area 75 sq. m., (about) 800.

Barby, *t.* on Elbe, in Saxony, p. 5,500.

Barca, maritime Turkish *terr.* N. Afr., E. of Tripoli; area 61,447 sq. m., p. 300,000.

Barcarrota, *t.* in Spain, nr. Badojoz, p. 5,079.

Barcelone Down, *sta.* Queensland, Australia, 370 m. W. Rockhampton.

Barcellona, Sicilian *t.*, prov. Messina, Italy, p. 24,000.

Barcelona, *st.* in Spain, cap. Barcelona prov.; founded by Hamilcar Barca, the Carthaginian; p. of city, including suburbs 533,396; (of prov.) over a million.

Bardi, *t.* in prov. of Piacenza, Italy, p. 6,675.

Bardo, governmental castle, nr. Tunis.

Bardolino, *t.* in Italy, on L. Garda, nr. Verona, produces olives, p. 2,500. [tunnel.

Bardonnecchia, Turin, Italy, entrance of Mt. Cenis.

Bardowick, *snl.* *t.* (with ruined cathedral) on R. Limerau, Hannover, once chief trading t. of W. Germ.

Bardsey, *isl.* in Bardsey Sound, off coast of Wales, nr. N. point of Cardigan Bay, retreat of Welsh bards; lighthouse; also *sm.* par. W.R. of Yorks, nr. Wetherby.

Bardwan, or **Bardwan**, *div. dist.* and *t.* in Bengal, India; total area of div. 2,689 sq. m., p. 13 millions.

Bardwan, the chief t., is 69 m. N.W. of Calcutta, and contains the Maharajah's palace, p. (of t.) 35,000.

Barège, *wat. st.* in the Hautes Pyrénées, France.

Barhly, *div.* and *c.* in India, N.W. Prov. Kohlik and, div. p. (of dist.) a million; (of c.) 137,433.

Barletta, *t.* in France, dep. Seine-Inférieure, p. 5,082.

Barents Sea, that part of Arctic Ocean E. of Spitzbergen, to North Cape. [p. 4,200.

Bartha, *t.* in India, Fyzabad dist., Oudh, on R. Gogra, Barfleur, fishing *vil.* France, dep. La Manche, 15 m. E. of Cherbourg, p. 1,200.

Barga, *t.* in Italy, prov. Lucca, p. 3,000.

Barge, *t.* Italy, Corni prov., p. 10,200.

Bargeddie and Dykehead, *vil.* nr. Coatbridge, Lanark co., Scotl., p. 1,500. [p. 1,500.

Barguzin, dist. *t.* of E. Siberia, 27 m. from L. Baikal.

Bar Harbour, summer resort in Hancock co., Maine, U.S.A., p. 2,000. [p. 12,000.

Barha, *t.* in Gorakhpur dist., N.W. prov., India.

Barl, *st.* and *c.* in S. Italy, on Adriatic, 69 m. N.W. of Brindisi, p. (of t.) 79,693; (of prov.) 824,000.

Baringhup, *t.* of Talbot co., Victoria, p. 1,000.

Barisal, *t.* of Brit. India, Backergunge dist., Bengal, impt. river trade stn., p. 15,500.

Barking, *t.* on Roding R., Essex, Eng., gunpowder plant concocted here; now manufacturing dist., p. 31,322. [p. 1,669.

Barksland, township nr. Halifax, W. R. Yorks.

Barkly, mining *t.* Kara co., Victoria, 146 m. N.W. Melbourne.

Barkly East, *t.* Cape Colony, 34 m. from Aliwal North on Kral R., p. 2,500.

Barkly West, *t.* on Vaal R., Griqualand West, diamond diggings, now almost exhausted, p. about 2,000.

Barkol, *t.* and *L.*, E. Turkestan.

Barle, *R.*, rising in Exmoor, Somerset, Eng., trib. of the T. [p. 1,500.

Bar-le-Duc, cap. of Meuse dep., 125 m. E. Paris; cotton mfg., p. 17,000. [mfg., p. 44,820.

Barletta, *st.* in S. Italy, prov. Bari, tartaric acid.

Barmbeck, suburb of Hamburg city, Germany, p. 8,400. [adjoining Elberfeld, p. 122,000.

Barmen, important mfg. *t.* in Rhemish Prussia.

Barmouth, *wat. st.* Merionethshire, N. Wales, p. 2,100. [p. 8,000.

Barnagar, *t.* India, Cent. Prov., Gwalior dist.

Barnard Castle, mkt. t. Durham, Eng., on R. Tees, p. 4,757. [p. 20,408.

Barnaul, Russian *t.* Tomsk, W. Siberia, mining.

Barnes, suburb of London, on the Thames, Eng., p. 30,379.

Barnet, *t.* Herts. 10 m. N.W. London, divided into 3 dists., Chipping Barnet, or High Barnet, East Barnet, and New Barnet, p. (of urban dist. of Barnet) 10,440; (of E. B. Valley urban dist.) 10,382.

Barneveld, *t.* in Gelderland prov., Netherlands, nr. Amhem, p. 7,500.

Baroldesvick, *t.* W. R. Yorks, Eng., p. 9,699.

Barroley, mfg. *t.* W. R. Yorks, p. 50,623.

Barroley, fishery *t.* on Cape Cod Bay, Mass. U.S.A., p. 4,364.

Barstaple, mkt. *t.* and *port* on R. Taw, nr. Devon.

Baroda, native state, Western India; area 6,099 sq. m.,

- p. over 2,000,000; *t.* in Bombay Pres., p. 99,345; cap. of territory of the Gaekwar, 250 m. N. of Bombay.
- Barots**, country of S. Central Africa, on the Upper Zambezi, governed by a native king, under British influence.
- Barquisimeto**, the cap. of Lara State, Venezuela, important trade centre, p. 40,000.
- Barry**, *t.* in Lower Alsace, at Foot of Vosges, p. 6,000.
- Barra Isals**, southerly groups, Outer Hebrides, Scotl., area 348 sq. m., lighthouse on Barra Head, p. 2,600.
- Barra**, eastern residential suburb of Naples, p. 11,000.
- Barra**, sm. nat. *state*, W. Africa, at mouth of Gambia R., p. 800,000; mainly Mandingoes; *chf.* t. Barringdon.
- Barra**, *t.* in Darling co., N.S.W., 311 m. N. of Barrackpurr, *t.* on R. Hoogil, 15 m. above Calcutta, India. Park contains country residence of Victoria, p. 21,000.
- Barrafranca**, *t.* in Sicily, in the Italian prov. of Caltanissetta; sulphur springs and mines, p. 11,000.
- Sarrage**, *vill.* in Egypt, on Nile, 35 m. N. of Cairo, p. 7,500.
- Barranquilla**, *port* on Magdalena R. in Bolivar dep. of Columbia, S. America; rivals Cartagena as commercial centre of the republic, p. 50,000.
- Barre**, *t.* of Washington, co. Vermont, U.S.A., p. 3,650.
- Barren Isal**, volcano in B. of Bengal, [p. 8,448].
- Barren R.**, in Kentucky (120 m.), N. of A. Johns Green R., N.W. of Bowling Green, [Glasgow, p. 11,387].
- Barthead**, *mtg.* t., Renfrewshire, Scot., 7 m. S.W. of Barrie Ranges, boundary of S. Australia and N.S.W., alt., 2,000 ft.
- Barrier Reef**, Great, coral reef extending for 1,200 m., to 150 m. N.E. from coast of Australia. [Sydney.]
- Barroquin**, township of N.S.W., 640 m. N.W. of Barroo, *vill.* in Spain, 16 m. S.E. of Cadix; Brit. victory, 1811. [Ireland; also in Canada, U.S.A.]
- Barrow**, many parishes of this name in Eng. and Barrow, C. on Coronation G., north coast of Brit. N. America.
- Barrow, R.**, Leinster, Ireland, rises in Slieve Bloom Mts. and flows (100 m.) to Waterford Harbour.
- Barrow Falls**, nr. Keswick, Cumberland.
- Barrow-in-Furness**, iron and steel *t.* and *port* N. Lancs., Eng., p. 63,775.
- Barrow-on-Soar**, *t.* in N. Leicestershire, Eng., p. 23,740.
- Barrow Point**, most northerly headland in Alaska; also headland in S. Madagascar.
- Barry**, "outport" of Cardiff, Wales, p. 33,767.
- Barry**, coast *par.* nr. Carnoustie, Forfar, Scotl., p. 4,933.
- Bars or Barsch**, *prov.* Hungary, p. 160,000. [p. 20,000.]
- Barsi**, *t.* in Sholapur dist., Bombay, Brit. India.
- Bar-sur-Aube**, *t.* 140 m. E. of Paris, p. 5,000.
- Bar-sur-Seine**, *t.* in France, dep. Aube, on bank of Seine, p. 3,400.
- Bartan**, *t.* in Anatolia, 45 m. N. of Ereğlee, p. 7,200.
- Bartenstein**, *t.* E. Prussia, nr. Königsberg, p. 6,850.
- Bartfeld**, *t.* on Tania R. Hungary, p. 6,000.
- Bart**, *sp.* of Prussia, prov. Pomerania, p. 6,900.
- Bartolomew Bayou**, R. (275 m.) in Arkansas, U.S.A.
- Barton-on-Humber**, *t.* Lincs., Eng., p. 6,676.
- Barton-on-Irwell**, *mtg.* t., 5 m. W. of Manchester, p. 49,927. [p. 11,500.]
- Barton St. Mary**, *t.* in the *hubs* of Gloucester city, Eng.
- Barvas**, *par.* in the *hubs*, Isle of Lewis, co. Ross, Scotl., p. 6,924. [Bombay, India, p. 5,813.]
- Barwala**, walled *t.* 80 m. S.W. of Ahmadabad.
- Barwani**, native *State* of India, Bhopawar Agency, area, 1,364 sq. m., p. 8,000.
- Basel or Bäle**, one of the Swiss cantons, divided into Baseltadt and Basellandschaft; area, 177 sq. m. p. 180,724. Basel or Bäle city, the cap., is a centre of missionary enterprise, p. 109,287.
- Bashan**, hill country, E. of Jordan, Palestine.
- Bashar**, native *State* in India, amid the Himalaya mtn. dist. of the Punjab, area 3,300 sq. m., p. 70,000.
- Bashurat**, *t.* in Bengal India, p. 15,240.
- Basim**, *t.* and *dist.* in Berar, India, p. (of t.) 13,000 (of dist.) 333,522. [London, p. 11,540.]
- Basin**, *mtg.* t. in N. Hants., Eng., 50 m. W. Basle (See Basle or Bäle).
- Baslow**, *t.* in Derbyshire, Eng., nr. Bakewell, p. 852.
- Basosana**, *gold field*, S. Australia, 34 m. E. of Adelaide.
- Basque Provinces**, in N. Spain (Pyrenees), subdivided into (1) Alva; (2) Biscaya; (3) Guipuzcoa. Total area, 2,958 sq. m., p. (about) 600,000.
- Basra or Bassora**, *prov.* on Euphrates, Asiatic Turkey, 50 m. from the sea, p. 30,000; cap. of vilayet of same name, including the great marshy dist. of the Lower Euphrates and Tigris, with a p. of nearly a million.
- Bassa Rock**, in Firth of Forth, opposite Tantallon Castle, nr. N. Berwick, a mile round.
- Bass Straits**, between Victoria and Tasmania; length abt. 200 m., breadth about 120.
- Bassa**, *sp.* Upper Guinea, W. Africa. [Gold Coast.]
- Bassam or Grand Bassam**, French *t.* in Africa on Bassano, *t.* N. Italy, prov. Vicenza, at foot of Venetian Alps, p. 8,000 (of commune, 15,000). [p. 11,000.]
- Bassein**, *t.* in Thana dist. of India, 20 m.
- Bassenthwaite Water**, picturesque *l.* in Cumberland, Eng., 4 m. long, nr. Keswick.
- Basse-Terre**, chief *t.* of St. Christopher, one of the West India Isls., p. 8,500; also cap. of Guadeloupe Isl., French West Indies, p. 10,320. [p. 8,650.]
- Bassignana**, *t.* in Italy, 8 m. N.E. of Alessandria.
- Bassorah** (See Basira).
- Bastad**, *t.* in Sweden, on Cattegat, p. 1,140.
- Bastar**, feud. *State*, Brit. India, Central Provs., area, 13,000 *sq.* m. and res. of Kajah, Jagdalpur, on R. Indravati, p. 36,500.
- Basti**, *dist.* India, Gorakpur div., N.W. Pr. 2,767 sq. m., p. 1,845,758. Large trade with Nepal, cap. Basti, on the Kuna R., p. 14,000. [p. 19,500.]
- Bastia**, *sp.* and fortified *t.* of Corsica, N.E. coasts, p. 14,000.
- Bastogne**, *t.* in Belgium, prov. Luxembourg, p. 3,000.
- Basuto Land**, *prov.* Brit. South Africa, at head of Orange R., and enclosed on S. by the Drakensberg Mts.; area 11,716 sq. m., p. 405,000. Sometimes styled the "Switzerland of South Africa."
- Batalia**, *t.* in Brit. India; Gurdaspur div. of the Punjab; import trade centre, p. 27,000.
- Batalha**, *t.* in Portugal, nr. Leria, p. 3,800.
- Batavia**, *sp.* on N.E. coast of Java; cap. Dutch E. Indies, p. 120,000; also *mtg.* t. N. York, U.S.A., p. 9,500.
- Bateman's Bay**, N.S.W., 142 m. S.W. of Port Jackson; also *spt.* on Clyde R., co. St. Vincent, N.S.W., 200 m. S. of Sydney. [important commercial centre.]
- Batesar**, *t.* in India, Agra dist., on the Jumna R.; Batesford, post *t.* co. Grant, Victoria, 48 m. S.W., of Melbourne.
- Bath**, *c.* Somerset, Eng., nr. Avon, hot springs: p. (of part. bor.) 53,678; also *spt.* Mame, U.S.A., p. 10,479; also *t.* N. Y. State, U.S.A., on the Cohocton R., p. 4,994.
- Bathampton**, *sp.* of Bath, Somerset, on the Avon.
- Bathgate**, *t.* Linlithgow, co. Scotl., mining and oil works, p. 8,226.
- Bathurst**, *t.* N.S.W., Australia, sixth *c.* in the Colony, p. 9,227; also British *spt.* at mouth of Gambia, W. Africa, p. 7,000; also *t.* Canada, prov. N. Brunswick, N. coast, p. 980; also *isl.* on coast of Australia, 30 m. long; also large *isl.* in Arctic Ocean, discovered by Parry. [comal, p. 6,200.]
- Baticalo**, *sp.* E. coast of Ceylon, 68 m. S.E. of Trin-Batiscan, R. Quebec (50 m.); also *t.* (117 m. N.E. of Montreal) on bank of R.; Batiscan Bridge is a smaller township nr. the junction with the St. Lawrence. [8 m. from Leeds, p. 36,395.]
- Batley**, heavy woolen *mtg.* t., W. R. Yorkshire, Eng., p. 10,479.
- Baton Rouge**, cap. of Louisiana State, U.S.A., on Mississippi, p. 11,260. Scene of heavy fighting in the Civil War, 1862. Also *t.* Chester co., S. Carolina, U.S.A., p. 3,590.
- Batonza**, *t.* Hungary, 25 m. E.N.E. of Mako, p. 20,000.
- Batum or Batum**, *sp.* Asiatic Russia, on E. coast of Black Sea, p. 28,500. [baths, p. 3,700.]
- Battaglia**, Venetian *t.* prov. Padua, Italy; hot sulphur
- Battambang**, *chf.* t. of prov. of same name in French Cambodia; p. of t. 5,000, of prov. 50,000.
- Battam Isl.**, Malay Archip., 20 m. S. Singapore.
- Battassek**, *t.* Tolna co., Hungary, on Danube, p. 7,100; also sm. *t.* on R. Eder in Hesse-Nassau, Prussia, 1,640.
- Battenheim**, *vill.* in Alsace, nr. Mulhausen, p. 1,190.
- Battersea**, *sub.* and *or.* of London, on S. bank of R. Thames, p. of *j.* div. (1911), 103,221; of met. bor. and civ. par. 11,793.

Battice, *t.* in Belgium, prov. Liège, p. 4,140.
Battle, *t.* in Sussex, Eng.; battle of Hastings fought here, 1066; p. 2,224; also *t.* in Canada, affl. of Saskatchewan, rising in Alberta Terr.
Battle Creek, on Kalamazoo R., Calhoun co., Michigan, U.S.A., engineering and woollen manuf., p. 25,227.
Battlefield, *par.* Shropshire, Eng., nr. Shrewsbury, where Hotspur was slain in 1403.
Battleford, *t.* Canada, at junction of Battle R. with Saskatchewan, formerly cap. of N.W. Terr., p. 5,000.
Battle Harbour, nr. Strait of Belle Isle, Labrador.
Battock, *mets.* Scott., in the Grampians, Kincairdinesh., alt. 2,538 ft.
Batwin, *t.* in Russia, 63 m. E. of Chernigor, p. 3,650.
Bauan, *t.* in Lussau, Philippine Isls., fine ch., p. 30,000.
Bauco, *t.* in Italy, prov. Rome, p. 3,800.
Baud, *t.* in France, dep. Morbihan, p. 4,376.
Baul, *t.* in Venezuela, 40 m. S. of San Carlos, p. 10,075.
Baures, R. in E. Bolivia, flowing from L. Guazamire to R. Guapore.
Bautzen, easternmost *prov.* of Saxony, area 953 sq. m., p. 370,739; cap. Bautzen, on R. Spree, 33 m. N.E. of Dresden, p. 20,516.
Bavaria (99,282 sq. m., p. over 6 millions), second largest *State* in German Empire, cap. Munich.
Bawan, *t.* Ind., Haridwar dist., p. 3,580. [4,500.
Bawan Buzurg, India, Kai Ihar dist., Oudh, p. 3,580.
Bawtry, mkt. *t.* in W.R. Yorks, Eng., on Notts border, p. 5,164. [on R. Gauges, p. 46,500.
Bazar, or **Buxar**, *t.* in India, Shahabad dist. of Bengal.
Bayamo, *t.* in F. Cuba, prov. Santiago, p. 3,022.
Bayazid, or **Bayezid**, fortified *t.* Armenia, As. Turkey, 15 m. S. of Ararat, p. 5,000.
Bay Bay, *t.* in Leyte, Philippine Isls., important commercial port, p. 17,000.
Bay City, mfg. *t.* on Saginaw R., Mich., U.S.A., 108 m. N.W. of Detroit, p. 45,166.
Bayeux, *t.* in Normandy, France, 17 m. from Caen, famous for tapestry, p. 8,102.
Bay Is., group in Gulf of Honduras, Central America; largest, Ruatan, total p. 5,000. [p. 10,017.
Baylen, or **Baulen**, *t.* in Spain, 55 m. N. Granada.
Bay of Islands, inlet and harbour on North Isl., New Zealand; also settlement on W. coast of Newfoundland, 55 m. N.E. of Cape St. George.
Bayonne, fort. *t.* dep. Basses-Pyrénées, S.W. France, noted for fine furs and for the invention of bayonet, p. 27,601; also chemical mfg. *t.* in New Jersey, U.S.A., 6 m. from New York, p. 55,245.
Bayreuth, cap. *Up.* Franconia, Bavaria, home of Wagner. Famous for musical festivals in magnif. national theatre, p. about 30,000.
Bay Roberts, *cap.* 2 m. S. Harbour Cape, Newfoundland, p. 2,600. [U.S.A., p. 2,500.
Bay St. Louis, *wat. pt.* on G. of Mexico, Mississippi.
Bayswater, populous W. district of London, Middlesex, Eng.
Bay Vert, on S. side Northumberland Strait, between Nova Scotia and New Brunswick.
Bazardjik, *t.* in Bulgaria, 27 m. N. of Varna; captured by Russians in 1774 and 1810, p. 10,000. [Adelaide.
Beach Port, *t.* C. Grey, South Australia, 228 m. S.E. of Beachy Head, 575 ft. high, on Sussex coast, loftiest headland South of Eng.
Beaconsfield, *t.* in Bucks, 10 m. of Windsor, Eng., p. 2,511; also *t.* in Tasmania, 33 m. N.W. Launceston; also *t.* in Diamond Fields, nr. Kimberley, S. Africa.
Beamstead, *t.* in co. Dorset, Eng., p. 2,213. [p. 22,400.
Bear Is., in Arctic Oc., 315 m. S. of Spitzbergen; also group of isls. N. of Siberia.
Bear Lake, on border of Idaho and Utah, from which Bear R. flows to Great Salt Lake.
Bear Lake, Great (14,000 sq. m.), N.W.T., Canada; has its outlet through the Great Bear R. into the Mackenzie.
Bear Mt., a hill (750 ft.) in Dauphin co., Penn., U.S.A.
Bearn, old name of French prov. now called Basses-Pyrénées.
Beas, or **Blas**, R. of the Punjab, one of the affluents (300 m.) of the Sutlej; rises in Kullu mts., 13,300 ft. above the sea. [Neh., U.S.A., p. 7,875.
Beatrice, health resort on Big Blue R., Cape co., Nebraska.
Beaucaire, *t.* on Rhone R., S.E. France, dep. Gard, noted for its fair, p. 9,724.

Beaucourt, *t.* (copper and iron mfts.) in France, 10 m. S.E. Belfort, p. 4,750.
Beaufort, *cap.* on N. Carolina, N. of Newport R., U.S.A., p. 2,195; also *wat. pt.* S. Carolina, on Port Royal Harbour, p. 4,170; also *vil.* in France, dep. Sarthe, p. 1,753; also *t.* in France, dep. Savoy, p. 2,402; also *t.* in France, dep. Maine-et-Loire (gave title to Eng. Beauforts), p. 4,850; also *vil.* nr. Tredegar, Monmouth co., Eng., extensive iron-works; also *t.* Victoria, 159 m. W.-N.W. of Melbourne, p. 5,140.
Beaufort West, *t.* and *div.* Cape Colony, S. Africa, (of *t.*) 2,000, (of *div.*) 10,550.
Beaulieu, old French *prov.*, now the wine-growing dist. of dep. Loire and Rhône.
Beaulieu, *par.* in co. Hants, Eng., 6 m. N.E. of Lymington, p. 1,010; also *t.* in France, dep. Corrèze on the Dordogne, p. 2,350.
Beaulieu, R. and *vil.* 10 m. W. from Inverness, Scotland; R. flows to Beaulieu Loch.
Beaumaris, *wat. pt.* on Menai Str.; cap. of Anglesey, Wales, p. 2,232. [trade in Burgundy wine, p. 12,000.
Beaune, *t.* in Côte d'Or dep., France, extensive Beautiful Valley, or Wilmington, co. Frome, S. Australia.
Beauvais, *cap.* of Oise, dep. France, 55 m. N. of Paris, noteworthy cathedral, 13th century architecture, p. 20,000. [Amiens, p. 2,542.
Beauval, *t.* France, dep. Somme, 14 m. N.E. of Beauvoir-sur-mer, *t.* in Vendée, 3 m. W. from sea, France, p. 2,450.
Beaver City, *cap.* of Beaver co., Oklahoma, U.S.A.
Beaver Creek, R. in N.W. Kansas and S. Nebraska, trib. of the Republican R., length 200 m.
Beaverdam, *c.* of Wisconsin, Dodge co., U.S.A., summer resort on Beaverdam L., p. 5,128.
Beaver Falls, *t.* in Penn., U.S.A., coal and natural gas region, p. 10,500.
Beaver Islands, group in N. part of L. Michigan, Manitow co., U.S.A.; largest, Big Beaver, 24 m. long.
Beaver R., in W. Penn., U.S.A., formed by union of Mahoning and Shenango R., joins the Ohio nr. Beaver Falls.
Beaverton, *vil.* on L. Simcoe, Ontario, Canada.
Beaur, or **Beawar**, *t.* Rajputana, India, Mervara dist.; cotton growing, p. 20,000.
Beaumont, *t.* Cheshire, Eng., on Mersey, 3 m. S.E. of Lichfield, p. 10,000.
Béancour, *t.* in Quebec, Canada, cap. Nicolet co., p. 2,500; on R. Béancour (70 m.), affl. of St. Lawrence. [Norwich, p. 7,139.
Beccles, *t.* Suffolk, Eng., on R. Waveney, 17 m. S.E. of Bechuanaland, Brit. Colony and Protectorate in S. Africa; stretching from Orange R. to the Zambesi, and merging westward in the Kalahari desert; divided into N. and S. Bechuanaland; total area 275,000 sq. m., p. (about) 125,000.
Beckenham, *t.* Kent, and residential suburb of London, p. 4,200.
Beckum, *t.* in Westphalia, Prussia, nr. Münster.
Bece (New and Old), two *t.* in Hungary (N.), 40 m. S.E. of Zombor, p. 7,200; (O.) 50 m. N. S. of Szegedin p. 15,000. [Allerton, p. 6,939.
Bedale, mkt. *t.* N. R. of Yorks, Eng., nr. North-Bedanga, *t.* in Murshidabad dist. of Bengal, India, p. 5,500. [Kirri and Lado.
Bedden, fortified *t.* on Nile, Equatorial Africa, between Beddgelert, *vil.* N. Wales, co.'s of Carnarvon and Merioneth; tourist resort, p. 1,500.
Beddington, *vil.* Surrey, Eng., nr. Croydon, p. 6,500.
Bedeguna, fortified *t.* in Bornu Kingdom, Africa.
Bedford (mfg. and mkt. *t.*), on R. Ouse, 50 m. N. of London, Eng.; Bunyan (born at Elstow, adjacent vil.) wrote *Pilgrim's Progress* in Bed. jail, p. 39,185; also *t.* in Lancashire, Eng., nr. Leigh, p. 7,500; also *t.* Pa., U.S.A., p. 2,167; C. Indiana, p. 6,215; C. Virginia, p. 3,500; also name of country in each of the U.S., Pa., Tenn., Va.; also *div.* and *t.* of C. Colony.
Bedfordshire, agricul. S. Midland co., Eng., 4,667 sq. m., p. 194,605.
Bedford Level, marshy *dist.*, area 400,000 acres, in co.'s Suffolk, Huntingdon, Norfolk, Northampton, Lincoln, and the Isle of Ely. The draining was begun by the then Earl of Bedford in 1634.

Bedikari, large fortified native *t.* in Africa Bornu Kingdom.

Bedizole, *vill.* nr. Brescia, Italy, p. 3,850.

Bedlington, *t.* Northumberland, Eng., nr. Morpeth, iron and coal; p. 2,537. [p. 6,176.]

Bedminster, *t.* Somerset, Eng., suburb of Bristol.

Bedonia, *t.* in Italy, nr. Borgo Toro, p. 8,000.

Bedouin, *t.* in dep. of Vaucluse, France, p. 2,400.

Bedum, *t.* nr. Appingedin, Holland, p. 5,500.

Bedwelly, *t.* on Welsh border of co. Monmouth; coal and iron works, p. 22,551.

Bedworth, colliery *t.* Warwick, Eng., 3 m. S. Nuneaton, p. 7,000. [Australia, p. 7,359.]

Beechworth, *ch. t.* Ovens goldfield dist., Victoria.

Beechy Point, *ch.* N.E. coast, Alaska. [p. 7,590.]

Beek, *t.* nr. confiu. of Rhine and Emsche R., Prussia.

Beemaring Mtn., highest peak Blue Mtns., N.S.W., alt. 4,100 ft. [p. 2,850.]

Beekmantown, *vill.* Clinton, co. New York, U.S.A., p. 1,500.

Beekman, *t.* Queensland, 24 m. S. Brisbane, p. 850 (of dist. 6,500). [Meknagen, Germany, alt. 3,266 ft.]

Beerberg, highest *mt.* of the Thuringerwald, nr. Beerfelden, *vill.* in Hesse, Germany, p. 2,540.

Beerneem, *t.* of West Flanders, Belgium, nr. Bruges, p. 5,000. [Palestine.]

Beerasha, ruined ant. frontier post in S. of Beersia, *t.* in prov. of E. Grönningen, Holland, p. 5,000.

Beeskow, *t.* in prov. of Brandenburg, on K. Spree, Prussia, p. 4,000.

Beeston, *t.* in co. Nottingham (sub. city), Eng., p. 11,341; also outlying sub. of Leeds, W.R. Yorks, p. 3,750. [Ireland.]

Beg, Lough, co. Antrim, above Lough Neagh.

Bega, *t.* on R. Bega, co. Auckland, New Zealand, 255 m. S.W. of Sydney; cheese factories, p. 2,540; also R. and canal in S. Hungary, trib. to R. Theiss.

Begamabad, *t.* nr. Meerut, India, p. 2,500.

Begharni or Bagharni, country of Central Soudan, S. of L. Chad, N. Africa; cap. Maenaia, p. 12,500.

Bégles, *mtg. t.* dep. Gironde, France, nr. Bordeaux.

Beg-Shahr or Bey-Shahr, *L.* (25 m. long) and sm. *t.* on bank, in Konieh vilayet, Asiatic Turkey.

Behar and Orissa, new *prov.* Brit. India, comprising Behar, Orissa, and Chota-Nagpur (formerly part of Bengal), as well as the Sambalpur district; total area 113,000 sq. m., pop. over 35,000,000. Patna, the chief city, has a pop. of about 137,000.

Behbahan or Bahaban, *t.* in Fars prov., Persia; p. 10,500.

Behring Isl. or Bering Isl., the most W. of the Aleutian Group in the N. Pacific.

Behring Sea, part of N. Pacific Ocean between the Aleutian Isl. and Behring Str., upwards of 1,500 m., also called the Sea of Kamchatka; Behring Str. is the narrow sea which separates Asia (Siberia) from N. America (Alaska); 36 m. wide at narrowest part.

Beilan, *t.* and *mt.* pass in Syria, Asiatic Turkey, E. of G. of Iskanderoun; the anc. Amanus or "Syrian Gates." Here the Egyptians under Ibrahim Pasha defeated the Turks in 1832; p. of modern *t.*, 6,000.

Beilen, *t.* Drenthe, Holland, nr. Assen, on Havelor R., p. 5,000. [Canada, p. 1,950.]

Beilingries, sm. *t.* in Franconia, Bavaria, on Ludwig's R.

Beira, *prov.* Portugal on Spanish border; area, 9,248 sq. m., p. 1,500,000, cap. Coimbra; also port on Massanone B. in the Indian Ocean, at mouth of Pungwe R., important point of Portuguese E. Africa, Reut. (See Beyruit). [p. 5,500.]

Bel-el-Fakih, *t.* Yemen, Arabia, on Red Sea, N. of Mocha; coffee trade, p. 8,000.

Belth, industri. *t.* N. Ayr, 20 m. from Glasgow, Scotl.

Beitstad, *t.* Norway, 55 m. N.E. Trondhjem, on Beitstad Fjord, p. 5,000.

Beja, *t.* in Alentejo prov., Portugal, the Roman "Fax Julia," p. 9,000, in pig-breeding dist. [p. 12,000.]

Bejar, *t.* prov. Salamanca, Spain; cloth mfts.

Bejetak, *t.* govt. of Tver, Russia, great annual fair, p. 12,500.

Bejucal, *t.* Cuba, 75 m. from Havana, p. 8,000.

Beljuma, *t.* in Carabobo State, Venezuela, p. 8,500.

Bekecs or Bekesvar, *t.* Hungary, at junction of Black and White Koro R., p. 28,000.

Bela or Las Bela, *t.* of sm. Ind. State, S. of the Kalat, Baluchistan, ruled by the Jam under protection of Brit. Raj; p. (of *t.*) 5,000. Also a *t.* of

Brit. Ind., admin. hdqrs. of Partabgarh dist. of Oudh, 80 m. from Benares, p. 9,000. Also a *t.* in Hungary, nr. Keszmark, p. 2,800. [p. 1,500.]

Belair, upland *t.* S. Australia, 7 m. S.E. Adelaide.

Belalcazar, *t.* Spain, 45 m. N.N.W. Cordova, woolen mfts., p. 7,682.

Belbays or Belbeis, *t.* Egypt, 28 m. N.E. Cairo, besieged and captured by Crusaders in 12th cent., now imp't trade centre on Nile, p. 12,000.

Belcher Isle, two sm. groups in Hudson's Bay.

Belchertown, *t.* in Massachusetts, U.S.A., p. 2,850.

Belchite, *t.* Spain, 20 m. S. Saragossa, p. 4,000.

Belda or Balda, *t.* in the Cameron co., N.E. Africa.

Beled-el-Jerid, region of N. Africa, S. of Algeria, "the country of dates," [monastery, p. 50,000.]

Belem, *t.* Portugal, suburb of Lisbon, fine church and

Belen, *t.* in prov. Catamarca, Argentine Republic, p. 3,215. [p. 2,750.]

Belenyas, *t.* on Koro R., 30 m. S.E. of Crosswarden.

Belesta, *t.* in prov. Ariège, 28 m. E. of Foix; wool and marble, p. 6,400.

Belfast, *c.* and *port* on B. Lough, co. Antrim, and partly co. Down, largest *c.* in Ireland, 100 m. N. of Dublin; linen mfg., shipbuilding, p. 385,492; also *c.* Maine, U.S.A., on Penobscot R., p. 4,015; also sp't. of Victoria (sometimes called Port Fairy), 180 m. W.S.W. of Melbourne, p. 2,250.

Belford, *t.* Northumberland, Eng., 75 m. S.W. of Berwick, p. 5,006; also *c.* N.S.W., 138 m. N. Sydney, p. 840.

Belfort, *t.* in E. France, in the ceded prov. of Haut-Rhin, between Jura and the Vosges, strongly fortified, p. 32,112. [Persante, Prussia, p. 8,000.]

Belgard, *t.* Pomerania, 16 m. S.W. of Coslin, on K.

Belgaum, *cap.* of dist. Carnatic, Bombay Pres., India; cotton-weaving cent., p. 26,237. Belgaum dist. has area 4,597 sq. m., p. just under a million, mainly engaged in growing millet, rice, grain, cotton, etc.

Belgojoso, *t.* in prov. Pavia, N. Italy, p. 4,788.

Belgium (11,373 sq. m.), p. 6,700,000. Small, but industrially imp. European co., enclosed by France, Holland, Germany, and the North Sea; cap. Brussels, chief p. Antwerp; universities at Ghent, Liège, Louvain, and the cap.

Belgorod or Belgoiud ("the white city"), on Donetz R., Russian Government Kursk, p. 23,500.

Belgrade, *c.* cap. of Serbia, at junc. of Save R. and the Danube; centre of trade between Austria-Hungary and the Balkans. Bombed by Turks, 1852, p. 10,070. [Soar, p. 9,800.]

Belgrave, outlying *par.* nr. Leicester, Eng., on R.

Belgravia, S.W. dist. of London, Eng., mainly residential, once a Thames-side marsh. [p. 550.]

Belhaven, *par.* nr. Dunbar, Haddington co., Scotl.

Belhelvie, coast *par.*, co. Aberdeen, Scotl., p. 1,491.

Belize or Balize, *cap.* of Brit. Honduras, Cent. America, exports mahogany, etc., p. 9,200.

Bella, *t.* in prov. Basilicata, Italy, p. 6,700. [p. 4,960.]

Bellac, *t.* in the Vaucluse R., tr. Liège, France, p. 1,500.

Bellaggio, picturesque *vill.* on L. Como, Italy, p. 3,600.

Bellaire, *mtg. t.* on Ohio R., U.S.A., 5 m. S. of Wheeling, p. 10,000.

Bellary or Bellari, *mtg. stn.* and *dist.*, Madras Pres., India. Here Hoer prisoners of war were sent in 1807; p. (of *c.*) 58,000, area of dist. 5,975 sq. m., p. 947,320.

Bellas, *t.* on R. Anceiva, nr. Lisbon, Portugal, p. 2,800.

Belle Fontaine, *vill.* in the Vosges, nr. Espinal, France, p. 1,884; also cap. of Logan co., Ohio, U.S.A., p. 6,649.

Bellefonte, *cap.* of Centre co., Penn., U.S.A., on Spring Creek, p. 4,216.

Bellefleur, French *port* on Spanish frontier; also *t.* in depts. Ain and Gard, France.

Belle Isle, *isl.* and *str.* between Newfoundland and Labrador, in Conception B.

Bellenden Ker Hills, *mt.* range in N. Queensland, S. of Cairns; highest peak, 4,100 ft.

Belleville, univ. *t.* on L. Ontario, Canada, p. 9,117; also a populous N.E. suburb of Paris; also *c.* in dep. Rhône, nr. Lyons, France, p. 3,000; also cap. *c.* of St. Clair co., Ill., U.S.A., p. 30,000.

Bellevue, goldfield centre on Woolgar R., Queensland; also *t.* on Lake Shore Ry., Ohio, U.S.A., p. 2,500; also *t.* in Campbell co., Kentucky, p. 6,322.

Bellingham, *par.* nr. Hexham, Northumberland co., Eng., p. 5,750.

Belinzon, *t.* on R. Ticino, Switz., nr. Lugano, p. 4,500.

Bellet Str. channel on Arctic coast, N. America; separates Boothia and N. Somerset.

Bell Rock, or **Inchcape**, famous rock and lighthouse on E. coast Scot., 19 m. S.E. of Arbroath. [p. 8,786.]

Bellshill, mining *t.* in Scot., co. Lanark, nr. Glasgow.

Belisina, *c.* and *prov.* in Venetia, N. Italy; area of prov. 1,593 sq. m., p. 199,400; cap. *c.* has a fine cathedral, and p. 18,549. [terr. from Rocky Mts.]

Belly R. in Canada, afflu. of Saskatchewan, in Alberta.

Belmont, *town*, on Cape Ry., S. Africa, 56 m. S. of Kimberley; battle Nov. 23rd, 1899.

Belmont, *t.* in France, dep. Loire, 24 m. N.E. Roanne, p. 2,800. There are in the U.S.A. no less than 27 places called Belmont, mostly sm. towns or villages; 5 also in Eng., one each in N.S.W., Victoria, Nova Scotia, and Ontario; and one at Barbados in the W. Indies.

Belmonte, *t.* on the Mediterranean, nr. Cosentino, Italy, p. 4,000; also *t.* in Spain, nr. Cuenca, p. 2,500.

Belmullet, fish, *wt.* in co. Mayo, nr. Ballina, p. 890.

Beloit, *c.* on Rock R., Wisconsin, U.S.A., p. 10,435.

Belona, *t.* in India, Nagpur dist., Cent. Prov., p. 3,400.

Belovar free *c.* in Croatia, 22 m. E. of Agram, p. 4,173.

Belper, mfg. *t.* on Derwent R., co. Derby, Eng., p. 17,643.

Belmont, *t.*, S. Australia, co. Frome, 382 m. N. of Beit, Great (37 m.) and Little (30 m.), two channels leading from the Baltic to the Kattegat and the North Sea. [p. 3,700.]

Belton, cap. of Bell co., Texas, U.S.A., on Leon R., Beltrubet, mkt. *t.* on R. Erne, co. Cavan, Ireland, Belachistan. [See Belachistan.] [p. 1,830.]

Belvedere, two *t.s.* in Italy, one on the Marches, W. of Ancona, p. 2,353; the other on the Mediterranean, 30 m. N.W. of Cosentino, p. 5,200.

Belves, *t.* in France, dep. Dordogne, p. 2,350.

Belvidere, *t.* in Illinois, cap. of Boone co., p. 6,947; also *t.* nr. Adelaide, S. Australia, p. 1,050.

Belvoir Castle (Duke of Rutland), nr. Grantham, on Lincoln and Leicester Border, Eng.

Belz, *t.* in Austrian Galicia, nr. Lemberg, p. 4,960.

Benabotoka, bay on N. coast, Madagascar.

Ben Alder, *mtn.* of Grampian range, Scot., nr. Loch Erich, alt. 3,757 ft. [dist. p. 8,652.]

Benalla, *t.* in Victoria, 122 m. N.E. Melbourne, in fruit.

Benares or **Varanasi**, famous sacred *c.* on the Ganges, 420 m. N.W. of Calcutta. Great yajurman resort, p. 209,095. Benares district, on both sides of the Ganges, covers an area of 1,099 sq. m. and the div. of the N.W. Prov., in which city and dist. stands, extends to 10,414 sq. m., p. 5,000,000.

Ben Arthur, *mtn.* in co. Argyll, Scot., alt. 2,891 ft.

Ben Attow, *mtn.* in co.'s Ross and Inverness, Scot., alt. 3,383 ft.

Ben Avon, *mn.* in co. Aberdeen, Scot., alt. 3,843 ft.

Benbulbin, (70 sq. m.), 121 of the Outer Hebrides, Scot., included in co. Inverness, p. 1,601. Benbulbin Sound is the passage between the ial. and South Uist.

Bentoolen, or **Benkoelen**, Dutch *residency* in Sumatra; area, 9,426 m., p. 158,765. Produces pepper, rice, tobacco, etc.

Ben Cruachan, *mtn.* co. Argyll, Scot., nr. Oban, alt. 3,669 ft.

Bender, fort *t.* on Dniester R., Bessarabia, Russia, 61 m. W. of Odessa, p. 45,000.

Bender Abbas (old name Gombroon), *t.* and *pt.* of Kirman prov., Persia, on Strait of Ormus. Trade with Bombay, etc., p. 8,000.

Bendigo, mining *dist.* co. Vicent, New Zealand, 175 m. N.W. of Dunedin.

Bendigo (otherwise Sandhurst), *c.* of Bendigo co., Victoria, Australia; centre of gold mining dist., which also produces wine and grain largely, p. 35,400.

Bendish, *par.* Perthshire, Scot., nr. Coupar Angus.

Ben Doran, or **Doireann**, *mtn.* co. Argyll, Scot., alt. 3,293 ft.

Benderi, *t.* on Rhine, Prussia, nr. Coblenz, p. 4,020.

Bendrambe, *pt.* of Anatoli, Asiatic Turkey, on Sea of Marmora, p. 10,000.

Bendzin, *t.* nr. Cracow, in Russn. Poland, p. 10,950.

Benevento, *c.* in Campania, S. Italy, p. 24,650; cap. of prov. of the same name, area 676 sq. m., p. 257,103; contains many Roman remains.

Bentley, *t.* nr. Schietstadt, Lower Alsace, p. 2,500.

Beneldalide, *t.* on Derwent R., co. Durham, Eng., p. 8,355. [Thames-Haven.]

Benfleet, North and South, *par.s.* in Essex, Eng., nr. Bengal, *pres.*, the newly-constituted province, comprises about 70,000 sq. m., including five Bengali-speaking divisions, the restoration of the old boundaries of partition being effected in 1912. The population (mostly Hindus) is about 42,000,000. Calcutta is the chief city, p. 1,222,373.

Bengal, Bay of (or Gulf of), part of Indian Ocean, washing E. shores of India and W. shores of the Indo-Chinese Peninsula. Receives waters of R. Krishna, Ganges, Brahmaputra, Irawadi, etc.

Bengal, Proper, or **Lower Bengal**, the S. part of the Lieut.-Govt. of Bengal, includes 26 Brit. dists. and two native States; its chief cities are Calcutta, Dacca, Murshidabad, Howrah, and Bardwan.

Bengazi, or **Ben-Ghazi**, *sp.* Barca, N. Africa, on Gulf of Sidra; supposed site of anc. Berenice or Hesperides, p. 10,000. [of Giant's Causeway.]

Bengore Head, *c.* on N. coast of Ireland, Antrim, E.

Bengura, coast *dist.* W. Africa, Portuguese, S. of Angola; p. 500,000, cap. São Filipe de Benguella, on Bay of same name, p. 2,500. [p. 5,200.]

Benha, *t.* in Egypt, on railway, 29 m. N. of Cairo.

Benhar, East, *wt.*, co. Linlithgow, Scot., p. 750.

Benholm, maritime *par.* co. Kincardine, Scot., anc. castle, p. 1,276. [Hope, alt. 3,040 ft.]

Ben Hope, *mtn.*, co. Sutherland, Scot., on Loch Ben, or Veni, *dep.* in N.E. of Bolivia, S. America, area, 16,003 sq. m., p. 20,000; cap. Trinidad, on large R. 100 m. same name (sometimes called Paro), which joins the Manoro to form the Madeira, afflu. of Amazon. [in wine growing dist., p. 8,000.]

Benicarlo, *sp.* in Spain, nr. Castellon, on the Medit.

Benicia, *t.* California, U.S.A., 40 m. N.E. of San Francisco, p. 3,000.

Beni-Hassan, *wt.* with catacombs, on Nile, Egypt, nr. Minieh. [p. 8,000.]

Beni Isguen, *t.* in Algerian Sahara, trading centre, Benin, kingdom in Upper Guinea, W. Africa, traversed by Benue R.; upto 1897 under savage rule, but now incorporated in Southern Nigeria, under British administration; p. estimated about 15,000 (5,000 of whom reside in or around Benin, the chief *t.*)

Benin, Right of, N. portion of Gulf of Guinea, W. of the Niger Delta, W. Africa.

Benissa, *t.* nr. Alicante in Spain, p. 4,835.

Beni-Suef, *t.* (cap. of prov.) in Egypt, on l. bank of Nile, p. 18,500. [alt. 3,284 ft.]

Ben Lawers, *mtn.*, co. Perth, on Loch Tay, Scot.; p. 18,500.

Ben Ledi, *mtn.*, co. Perth, Scot., N.W. of Callander, alt. 2,875 ft.

Ben Lomond, *mtn.* co. Stirling, Scot., E. side of Loch Lomond, alt. 1,022 ft.; also highest peak of New Eng. range, N.S.W., 5,000 ft., also *mtn.* in Tasmania, 5,010 ft.

Ben Macduill, *mtn.* S.W. Aberdeensh., Scot., Cairngorm grp.; second highest peak in Brit. Isl., 4,206 ft.

Ben More, *mtn.* S.W. Perthsh., Scot., 10 m. W. of Loch Earn, 3,843 ft.; also *mtn.* in co. Sutherland, the Hebrides, and the Isl. of Mull.

Benmore (or Fair Head), *c.* on coast of Antrim, north-easternmost point of Irel., stands 636 ft. above sea.

Ben Nevis, *mtn.* co. Inverness, Scot., at Lochiel, highest peak in Brit. Isles, observatory 4,206 ft.; also *mtn.* in Otago, New Zealand (9,125 ft.); in co. Cornwall, Tasmania (3,910 ft.) and range in Arizona, U.S.A.

Bennington, *t.* in S.E. Vermont, U.S.A., 34 m. N.E. of Albany; here British were repelled and defeated by Americans in 1777, p. 8,510.

Benowa, *c.* native cap. of Ludamar country on the Niger, *c.* of Senegambia, W. of Central Africa; Mungo Park here imprisoned.

Ben Rhydding, health and hydropathic resort, nr. Ilkley, W.R. Yorks, Eng.

Benzenberg, *t.* nr. Cologne, Rhenish Prussia, p. 10,500.

- Bentham**, mkt. *t.* in N. of W.R. Yorks, Eng., nr. Settle, p. 6,351.
- Benton Harbour**, *t.* on L. Michigan, U.S.A., p. 6,800. There are about fifty diff. places in U.S.A. (mostly sm. t.s.) called Benton.
- Benne or Binau**, R. W. Africa, chief trib. of Niger.
- Ben Veau**, *mt.*, nr. Loch Katrine, Perth, Scotl., alt. 2,393 ft.
- Ben Vorlich**, *mt.*, W. of Loch Lomond, alt. 3,092 ft.; also mtn. S. of Loch Earn, Perth, Scotl., alt. 3,724 ft.
- Benwell**, *t.*, co. Northumberland, Eng. (sub. of New-castle), p. 28,121. [3,429 ft.]
- Ben Wyvis**, *mt.*, nr. Dingwall, co. Ross, Scotl., alt. 3,671 ft.
- Ben-y-Gloe**, *mt.*, in Glen Tilt, Perthsh., Scotl., alt. 3,671 ft. [India.]
- Berqua or Bacoya**, most N. isl. in Grenadines, W. Berar. (See Central Provinces and Berar.)
- Berat**, *t.* in S. Albania, European Turkey, p. 12,000.
- Beraun**, old industr. *t.* in Bohemian Austria, p. (Czechs) 9,693.
- Berber**, *t.* between the Atbara R. mouth and the Fifth Cataract of the Nile, Nubia. Taken by Mahdists in 1884, p. (estimated) 20,000, connected by rail with Cairo and Khartoum, also with the Red Sea port of Suakim.
- Berber**, *cap.* of Brit. Somali Prot., important port on S. of Aden, big mkt. pl. for inland trade, in "the land of incense" of the ancients.
- Berbice**, E. div. Brit. Guiana; formerly a Dutch col., p. 30,000; Berbice t. (sometimes called New Amsterdam) is a port on the R. Berbice, nr. its entrance to the Atlantic.
- Berecto**, *t.* in Italy, 25 m. S.W. Parma, p. 7,000.
- Berchem**, *t.* in Belgium (sub. of Antwerp), p. 21,500.
- Berck-sur-Mer**, *wat. pl.* in France, on Eng. Chnl., p. 7,350.
- Bereitschew**, or Berditschew, *t.* in S.W. Russia, 90 m. N. Kiev, large trade in wine, honey, and cattle, p. 54,287. [salt industry, p. 27,279]
- Berdyanak**, *t.* on S. of Azov, S. Russia, a centre of Beregszasz, Magyar t. nr. Tokay, Hungary, p. 10,000.
- Berent**, or Berhend, *t.* nr. Dantzig, Prussia, p. 4,500.
- Bere Regis**, mkt. *t.* in Dorset, Eng., p. 3,498.
- Beresina** (350 m.), R. W. Russia, trib. of Dnieper; French disaster on the retreat from Moscow, 1812.
- Berezov**, Russian *t.* on Sovva R., Siberia, in Tobolsk govt.; prison place of political offenders, p. 3,000.
- Berezovsky Zavod**, *t.* on Pysma R. on the Ural slope, E. Russia, govt. of Perm; centre of gold-mining region, p. 10,000.
- Berga**, *t.* in Spain, prov. Barcelona, supposed Castrum Bergum of Livy, p. 5,439.
- Bergama**, *c.* 42 m. N.E. Smyrna, Asia Minor, anc. Pergamos; int. remains, p. 5,500.
- Bergamo**, *c.* Italy, 34 m. N.E. Milan, fine cathedral and academy, p. 45,785; cap. of Bergamo prov. on Tyrol frontier; silk industry, area 7,027 sq. m., p. 460,000.
- Bergedorf**, mfg. *t.* in Schleswig-Holstein, 10 m. E. of Hamburg, p. 10,250.
- Bergen**, *sp.* and fortified *c.* on W. coast Norway, now most important commercial pt. in kingdom, p. 70,867; also *t.* in Holland, prov. Brabant (Bergen-op-Zoom), p. 12,000; also another Netherlands *t.* nr. Limburg, on Meuse, p. 5,000; also *t.* on Rugen Isl. in the Baltic, S. Germany, p. 4,330; also several sm. t.s. in the interior of Germany; and stn. on C. F. Ry., prov. Mantolia, nr. Winnipeg.
- Bergerac**, *t.* on Dordogne R., S. France, anc. Huguenot stronghold, p. 16,500.
- Bergovatz**, or Berkovatz, *t.* Bulgaria, 50 m. S. Widin, p. 6,430. [Kirk, p. 6,200.]
- Bergues**, fort. *t.* Nord prov. France, 5 m. S.E. Lille.
- Berhampur**, or Berhampoor, milit. stn. Madras, India, headquarters Ganjam dist., p. 25,000; also cap. Murshidabad dist. Bengal, p. 25,500.
- Beri**, *t.* Punjab, India, Kohat dist., p. 10,000.
- Beria**, anc. *t.* Nimar dist., Cent. Prov., India [p. 12,081.]
- Berislav**, *t.* in S. Russia, govt. Kherson; flour mls., p. 13,500.
- Berkeley**, *t.* in Spain, prov. Almeria, wine and fruit dist., p. 13,500.
- Berkeley**, *t.* on Avon R., Gloucester, Eng., p. 6,554; also university *c.* Alameda co., California, nr. San Francisco, U.S.A., suffered in earthquake disaster of 1906, p. 40,434; also *t.* (and county) in Virginia, U.S.A.
- Berkhamstead**, mkt. *t.* Herts., 30 m. N.W. London, Eng.; chemical factory, p. 7,302.
- Berkshire**, area 722 sq. m., p. 323,428, agr. co. S. of the Thames, Eng., co. t. Reading.
- Berliad**, or Berlat, chf. *t.* of Tutova dist., Roumania, horse fair and soap factories; p. 23,000 (one-fourth Jews).
- Berlaer**, vil. prov. of Antwerp, Belgium, p. 3,850.
- Berlanga**, *t.* in Spain, 65 m. S.E. of Badajoz, p. 5,000; also *t.* 22 m. S.W. of Soria, p. 2,350. [p. 2,100.]
- Berleburg**, *t.* in Westphalia, Germany, nr. Arnsberg.
- Berlin**, *c.* cap. of Prussia, and of German Empire, on E. Spree; third *c.* on continent of Europe for population, which, with suburbs, now reaches over 2½ mls.; also *t.* Wisconsin, U.S.A., p. 5,000; also *t.* Ont., Canada, p. 15,500; also *t.* in Connecticut, U.S.A., p. 2,850; also gold-digging dist. of Victoria, co. Gladstone, 130 m. N.W. Melbourne; also lumber *t.* in forest region New Hampshire, U.S.A., p. 12,230.
- Berlinchen**, *t.* Prussia, on the Oder, p. 6,400. [p. 8,500.]
- Bermeo**, *sp.* Spain, nr. Bilbao, on Bay of Biscay.
- Bermundsey**, S.E. dist. of London, Eng., chiefly occupied by tanneries, wharves, and warehouses, p. (parly, bor.) 125,556.
- Bermudas**, Brit. group coralline isls. (560 in number) N. Atlantic, about 600 E. of S. Carolina, U.S.A., total area 20 sq. m.; Hamilton, on Long Island, is the chf. *t.*; arrowroot, cedar, coffee, cotton; p. (of the entire group) 18,944, of whom two-thirds are blacks or coloured people.
- Bermudez**, a former state of Venezuela, now divided into Barcelona and Sucre.
- Bern**, or Berne, *cap.* of canton of same name in Switz., on R. Aar; seat of Swiss Govt. since 1483; university, p. 26,204. The canton of Bern covers 2,667 sq. m. (2,772 productive, the rest occupied by lakes and glaciers), p. 57,083. Alps in this canton called the "Bernese Oberland." [Taranto, p. 7,540.]
- Bernalda**, *t.* in prov. of Potenza, Italy, S.W. of Bernard, Great St., one of the Alps in the S. of the Valais, Switzerland, highest pt. 11,116 ft., height of mtn. pas between Italy and Switz., 8,108 ft. Famous hospice for travellers in monastery on mtn.
- Bernard**, Little St., one of the Graian Alps in Savoy, S. of Mt. Blanc; alt. of convent above pass leading from France to Italy (traversed by Hannibal's army, 218 B.C.), 7,076 ft.
- Bernau**, *t.* in Prussia, 13 m. N.E. of Berlin, p. 7,350.
- Bernay**, *t.* Eure dep., France, nr. Rouen, imp. horse fair, p. 8,150. [on the Saale, p. 35,000.]
- Bernburg**, mfg. *t.* in Duchy of Anhalt, N. Germany.
- Bernera**, Great and Little, and Berneray, three sm. isls. of Outer Hebrides, co. Inverness, Scotl.
- Berni**, *t.* in Etah dist., N.W. Prov., India, p. 3,850.
- Bernina**, *mt.* (alt. 13,205 ft.) and pass in Rhaetian Alps, height of pass (leading from Samaden in the Engadine to Tirano, Italy), 7,658 ft.
- Bernstadt**, *t.* in Silesia, Prussia, nr. Breslau, p. 4,500.
- Berri**, old prov. France, now comprises depts. Cher and Indre.
- Berran**, *t.* nr. Garlaia, in Algerian Sahara, p. 3,570.
- Berrima**, *t.* in N.S.W., 80 m. S.W. Sydney, p. (of dist.) 7,530. [Bologna, famous for wines, p. 7,520.]
- Bertinoro**, *t.* in prov. Forlì, Italy, 40 m. S.E. of Bertio, or Inverberio, *sp.* Kincairdshires, Scotl., one of the Montrose Burghs, p. 2,391.
- Berwick**, *t.* and agr. dist. in Victoria, 27 m. S.E. Melbourne, p. 4,200; also several pars. in Scotl. and Eng., and towns in U.S.A.
- Berwick-on-Tweed**, *sp.* Northumberland, Eng., p. (including Tweedmouth and Spittal) 13,529.
- Berwickshire**, maritime co. S.E. of Scotl., 464 sq. m., p. 29,643, co. t. Greenlaw. [2,716 ft.]
- Bervyn Mtns.**, range mid-Wales, alt. of highest peak, Bessancon, watch and clock-making *t.*, dep. Dobs, France, p. 55,266.
- Beshaket**, *t.* in Govt. of Tver, Russia, p. 5,180.
- Besigheim**, *t.* nr. Stuttgart, Württemberg, p. 3,275.
- Besika Bay**, W. coast Asia Minor, nr. Isl. of Rhodes, and entrance to Dardanelles.
- Besal**, *t.* Asia Minor, 30 m. W.N.W. of Samsat, p.

Bessarabia, *govt.* S.W. Russia, area 17,619 sq. m., p. 2,000,000; taken finally by Russia from Turkey in 1812. Very productive agric. co. lying between Austria and Roumania and the Black Sea and Russia proper. [p. 1,500.]

Bessbrook, *t.* on Newry Canal, Armagh, Ireland, p. 1,500.

Bessèges, *t.* Gard dep., France, colliery dist., p. 10,000.

Bessemer, iron-smelting *t.* in Jefferson co., Alabama, U.S.A., p. 6,325; also smt. t.'s in Colorado and Michigan, U.S.A.

Bessingen, *suburb* of Darmstadt, Germany, p. 9,580.

Besuki, mountainous *prov.* and *t.* in the E. end of Java.

Betanzos, *t.* Spain, 10 m. S.E. Coruña, p. 8,500.

Betawadi, *t.* Khandesh dist., Bombay Pres., India, p. 5,254.

Bet-Bet, *t.* Victoria, mining and farming dist., 103 m. N.W. Melbourne, p. 5,024.

Betchworth, Surrey, p. 9,648. [Calais, p. 4,530.]

Bethane, *fortd.* *t.* in France, on R. Brete, dep. Pas-de-Calais, mining *t.*, Victoria, 204 m. N. Melbourne, p. 6,430. [now called El-Azariyeh.]

Bethany, *vill.* on Mt. of Olives, 2 m. from Jerusalem, Bethany, miss. *stn.*, S.W. Africa, on the Goab R. in Gt. Namaqualand.

Bethel, *t.* (ruined), 20 m. N. Jerusalem: the modern Beitin; also smt. t.'s in Maine, South Carolina, Connecticut, Alabama, and New York, U.S.A.

Bethelshorp, miss. *stn.*, P. Elizabeth, C. Colony.

Bethesda, *t.* Carnarvonsh., Wales, nr. Penrlyn slate quarries, p. 4,716; also township in York co., S. Carolina, U.S.A., p. 3,759.

Beth-Horon, *vill.* nr. Jerusalem, Palestine; here Joshua defeated the Amorites.

Bethlehem, *t.* 5½ m. S.W. Jerusalem, Palestine; birthplace of Christ, modern Beit-Lahm, p. 8,000.

Bethlehem, *t.* U.S.A., 35 m. N. Philadelphia; iron-works, p. 7,293.

Bethman Green, *ber.* of E. London, Eng., p. 128,282.

Bethphage, *vill.* on Mt. of Olives, above Bethany, Palestine. [Palestine.]

Bethsaida, *anc. vill.* on W. side of S. of Galilee, Bethulle, *t.* in Orange River Col., S. Africa, p. 4,850.

Bethune, *fort.* N.E. France, coalfields, p. 12,376.

Bethungra, *t.* in co. Clarendon, N.S.W., p. (of dist.) 4,240. [p. 18,000.]

Betigeri, *t.* Dharwar dist., Bombay Pres., India, Betakmites, *R.* in Quebec, trib. of the St. Lawrence.

Bettia, *t.* in Chamburan dist., Bengal, India; fine Rajah's palace, p. 24,000. [Wales, nr. Llanwrst.]

Bettwys-Cood, *tour*, and artists' resort, Carnarvonsh., Betul, *t.* (p. 5,100) and *dist.*, Narbuda div., Cent. Prov., India; area of dist. 3,224 m., p. 285,324; suffered severely by famine. [Junna R.]

Betwa (350 m.), *R.* of Bhophal N.W.P., India, trib. of Beutelsbach, *t.* nr. Stuttgart, Bavaria, p. 1,570.

Beuthen, or Oberbeuthen, mining *t.*, Silesia, Prus., nr. Breslau, p. 51,500. [Eng. Chan. nr. Le Havre.]

Beuzeval-Houlgate, watering place of France, on Beuzeville, *t.* Eure dep., France, nr. Pont-Audouin, p. 3,000.

Bevagna, *t.* Italy, 18 m. S.E. Perugia, p. 6,000.

Beverdo, large *l.* in Prov. Mendoza, Argentina.

Beverland, N. (length 13 m.) and S. (23 m.) two *isls.* in estuary of Scheldt R. nr. Walcheren, Holland.

Beveren, *t.* in Hanover, nr. Lüneburg, p. 1,897.

Beveren, *t.* in prov. E. Flanders, nr. Ghent, Belgium, p. 9,104. [The Old Maas and Hollands Diep.]

Beverland, or Bjerland, *isl.* in S. Holland, between Beverley, mkt. E. R. Yorks, 9 m. from Hull, fine minister; p. 13,654; also *t.* on R. Avon, W. Australia.

Beverley, *t.* Essex co., Mass., U.S.A., p. 13,884; also *vill.* on Delaware R., New Jersey, U.S.A., p. 3,500.

Bevern, *vill.* in Brunswick, Germany, p. 2,250.

Beverungen, mfg. *t.* on R. Weser, Westphalia, Germany, p. 2,846.

Beverwyk, *t.* nr. Haarlem, North Holland, p. 3,854.

Bewcastle, *par.* in co. Cumberland, Eng., nr. Brampton, p. 1,640. [p. 2,745.]

Bewdley, *t.* on R. Severn, co. Worcester, Eng., p. 4,500.

Bex, *t.* on R. Rhône, in canton Vaud, Switzerland, p. 4,500.

Bexhill, watering place, Sussex, Eng., 5 m. W. of Bexley, *t.* W. Kent, 15 m. S.E. London, Eng., p. 15,895.

Beyed Mt., Tigre, Abyssinia, alt. 26,000 ft. [Eng.]

Beymhurst, a *hundred* of Berks co. (on Thames side), p. 1,000.

Beyrout, or Baidrut, *stn.* on Syrian coast, 57 m. W.N.W. Damascus, *anc.* and *histor.* t., now a busy shipping and mercantile centre, p. 140,800.

Bezdan, *t.* Hungary, on R. Danube, p. 8,140; also *t.* in Austria, on R. Woivodina, p. 9,264.

Béziers, or Béziers, *t.* dep. Hérault, France, on R. Orb, brandy distilleries, p. 52,310.

Bezwaad, *t.* and irrigation headquarters on Kistna R., Madras, India, p. 24,000.

Bhabua, *t.* in Shahabad dist., Bengal, India, p. 5,830.

Bhadarwa, petty *state* in Bombay Pres., India, p. 10,050.

Bhagalpur, *dist.* and *div.* of Behar, prov. Bengal, India; also *t.* cap. of dist. on S. bank of Ganges; area of div. 20,511 sq. m., of dist. 4,225 sq. m.; p. (of cap.) 75,000; (of dist.) 2,000,000; (of div.) nearly 9,000,000.

Bhagirathi, *R.* of Bengal, branch ("sacred" channel) of Ganges, joins Jalangi R. 10 form the Hooghli.

Bhamo, *t.* Upper Burma, on R. Irwadi; *anc.* cap. of Shan State of Manniaw. In rich teak forest dist. Steamer com. with Mandalay (300 m.), p. 8,550.

Bhandara, or Bhandara, *dist.* Nagpur, Cent. Prov., India; area, 3,968 m., p. 663,578, cap. Bhandar, on Wanganga R., p. 14,000. [p. 20,000.]

Bhanpura, *t.* on Kewa R., Indore State, India.

Bhartpur, or Bharatpur (sometimes also written Bhurtপুর), a native *state* in India, Rajputana Agency, area 1,961 sq. m., p. 626,120, cap. Bharatpur city, 34 m. W. of Agra, p. 50,000.

Bhaunagar, *nat. state*, India, Bhaunagar Pres. (Kathawar, Gujarat div.), area 2,860 sq. m., p. 450,000. This *state* suffered terribly in the famine of 1899-1900; cap. Bhaunagar, on the Gulf of Cambay, p. 60,000. [p. 18,500.]

Bhera, *t.* Shahpur dist., Punjab, on R. Jhelum, Bhilgarh, *t.* in Gwalior Ter., Cent. India, p. 6,450.

Bhilwara, collective name of 17 *nat. States*, Central India; also *t.* in Udaipur State, Rajputana.

Bhim Gora, sacred pool, place of Hindu pilgrimage, Saharanpur dist., Cent. Prov., India.

Bhiwani, cotton mfg. and trading *t.*, Hissar dist., Punjab, India, p. 38,500.

Bhojpur, *t.* and agr. centre, Shahabad dist., Bengal Pres., India, p. 1,000.

Bhopal, *nat. state*, India, Bengal Pres., area 6,874 sq. m., p. nearly 1,000,000, cap. Bhopal, p. 78,500.

Bhor, *nat. state*, Decan div., Bombay, India, area 1,491 sq. m., p. 137,269; cap. Bhor, 25 m. S. of Poona, p. 6,500. [p. 26,500.]

Bhu, *ch. t.* of Cutch, Gujarat div. of Bombay.

Bhutan, independent *state* in Eastern Himalayas; under Brit. protection since 1864, area (abt.) 16,000 sq. m., p. comparatively sparse, scattered and nomadic (abt.) 250,000.

Bhuvanewar, temple *c.* of Siva, Puri dist., Bengal, India, place of pilgrimage.

Biafra, sm. *co.* of Upper Guinea, W. Africa, bordering on Cameroons R. and Bight of Biafra.

Biala, *ch. t.* of govt. dist. in Galicia, Austria, textile industry, p. (mainly Germans) 8,440.

Bialystok, *t.* Russian Poland, nr. Grodno, leather and soap factories, p. 42,480.

Biana, *t.* Bharatpur State, Rajputana, India, 50 m. S.W. of Agra, p. 9,100.

Biancavilla, *t.* in Sicily, N.W. Catania, famous for oranges, p. 14,000.

Bians, *par.* of the Himalayas, Kumaon dist., India, alt. 18,000 ft.

Bianse, *t.* in prov. of Novaro, Italy, nr. Turin, p. 4,200.

Blarritz, *t.* and bathing resort, dep. Basses-Pyrénées, on Bay of Biscay, France, p. 12,812.

Bibbiano, *t.* in Emilia, Italy, nr. Reggio, p. 6,000.

Bibbiena, *t.* in prov. Arezzo, Italy, p. 6,500.

Bibbiona, *t.* in Italy, nr. Cecina, p. 4,840.

Biberach, *fort.* on R. Keiss R., Wurtemberg, p. 8,400; also *t.* on R. Kinzig, Baden, nr. Offenbourg, p. 1,400.

Bie, *isl.*, *vill.*, and *harbour*, on St. Lawrence R., Quebec.

Bicester, mkt. *f.* Eng., 12 m. N.E. Oxford, p. 3,385.
 Bicêtre, sub. *vill.* n. Paris, p. 3,340.
 Bida, *cap.* of Nupe country, Northern Nigeria, W. Africa, p. (of dist.) 8,000. [metal; p. 1200.]
 Bidar, *t.* in Haidarabad dist., S. India, mkt. Bidadar.
 Bidasoa, *r.* on Sp. and Fr. frontier, 6 (50 m.) into B. of Biscay. Here Wellington in 1813 defeated French under Soult. [p. 16,500.]
 Biddeford, *c.* 90 m. N. Boston, U.S.A., cotton mfrs., Biddeford, *par.* nr. Cranbrook, co. Kent, Eng., p. 1,740. [pottery dist., p. 7,425.]
 Biddulph, *t.* nr. Leek, co. Stafford, Eng., colliery and Bideford, *t.* nr. Banstaple, on R. Torridge, N. Devon, Eng., p. 9,074.
 Bidlish, *t.* in Turkey, dist. Erzerum, p. 15,000.
 Biebrich, mfg. *t.* and port on Rhine, nr. Wiesbaden, Prussia, p. 15,500. [fiscal schools, p. 21,500.]
 Biel or Bienna, mfg. *t.* in canton Berne, Switz., tech. Bielau, *t.* nr. Reichenbach, Silesia, Pr., p. 13,520.
 Bielaya-Tserkov, *t.* in Russia, nr. Kiev, extensive commerce, p. 20,000.
 Bielsfeld, *t.* in Westphalia, Prus., ch. centre of linen industry, p. 63,000.
 Bielew, *anc. t.* on Okla R., nr. Moscow, Russ., p. 10,000.
 Bielegorod, *t.* govt. of Kursk, Russ., on R. Donets, p. 22,500.
 Bielinea, *t.* of Svornik dist., Bosnia, p. 16,500.
 Bielitz, *t.* in Austr., Silesia, p. 17,500.
 Biella, textile *t.* 40 m. N. Turin, Italy, p. 29,000.
 Bielopol, *busdy distilling t.* 100 m. N.W. Khar'kov, Russia, p. 15,000. [10,000.]
 Bielsk, *t.* Grodno govt., W. Russia, nr. Bialystok, p. 10,500.
 Bielsky, *t.* in Bessarabia, Russia, nr. Kishinev, p. 10,500. [Bodina, 100 m. long by 30 m.]
 Bien-Hoa, or Tale-Sah, L. between bian and Cam-Bien-Hoa, *t.* in French Cochun China, 20 m. N. of Saigon, p. 20,000.
 Bienna, *L.* of 3 m. N.E. Neuchâtel, Switz., on which is *t.* of Bienna, or Biel (*q.v.*), length 27 m., breadth 24 m. [of Bradford, p. 22,130.]
 Bierley, *N. township*, W. R. Yorks, populous sub.
 Bies-Bosch, marshy L. (area 8 sq. m.) between N. Rhant and S. Holland, formed by inundation of R. Meuse in 1221.
 Bieske, *t.* 15 m. W. Budapest, Hung., p. 5,830.
 Biga (or Biglia), *t.* in Asia Minor, nr. Adramyti, p. 6,320.
 Big Bethel, *vill.* in E. Virginia, 10 m. N.W. of Fortress Monroe, U.S.A.; Confederate victory here in 1861.
 Big Black R. (500 m., navigable 50 m.), *trib.* of Mississippi R., U.S.A.; noted in Grant's campaign before Vicksburg, 1863.
 Big Blue R. (300 m.), *trib.* of Kansas R., U.S.A.
 Big Bone Lick, salt *spring* nr. Cincinnati, Kentucky, U.S.A., fossil deposits.
 Big Creek, name of eighteen sm. rivers in various pts. of U.S.A., also of eight dist. towns on banks of same. [lake.]
 Big Cypress R., Texas, U.S.A., falls into Caddo River, *t.* in co. Lanark, Scotl., p. 1,320.
 Biggry Isl., one of smaller Shetlands, between Yell and the mainland. [p. 5,375.]
 Biggleswade, *t.* co. Beds, Eng., 40 m. N.W. London.
 Big Horn Mts., in Wyoming and Montana, U.S.A., range of the Rockies, highest points alt. 12,000 ft.
 Big Horn R. (450 m.), *trib.* of Yellowstone R., Wyoming and S. Montana, U.S.A., called Wind R. in upper reaches.
 Bight of Benin, N. part of G. of Guinea, W. Africa.
 Bight of Biafra, E. part of G. of Guinea, W. Africa.
 Big Rapids, *t.* co. of Mecosta co., Michigan, U.S.A.
 Big Sandy Creek (300 m.) R., joins the Arkansas R. nr. the Kansas frontier, U.S.A. There are thirteen Big Sandy Creeks or Rivers in dif. pts. of the U.S.
 Big Sioux R., Dakota, U.S.A. (300 m.), *trib.* Missouri R. [300 m., U.S.A.]
 Big Stone Lake (25 m. long), Dakota and Minnesota, or Blatch, fort, *t.* in Bosnia, on R. Una, p. 4,530.
 Bihar, *t.* nr. Grosswardein, Hungary, p. 2,950.
 Bihar, *prov.* Brit. Ind. [See Bahar.]
 Bihat, petty *state*, Bundelkhand dist., Cent. India, area 25 sq. m., p. 1,704.
 Blhe, *t.* E. of Benguela, W. Africa, 5,800 ft. above sea.

Bijapur, *dec.* in Carnatic dist. of Bombay Pres., India, formerly called Kaladgi; area 5,668 sq. m., p. 735,000, cap. Bijapur, a very anc. city, with many picturesque ruins, p. 17,000.
 Bijawar, *nat. state*, Cent. India, Bundelkhand agency; area, 974 sq. m., p. 137,000.
 Bijnaur, or Bijnor, *dist.* N.W. Rohilkhand div., India, area 1,898 sq. m., p. 779,361; also *t.*, cap. of dist., p. 18,000.
 Bikanir, or Bikaner, *nat. state*, Rajputana, India, area 2,309 sq. m., p. 284,711, decreased 30 per c. by famine; also *t.*, cap. State, p. 68,000. [4,861.]
 Bilari, *t.* dist. of Moradabad, N.W. Prov., India, p. 11,500.
 Bilaspur, *dist.* in Chattisgarh div., Cent. Prov., India, p. 1,000,000, area 8,341 sq. m., cap., *t.* on R. Arpa, p. 19,100.
 Bilbao, *974*, N. Spain, cap. Basque prov. of Vizcaya, formerly famous for rapier making, p. 85,000.
 Bilsdon, *par.* Suffolk, Eng., nr. Hadleigh, p. 1,015.
 Bildt, *t.* in prov. Friesland, nr. Leeuwarden, Netherlands, p. 9,220. [silk industry, p. 10,500.]
 Biledjik, *ch. t.* in Bruza vilayet, Asia Minor, unpt. Bilga, *t.* in Jalandhar dist. Punjab, India, p. 7,000.
 Bilgoray, *t.* Russ. Poland, nr. Lublin, p. 7,234.
 Bilgram, *t.* in Oudh, India, nr. Hardoi, p. 12,000.
 Bilsaur, *t.* in Cawnpur, India, p. 5,947.
 Bihm, *t.* Bohemia, on Bela R., famous for its mineral waters, p. 8,000.
 Billabong, or Ilabo, goldfield *dist.*, co. Ashburnham, N.S.W.
 Billerica, *t.* co. Essex, Eng., p. 2,000.
 Billesdon, *par.* nr. Leicester, Eng., p. 6,973.
 Billinge, *par.* of Wigan, co. Lancashire, Eng., p. 4,904.
 Billingham, *t.* co. Durham, Eng., nr. Stock-on-on Tees, p. 3,500. [11,331.]
 Billingham, *par.* nr. Sleaford, co. Lincoln, Eng., p. 11,331.
 Billiton, *isl.* Dutch E. Indies, W. of Borneo, area 1,847 sq. m., p. 41,558. [co. Lancaster, Eng., p. 3,402.]
 Billington, cotton weav. *township*, nr. Blackburn, Lancashire, p. 10,000.
 Billom, *t.* in dep. Puy-de-Dôme, France, nr. Clermont, p. 5,000. [Colorado R.]
 Bill Williams R. (250 m.) in Arizona, U.S.A., afflt. of Bilma, or Hawar, *t.* and *dist.* Wady Kadar, Sahara.
 Biloxi, *c.* Harrison co., Mississippi, U.S.A., fashionable resort on coast, p. 6,100. [13,710.]
 Bilzen, *t.* in Belgium, nr. Hasselt, on R. Demer, p. 11,500.
 Bilston, *t.* Staffordshire, Eng., coal and iron mines, nr. Wolverhampton, p. 25,661.
 Bilton, *par.* nr. Rugby, co. Warwick, Eng., p. 780.
 BIMA, *974*, N. coast Sumatra, Dutch E. Indies.
 Binipatnam, *t.* in dist. Vizayapatnam, India, formerly a Dutch factory, p. (abt.) 10,000. [p. 10,000.]
 Binab, *t.* in Azerbaijan, Persia, 55 m. S.W. Tabriz.
 Binahola, or Bennebolea, *co.* Galway, Ireland, alt. 2,400 ft.; called also "Twelve Pins."
 Binacree, *par.* nr. Southwold, co. Suffolk, Eng., p. 750.
 Binalong, *t.* N.S.W., co. Harden, 508 m. S.W. Sydney, p. (of dist.) 4,500. [growing dist., p. 20,000.]
 Binaang, *t.* in Luzon Philippine Isls., fertile rice-
 Binchitz, *t.* in Hamuli *prov.*, co. E. of Mons, Belgium; lace and other factories, p. 22,500.
 Bind-dah, *t.* in Anam, nr. the coast.
 Bingen, *t.* on Rhine R., Hesse Darmstadt, Germany; wine, beautiful scenery, p. 20,000. [dist. 8,000.]
 Binger, *t.* on Gwydir R., N.S.W. goldfields, p. (of Bingham, *par.* nr. New Walsingham, co. Norfolk, Eng., p. 650.)
 Binghamton, *c.* cap. of Broome co., New York, U.S.A., on Susquehanna R., boot factories, p. 28,423.
 Bingley, *par.* *t.* W. R. Yorks, 5 m. N.W. Bradford, on R. Aire, p. 18,750.
 Bingöl-Daglı, *mtns.*, Asia Minor, between Armenia and Kurdistan; alt. of highest peak, 12,340 ft.
 Binondo, *suburb* of Manila, Philippine Isls., p. 160,000.
 Bintang, *isl.* Malay Archip. on Equator, Dutch E. Indies; noted for pepper and gum, p. 18,000.
 Binue, R. (See Benue.)
 Biobio, R., longest in Chili (300 m.), flows to Pacific.
 Biobio *prov.* in valley of R., area 4,342 sq. m., p. (abt.) 200,000, cap. Los Angeles.
 Biorneberg, *974*, Finland, on Gulf of Bothnia, p. 8,000.
 Bir, or Birejik, walled *t.* of Asiatic Turkey, on Euphrates R., the anc. Bithra or Bithra, p. 8,900. Many Armenians massacred here in 1895.

Birbham, *dist.*, Bardwan div., Bengal, India, area 1,752 sq. m.; silk-weaving industry, p. 905,000; administrative hq. Suri. [p. 15,000 ft.]

Birbhadran Pass, Himalaya Mtns., Kumaon *dist.*, alt. 10,000 ft.

Birchington, *t.* Kent, Eng., 3 m. W. Margate, p. 2,980.

Bird, *isl.* in Lough Stramford, co. Down; also *isl.* off Dominus Bay, co. Cork, Ireland. [p. 3,000.]

Birdsborough, *t.* Penna., on Schuylkill R., U.S.A., 10 m. S. of Pottsville.

Birgham, or **Brigham**, *val.* co. Berwick, nr. Cold-Birell. (See Bir.) [stream, Scotl.]

Birk, *dist.* in Nizam's dominion, Brit. India, area 4,460 sq. m., p. 650,000. [Ganges and Gogra, p. 9,500.]

Birka, *t.* in India, Ballia *dist.*, N.W. Prov., between Birloutch, *t.* in govt. Venosh, Russia, p. 4,200.

Birkdale, coast *t.* nr. Southport, Lancs., Eng., p. 12,000.

Birkfeld, *t.* (p. 2,764) and *princeps* W. of Rhine, Germany, belonging to Oldenburg, area 194 sq. m. (one-third forest), p. 45,000.

Birkenhead, *pt.* on R. Mersey, opp. Liverpool, Eng., 10 m. S. of Liverpool, p. 125,000; also esp. Jefferson co., Iron mfts., Alabama, U.S.A., p. 132,695; also t. Conn., U.S.A., on H R., p. 5,000; also a suburb of Pittsburg, Penna., U.S.A., S. of Monongahela R. [Bengal, p. 4,450.]

Birnat, *t.* and place of pilgrimage, Nadiya *dist.*, Burmah Wood, nr. Dunkeld, Perth, Scotl., formerly a royal forest, on a lofty hill range; referred to by Shakespeare in *Macbeth*. [Posen, p. 5,000.]

Birnaum, tobacco mfg. *t.* on R. Warta, Prussia, nr. Birnaum Wald, *plac.* in Carniola, N.E. of Trieste; the Roman station Ad Firmum on main rd. across Alps to Italy.

Birni, the former *cap.* of Bornu, in the Soudan.

Birk, or **Parsonstown**, mkt. *t.* King's co., Ireland, on Lit. Brossa, p. 5,000. Lord Rosse's telescope in observatory nr. here.

Birkat, trading *t.* on Belin R., govt. of Ufa, S.E. Russia.

Birkat, *t.* W.K. Yorks, Eng., 7½ m. S.W. Leeds, p. 7,777.

Birtle, *t.* in Shoul co., Manitoba, Canada, p. 1,480.

Birtle-cum-Barnford, mfg. *sub.* township of Bury, co. Lancaster, Eng., p. 4,760. [Gateshead, p. 4,504.]

Birtley, township in co. Durham, Eng., 5 m. S.E. of Birtley, p. 10,000.

Biscaccia, *t.* in prov. Avelino, Italy, p. 7,053.

Biscarino, *t.*, 28 m. S. Palermo, Sicily, p. 10,000.

Bisnagar, *t.* nr. Bareda, Bombay Pres., India, p. 30,000.

Bisauli, *t.* in Budan *dist.*, N.W. Prov., India, Rajah's *dist.*, p. 1,480.

Biscuit, *t.* in *isl.* of Malta, p. 4,000.

Biscay, **Biscaya**, or **Viscaya**, Spanish *prov.* on R. of Biscay, one of the Basque provs., area 849 sq. m., p. 300,000; mineral industries, shipping, etc., *cap.* Bilbao.

Biscay, Bay of, stormy arm of the Atlantic, W. of France and N. of Spain, extending from Ushant to Cape Ortegal. The Roman *sinu Aquitanicus*.

Biscaglia, *cap.* Ital., on Adriatic, fortified, p. 32,885.

Bischheim, *t.* Alsace, Ger., close to Strasbourg, p. 6,000.

Bischhoff, Mtn., tin min. *t.* in N. Tasmania, p. 2,400.

Bischofsburg, *t.* nr. Königsburg, Prussia, p. 5,200.

Bischofsweide, *t.* in Saxony, 20 m. E. of Dresden, on the R. Wesenitz; battle between the Allies and Napoleon on his retreat from Moscow in 1813; p. 7,005.

Bischweiler, *t.* in Lower Alsace, hop-growing *dist.*, *cap.* in co. Berks, Eng., on Thames, p. 1,200.

Bishampur Narban Khas, *t.* in Barabang *dist.*, Bengal, India, p. 5,000.

Bishampur, *anc.* *cap.* of Bankura *dist.*, Bengal, p. 10,000.

Bishop Auckland, *t.* on Wear and Gauness R., in co. Durham, Eng.; contains pal. of Bp. of Durham, p. 13,800.

Bishop's Castle, mkt. *t.* Shropshire, Eng., p. 2,366.

Bishop's Middleton, *t.* nr. Durham, Eng., p. 4,200.

Bishop's Stortford, mkt. *t.* on Stort R., Herts, Eng., p. 8,775.

Bishop's Waltham, mkt. *t.* Hants, Eng., p. 4,570.

Bishopthorpe, *par.* on the Ouse, nr. York, Eng., with palace of the Archbishop, p. 2,091.

Bishop Wootton, mfg. *t.* in parly. borough of Sunderland, Eng.

Bisignano, *t.* Italy, prov. Cosenza, p. 4,500.

Bisiera, *t.* Algeria, French winter resort, p. 8,700.

Bisley, mkt. *t.* Gloucester co., nr. Stroud, Eng., p. 5,200; also vol. rifle m., Surrey, 3 m. W. Woking, in succession to Wimbledon.

Bismarck, *cap.* of Burleigh co., N. Dakota, U.S.A., on the Missouri R., p. 4,000; also t. in Prussia, Saxony, nr. Magdeburg, p. 2,240.

Bismarck Arch, three large and several small *isls.* off German New Guinea, formerly known as New Britain. [p. 2,244.]

Bispham, *t.* nr. Ormskirk, co. Lancaster, Eng.

Bissagos, group *isls.* off W. Africa; partly claimed by Portugal; *prta.* t. Bolama.

Bissau, Portuguese *isl.* settlement at mth. of Rio Geba, Senegambia.

Bissau, *t.* in Jaipur, Rajputana, India, p. 6,800.

Bistritz, or **Nösen**, *t.* Transylvania, Austria-Hungary, on Bistritz R.; formerly an important place, p. 10,800.

Bistritz, *t.* Oudh *dist.*, Benares, India, p. 8,500.

Bitteto, *t.* on m. S. from Bari, p. 6,000.

Bithur, *t.* on Ganges, 12 m. from Cawnpur, p. 6,800.

Bitlis, or **Bedlis**, *t.* Asiatic Turkey, S.W. L. Van; mineral *dist.*; massacre of Armenians, 1895, p. 38,800.

Bitonto, *t.* Italy, 11 m. W. S.W. of Bari, the Roman Bituntum; fine cathedral, p. (commune) 30,000.

Bitche, or **Blitche**, formerly Kaltenhausen, *t.* fort., Alsace-Lorraine, 35 m. N. Strasbourg; formerly French, p. 3,600.

Bitterfeld, mfg. *t.* on R. Mulde, Saxony, built 17th cent. by Dutch immigrants, p. 13,000. [Canal.]

Bitter Lakes, *isls.* of Suez, now traversed by S. Briton, *t.* W. Gloucestersh., Eng., nr. Bristol, mining, p. 7,053.

Biwa, *L.* (area 180 sq. m.), prov. Kioto, Japan, 330 ft. above sea-level and 900 ft. deep, connected by canal Blythe, R. affl. of R. Congo, Africa. [with Osaka.]

Bizerta, or **Bizerte**, *cap.* Tunis, N. Africa, the anc. Hippo Zartus, p. 10,000.

Bizvak, *t.* nr. Eszék, Hungary, p. 2,900.

Bjorneborg, *t.* Finland, at mth. of R. Kumo, in G. of Bothnia, shipbldg., p. 13,000. [Whiteadder R.]

Blackadder, R. (20 m.), Berwicksh., Scotl., affl. of Blackall, *t.* in Queensland, on Barcoo R., p. 1,200.

Black Bluff, mtn. in N. Tasmania, alt. 4,981 ft.

Blackboy, goldfield *dist.*, Tasmania, 120 m. N. of Hobart. [133,004.]

Blackburn, *co.* Lorr. Lancash., Eng., cotton mfg., p. 133,004.

Black Cart, *co.* Rensfrew, Scotl., affl. of Clyde.

Black Combe, mtn., co. Cumberland, Eng., alt. 1,195 ft.

Black Country, S. Staffordsh., Eng., in midlands, mining and iron works.

Blackfoot Crossing, between Row and Deer R.'s, Canada.

Blackford, *par.* Perthsh., Scotl., nr. Dunblane, p. 1,374.

Black Forest, mtns. region in Wartenberg and Baden, S.W. Germany, area 1,234 sq. m.; highest peak Feldberg, alt. 4,900 ft., p. 450,000; *cap.* Reutlingen.

Black Gang Chine, picturesque *route* on S. coast of Isle of Wight, Eng. [U.S.A., p. 1,870.]

Black Hawk, mining *t.* in Rocky Mtns., Colorado.

Blackheath, open common, S.E. London, Eng., N.W. end of Kent, 70 acres.

Black Hills, mtns. between Dakota and Wyoming, U.S.A., highest, Harney's Peak, 7,215 ft.

Black Isle, the *penins.* in N. Scotl., between Benaly Basin and Cromarty Firth. [20 m. long.]

Black Lake, nr. Ogdenburg, New York, U.S.A.

Blacklag, mtn. in co.'s Ayr and Dumfries, Scotl., alt. 2,231 ft. [eye works, p. 30,430.]

Blackley, *t.* S.W. Lancash., Eng., nr. Manchester; Black Mountains, highest of the Appalachians (Clingman's Peak, 6,041 ft.); also mtn. range in Brecknocksh., S. Wales, highest peak, Brecknock Van, 2,691 ft.

Blackness Castle, on Firth of Forth, Linlithgow, Scotl., nr. Holmes; formerly State prison, now ammunition depôt.

Blackpool, *ber.* and watering *pl.*, Lancash., Eng., p. 56, 376.

Black River, *efflu.* of Arkansas R., U.S.A.; also R. in New York, emptying into Lake Ontario; also afflu. of the Ottawa R., Quebec; also forty other rivers (chiefly in America) in diff. parts of the world.

Blackrock, *t.* Ireland, suburb. *t.* in from Dublin, on the Bay, p. 9, 81; also *dist.* of Buffalo, New York, on the R. Niagara, U.S.A., scene of fighting between British and Americans, 1812-14.

Blackrod, *t.* Lancash., nr. Chorley, Eng., p. 3, 896.

Black, or Euxine, Sea, inland sea between Russia and Asia Minor, 740 m. long, 300 broad, receives waters of Danube, Dnieper, Dniester, Don, Bug, and other rivers; communicates with Mediterranean by Strait of Bosphorus, Sea of Marmora, and Dardanelles. Neutralised by Treaty of Paris, 1856.

Blacksea Bay, *coast* of co. Mayo, Ireland.

Blackstairs, *mtns.* Leinster, Ireland, highest peak, 2,670 ft. [p. 2, 500.]

Blackstocks, *vil.* nr. Columbia, S. Carolina, U.S.A., p. 7, 000.

Blackstone, *t.* on Blackstone R., Mass., U.S.A., p. 7, 000.

Blackville, *vil.* S. Carolina, nr. Charleston, U.S.A., p. 4, 270.

Blackwall, riverside *dist.* of Lond., par. of Poplar, Middlesex, N. of Thames. [Alabama, U.S.A., **Black Warrior R.** (300 m.), trib. of Tombigbee R.]

Blackwater, three rivers, Ireland, two, Hants and Essex, Eng.; and three in U.S.A. (Montana, Florida, and Virginia).

Blackwood, *t.* in S. Australia, nr. Adelaide, p. 1, 580.

Blackwood, W. Australia, 2,000 ft., South spur of Darling range, highest peak, 2,000 ft. Blackwood R. falls into Indian Ocean at Hardy Inlet.

Blauenavon, iron mfg. *t.* Mon., Eng., on R. Avon, 5 m. N. Pontypool, 12, 010.

Blagodats, Russian *mtn.* on slope of the Urals, nr. Kuzninsk ironworks; largest deposit of magnetic iron in the world, alt. 1,270 ft. (p. dist.) 52,000.

Blagovestchensk, important *t.* on Amur R. chief *t.* of the Amur prov., Asiatic Russia, p. 40,000. [p. 7, 200.]

Blain, *t.* nr. Nantes, prov. Loire-Inférieure, France, p. 1, 580.

Blair-Athol, *par.* in Perthshire, Scotl., p. 1, 580.

Blairgowrie, *t.* 20 m. N. of Perth, Scotl., p. 3, 249.

Blairsville, *t.* in Penn., U.S.A., (p. 3, 500); also *t.'s* in Georgia, S. Carolina and Indiana.

Blakeney, coast *par.* Norfolk, Eng., nr. Holt, p. 1, 120.

Blanc, *Le*, old *t.* Indre dep., France, p. 7, 000.

Blanc, *Mt.*, highest on the Alps, on French and Italian frontier, alt. 15,782 ft. Largest glacier, Mer de Glace; Valley of Chamounix at foot.

Blanca, Peak, highest *mtn.* in Colorado, U.S.A., 14,464 ft.

Blanchard, *t.* in Manitoba, Canada.

Blanche Town, *t.* co. Eyre, S. Australia, p. 1, 484.

Blanchland, *township* nr. Hexham, Northumberland, Eng., anc. abbey.

Blanco, C., extreme N. of Africa, opposite Sardinia; also several other headlands, on African coast and elsewhere. [p. 4, 478.]

Blandford, or Blandford Forum, *mkt.* *t.* in Dorset.

Blane, *R.* in Scotland, trib. of R. Endrick, and feeder of Loch Lomond.

Blanchfield, *vil.* Stirling co., nr. Kirkintilloch, p. 840.

Blanes, *Medit. pl.* of Spain, N.E. of Barcelona, p. 5, 746.

Blankenbergh, Belg. *wat. pl.*, W. Flanders, p. 4, 500

Brunswick, health resort in Harz Mts., Duchy of Brunswick, Germany, p. 11, 500.

Blantyre, *par.* and mining *dist.* nr. Hamilton, Lanark co. Scotland; birthplace of Dr. Livingstone, p. 16, 821.

Blantyre, *t.* in Nyassaland, Brit. Cent. Afr.

Blanzay, *t.* in dep. Saône-et-Loire, France, p. 5, 228.

Blarney, *vil.* 4 m. N.W. Cork, Ireland. Here is the famous castle and Blarney kissing-stone.

Blasket, or Blasket Is., group off S.W. coast of Ireland, nr. Dingle, co. Kerry.

Blavet, *R.* in dep. Côtes du Nord and Morbihan, France (87 m.). Romantic scenery in upper reaches.

Blaydon, mining and mfg. *t.* Durham, Eng., p. 31, 148.

Blaye, *pl.* on R. Gironde, nr. Bordeaux, S.W. France, the Roman Blava, p. 1, 640.

Blayney, *t.* N.S.W., 172 m. W. of Sydney, (p. dist.)

Bleiburg, lead mining *t.* in Carinthia, Austria, p. 3, 500.

Bleicherode, *t.* nr. Nordhausen, in Pruss. Saxony, p. 3, 597.

Blenheim, *vil.* on the Danube in Bavaria; Battle, Marlborough and Prince Eugene's "famous victory," 1704.

Blenheim, *cap.* of Marlborough, dist. N.Z., p. 4, 000.

Blenheim Park, castle palace of Duke of Marlborough, nr. Woodstock, Oxfordsh., Eng., built at cost of nation.

Blessington, *mkt.* *t.* in co. Wicklow, on R. Liffey, Ireland.

Bletchingley, *vil.* in Surrey, Eng., nr. Reigate, p. 2, 200.

Bletchley, *impt. ry. junc.* in Bucks, Eng.; also a sm. *t.'s* in S. Australia.

Blevio, *t.* in Italy, nr. L. of Como, p. 1, 270.

Blida, or Bldah, *t.* Algiers, nr. the cap. on the first slopes of the Atlas Mts. Large orange-growing industry, p. 28,000 (one-fourth French).

Block, *vil.* summer resort of Rhode Isl., U.S.A., light.

Bloemendaal, *t.* nr. Haarlem, N. Holland, flower-growing *dist.*, p. 5, 300.

Bloemfontein, *cap.* of Orange River Colony, p. 16,000 whites, and 19,000 natives.

Blols, *c.* on R. Loire, France, historic castle, once a sumptuous royal palace; p. 24,000.

Blomberg, *t.* nr. Lippe, Germany, p. 2, 874.

Blood R., *trib.* of Buffalo R., Zululand. [Iland.]

Bloddy, *townland*, co. Donegal, N.W. coast of Ireland.

Bloomfield, *t.* in Essex co., New Jersey, U.S.A., formerly known as Watesson, p. 11, 300. Several other smaller *t.'s* same name in U.S.A.

Bloomington, *c.* and ry. centre, M'Lean co., Ill., U.S.A., p. 25,000; also *c.* on Mississippi R., Iowa, U.S.A., p. 10,000; also *t.* (with State University) in Indiana, U.S.A. [quehanna R., p. 8, 500.]

Bloomsburg, iron mfg. *t.* in Penn., U.S.A., on Susquehanna R., and *t.* in Nicaragua, Central America, p. 4, 200.

Blue Hill, *t.* Hancock co., Maine, U.S.A., p. 2, 500.

Blue Hills, *range*, in Norfolk co., Mass., U.S.A.

Blue Island, *sub.* of Chicago, Ill., U.S.A., p. 7, 100.

Blue Mtns., E. part of Jamaica, alt. 7,000 ft.; also chain in N.S.W., highest peak 4,700 ft.; also long range (av. ht. 7,000 ft.) in Oregon, U.S.A.; also range nr. Chittagong, India, alt. 7,100 ft.; also second main ridge of the Appalachians in Penn. and New Jersey, U.S.A.

Blue Nile, or Bahr-el-Azrak, *R.* from the lofty tablelands of Abyssinia, comes into confluence with the White Nile at Khartoum. Its periodic flooding is the great fertilising agency of Egypt.

Blue Ridge, south-easterly *range* of the Alleghanies, Virginia and N. Carolina, U.S.A.

Blue Stock Mtn., co. Donegal, Ireland, alt. 2,213 ft.

Bluff Harbour, S. coast of S. Isl., New Zealand.

Bluffton, *c.* Indiana, U.S.A., on Wabash R., p. 2, 896; also *t.* in S. Carolina, nr. Savannah, p. 3, 245.

Blyth, *sp.* (p. 4, 956) and *R.* in Northumberland, Eng.; also names of 4 other rivers in Eng.; also *vil.* S. Australia, 92 m. N. Adelaide.

Boali, *Borali*, or Loango, *t.* and *dist.* in French Congo, West Africa. [Africa.]

Boarivito, or Bonavivito, most E. of Cape Verde Isls.

Bobbili, *t.* in Brit. India, Vizagapatam dist. of Madras, residence of Rajah, p. 17,000.

Bobbio, *t.* in prov. Pavia, Italy, 5,000.

Bober, *R.* in Germany (158 m.), joins R. Oder at Crossen; shallow stream in summer, torrential in winter.

Böblingen, *t.* Württemberg, nr. Stuttgart, p. 5,000.

Böbblinets, *t.* in S. Russia, govt. Kherson, on ry. to Kieff; tobacco factories, p. 15,000.

Bobruisk, *fortress* and mfg. *t.* in Russia on R. Beresuna, (with military) 65,000. [p. 10, 500.]

Bochnia, *ch.* *t.* of salt mine dist. Galicia, Austria.

Bocholt, *t.* in Westphalia, nr. Dutch frontier, cotton industry, p. 22, 500.

Bochum, *t.* in Westphalia, 11 m. W. of Dortmund, centre of steel industry, p. 65, 554.

Bockenheim, N.W. *sub.* of Frankfurt-on-the-Maine, Hessen-Nassau, Prussia, piano mfts., carriages, &c., p. 23, 400.

Bocking, *par.* in Essex, nr. Braintree, Eng., p. 4, 823.

Bod, *trib.* *state*, Orissa, India, area, 9,064 sq. m. p. 120,000.

Bodalla, *vil.* N.S.W., 212 S. of Sydney, p. 984.

Boddam, fishing *vill.* Aberdeensh., Scotland, nr. Peterhead, p. 1,000.

Bodega Bay, 10 m. long, California, U.S.A.

Bodenbach, *t.* in Bohemia, nr. the Saxon frontier, on the Elbe, import, trade centre, p. 11,500.

Boden See, see Constance, Lake of.

Bodmin, *co.* *t.* Cornwall, Eng., p. 5,734. [p. 1,680.

Bodø, *sm.* *spt.* S. extremity of Lofoten Isls., Norway, **Bosotia** and **Attica**, *prov.* in Greece, area 2,481 sq. m., p. 800,000.

Bog, or **Bug R.**, afflt. (300 m.) of the Vistula R., Poland.

Bogan R., *trib.* of Darling R., N.S.W.

Bogense, *spt.* on Finner Is., Denmark, p. 2,100.

Boggabri, *t.* in N.S.W., 292 m. N.W. of Sydney, p. 1,240.

Boghas Keni, *sm.* *vill.* nr. Yuzgat, in Asia Minor, remarkable archaeological remains and rock sculptures.

Bognor, *t.* and *seaside resort*, Sussex, Eng., p. 8,142.

Bogodukhov, *t.* Russia, govt. of Kharkov, strongly fortified, p. 13,000.

Bogong Mt., one of the dividing range, Victoria, Australia, alt. 6,508 ft. [woollen industries, p. 12,100.

Bogorodsk, *t.* of Central Russia, nr. Moscow, silk and **Bogorota**, or **Santa Fé de Bogota**, cap. Republic of Colombia, S. America, stands on the San Francisco R. Many fine bldgs. and an import. University. Sometimes styled the Athens of S. America, p. 890,000.

Bogra, or **Bogura**, *t.* and *dist.* Rajshahi div., Bengal, India; area of prov. 1,432 sq. m., p. 850,000, cap., on R. Karatoya, p. 7,000. [p. 13,000

Boguslav, old trading *t.* of W. Russia, govt. of Kiev, **Bohain**, *t.* dep. Ain, France, textile factories, p. 7,015.

Bohemia (20,000 sq. m., p. 6,500,000), formerly one of the kingdoms of Europe, now an Austro-Hungarian province, chiefly agricultural, cap. Prague.

Böhmerwald, afforested mountain range between Bohemia and Bavaria, 150 m. long; highest points, **Aber**, 4,848 ft., **Rachelberg**, 4,743 ft. [p. 11,000.

Böhmisch-Leipa, *indus.* *t.* on R. Polzen, N. Bohemia, **Böhisch-Tribau**, old Czech *t.* nr. the Moravian frontier of Bohemia. [p. 230,000.

Bohol, one of the Philippine Isls., 45 m. long, **Bohorodczany**, *t.* Galicia, Austria, nr. Stanislawow, p. 4,500.

Boile, *cap.* of Idaho, U.S.A., p. 6,000; hot springs in

Bois Guillaume, *t.* nr. Rouen, France, p. 5,250

Bois-le-Duc or **S'Hertogenbosch**, cap. of N. Brabant, Holland; cigar factories, p. 30,000. [p. 3,682.

Boitzenburg, *t.* in Mecklenburg-Schwerin, on R. Elbe.

Bojador, *c.* at extreme S. of coast of Morocco, W. Africa. [Turkey.

Bojana, R. outlet into the Adriatic of L. Scutari,

Bojano, *t.* in Italy, nr. Campobasso, p. 6,000.

Bokhara, or **Bukhara**, a Khanate of Central Asia, in vassalage to Russia. Area 66,650 sq. m. (of which expanse the Roshan and Shugnan districts, covering about 20,000 sq. m. are under Afghan influence), the total p. is estimated at 2,500,000. The capital, Bokhara, on the Zeraphshan R. (p. about 60,000), is reckoned the chief city in all Asia for trade.

Bolabola, or **Bora Bora**, one of the Society Isls. in the S. Pacific, forms an indep. State, p. 2,000.

Bolan Pass, in *mtns.* of N.E. Baluchistan, from Lower Indus to Kandahar, S. Afghan., summit 5,900 ft.; not traversed by a British military ry.

Bolbec, *t.* on ry. nr. Havre in France, p. 12,000.

Bolgrad, *t.* in Besarabia, S. Russia, 30 m. E. of Izmail. Founded early in 19th cent as a colony of Bulgarians, it is now an important corn depôt, p. 13,000.

Bolil, *anc. t.* in Kastamuni vilayet, Asia Minor, p. 11,000. Close by are the ruins of Bitlynum. At Ilia, S. of the town, are warm medicinal springs.

Bolivar, a *dep.* of the Republic of Columbia, South America, area 27,000 sq. m., p. 325,000, mainly whites; also a province of Ecuador, area 1,160 sq. m., p. 45,000; also a State of S. Venezuela, area 160,700 sq. m., p. 70,000; also the cap. of the latter State, a city on the Orinoco (formerly called Angostura), p. 12,000.

Bolivia, inland Republic, S. America, bounded by

Brazil, Paraguay, the Argentine, Chili, and Peru (area 734,340 sq. m., p. 2,500,000); cap. Oruro.

Bolkhov, *auc. t.* 35 m. N. Orel, Russia, on the Oka R., important industries and trade with Moscow; famous monastery, Optina Pustyn, close by; p. 26,570.

Boll, *vill.* in Wurttemberg, nr. Goppingen, p. 1,780; **Bollène**, *t.* 30 m. N. Avignon, dep. Vaucluse, France, p. 6,000.

Bollingen, *vill.* N.E. Berne, Switzerland, p. 3,854.

Bollington, *t.* nr. Macclesfield, Chesh., Eng., silk industry, p. 5,225.

Bollnas, *t.* nr. Soderhamn, Swed., p. 9,000.

Bollullos del Condado, *t.* in Spain, nr. Huelva, p. 6,530.

Bollweiler, *vill.* in Alsace, nr. Mulhausen, p. 1,480.

Bolmen, *L.* in Sweden (30 m. by 7 m.), nr. Christianstad.

Bolobo, *sta.* in Congo F. State, 40 m. above the Koango. **Bologna**, *anc. c.* of Italy, 80 m. N. Florence, in prov. of same name. Area of prov. 1,392 sq. m., p. 500,000. The city has p. 172,630, and many splendid bldgs. It was originally an Etruscan *t.* (Felsina), then a Roman *t.* (Bononia), and became united in 1860 to the kingdom of Italy.

Bologoye, *depôt* and important junction on the St. Petersburg and Moscow Ry., N. Russia.

Bolor Tagh, *mtn.* range E. side Pamir plateau, Cent. Asia; highest pt. 20,000 ft.

Bolsas, *R.* (225 m.) in S.W. Mexico; enters Pacific at Zacatula.

Bolsena, *t.* (7 m. S.W. Orvieto, prov. Rome, p. 3,000) on L. (8 m. long), occupying site of an extinct volcano, the anc. Roman Lacus Volsinensis. [p. 11,225.

Bolsver, *t.* co. Derby, Eng., 6 m. E. of Chesterfield, **Bolsward**, *t.* Friesland, Holland, nr. Leeuwarden, p. 6,800.

Bolt Head (430 ft.), rugged headland on S. coast, **Bolton**, or **Bolton-le-Moors**, *mtg. t.* S. Lancs., Eng., 10 m. N.W. Manchester, p. 180,885.

Bolton Abbey, or **East Bolton**, on R. Wharfe, nr. Skipton, W. R. Yorks, Eng., famous for its fine ruined priory and beautiful surrounding scenery.

Bolton-by-Bolland, or **West Bolton**, *par. nr.* Clitheroe, W. R. Yorks, p. 1,200.

Boma, *sta.* on Congo R., cap. Congo F. State.

Bomadery, *vill.* in co. Camlen, N.S.W., p. 1,200.

Bomarsund, formerly Russ. fort on Aland Isl. in the Baltic; destroyed in 1854 by English and French.

Bombala, *t.* in mining and timber dist., N.S.W., 310 m. S.W. of Sydney.

Bombay Presidency, India; area, including Sind and Aden, 123,664 sq. m., p. 19,672,642; cap. C. Bombay, the chf. port of Western India, on Salsette Isl. in the Arabian S., the centre of cotton industry, p. 979,445.

Bona, *spt.* of Algeria, on G. of B. in the Mediterranean, occupied by France in 1832. Seated in a fertile plain, p. 33,000 (12,000 French).

Bonaca, or **Bonacca**, one of the Bay Isls. in the Caroline Is., belonging to Honduras; 9 m. long.

Bonai, most southerly of the Indian trib. *states*, *Chuta* Nagpur, Bengal.

Bonaventure, *R.* Quebec, Canada, falls into B. o. Bonavista, chf. *t.* of dist. of same name on Bonavista B., E. coast of Newfoundland, p. 2,500. [Oban.

Bonawe, pretty *vill.* on R. Awe, Argyllsh., Scotl., nr. Bonchurch, picturesque *vill.* S.E. coast of Isle of Wight, Eng., adjoining Ventnor.

Bondeno, *t.* Italy, 11 m. from Ferrara, p. 15,000.

Bondou, or **Bondu**, *country*, W. Africa, between the Senegal and the Gambia; French, explored first by Mungo Park.

Bondues, *t.* France, dep. Nord, nr. Lille, p. 3,406.

Bo'ness, or **Barrowtowness**, *spt.* Linlithgowsh., Scotl., p. 10,540.

Bonham, *t.* Texas (cap. of Fannin co.), U.S.A., important cotton dep. on Texas-Pacific Ry., p. 5,200.

Bonhill, *t.* Dumbartonsh., Scotl., on R. Leven, p. 3,000.

Boni, or **Boné** State, S.W. Peninsula of Celebes, Dutch East Indies, area 2,548 sq. m., p. about 200,000. Ch. t. Boni, 80 m. N.E. of Macassar.

Bonifacio, *spt.* and fort, opposite Sardinia, on Str. of B. Corvica; cork-cutting industry, p. 4,500.

Bonin Isls. or **Arzobispo Isls.** Three groups W. Pacific, 500 m. from Japan, claimed by the Japanese

- and by them called *Ogasawarajima*; 30 isls. in all, of volcanic origin, half of them very small, p. 3000.
- Bonn**, *t.* Rhénish Prussia, on the Rhine; 21 m. from Cologne University; birthplace of Beethoven; p. 87,997.
- Bonnefontaine**, *t.* nr. Le Mans, dep. Sarthe, France, p. 5,200.
- Bonnall**, A. nr. Matlock, Derbyshire, Eng., p. 1,248.
- Bonny**, *t.* in S. part of Nigeria, British W. Africa, at the mouth of R. Bonny, Bight of Biafra, p. 10,000.
- Bonnybridge**, *vil.* co. Stirling, nr. Falkirk, Scotl., p. 1,820.
- Bonnyrigg**, *t.* Midlothian, 7 m. S. of Edinburgh, Scotl., p. 2,930.
- Bontuku**, *t.* in French W. Africa, N. of Gold Coast, important stn. for trade with Upper Niger.
- Bonyhead**, *t.* nr. Fankfichen, Hungary, p. 0,200.
- Boon**, *mitg.* *t.* nr. Antwerp, Belgium, on R. Rûpel; extensive breweries, p. 16,000.
- Boone**, *c.* on Des Moines, R. Iowa, U.S.A., p. 9,240.
- Boonerville**, *c.* in Missouri, nr. Jefferson, U.S.A., p. 4,377; also smaller towns in Indiana, Arkansas, Kentucky, Montana, and N.Y.
- Boort**, *t.* Victoria, co. Gladstone, p. (dist.) 1,540.
- Boosterstown**, *t.* Ireland, 4 m. S.E. Dublin, p. 4,000.
- Boothia**, *penin.* (area 13,100 sq. m.) and G. on Arctic coast, Franklin dist., Brit. N. America.
- Boothie**, *t.* suburban to Liverpool, Lancash., Eng., N. of Mersey, p. 69,881.
- Boppingen**, *t.* on K. Eger, Wurtemberg, tannin, etc., p. 1,450.
- Boppard**, on Rhine, 2 to 10 m. S. Coblenz, Prussia; the Roman Bodobriga, p. 6,000. [Champlain.]
- Boquet**, R. (60 m.), New York, U.S.A., enters L. Champlain.
- Borambilly**, *vil.* co. Bligh, N.S.W., 225 m. N.W. of Sydney.
- Boras**, *t.* on R. Wiske, nr. Gothenburg, S. Sweden, cotton spinning and weaving, p. 15,300.
- Borbeck**, *indust.* commune in Rhine prov., Prus., nr. Essen, p. 59,000.
- Bord-a-Pieuffe**, *t.* in Isle Jesus, nr. Montreal, Canada, p. 1,450.
- Bordeaux**, great wine *vil.* on Garonne R., 60 m. from mouth; third p. in France, p. 262,000.
- Bordeaux**, anc. name of French dist. round Bordeaux.
- Bordetown**, *t.* on Delaware R., N.J., U.S.A., p. 4,500.
- Bordighera**, Riviera winter resort, between San Remo and Ventimiglia, Italy, p. 3,800.
- Borga**, decayed *spt.* in Nyl and prov. on G. of Finland, p. 3,500.
- Borger**, *t.* nr. Assen, Dronthe, Holland, p. 6,000.
- Borgerhout**, *t.* nr. Antwerp, Belgium, candle and tobacco factories, p. 37,000.
- Borgetto**, *t.* in Sicily, nr. Palermo, p. 8,000.
- Borghetto**, *t.* in Italy, nr. Verona, p. 1,300; also *t.* nr. Genoa, p. 2,340.
- Borgia**, *t.* in Catanzaro prov., Italy, p. 4,700.
- Borgne**, G. on coast of Louisiana, U.S.A., outlet of L. Pontchartrain.
- Borgo**, *t.* on Brenta, R., Austria, p. 5,400; also trading *t.* of Finland, p. 4,500.
- Borgo Mancero**, *t.* in Novara prov., Italy, p. 9,560.
- Borgo Mozzano**, *t.* nr. Lucca, Italy, p. 10,000.
- Borgo San Donnino**, *t.* in Parma prov., Italy, the anc. Fidentia; grand Romanesque cathedral, p. 12,500.
- Borgo San Lorenzo**, *t.* Italy, 20 m. N.E. Florence; olives and wine, p. 12,000.
- Borgo San Sepolcro**, medieval *t.* in Tuscany, Italy, p. 8,800.
- Borgu**, Brit. vassal state, Nigeria, W. Africa.
- Bori**, or Boree, fortified *t.* in Afghanistan, in dist. same name.
- Borinage**, colliery dist. of Belgium, Hainaut, p. 35,000.
- Borisov**, dist. *t.* of Russia, govt. Minsk, anc. foundation of Napoleon, defeated here in 1812, before his disastrous passage of R. Berezina, p. 15,000.
- Borisovka**, *t.* in Middle Russia, nr. Kursk; thriving trade, p. 17,500.
- Borispol**, *t.* Poltava, Russia, nr. Kiev, p. 6,000.
- Borja**, *vil.* in Ecuador, at head of Marañon (Amazon) R., p. 9,000. [mouth of R. Ems, p. 1,550.]
- Borkum**, E., Frisian *isl.* (German summer resort) at Bormio, *vil.* and Alpine resort in Lombardy, Italy, nr. Sondrio; anc. reput. for its mineral springs, p. 2,000.
- Borna**, *mitg.* *t.* in Saxony, 20 m. S. of Leipzig, p. 9,058.
- Bornas**, mainly mountainous and very large *isl.* in the middle of the East Ind. archipelago, area 280,000, sq. m., p. 1,845,000. Three-fifths belong to the Dutch; Sarawak, N. Borneo, and Brunai under Brit. control. Produce timber, rubber, tobacco, cotton, spices, etc.
- Bornheim**, suburban quarter of Frankfurt-on-Maine, Germany, p. 7,000.
- Bornhem**, Belgian *t.* on R. Scheldt, p. 6,000.
- Bornholm**, (260 sq. m., p. 38,000), Danish *isl.* in Baltic; produces porcelain clay; cap. Rønne.
- Bornos**, *t.* on R. Guadalete, nr. Cadiz, p. 5,200.
- Bornu**, country of Central Soudan, Africa, S.W. Lake T Chad; formerly a negro kingdom, now partly under French domination, and partly within Brit. Protectorate of Nigeria. Area 57,000 sq. m., p. (estimated) 5,000,000.
- Borodino**, *vil.* 72 m. W. Moscow, Russia; great battle fought here in 1812 between Napoleon and the Russians. [2,740.]
- Boroughbridge**, *t.* on R. Ure, W.R. Yorks, Eng., p. 12,000.
- Borovitchi**, *indust.* *t.* m. govt. of Novgorod, Russia, p. 12,000.
- Borrisoglebsk**, *indust.* *t.* in govt. Tambor, Russ., p. 12,610; also *t.* on K. Volga, in Yaroslavl govt., p. 9,500. [mineral springs.]
- Borsek**, health resort in the Carpathians, E. Hungary.
- Borrowdale**, romantic valley in Cumberland, Eng., with the black-lead mines.
- Borthwick**, *par.* S.E. co. Edinburgh, with old castle nr. Fushiebridge, Scotl., p. 3,000. [2,740.]
- Boryslaw**, *t.* in petroleum dist. of Galicia, Austria, p. 11,000.
- Borzhom**, *vat.* *isl.* in Transcaucasia, Russ., called "the pearl of the Caucasus." Hot mineral springs and beautiful scenery. [and R. Seim, p. 3,500.]
- Borzna**, dist. *t.* S.W. Russ., at junction of R. Desna.
- Bosco Reale**, *t.* at foot of Vesuvius, Italy, p. 9,000; Bosco-tre-case, *t.* on Vesuvius, p. 10,500. These were the figures at the time of the terrible eruption of April, 1906, when the lava stream of the volcano wrought such havoc as practically to destroy Bosco Reale, and quite wipe out Bosco-tre-case, large numbers of the inhabitants losing their lives, and the rest fleeing in terror.
- Bosna**, *spt.* of Sardinia, p. 6,650.
- Bosnia**, R. (150 m.), affl. of R. Save, Bosnia.
- Bosnia**, mountainous prov. of Turkey in Europe, now Austro-Hungarian terr., area (with Herzegovina) 19,700 sq. m., p. 1,500,000, cap. Bosnia-Serai, p. 30,000.
- Bosphorus**, or Str. of Constantinople, between Black Sea and Sea of Marmora, separating Europe from Asia Minor.
- Boston**, *vil.* in Lincolnsh., Eng., on R. Witham, p. 11,679.
- Boston**, *spt.* *c.* and *cap.* of Mass., U.S.A., second commercial *c.* and most historic in America, also chf. centre of learning, p. 670,585 (with "Greater Boston") over a million.
- Boston Spa**, hydropathic resort on R. Wharfe, 9 m. S.E. Knaresborough, W.R. Yorks., Eng.
- Bosworth or Market Bosworth**, *t.* Leicestersh., Eng., memorable for battle between Richard III. and Richmond (Henry VII.), 1485.
- Bisztrémény or Hadju-Bisztrémény**, *t.* in Hungary, nr. Debreczin, famous for its fairs, p. 25,000.
- Botany Bay**, famous inlet, 5 m. S. of Sydney, N.S.W., discovered by Cook 1770, sometime an Eng. penal colony. [Falkirk, p. 4,100.]
- Bothkennar**, *par.* in co. Stirling, Scotl., suburban to Bothna, Gulf of N. of Baltic, between Finland and Sweden, breadth (abt.) 100 m.
- Bothwell**, *t.* Lanark, nr. Glasgow, on Clyde, p. 3,015 (of par. 54,501); also *vil.* and *co.* in Ontario, Canada, also pastoral dist. on R. Clyde, nr. Hobart in Tasmania.
- Botonsani**, *t.* Roumania, N. Moldavia, in rich pastoral country, p. 33,500.
- Botzen**, *t.* in wine-growing dist., Tyrol, Austria-Hungary, on the Eisach, p. 14,500.
- Bouches-du-Rhône**, prosperous *dep.* in S. France, area 2,026 sq. m., p. 750,000, cap. Marseilles.
- Bougainville**, E. in Patagonia, Str. of Magellan.
- Bougainville**, *c.* on coast off Timor Sea, W. Australia.
- Bougainville**, *isl.* in Solomon Group, W. Pacific.
- Bougainville Mts.** New Guinea, nr. Humboldt Bay.
- Bougainville Strait**, New Hebrides Is.
- Bougie**, *vil.* in Algeria, prov. Constantine (the Roman Saldae) on B. of Bougie, imp. trade centre, p. 14,000.

Bouillante, *t.* in French col. of Guadeloupe, W. Indies, p. 3,000.

Bouillon, *t.* and *fortress* in the Ardennes, Belg., on R. Semois, p. 2,600 in dist. (formerly a Grand Duchy), now forming W. portion of prov. of Luxembourg.

Boula,—(See **Bulak**.)

Boulay, *t.* in Lorraine, nr. Metz, p. 2,940. [p. 8,900.]

Boulder, *t.* and co. Col., U.S.A. (important mining dist.).

Boulé, *t.* Africa, cap. of Bondau, nr. the Palome, p. 3,200.

Boulogne (sur Seine), S.W. sub. of Paris, p. 45,000.

Boulogne (sur Mer), *wat. pl.* and *spt.* on N. coast, France, 25 m. from Calais, the Roman Bononia Gesoriacum; p. 50,000.

Bouzarbani, *viz.* in Asia Minor, supposed site of Troy.

Bounty, *vt.* off E. Cape, N.Z., uninhabited. [4,980.]

Bourville, *t.* N.S.W. 349 m. N. of Sydney, p. (of dist.)

Bourbon, Isle of. (See **Reunion**.)

Bourbon l'Archambault, *t.* dep. Allier, France, p. 4,430.

Bourbonne-les-Bains, *t.* in dep. Haute Marne, France, the Roman Verona Castrum, noted mineral springs; p. 3,200.

Bourdeau, *t.* in France, dep. Drôme, p. 1,460.

Bourg-en-Bresse, *t.* cap. Ain dep., France, fine ch., p. 18,760.

Bourges, military and metallurgical *t.*, cap. Cher. dep., France, p. 46,000.

Bourget, *t.* on L. B. Savoy, France, p. 1,870; also *vt.* 6 m. N.E. Paris. [B. Black Sea, p. 5,000.]

Bourges, or **Bourgas**, *spt.* of Roumelia, on Gulf of Bourgne. (See **Burgundy**.) [p. 7,000.]

Bourguin, *t.* on Isère R., nr. La Tour-du-Pin, France.

Bourke, *t.* on Darling R., copper ore dist., N.S.W., p. 4,000.

Bourios, or **Boorlos**, *lagoon* of Upper Egypt, 5 m. E. of Rosetta, in the Nile delta.

Bourne, *t.* S. Lincs, Eng., nr. Spalding, p. 4,344.

Bournemouth, pop. *wat. pl.* on Poole B., Hants, Eng. p. 78,000.

Bournville, model industri *t.* (or "Garden City") nr. Birmingham, Eng., founded by Mr. Geo. Cadbury, p. 6,500. [Dutch, p. 60,000.]

Bouro, or **Beroe**, *ist.* Malay Archipelago, claimed by Bouscat, *t.* residential sub. of Bordeaux, dep. Gironde, France, p. 12,000.

Boussa, or **Bussa**, *cap.* of Boussa country, Nigeria, Central Africa, p. 10,000; Munjo Park died here in 1805.

Boussu, *t.* in Belgium, nr. Mons, p. 10,150.

Boussines, *vt.* Nord dep., nr. Lille, France; great battle (victory of French over Otto IV.) 1214.

Bousoudouk, *t.* in prov. Orenburg, Russ., p. 10,000.

Bovey Tracey, *vt.* E. Devon, Eng., nr. Moreton Hampstead, p. 2,240.

Bovino, *t.* in prov. of Foggia, Apulia, Italy, p. 8,200.

Bow, *E. dist.* bor. of London, Eng., industri. (properly Stratford-at-Bow). [wan.]

Bow, *R.* in Alberta, N.W. Can.: head of R. Saskatchewan.

Bowden, *t.* in S. Australia, suburb of Adelaide, p. 3,260.

Bowdoin, *R.* in Maine, U.S.A., p. 3,044.

Bowes, *st.* in N. Queensland, on Port Deception, 795 m. N.W. of Brisbane, in fine pastoral country, p. (of dist.) 2,500.

Bow Fell (2,960 ft.) *mt.* in Borrowdale, Cumberland, Eng.

Bow (or Harp) Is., Low Archipelago, S. Pacific.

Bowling, populous industri. sub. of Bradford, W.R. Yorks, Eng., p. 61,927.

Bowling Green, *t.* Warren co., Kentucky, U.S.A., p. 8,300; also *t.* in Wood co., Ohio, p. 5,200.

Bownaaville, *pl.* on L. Ontario, Can., nr. Toronto, p. 5,000.

Bowness, *t.* co. Westmorland, Eng., on L. Windermere, p. 1,950; also *t.* on Solway Firth, Cumberland, Eng., p. 1,530. [Eng., p. 2,300.]

Box, *vt.* in quarrying dist., 5 m. E.N.E. Bath, Wilt.

Box Hill, nr. Dorking, Surrey, Eng., picturesquely wooded, fine views.

Boyaca, *dep.* of Republic of Colombia, America, area 33,500 sq. m., p. 50,000, cap. Tunja.

Boyrana, *t.* on N. of B. N.W. Madagascar. [p. 6,000.]

Boydston, *t.* in Virginia, cap. of Mecklenburg, U.S.A.

Boyer R. (130 m.), aff. of Missouri, Iowa, U.S.A.

Boyle, mkt. *t.* Roscommon co., Ireland, on R. Boyle, p. 3,000.

Boyne, R., Leinster, Ireland (80 m.), rises in Kildare and falls into the sea below Drogheda. Battle of B., 1690, nr. Drogheda.

Bozrah, anc. *pl.* nr. the Dead Sea in Edom, now El-Buseirah; also in the Mishor, or plains of Moab, nr. Damascus, the modern Busra; many interesting archaeological remains.

Bozzola, *t.* in prov. Mantua, S. Italy, p. 4,500.

Brabant, N. prov. Holland, S. of Gelderland; upper half of former Duchy, area 1,980 sq. m., p. 559,287. Produces grain, hops, beetroot, etc., cap. Hertenbosch (or Bois de Duc), p. 30,000 (noted Cathedral).

Brabant, S. cent. prov. of Belgium, lower half of former Duchy; area 1,268 sq. m., p. 2,053,807. Fertile and wooded; many breweries and manufactures; cap. Brussels (p. 71).

Bradley, mkt. *t.* Northamptonshire, Eng., on R. Braddock, ironworking *t.* in Pennsylvania, on Monongahela R., nr. Pittsburg, p. 17,500. [100.]

Bradfield, *vt.* W.R. Yorks, Eng., nr. Sheffield, p. 17,500.

Bradford, *t.* in W.R. Yorks, Eng., worsted, woollen, and silk manufs., p. 288,505.

Bradford, *t.* in petrol region, McKean co., Penn., U.S.A., p. 26,000; also several smaller *t.*s in U.S.A., and one in Ontario, Canada. [p. 4,501.]

Bradford-on-Avon, mkt. *t.* Wilts, Eng., nr. Bath.

Bradling, large *par.* Eastern extremity of Isle of Wight, Eng., once a Parl. bor., p. 1,732.

Bradlinch, *t.* in Devon, Eng., nr. Exeter, p. 1,850.

Bradonia, *R.* in Italy, Basilicate (60 m.), flows to G. of Taranto.

Braemar, *par.* in the Grampians, Aberdeensh., Scotl., containing Balmoral (Royal castle) estate.

Braerach, *mt.*, Scotl., co.'s Inverness and Aberdeen, alt. 4,248 ft.

Braga, *t.* cap. of Minho, prov. Portugal, nr. Oporto, in wine-growing dist., p. 25,000.

Bragança, or **Bragança**, *t.* with medæval castle, in Trás-os-Montes prov., Portugal, p. 5,840; also *spt.* on Atlantic coast, Brazil, p. 6,000. [p. 17,000.]

Brahmanbaria, *t.* in Tipperah dist., Bengal, India.

Brahmapuri, *t.* in Cent. Provs., India, Chandra dist., p. 5,000.

Brahmaputra, a great R. of Asia (total length about 2,800 m.) rising under the watershed of the Marim Lam (alt. 15,500 ft.) it flows along the N. side of the Himalayas, through Tibet (where it is called the Sampo, and later the Dihong), emerging into the plains of Assam. Thence it winds through Bengal, joining the Ganges at Goulanda to form the estuaries, emptying ultimately in the Bay of Bengal. It is navigable to the enormous height (at Jangladesh) of 13,800 ft. above the sea level. [p. 3,000.]

Braidwood, colliery *t.* Will co., Illinois, U.S.A.

Braila, Ibrail, or **Brailov**, *t.* on Danube, nr. Galatz, Roumania, gr. grain centre, p. 60,000 (one-tenth Jews).

Braine-la-Leude, *t.* nr. Brussels, Belgium, p. 8,000.

Brainerd, *t.* Essex, Eng., on Blackwater, p. 6,168; also *vt.* nr. Boston, Mass., U.S.A., p. 4,000.

Brambanan, famous *vt.* in Java, S. of Marapi; many Hindu temples.

Brampton, *t.* Derbysh., Eng., suburban to Chesterfield, p. 2,125; also mkt. *t.* nr. Carlisle, Cumberland, Eng., p. 7,982. [Durham, Eng.]

Brancepeth, large industrial *par.* on R. Wear, co. Brance, R., Brazil, prov. Bahia, aff. Rio Grande, 120 m.; also R. in N. Brazil (370 m.), flowing to Rio Negro.

Brandenburg (15,410 sq. m., p. over three mills), prosperous mining and agr. prov. of Prussia; cap. Brandenburg, on R. Havel (shipping), p. 50,000.

Brandon, *t.* Manitoba, Canada, p. 14,000; also mkt. *t.* on Lit. Onse, Utah, p. 5,803. [3,197 ft.]

Brandon, Mt., nr. Trillick, co. Kerry, Ireland, alt. 1,700 ft.

Brandon and Byshottles, industri. *t.* in Durham co., Eng., p. 17,008.

Brandywine Creek, R. Chester, co. Pa., U.S.A., joins the Delaware; battle in 1777 between British under Howe and Americans under Washington, latter defeated, p. 5,100.

Brantford, *wat. pl.* on Long Is., Connecticut, U.S.A.

Brantford, *st.* of entry on Grand R., Ontario, Canada, p. 24,000.

Bri, *i.* nr. St. John's, Newfoundland, p. 2,477.
Brian, a "Holy City" on R. Jumna, Muttra dist. N.W.P., India, p. 26,000.
Brindisi, *city* and cathedral *city* in S. Italy, prov. of Lecce, on Adriatic, import. pt. of embarkation, on overland route to the East, p. 22,000.
Brigue, *city* in dep. Manche, nr. Valognes, France, p. 5,000.
Brisbane, *city*, Brit. colony of Queensland, Australia, p. 5,000.
Brisbane Downs, N.S.W. (sometimes called Monaro Plains), 70 m. long, 2,000 ft. above sea.
Brisbane Water, harbour receiving R. Hawkesbury, nr. Sydney, N.S.W.
Bristol, *city* and *city*, Gloucestersh., Eng., on Lower Avon, great shipping trade, p. 357,059; also *city* in Hartford co., Connecticut, p. 6,800; *city* on Delaware R., Penn., 7,500; *city* in Bristol co., Rhode Isl., p. 7,200; and *city* in Virginia, U.S.A., p. 10,000.
Bristol Channel, an arm of the Atlantic, between S. coast of Wales and the co.'s of Somerset and Devon.
Britain (or British Empire) forms with its colonies, dependencies, protectorates, and spheres of influence the largest State in the world. Total area over twelve mill. sq. m.; p. 400,000,000.
Britannia Isl., one of the Loyalty group in Pacific.
British Baluchistan, a British commissioner's in Asia, formed in 1888 out of dist. in S.E. Afghanistan; mostly mountain and desert, area 45,804 sq. m., p. 414,000. (See *Quetta*.)
British Columbia, colony in Brit. N. America, Western prov. of the Dominion of Canada, area 325,610 sq. m., p. 392,480, princ. *city*, Victoria, Vancouver Isl.
British East Africa, a British Protectorate fronting on the Indian Ocean from the equator to about lat. 5° S.; including the old B. E. Af. Co.'s ter, and the Uganda and Zanzibar protectorates; area about 1,000,000 sq. m.; cap. Mombasa.
British Guiana, on N. coast of S. America, area 90,777 sq. m.; p. 205,713; cap. Georgetown.
British Honduras, Brit. Col. in Central America, on B. of Honduras, area 8,598 sq. m., p. 40,800; cap. British India. (See *India*.)
British North America, name formerly used for what is now known as Newfoundland and the Dominion of Canada (p. 130,000; ch. *city*, Sandakan).
British North Borneo, protectorate, area 31,100 sq. m.
British South Africa.—By the South Africa Act of 1909 effecting the Union of South Africa, the Cape of Good Hope, Natal, Zululand, the Transvaal, and the Orange Free State (p. 72), are joined in one legislative union, provision being made for the admission of Rhodesia and other territories later.
British West Africa, includes the Gambia, Sierra Leone, Lagos, Gold Coast, and Nigeria (p. 72).
Brito, Pacific terminus of the Nicaragua Ship Canal.
Briton Ferry, *city* at the mouth of R. Neath, S. Wales, p. 8,474.
Brittany, *prov.* and former govt. of N.W. France, cap. Rennes, the Roman Armorica.
Brive, or Brives, *city* in Corrèze dep., France, imp. truffles and straw-work trade, p. 20,000.
Brixen, fort, *city* in Tyrol, on the Brenner Pass, Austria, silk-worm and wine-growing dist., p. 6,000.
Brixham, *city*, *city* in S. Devon, Eng., p. 7,954.
Brixton, or Brighton, *city* on S.W. coast of Isle of Wight.
Brixton, or Brixton, *city* of London, Eng.
Broach, or Bharuch, an ancient *city* and modern dist. on G. of Cambay, Gujrat div. N.W. Prov., India, p. (of *city*) 42,200, (of dist.) 201,000.
Broadford, *city* in Isle of Skye, Scot., on R. and Bay of same name; also *city* in Victoria.
Broad Mt., a ridge in Penn., U.S.A., Schuylkill co., rich in coal.
Broad River (200 m.), in N. and S. Carolina, U.S.A., rising in the Blue Ridge, and joining the Saluda at Columbia. (Eng., residential *city* p. 10,000.)
Broadstairs, seaside resort, nr. Ramsgate, Kent.
Broadwater, *city* in Sussex, Eng., 10 m. W. of Brighton and suburban to Worthing.
Broek, or Broek-in-Waterland, *city* in nr. Amsterdam, Holland, famous for its neatness, p. 1,400.
Brocken, highest *city* (alt. 3,745) of Harz mts.,

Prussian Saxony, Germany; Roman Mons Bruco, romantic with legends and famous spectral illusion.
Brookhaven, *city* on Long Isl. Sd., N.Y., U.S.A., residential *city*, p. 14,500.
Brooklyn, *city* on Erie canal, N.Y., U.S.A., p. 4,800.
Brooklyn, busy port mfg., *city*, Mass., U.S.A., p. 56,898 (one-fourth foreign born).
Brooklyn (or Lippincott), *city* nr. Toronto, Ontario, p. 1,140.
Brooklyn, *city* and port of entry on R. St. Lawrence, Ont., Can., p. 9,200 [good transit trade, p. 7,250].
Brod, *city* of Croatia Slavonia, Hungary, nr. Save R., p. 1,200.
Brodick, *city*, *city* in Arran, Firth of Clyde, W. Scot., p. 1,200.
Brody, important commercial centre in Galicia, Austria, nr. Russian frontier; p. (of *city*) 17,000, (of dist.) 133,000.
Brogie, *city* in Eure dep., France, nr. Bernay, p. 1,500.
Broken Bay, inlet of Pacific, 20 m. N. of Sydney, N.S.W.
Broken Hill, important silver mining *city* in N.S.W.
Bromberg, iron-works *city*, Posen, Pruss., nr. the R. Vistula, p. 54,580.
Bromborough, *city* nr. Birkenhead, Cheshire, Eng., p. 1,974.
Bromley, *city* in Kent, Eng., 6 m. E. of Croydon; a residential suburb of London, p. 33,649.
Brompton, S.W. sub. dist. of London. [p. 1,175].
Bromsbo, *city* in Sweden, on Bromse R., nr. Calmar, p. 1,140.
Bromsgrove, old mkt., 13 m. S.W. of Birmingham, in Worcesterh., Eng., button making, p. 8,028.
Bromwich, West, mfg. *city*, Staffs., Eng., 4 m. N.W. Birmingham, p. 68,345.
Bromyard, mkt. *city* on R. Frome, Herefordsh., Eng., p. 1,702.
Bronnitsa, *city* nr. Moscow, Russia, p. 6,430.
Bronte, *city* on L. Ont., Can., p. 1,050; also *city* at ft. of Mt. Etna, Sicily, prov. of Catania, p. 17,500.
Brookline, subm. *city* nr. Boston, Mass., U.S.A., numerous fine villas, p. 27,792.
Brooklyn, *city* at W. end of Long Isl., U.S.A., opposite N.Y., with which it is connected by a susp. bridge across East R.; p. of the extended dist. of the *city* formerly forming King's co. 11 mill.; Brooklyn is mainly residential, but has numerous mfg. and commercial interests. [Scot.]
Broom, lock on N.W. coast of Ross and Cromarty, Brora, *city* and R. of co. Sutherland, E. Scot.
Broseley, mkt. *city* on R. Severn, Shropshire, Eng., 13 m. S.E. of Shrewsbury, p. 6,679.
Brothers, *city*, a group of rocky islets in G. of Aden, at entr. to Str. of Bal-elmandeb.
Brotton, *city* in N.R. Yorks, Eng., nr. Gulsburgh, p. 4,340.
Brough, mkt. *city* in Westmorland, Eng., nr. Kirkby Stephen, p. 1,450.
Broughton Bay, inlet on E. coast of Corea, N. of Port Lazaref and Gensan; also a bay at N. end of Simushu Isl., one of the Kuriles.
Broughton Creek, *city* in N.S.W., 100 m. S. of Sydney.
Broughton-in-Furness, mkt. *city* in N.W. Lancs, nr. Ulverston; iron and copper mines; p. (of dist.) 6,400; also *city* nr. Brigg, Lincolnsh., p. 1,200.
Broutry Ferry, *city* and mkt. *city* on Firth of Tay, *city* p. 11,000.
E. Dundee, Scot., p. 11,000. [Walsall, Eng., p. 10,800].
Brownhills, colliery and mfg. *city*, Staffs., p. 5 m. N.
Brown Mt., 16,000 ft. one of the "Rockies," Br. Columbia; also name of a mlt. *city* in pig and dairy farming dist. on Benhooka R., N.S.W., nr. Candelo.
Brownsville, *city* and port on Rio Grande, Texas, U.S.A., p. 6,500.
Broxas, *city* in Spain, nr. Caceres, p. 5,200.
Broxburn, min. *city* in Linlithgow, Scot., p. 7,100.
Brozz, *city* nr. Florence, Tuscany, Italy, p. (of dist.) 10,000.
Bruar, R. Perthsh., Scot., with famous falls, an afflu. R. Garry. [p. 4,807].
Bruay, *city* in France, dep. Nord, nr. Valenciennes.
Bruchsal, *city* in Baden, Germany, on R. Salsbach, nr. Heidelberg; extensive manfrs., p. 14,000.
Bruck, *city* in Lower Austria, on Leitha R., 24 m. E.S.E. Vienna, p. 4,250; name also of tns. in Styria, nr. Gratz, p. 5,150, and in Bavaria, nr. Erlangen, p. 3,350.
Bruff, mkt. *city* nr. Kilmallock, co. Kerry, Ireland, p. 1,750.
Bruges, *city* of E. Flanders, Belgium, 14 m. E. of Ostend; lace factories and many fine old bldgs., p. 57,000.

—*g*, *t*. in Switz., canton Aargau; the "Prophet's town" of the Reformation, *p.* 1,540.
Brum-am-Gebrige, *t.* in Austria, nr. Vienna, *p.* 2,440.
Bruneck, *t.* Tyrol, nr. Innsbruck, *p.* 2,245.
Brunei, *state*, in N.W. Borneo, an auc. but decaying sultanate; area abt. 1,700 sq. m., pl. abt. 25,000, of whom 15,000 live in the cap., also called Brunei. The State is now under British protection.
Bruni, *isl.* off S.E. Tasmania, area 140 sq. m.
Brunn, *cap.* of Moravia, fortified Austrian t. (cloth mfg.), 90 m. N. Vienna, on K. Schwartz, *p.* 109,346. Brunn has been many times besieged, and was occupied by Napoleon in 1805, and by the Prussians in 1866.
Brünen, *vil.* on L. Lucerne, Switz., *p.* 3,500.
Brunsdon, *t.* in S. Isl. of New Zealand, colliery dist., *p.* 1,200.
Brunsbüttel, *st.* of Prussia, on N. bank of Elbe, prov. Schleswig-Holstein, good harbour, *p.* 2,240.
Brunswick, *st.* in Georgia, U.S.A., *p.* 9,500; also *t.* on Androscoggin R., Maine, U.S.A., 30 m. N.E. of Portland, *p.* 7,800; also *t.* W. Australia, Wellington dist., *p.* 2,400; also *t.* nr. Melbourne, Victoria, *p.* 24,182.
Brunswick, Duchy of (1,242 sq. m., *p.* 470,550), Germany, agric., mineral, and afforested, with much mountainous country, including most of the Harz range; *cap.* Brunswick, on R. Ocker, many manifs.; *p.* 128,950.
Brunswick, New, maritime prov. of Canada, area 28,200 sq. m., *p.* 360,500, *cap.* Fredericton, largest *c.* St. John (*p.* v.).
Brusa, or Broussa, *c.* in Asia Minor, 60 m. S. Constantinople, the anc. Pruss. and present *cap.* of Asiatic vilayet of Khodavendikyar; produces wines and fruits, and mfg. carpets and tapestry; *p.* 75,000. Was *cap.* of Bithynia just prior to the Christian Era, and later for a time of the Ottoman Empire; *p.* of the prov. over 100,000, mainly Moslems. The dist. has great mineral wealth.
Brussels, *cap.* of Belgium, on R. Senne, 30 m. S. of Antwerp. Contains many imposing bldgs., and is of much indust. importance, its carpets, lace, and other textile products being world-famous, *p.* nearly 700,000.
Bruz, *t.* 21 m. S.W. Tepitz, Bohemia, on rly. from Prague to Pilsen; many manifs.; *p.* 22,000.
Bryan, *t.* Ohio, U.S.A., on L. Shore rly., *p.* 3,500; also *t.* Texas, U.S.A., *c.* of Brazos co., *p.* 3,840.
Bryher, one of the Scilly *isls.* (2 m. long) off the coast of Cornwall, Eng.
Brynmawr, *vil.* with famous ladies' coll. nr. Philadelphia, Penn., U.S.A.; also *t.* in E. Brecon, Wales, nr. Abergavenny (extensive iron works), *p.* 6,850.
Brezany, *t.* Galicia, Austria-Hungary, garrison and leather factories, *p.* 11,500. (Warsaw, *p.* 6,500.)
Brezany, w.ollen mfg. *t.* Poland, 63 m. S.W. of Bua, Dalmatian *is.* in Adriatic Sea, opposite Trau, *p.* 3,700. The anc. Boae or Bavo, a pl. of banishment under the Roman emperors. (dist. 1,850.)
Buangor, *t.* 140 m. W. of Melbourne, Victoria, *p.* 107.
Bucalan, *t.* Luzon, Philippines, 20 m. N.W. of Manila, *p.* 10,000.
Bucaramanga, *t.* in min. dist. of Santander, Colombia, *p.* 18,000. [Ocean, off N.W. coast of Australia.]
Buccaners Archipelago, group of *isls.* in the Indian Ocean, *t.* in Sicily, prov. Syracuse, *p.* 4,840.
Buddeloch, *glen* in co. Selkirk, Scotl., included in Ettrick *par.*
Buchan, *cap.* of Boilers or Boilers of, dangerous rocks on Aberdeen's coast, Scotl., S. of Buchan Ness.
Buchan Ness, *c.* on Peterhead, E. Scotland.
Bucharest, or Bukarest, *cap.* of Roumania, on R. Dombrovitz. Great commrc. and rly. centre; one of the strongest fortresses in Europe, b'g has often suffered siege and capture, *p.* 282,000.
Bucholz, lace-making *t.* in Saxony, 18 m. S. of Chemnitz, *p.* 8,200.
Buchweiler, *t.* in Lower Alsace, Germany, *p.* 3,460.
Buckau, industri. *t.* nr. Magdeburg, Pruss. Saxony, *p.* 19,484.
Bückeburg, *cap.* Schaumburg-Lippe, 20 m. W. of Bückeburg, *par.* and *t.* in S. Devon, nr. Totnes, Eng., *p.* 2,430.
Buckhara, Methil, *est.* on Firth of Forth, co. Fife.
Buckhurst Hill, rural *dist.* nr. Epping Forest, Essex, Eng., 10 m. N.E. London, *p.* 4,887.

Buckie, fish *t.* co. Banff, Scotl., *p.* 8,807.
Buckingham, former co. *t.* Bucks, Eng., on R. Ouse; milk-condensing *p.* 3,282.
Buckingham, *t.* Penn., co. Bucks, U.S.A., *p.* 3,850; also *t.* on Ottawa R., Ont., Canada, *p.* 2,200.
Buckinghamshire, Eng., S. Midland agr. co., area 740 sq. m., between Thames and Ouse R.'s, *p.* 249,583.
Buckland, suburban *dist.* of Dover, Eng., *p.* 4,882.
Bucyrus, *t.* on Sandusky R., Ohio, U.S.A. (machine mfg.), *p.* 7,200.
Buczacz, Galicia, Austria-Hungary, nr. Stanislawow, *p.* 11,500 (mainly Polish).
Budapest, twin-*cap.* of Hungary, Buda on right bank and Pest on left bank of Danube, 170 m. from Vienna; *p.* (including garrison) 580,000. Many fine buildings and institutions. Wine must. chief industry.
Budaun, *c.* and *dist.* N.W.P. India, Rohilkhand div. Area of dist. 2,017 sq. m., *p.* over a million. Indigo factories. Budaun has ruins of immense fort and mosque, *p.* 38,000.
Budawang Mtns., in Coast Range, N.S.W., alt. 3,800 ft.
Bude, or Budehaven, picturesque *vil.* L. Cornwall, Eng., *p.* 2,979.
Budenheim, *t.* in Hessen, nr. Bingen, *p.* 3,200. [6,800.]
Budhana, *t.* N.W.P. India, Muzaffargarh dist., *p.* 2,400.
Budkot, *t.* in Kolar dist., M. India, *p.* 2,400.
Budgeigh Salterton, *vil.* *p.* 1. E. Devon, Eng., *p.* 2,170.
Budrio, industri. *t.* nr. Bologna, Italy, *p.* 17,000.
Budukhsan, or Badakhshan, terr. in Afghan Turkestan, *p.* 65,000.
Budweis, for Budwitz, *t.* on Moldau R., E. Bohemia, Austria; principal commercial centre of S. Bohemia, many manufactures, *p.* 40,000.
Budworth, Great, large industri. *par.* adjoining Northwich, co. Chester, Eng., *p.* 13,793.
Budzanow, *t.* Galicia, 7 m. N. Gortkow, *p.* 4,200.
Buenaventura, *st.* in Colombia, on Choco Bay; also *t.* in Mexico, 14 m. N.W. of Chihuahua.
Buena Vista, *vil.* in State of Coahuila, Mexico, where American force under Gen. Taylor defeated Mexicans in 1847 with heavy slaughter. [Coast.]
Buen Ayre, or Oon Air, Dutch W.I., *isle* off Venezuela.
Buenos Ayres, great *port* on W. side of La Plata estuary, *cap.* of Argentine. Largest *c.* in S. Hemisphere, *p.* 845,500. The prov. of Buenos Ayres covers an area of 117,777 sq. m., and is chiefly mch. agr. or grazing land, with 2 m. (including the *c.*) of 2,140,000; La Plata is the provincial capital.
Buffalo, *cap.* on L. Erie, N.Y. State, of rapid growth and great commercial importance, *p.* 223,715; also *t.* Miss., U.S.A.; *p.* 8,000; also R. in Natal and K. in Tennessee, U.S.A.; also intr. of Dividing Range, Victoria, alt. 5,281 ft.
**Bug, *trib.* of Danube (340 m. long) in Russia.
Buga, industri. *t.* Colombia, Cauca State, *p.* 10,000.
Buggenhaut, *t.* Flanders, nr. Dendermond, *p.* 5,200.
Buggiano, mfg. *t.* 30 m. W. of Florence, Italy, *p.* 11,250.
Bugliano, upland *dist.* *st.* in S. Australia, nr. Adelaide, *p.* 5,200. [Bugulma, *p.* 8,000.]
Bugulma, trading *t.*, Samara gov't., Russia, on Elil, *t.* nr. Cysruhe, in Baden, *p.* 3,200.
Bulth, *t.* with medicinal springs, on R. Wye, N. Brecon, Wales, *p.* 4,257.
Buitenzorg, *t.* and *prov.* Java, part of Dutch residency of Batavia, area 1,447 sq. m. In the *t.* usually resides the Gov.-Gen. of the Dutch E. Indies.
Bujalance, *c.*, 25 m. E. of Cordova, Spain, *p.* 10,000.
Buk, *t.* in Prussia, nr. Posen, *p.* 3,200.
Bukhara, — (See Bokhara.) [p. 850.]
Bukkapatnam, *t.* Anantapur dist., Madras, India.
Bukken Fiord, inlet on W. Coast of Norway, with sm. isl. of same name.
Bukkur, fortified *isl.*, Sind, where ry. crosses R. India, in Shikapur dist. [cap. Chasmowiz.]
Bukovina, front. *prov.* Austria, E. Galicia, *p.* 730,000.
Bulak, *port* and *sub.* of Caru, formerly contained the famous national museum, now at Gizeh.
Bulandshahr, *t.* and *dist.*, N.W.P., India, between R. Ganges and Jumna, in Meerut div., area 1,995 sq. m., *p.* nearly 2,000,000, ch. centre of trade, Khurmu.
Bulawayo, largest *t.* in Southern Rhodesia, S. Africa, *p.* 8,500.
Buldana, *t.* and *dist.* in Berar-Hyderabad div., Brit India, *p.* 423,000.**

Baidur, or **Burdur**, *t.* in Konia, vilayet of Asia Minor, linen weaving and leather tanning, *p.* 12,000.

Bulgaria (including E. Roumelia, area 43,000 sq. m.), *p.* 5,500,000; situated between Danube and Roumelia—Independent kingdom. After winning much additional territory by the Balkan war of 1912, it lost most of it again in the later war of 1913, ceding 2,000 sq. m. to Rumania, *cap.* Sofia, *ch. p.* Varna.

Bulla, *t.* co. Bourke, Vict., *p.* (dist.) 2,000.

Buller R., Nelson prov., South Isl., New Zealand, falls to Pacific at Westport; also mtn., one of Dividing Range in Victoria, alt. 5,934 ft.

Bullit, coal *port*, 50 m. S. Sydney, N.S.W.

Bull Run R. (affr. of Occoquan R.) in N.E. Virginia; two Confed. vict. 1861-1863.

Buln Buln, *t.* 50 m. E. Melbourne, Vict., on Beauty Bulsar, *t.* in Surat dist., Bombay, India, *p.* 12,000.

Bultfontein, diamond mine nr. Kimberley, S. Africa.

Bulti, name of part of Kashmir, also known as Little Tibet. [Tibet, alt. 11,300 ft.]

Bul-Tul, *mtn.* *pass* between Kashmir and Little Bumbury, *pp.* W. Australia, 112 m. S. Perth, *p.* 3,000.

Bund, *n.* in Ind. State, Punjab, *p.* 3,384.

Bundaberg, industri. *t.* on Burnett R., Queensland; sugar factories, *p.* 15,000.

Bundala, *t.* Amritsar, dist. Punjab, India, *p.* 5,210.

Bundanoon, *t.* in co. Canada, N.S.W., 95 m. S.W. of Sydney.

Bundarra, *t.* Hardings co., N.S.W., 391 m. N. Sydney.

Bunde, *t.* in Prussia, nr. Herford, Westphalia, *p.* 2,100.

Bundekhand, *dist.* partly Belg. partly nat. in N. India, between Juma and Chambal R., area 20,550 sq. m., *p.* over 3,500,000. The native State, are under the Central India Agency, the British in the N.W.P.

Bunder, *port* in S. Arabia, 12 m. W. Aden. [Govt. Under Abbas.—See Gombur.]

Bundi, nat. *state* in Rajputana, India; area 2,245 sq. m., *p.* 171,227. Town of Bundi, *p.* 22,544.

Bundoran, *town* *pt.* S. W. Donegal, Ireland, *p.* 1,040.

Bundroes, hsh. *vt.* co. Lentrin, nr. Bunlora.

Bungaree, *t.* co. Grant, Vict., *p.* (dist.) 5,000.

Bungay, mkt. *t.* on Waveney R., Suffolk, Eng., *p.* 3,359. [p. (dist.) 20,000.]

Buninyong, *t.* co. Grant, Vict., 98 m. N. Melbourne.

Bunker Hill, Charlestown, now part of Boston, Mass., U.S.A.; Battle 17 June, 1775, between Amer. and Brit.

Buntingford, mkt. *t.* Herts, on R. Rib. Eng., *p.* 5,003.

Bunzlau, *t.* on R. Isar, Prussia, Silesia, nr. Liegnitz, noted for its brown pottery, *p.* 15,000. [2,700.]

Bunyip, *t.* 30 m. E. Melbourne, Vict., *p.* (with dist.) 1,500.

Burano, *isl.* in Adriatic, 5 m. N.E. of Venice; *p.* 7,500. [The lagoon, *p.* 7,500.]

Burkela, *t.* in Queensland, flows into Cleveland B.

Burdiehouse, *vt.* in Scotl., nr. Edinburgh, lime burning industry.

Burdwan. See **Bardwan**.

Bure, *R.* Norfolk (50 m.) trib. of Yare.

Burg, cloth mfg. *t.* Prussia, Saxony, 13 m. from Magdeburg, industry founded by French Protestant exiles, *p.* 25,500.

Burgas, *port* on C. of B., Black Sea, coast of S. Bulgaria, fine harbour, good trade, *p.* 12,000.

Burgdorf, *t.* 11 m. N.E. Bern, Switz., *p.* 6,650; also *t.* on the R. Aa, Hanover, *p.* 3,000.

Burgess Hill, *t.* and residential *dist.* nr. Brighton, Sussex, Eng., *p.* 5,124.

Burghausen, *t.* Bavaria, 60 m. E. Munich, on Salzach.

Burghhead, hsh. *t.* in Elgin, Scotl., *p.* 1,505. [Town.]

Burghersdorp, *t.* in Cape Colony, 930 m. N. of Cape.

Burgh-in-the-Marsh, mkt. *t.* nr. Spilsby, Linc., Eng., *p.* 1,250. [of Eng.]

Burglen, *vil.* nr. Altorf cant. Uri, Switz. Birthplace **Burglenwald**, *t.* in Bavaria, nr. Ratisbon, *p.* 3,494.

Burgo-de-Osma, *t.* nr. Soria in Spain, *p.* 3,240.

Burgos, *prov.* Old Castile, Spain area 5,481 sq. m., *p.* 340,000; *cap.* Burgos city on Arizanon R.; fine cathedral; and good trade in paper, gloves, etc., *p.* 31,500.

Burgundy, famous wine *dist.* E. France; formerly a *prov.* (cap. Dijon); 22,000 sq. m.

Burhanpur, *t.* on Tapi R., Nizam dist., Cent. Prov., India; important trade, *p.* 30,000.

Burigaanga, *R.* Bengal, Decca dist. formerly main chan. of Ganges. [p. 2,200.]

Burim, *sp.* Newfoundland, W. of Placentia B.

Buriya, *t.* Ambala dist., Punjab, India, on Juma canal, *p.* 7,500.

Burke, extensive pastoral *dist.* Queensland, between Mitchell and West Kennedy dists.

Burketown, *port*, on Albert R., N. Queensland, 1,500 m. N.W. of Brisbane.

Burley, *vt.* in Wharfedale, W. R. Yorks, Eng., nr. Otley; also *par.* on N.W. of Leeds, *p.* 3,762.

Burlington, *t.* *cap.* Des Moines co., on bluffs of Mississippi R., Iowa, *p.* 24,000; also *c.* of Burlington co. (on Delaware R.), N. J., *p.* 7,450; also *port* on E. side L. Champlain, Vt., containing the State University, *p.* 20,000; also some thirty other small *t.*'s of same name in U.S.A. There is a village called Burlington, too, in Canada, on L. Ontario (p. 1,200).

Burma, India's largest *prov.*, having a total area of 236,738 sq. m. and a *p.* of 10,250,000, and forming most westerly part of Further India. Greatest R. the Irrawaddy *cap.* (Lower Burma) Rangoon, (Upper Burma) Mandalay. Chief product rice; there are valuable expanses of teak forest; and precious stones, gold, silver and copper exist in places to a considerable extent.

Burnham, *par.* nr. Maidenhead, Bucks, Eng. (p. 11,768); containing the picturesque public woodland, "Burnham Beeches"; also *wat.* pl. nr. Bridgwater on the Somerset coast, *p.* (of *par.*) 2,968; also Burnham Thorpe, Nelson's birthplace, *vil.* in Norfolk, nr. Holt; also numerous other parishes in different parts of the United Kingdom, and various sm. *t.*'s in the U.S.A.; also *dist.* 20 m. fr. Christchurch, in the S. isl. of New Zealand. [p. (of dist.) 6,500.]

Burnie, *t.* in Tasmania, 100 m. N.W. of Launceston.

Burnley, mfg. weaving and iron-works, and colliery *t.* 20 m. E. Preston, co. Lancaster, Eng., *p.* 106,337.

Burnsville, *t.* Alabama, nr. Selma, 17 S. A., *p.* 2,250.

Burntisland, *wat.* *pt.* on f. of Forth, East Fife, Scotl., nr. Kirkcaldy, *p.* 4,707. [Staffs, Eng., *p.* 6,500.]

Burntwood, *t.* and industri. *par.* nr. Lichfield.

Burra, E and W., two of Shetland Isls., Scotl., included in the *par.* of Bressay.

Burra Burra, copper mining *dist.* in S. Australia.

100 m. N. A. A.

Burard Inlet, Brit. Colum., off G. of Georgia, on it is Vancouver terminal port of C.P.R.

Burray Isl., one of the Orkneys, Scotl., in South Ronaldshay *par.*

Burriana, *t.* on R. Bechn (nr. the sea), *prov.* Castellon, Spain, orange growing district, *p.* 12,154.

Burrillville, *t.* in Providence, Rhode Isl., U.S.A., one of the largest *t.*'s in New England, chiefly rural, *p.* 6,800.

Burrow Head, C. on S.E. coast of Wigtownsh., Scotl.

Burrows, *dist.* in N.S.W., 225 m. S.W. of Sydney, *p.* 5,000. [co. Vict., 113 m. N.W. of Melbourne]

Burroughs Lake (with sun. isl. settlement), in Ripon, Burry, an estuary or inlet of Carmarthen Bay, Wales, with lighthouse, *p.* 4,599.

Burroughs, suburban township of Ormskir, nr. Liverpool, S.W. Lancs, Eng., remains of Priory, *p.* 2,235.

Burslem, *t.* in great pottery centre Staffs., Eng., *p.* 44,153. [of 4,200.]

Burastyn, *t.* in Galicia, on R. Lippe, nr. Brzeczka.

Burton-on-Kendal, mkt. *t.* Westmorland, Eng., *p.* 2,240.

Burton-on-Trent, mfg. *t.* in S.W. Derby and E. Staffs., Eng., immense breweries, *p.* 53,700.

Burton-Stather, *par.* on Trent-side (milling), N. Linc., Eng., *p.* 1,240.

Burtrask, *t.* 50 m. N. of Umca, Swed., *p.* 7,125.

Burtscheid, mfg. *suburb* of Aix-la-Chapelle, Rhenish Prussia, produces cloth, needles, etc. and has some famous mineral springs, *p.* 15,000.

Buru, *vt.* in Amboya group, Moluccas, Dutch East Indies, area 3,596 sq. m., *p.* 20,000.

Burujird, *prov.* of Persia, very fertile, between Luristan, Irak, Zepahan, and Hamadan, *p.* 950,000; *cap.* Burujird, on plain nr. R. Tahli. [Africa *p.* 5,000.]

Burwha, *t.* in Bornu on W. shore of Lake Tchad, Cent.

Burwood, *vt.* nr. Sydney, N.S.W., *p.* 1,500; also *t.* in Newcastle, N.S.W., *p.* 1,890; and *vt.* nr. Melbourne, Victoria, *p.* (of dist.) 3,100.

Bury, cotton mfg. *z.* S.E. Lancs., 10 m. from Manchester, *p.* 58,649.

Bury St. Edmunds, anc. *t.* in I. of Ely, W. Suffolk, cap. of East Anglia, monastic remains, *p.* 16,785.

Busaco, hamlet in Biera, nr. Coimbra, Portugal; battle 1810, Wellington defeated Massena.

Busby, *t.* 7 m. S. of Glasgow, on White Cart R., *p.* 2,400.

Busca, *t.* Piedmont, Italy, on R. Maira, *p.* 9,500.

Buschtchrad, mkt. *t.* in Bohemia, Austria, nr. Prague, in coalfield dist. (extensive imperial brewery), *p.* 3,550.

Bussoe, *t.* in Wallachia, Roumania, 60 m. N.E. Bucharest, *p.* 12,000.

Busshire, or Bander Bushar, port of Persia, on the Fars coast of Persian G., the seat of the governor of the Gulf ports, *p.* 25,000.

Bushmill, mkt. *t.* co. Antrim, Ireland, nr. Portrush and the Giant's Causeway, *p.* 1,320.

Bussa, or Boussa, nativ. *t.* in Nigeria, British W. Africa, nr. where Munro Park lost his life in 1805.

Basselent, or Vasse, *t.* in S.W. or W. Australia, 144 m. from Perth, *p.* 1,216. [*p.* 8,500.]

Busseto, industri. *t.* nr. Parma, on R. Ongina, Italy, *p.* 3,500.

Bussoleno, *t.* on R. Dora, Italy, nr. Susa, *p.* 3,940.

Bussorah.—(See Bassorah.)

Bustard Bay, inlet on Coast of Queensland, Australia, with lighthouse off Bustard Head, nr. Rockhampton

Busuluk, fortified *t.* gov. Samara, on E. K. Russia, *p.* 15,000.

Bute, *vil.* in F. of Clyde, Scot.; part of the insular co. inc. Bute, Arran, the two Cumbraes (Gt. and Little), Plaidra, Inchmurnock, and Holy Isle. Bute proper is 16 m. long and 3 to 5 m. broad, *p.* 12,162, while the entire county has a *p.* of 18,786. Rotheray (*q.v.*) is the cap. of Bute Isl. and the co. *t.* Kyles of Bute is the name of the strait between the Isl. and Argyllshire

Butler, *t.* 25 m. N. Pittsburg, Pa., U.S.A. (glass mfg.), *p.* 20,728. [area 1,700 sq. m.]

Buton, Dutch *isl.* in the E. Indies, one of the Celebes, *p.* 10,000.

Butow, *t.* Pomerania, Pruss., nr. Gd. Gd., *p.* 5,000.

Butt of Lewis, promontory with lighthouse at N. end of isl. of Lewis, Hebrides, Scot.

Butte, largest *t.* in Montana, U.S.A., centre of greatest copper-mining region in the world, *p.* 39,165.

Buttermere, *val.* and picturesque *l.*, Cumberland, Eng. The *L.* is 12 m. long and 1 m. wide.

Butterworth, industri. *township*, S.E. Lancs., Eng., part of Kechdale par., *p.* 10,000. [*p.* 2,430.]

Buttevant, mkt. *t.* co. Cork, Ireland, on R. Avonbeg, *p.* 1,000.

Buturlinova, busy tannery *t.* Voronezh gov., Russia, nr. Bokrov, on the great highway to Saratov, *p.* 2,500. [Rostock, *p.* 5,500.]

Butzow, *t.* in Mecklenburg-Schwerin, Germany, nr. Buxar, or Bazar, fortified *t.* on Ganges, nr. Benares, Bengal, India; here in 1764 British force under Hector Munro defeated native army.

Buxton, *wat. pl.* in the High Peak dist. of Derbyshire, Eng., *p.* 10,025, alt. 1,000 ft. above sea-level. Also *t.* in York co., Maine, U.S.A., *p.* 3,300; also pastoral dist. in Victoria, 60 m. N.E. of Melbourne.

Buyukdere, or Bujuikdere, summer resort on Bosphorus, 10 m. N. Constantinople.

Buzeu, *t.* in Roumania, ch. of dist. same name, 80 m. from Bucharest. Fine old cathedral, *p.* 22,120.

Buzzard's Bay, inlet of the Atlantic, S.E. of Mass., U.S.A. [S. Pacific.]

Byam Martin's I. one of the Low Arch. group, in the Byblös, *t.* in Nile delta, Egypt, S. of Bubastis (the modern Tel-Basta).

Byelostock, *t.* on Prussian border of W. Russia, woollen factories, *p.* 65,000. [Kilneff, *p.* 20,000.]

Byelyst, cattle-trading *t.* in Bessarabia, Russia, nr. Byers Green, *township* suburban to Ep. Auckland, Durham, Eng., *p.* 2,850.

Byfield, *vil.* W. Surrey, nr. Guildford, Eng., *p.* 1,480.

Bykund, ruined *c.* of Turkestan, nr. Bokhara.

Byron C., the most easterly pt. of Australia, on the Pacific coast of N.S.W., a little S. of the Queensland border line.

Bytown, the former name of Ottawa, Canada.

C

Caacaty, *t.* in Argentina, nr. Carrientes, *p.* 4,320.

Caabagan, *t.* in N. extremity of Luzon, Philippine Isls., *p.* 12,000.

Cabatuan, *t.* on Tigum R., Panay, Philippine Isls., *p.* 18,000.

Cabes, or Gabes, *sp.* nr. N. Africa, on G. of Cabes, 200 m. S. of Tunis city, *p.* 12,000.

Cabeza del Buey, *sm.* *t.* Spain, 86 m. E.S.E. of Badajoz, *p.* 7,500.

Cabezuela, *t.* on R. Jerty, nr. Placencia, Spain, *p.* 1,900.

Cabiao, *sm.* *t.* in Luzon, Philippine Isls., N.W. of Manila, *p.* 5,400.

Cabo Frio, *sp.* Brazil, nr. C. Frio, *p.* 5,240.

Cabot Strait, entrance to G. of S. Lawrence between C. Breton Isl. and Newfoundland.

Cabra, *t.* Spain, 30 m. S.E. of Cordova, with college and other important institutions, *p.* 14,500.

Cabrera, one of Balearic Isls. in the Mediterranean, 9 m. S. of Majorca, a penal settlement.

Cabriel, *t.* Spain (50 m.) trib. of Jucar in New Castile. Cabul.—(See Kabul.)

Cacahuampila, remarkable cave nr. Mexico C.

Cacapon, A. W. Va., U.S.A. (130 m.), falls into the Potomac. [*p.* 2,540.]

Caccamo, *t.* Palermo, Sicily, *p.* 8,000.

Caccavone, *t.* in Italy, nr. Agnone, prov. Campobasso, *p.* 1,500.

Caceres, *prov.* of W. Spain, area 8,014 sq. m., pastoral and silk rearing (decaying) cap. of same name; largest bull ring in Spain, *p.* (of prov.) 362,000 (of city) 13,000. The anc. Castra Caecili.

Cader, *dist.* Sumatra Valley div., Assam, India, area (excluding hills) 2,472 sq. m., *p.* 385,500; most flourishing centre of tea-growing in India.

Cachoeira, *t.* nr. Bana, Brazil, gold mines, *p.* 4,240.

Cadder, *t.* co. Lanark, Scot., 5 m. N. of Glasgow, *p.* 11,000.

Caddo, L. N. Texas, U.S.A., 20 m. long. [*p.* 11,000.]

Cadenabbia, on L. of Como, Lombardy, beautiful resort, opposite Bellagio. [*p.* 2,646.]

Cadenet, *t.* dep. Vaucluse, France, nr. Avignon, *p.* 5,200.

Cadereita, *t.* in prov. Queretaro, Mexico, *p.* 5,200.

Cader Idris, *mt.* Merionethsh., Wales, alt. 2,029 ft.

Caderousse, *t.* on K. Rhône, Vaucluse dep., France, *p.* 1,350.

Cadillac, *c.* Mich., U.S.A., in forest dist. on Cham L., *p.* 1,500.

Cadiz, maritime *prov.* in S. Spain, area 2,835 sq. m., *p.* 425,000; cap. of same name, *c.* on Isl. of Leon; sherry, cork, fruit, salt, *p.* 71,500.

Cadore, or Pieve di Cadore, *t.* N. Italy, nr. Belluno, birth-place of Dr. Titian, *p.* 4,000. [Iceland, *p.* 1,200.]

Cadsand, or Cassandria, *isl.* at mouth of W. Scheldt, *p.* 1,500.

Caen, *c.* cap. dep. Calvados, France, fine church and abbey, tomb of William the Conqueror, iron ore extensively exported, *p.* 45,000. [Castle, *p.* 1,500.]

Caerwylie, *t.* in Flint, Wales, nr. Wrexham, ruined Caerleon, *t.* Monmouthsh., Eng., on R. Rusk, *p.* 1,370.

Caerphilly, *t.* Glam., S. Wales, busy coal and iron centre, *p.* 15,850.

Cæsarea, *c.* of Cappadocia, Asia Minor, the modern Kaisariyeh, *p.* 50,000; once the residence of the Roman gov. of Palestine, now busy trade centre.

Cafraria.—(See Kafraria.)

Caigay, *prov.* of Luzon, Philippine Isls., *p.* 80,000.

Caigla, *t.* Central Italy, prov. of Pesaro and Urbino, *p.* 1,500.

Caigliari, Italian *prov.* comprising S. half of Sardinia; cap. on bay at S. end of isl., fine cathedral and university, *p.* 54,000.

Cagnano, *t.* in Italy, prov. of Foggia, *p.* 4,200; also *t.* in Aquila, S. Italy, *p.* 2,480. [*p.* 20,000.]

Cagsana, *t.* in Allany prov., Luzon, Philippine Isls., *p.* 1,500.

Caha Mtns., Ireland, co.'s Cork and Kerry, highest pt. Cahabon, *t.* Guatemala, nr. Colm., *p.* 6,200. [2,249 ft.]

Caher, mkt. *t.* co. Tipperary, Ireland, on R. Suir; anc. castle and abbey, *p.* 2,500.

Caherconree, *mt.* co. Kerry, Ireland, alt. 2,796 ft.

Cahir, *t.* on Valentia Harbour, co. Kerry, Ireland, *p.* 2,100. [Ballycarbery Castle.]

Cahirsiveen, *vil.* on R. Valencia, nr. Cahir, opposite Cahla, or Kahle, *vil.* in Saxo-Altenburg, nr. Rudolstadt, *p.* 2,850. [distilleries, shoe factories, *p.* 14,000.]

Cahors, *t.* France, cap. of dep. Lot; dyeworks, Calbarien, sugar-shipping port of central Cuba, *p.* 7,500.

Caicoa, or Caycos, group of W. India Isls., Fernando-
Caillou, L. in Louisiana, U.S.A., nr. Mexican Gulf

Cairnaple, *mt.* Linlithgow, Scot., alt. 1,498 ft. [1,212 ft.]

Cairney, *par.* in co. Aberdeen, Scot., nr. Huntly, *p.* 1,500.

Cambria, *f.* Penn.; **Cambria co.**, nr. Pittsburg, U.S.A., p. 2,400.

Cambridge, *co.* in S.E. Midland dist., Eng., mainly pastoral or farmy, p. 18,084; also *c.* cap. of co. on R. Cam, east of great University, p. 40,248; also *c.* Mass., U.S.A., 3 mi. from Boston, seat of Harvard Univ., p. 104,839; also *c.* Ohio, U.S.A., p. 10,000; also *t.* Maryland, U.S.A., p. 6,000; also *t.* N. Z., 100 mi. S.E. Auckland, p. 2,400.

Cambrils, *sp.* Spain, 8 mi. S.W. of Tarragona, p. 2,500.

Cambusbarron, *wt.* suburb to Stirling, Scotl., p. 1,254.

Cambuslang, colliery and industr. *l.* Lanark, Scotl., on R. Clyde, nr. Glasgow, *f.* (of par.) 24,870, (of t.) 122,572.

Cambusnethan, *f.* Lanarksh., Scotl., on K. Nethan, incorp. with Walsley, p. 29,000.

Cambraya, *wt.* in Malay Arch., 15 m. S. of Celebes.

Camden, *wt.* and *rd.* *c.* of New Jersey, U.S.A., on Delaware R., suburban and opposite to Philadelphia, p. 94,538; also *t.* Maine, U.S.A., on Penobscot B., p. 4,699; also *t.* S. Carolina, U.S.A., p. 3,890; also *c.* Ark., U.S.A., p. 2,140; also *t.* N.S.W., 41 mi. S.W. Sydney, p. 3,040.

Camden Town, industr. and resident. *dist.* of London, Eng., to the N.E. of Regent's Park. [Atlantic.]

Camel, *l.* in E. Cornwall Eng., flows (10 m.) into the Camelz, *f.* nr. Dresden, Saxony, on the black Elster R., p. 5,240.

Camertino, *c.* Cent. Italy, prov. Macerata, in Apennines; the anc. *Camerinum*, annexed to Papal States in 16th century. Has "free" university, p. 12,000.

Cameron, *c.* in Texas, on Little R., U.S.A., p. 5,240.

Cameron Country (Kameruns), West Africa, between Bight of Biafra and L. Chad, German colony; also range of mts. close to shore, 13,000 ft. at highest point.

Camnan, *l.* *wt.*, and *hay*, prov. Bahia, Brazil.

Camoghe, *wt.*, *Switz.*, canton Ticino, nr. Lago di Lugano, alt. 8,800 ft.

Campania di Roma, an old Italian *prov.* extending coastwise from the Pontine Marshes to Civita Vecchia and inland to the Saline Hills and Alban Mts. Once well cultivated, but lapsed into a neglected and malarious state; now being reclaimed.

Campania, industr. *c.* Minas Geraes, Brazil, p. 7,000.

Campania, *dist.* S. Italy, to N. and S. of Naples, bordering on the Mediterranean, area 6,289 sq. mi., p. 3,250,000; mainly agr. and fruit growing, with many popular coast resorts.

Campeche, *c.* Victoria, flowing (152 m.) into Murray R. from Dividing Range Mts.; also *sn.* L. or R. bank.

Campbell, *sn.* *wt.* in Pacific, 450 m. S. of N.Z.

Campbellford, *t.* on R. Trent, Ontario; p. 2,753.

Campbelltown, name of several towns and vils. in Scotl., Canada, the U.S.A., Australia, and N. Zealand.

Campbeltown, *sp.* Kintyre, Argyllsh., Scotl., one of the Ayr Burghs, p. 7,060.

Camden, or Chipping Camden, *t.* E. Gloucestersh., Eng., p. 5,597.

Campeschy, *state* of Mexico, bounded by Tabasco, Guatemala, Yucatan, and the G. of Mexico, hot and unhealthy, cap. Campeche de Baranda, one of the finest cities on the G. of Mexico; p. 10,000.

Campdown, *wt.* on dunes N. Holland, off which was fought the battle of C. 1797; also *t.* Victoria; also W. sub Sydney, N.S.W.; also *vil.* in Natal, 47 m. from Durban. [Castle.] p. 14,000.

Campi Bisenzio, *t.* in Tuscany, Italy, nr. Florence, fine

Campina, *t.* nr. Ploesti, Roumania, p. 3,744.

Campinas, *t.* Brazil, 50 m. N. São Paulo, p. 12,000.

Campine, *a dist.* in provs. Limburg and Antwerp, Belgium.

Campili, *t.* in prov. of Teramo, Italy, p. 9,200.

Campobasso, fort. *c.* 50 m. N.E. Naples, Italy famous for cutlery and arms, p. 15,000; in prov. of same name, amongst the southern Apennines.

Campobello, two *t.* in Sicily; Campobello di Licata, noted for sulphur mines, is in Girgenti prov., p. 12,240; Campobello di Massara, a famous quarry town, is in Trapani prov., p. 9,230.

Campo Mayor, *c.* in Alentejo, Portugal, p. 5,730; also *t.* in Piauí, Brazil, p. 6,215.

Campo, *c.* in prov. Rio Janeiro, Brazil, p. 60,000; also *t.* Majorca, 21 m. S.E. of Palma, p. 5,000.

Campsie Fells (highest pt. 1,864 ft.), range of hills in

co. Stirlingsh., Scotl.; also par. of Campsie adjacent, p. 6,100.

Campu Lung, *t.* in dist. Mucel, on R. Oltu, Roumania, 100, summer resort, p. 14,000.

Canada (3,654,000 sq. mi., p. nearly 8,000,000), Dominion founded in 1867, and now incl. all Brit. N. Amer. except Newfoundland and Labrador, Provs. are New Brunswick, Prince Ed. Is., Nova Sco., Queb., Ont., Man., Brit. Col., Saskatchewan, Alberta, the North West Territories, and the Yukon Territory; cap. Ottawa, on Ottawa R. (all of which see under sep. headings).

Canadian R. (900 mi.), trib. (flowing from New Mexico) of Arkansas R., U.S.A.

Canal Dover, industr. *wt.* of Tuscawawas co., Ohio, U.S.A., on the Canandauga; summer resort on L. of same name, New York, U.S.A., p. 6,150.

Canary Islands, or Canaries (2,900 sq. m., p. 419,800), Spain, group in Atlantic, to m. off N.W. coast Africa. Peak of Teneriffe (alt. 12,198 ft.); cap. Las Palmas (p. 2).

Caná Verda, *t.* Brazil, nr. Tannandua, p. 3,400.

Cancala, *wt.* *pt.* on St. Michael's Bay, 8 m. E. of St. Malo, N. France, p. 7,000. [Gulf of Siam.]

Cancara, or Kang-kang, *wt.* in French Coch. China on Candelab. (See Kandelab.)

Candesh. (See Khandesh.)

Candelaria, *t.* on Parana R., Argentina; also *sp.* in Teneriffe Isl., one of the Canary group.

Candia, *cap.* of the isl. of Candia, or Crete, in the Mediterr., p. 23,000; also *t.* in Piedmont, Italy, nr. Novara, p. 3,250 [weaving]; p. 55,700.

Candon, *t.* nr. the W. coast of Luzon, Philippine Isls., *chf.* *pt.* in Se Isl.; p. 21,000.

Candonga, *t.* in Sengambia, W. Africa, nr. Sodo, p. 6,500.

Cancell, industr. *t.* in Italy, nr. Asti; p. 6,700.

Canelones, *t.* in Uruguay, nr. Montevideo, p. 3,950.

Caneva, mkt. *t.* in prov. Udine, N. Italy, p. 5,500.

Cangas, industr. *t.* m. Pontevedra prov., Spain, p. 9,500.

Cangas de Onis, *t.* in Oviedo prov., once a royal residence, historic cave of King Pelayo; ruins, etc., p. 10,000.

Cangas de Tineo, *t.* in Oviedo prov., Spain, industr., W. of Cangas de Onis, good trade, p. 23,500.

Canicatti, in fruit-growing dist. of Girgenti, Sicily, p. 24,240.

Canigou, *mt.*, France, m. the Pyrénées-Orientales, nr. Perpignan; alt. 9,137 ft.

Canils, *t.* in Spain, nr. Granada, p. 5,430.

Canillas, *t.* in Spain, 22 m. E.N.E. of Malaga, p. 3,347.

Caniza, *La*, *t.* in prov. Pontevedra, Spain, p. 8,750.

Canna, *sn.* *wt.* Hebrides, Scotl., basaltic pillars.

Cannanore, or Kananore, *sp.* and military stn. in India, *dist.* of Malabar, Madras Pres., p. 30,000.

Cannes, *sp.* in France, *dist.* Alpes Maritimes, famous winter resort, 20 m. S.W. Nîmes, p. 35,300.

Canneto, *t.* in Italy, on R. Oglio, p. 3,850; also *t.* 9 m. S. of Bari, Italy, p. 3,240. [Queensland.]

Cannibal Creek, thriving locality in Palmer dist. of Canning, *sp.* in King's co., Nova Scotia, p. 3,460.

Cannock, *mn.* *t.* W. Stafford, Cannock Chase dist., Eng., p. 28,988 [p. 1,900].

Cannon River Falls, *t.* in Minnesota, nr. St. Paul's.

Canstatt, or Canstatt, industr. *t.* in Württemberg, on R. Neckar, nr. Stuttgart, warm springs, p. 27,900.

Canobbio, *sm.* *t.* in Italy, on L. Maggiore, p. 3,844.

Canosa, *t.* in Bari, S. Italy; the Roman Canusium, an important Apulian city, p. 25,000.

Canouan, *wt.* of Grenadines group, W. Indies.

Canso, *sp.* Nova Scotia, on Chedabucto Bay, p. 2,250.

Canta, *sm.* *t.* in Peru, dept. Lima, p. 2,120.

Cantabrians, *mts.* N. Spain, from Pyrenees to Cape Finisterre, highest pt. Pena Vieja, alt. 8,736 ft.

Cantal, mountainous *dept.* in Cent. France, S. Auvergne, p. (declining) 218,000; cap. Aurillac.

Canteleu, *t.* in France, dep. Seine-Inférieure, nr. Rouen, p. 3,746.

Canterbury, *c.* of co. Kent, Eng., on R. Stour; 60 m. from London, famous cathedral founded 597 A.D. by St. Augustine; Thomas à Becket murdered here before altar in 1170; p. 24,668; also *prov.* dist. in So. Isl., N.Z., p. 145,000, cap. Christchurch (p. v.).

Canterbury Plains, rich grazing dist. in S. Isl., N.Z.
 Cantiano, *t.* in Marches, nr. Uffino, Italy, p. 3,295.
 Cantillana, *t.* on Guadalquivir R., in Spain, p. 3,295.
 Cantire, or Kanyire, *peninsula* S. end of Angilysh,
 Scott., length 40 m., greatest breadth 11 m.; S. point,
 the Mull of Cantire.
 Canton, *ch. c.*, treaty port and dep. of S. China, cap.
 of Kwan-tung prov., 90 m. N.W. Hong Kong,
 p. 2,000,000; very important trade centre, also name
 of several t.s. in the U.S.A., the two principal being
 a mfg. centre in Illinois (p. 7,100), and an industri-
 al and agric. t. of Ohio of 30,217 inhabitants. [p. 5,800.
 Cantu, *t.* in Como prov., Lombardy; silk and lace.
 Cappazori, *t.* in Lucca prov., Tuscany, extensive silk
 industry, p. 44,000.
 Cape Breton, *isl.* E. Canada, the E. point of isl. bears
 the same name, area 3,190 sq. m., p. 98,700.
 Cape Catastrophe, extrem. of Eyria Peninsula, S.
 Australia.
 Cape Clear, *isl.* with lighthouse, off S. coast of Ireland.
 Cape Coast Castle, *t.* Gold Coast, Brit. W. Africa,
 p. 11,750.
 Cape Cod, S.E. point of Mass. Bay, U.S.A., a peninsula
 with several t.s., Provincetown being the extreme
 Cape Cod, S. point of Africa, Greece. [point.
 Cape Colony, in S. Africa, is named from Cape
 of Good Hope (277,077 sq. m., p. 2,500,000, of which
 about 600,000 are Europeans) includes the whole of
 S. Africa, S. of Gei. S.W. Afr., Rhodesia, Orange
 River Colony, and Natal; cap. and *chf. p.* Cape
 Town, on Table Bay (q.v.).
 Cape Comorin, S. extremity of India.
 Cape Corso, N. point of Corsica.
 Cape Delgado, Mozambique, E. Afr.
 Cape Diamond (with citadel), Quebec.
 Cape Elizabeth, *t.* in Cumberland co., Maine, U.S.A.,
 p. 5,800.
 Cape Farewell, S. point of Greenland.
 Cape Fear, point of the N. Carolina coast of the
 Atlantic, U.S.A., where estuary of Cape Fear R.
 discharges; *snl.* port also.
 Cape Finisterre, Galicia, N.W. Spain.
 Cape Hatteras, N. Carolina, U.S.A.
 Cape Haytien, important trade port on N. coast, Hayti;
 bombarded by British 1805; estimated p. 30,000.
 Cape Horn, S. point of America (on isl. of Fuegia)
 Archipelago.
 Cape Howe, S.E. extremity of Australia.
 Cape La Hague, point of *pen.* Cotentin, France;
 French fleet defeated here 1902.
 Cape Leeuwin, S.W. extremity of Australia.
 Cape May, *wat. pt.* N.J., U.S.A., residential, p. 1,240.
 Cape of Good Hope, famous headland, 1,000 ft. high,
 S. Afr., 30 m. S. Cape Town, disc. by Diaz m. 1483,
 originally called "Cape of Storms".
 Cape Prince of Wales, most W. point of America, in
 Behring Sea.
 Capernaum, in time of Christ an important pt. in
 Palestine, on the W. shore of the L. of Galilee,
 identified by many archaeologists with the modern
 ruins of Tel Hum.
 Cape, R., on N. boundary of Nicaragua.
 Cape Sable Isl., *sub. isl.* Nova Scotia.
 Cape St. Vincent, S.W. Portugal; Spanish fleet de-
 feated by British, 1797.
 Cape Severo, most N. point of Asiatic Russia.
 Cape Skagen, N. extremity of Denmark. [Gibraltar.
 Cape Sparte, *most* coast; entrance to Strait of
 Cape Spartivento, *most* of Sardinia, most S. point of
 Italy.
 Capetown, famous port on Table R., S. of Africa,
 30 m. N. of C. of Good Hope; cap. of C. Colony.
 Conn. by rail direct with Rhodesia, Transvaal, Orange
 River Colony, and Natal, p. (with suburbs) 87,000.
 Cape Trafalgar, S.W. coast Cadiz; Nelson's famous
 victory, 1805. [in 1443.
 Cape Verde, most W. pt. in Africa, Senegambia, disc.
 Cape Verde Islands, Portug. group in Atlantic, 350 m.
 W. of C. Verde, 14 isls. and islets, area 1,475 sq. m.,
 p. 12,000; agriculture, sugar and fruit-growing; *chf.*
 t. Porto Praya.
 Capitana, former name of Italian prov. of Foggia.
 Capis, *prov.* of Pansy, Philippine group, flourishing
 industries, p. 190,000, cap. c. of above, p. 14,000.

Capo d'Istria, Austrian fort. *pt.* on isl., in G. of Trieste
 cathedral, p. 12,000.
 Cappadocia, *val.* in prov. Aquila, Italy, p. 2,125.
 Capoguin, *t.* on K. Blackwater, ca. Waterford, Ire-
 land, p. 1,740.
 Capracotta, *t.* in prov. Campobasso, Italy, p. 3,250.
 Capraja, *isl.* in the Mediter., 16 m. N. Corsica, anctly.
 called Capraia.
 Caprarola, *t.* nr. Viterbo, Italy, anc. castle, p. 5,540.
 Caprera, *isl.* off N.E. Sardinia, where Garibaldi lived.
 Capresi, *t.* in Italy, nr. Arezzo; Michael Angelo's
 birthplace, p. 2,500.
 Capri, romantic *isl.* and *t.* nr. Naples, favourite tourist
 resort; residence of Augustus and Tiberius, the anc.
 Capri; pres. p. (t.) 3,700; (n.) 6,500; fine wines.
 Cap Rouge, *val.* on St. Lawrence, nr. Quebec, p. 1,120.
 Capryke, *t.* in L. Flanders, Belgium, nr. Ghent, p.
 3,785. [p. 4,000.
 Cap St Ignace, *t.* on R. St. Lawrence, Quebec, Can.,
 Cap Sante, *t.* in Portneuf co., Quebec, p. 1,580.
 Captain's Island, *isl.* with L.B., N.Y., U.S.A.
 Capua, anc. *fort. c.* 20 m. N. of Naples, founded by the
 Etruscans, came under Roman rule, occupied by
 Hannibal, re-occupied by Romans, sacked by the
 Saracens; modern t. 2 m. N. on site of anc. Casilinum,
 now famous for fresh-watering, p. 14,500.
 Caputh, *par.* nr. Dinkeld, co. Perth, Scotl. Druidical
 remains, p. 986.
 Carabobo, *prov.* of Venezuela, cap. Valencia (q.v.).
 Caracas, *cap.* of Venezuela, 6 m. inland from its port,
 La Guayra; busy c. electrically lighted, p. 75,000.
 Caracoles, *t.* in silver-mining dist. of Atacama, N.
 Chili.
 Careglio, *t.* in Piedmont, Italy, p. 6,840.
 Caramania. —[See Karamania.]
 Caranaga, trade t. of Paraguay, in cotton and
 tobacco growing dist., p. 13,000. [Canada, p. 4,220.
 Caraque, *t.* and *port* of entry, New Brunswick.
 Carat, *t.* Venezuela on Yuruan R., Bolivar dist.,
 Carate, *t.* nr. Milan, N. Italy, p. 3,840. [p. 6,000.
 Caravaca, industrial t. N.W. Murcia, Spain, p. 16,000.
 Caravaggio, *t.* in N. Italy, prov. Bergamo, nr. Milan;
 Caravellas, *pt.* in Bahia, Brazil, p. 5,420. [p. 8,500.
 Carballo, industrial t. in Coruña, Spain, p. 11,500.
 Carbonara, *t.* in prov. Bari, Italy, p. 6,750.
 Carbondale, *t.* in anthracite coal-mining region,
 Lackawanna co., Penn., U.S.A., p. 15,340.
 Carboear, *pt.* on Conception Bay, Newfoundland,
 p. 2,840. [p. 30,000.
 Carcar, *t.* in Cebu, Philippine Isls., sugar ind.,
 Carcassonne, *t.* in S. of France, cap. dep. Aude;
 historic citadel, sacked by the Black Prince in 1355;
 p. 31,000; cloth mauls. [p. 30,000.
 Carcha, important trading t. in Guatemala, nr. Colon,
 Carcoar, *t.* in agricultural and gold-mining dist. of N.S.W.,
 120 m. W. of Sydney, p. (of dist.) 8,500. [p. 21,500.
 Cardenas, *pt.* on N. side of Cuba, sugar exports;
 Cardif, *pt.* and *co. bor.*, (sl. t.), S. Wales, docks, iron,
 tinplate works, shipbuilding; 182,282. [p. 182,282.
 Cardigan, municip. *bor.* and *c.* t. of Cardiganshire,
 S. Wales; p. 3,578. [Wales, 70 m. extent, N. and S.
 Cardigan Bay, large bay on the W. of Cardiganshire, S.
 Cardiganshire, maritime co. of S. Wales, enclosed by
 co.'s Montgomery, Radnor, Brecknock, Carmarthen,
 and Pembroke, and bounded on the W. by Cardigan
 Bay, area 688 sq. m.; mainly agricult., mines, and
 quarries; p. 59,877.
 Cardinale, *t.* in prov. Catanzaro, Italy, p. 3,540.
 Cardington, *val.* in Bedfordsh., Eng., nr. Bedford.
 Cardito, *val.* in Italy, nr. Naples, p. 5,100. [p. 1,475.
 Cardona, fort. *t.* in Barcelona, Spain, on R. Cardener;
 rock-salt hill near by, p. 5,000.
 Cardross, industrial *dist.* and *val.*, Dumbartonsh., Scotl.,
 on R. Clyde; here King Robert Bruce died;
 p. 11,326. [mining dist.; p. 3,300.
 Cardwell, *t.* Queensland, Austr., fine harbour; gold-
 Carreggi, *val.* nr. Florence, Italy, fine villas.
 Caribbean Sea, part of Atlantic between S. and Cent.
 America and the Isls. of Cuba, Hayti and Porto Rico.
 Caribbee Isls. (or Lesser Antilles), E. portion of W.
 India Isls.; divided into Windward and Leeward
 group. [p. 67,000, also point N. shore L. Huron.
 Cariboo, gold-field, Brit. Columbia, on Fraser R.,
 Caribou, *t.* Maine, U.S.A., p. 5,000; also several other

- sm. t.'s in U.S.A., and places in Nova Scotia and Canada. [p. 7,800.]
- Carignan**, silk mfg., *t.* on R. Po, nr. Turin, Italy.
- Carimata**, group of *is.* in the E. Indian Arch., W. of Borneo. [Fest of the Tyrol, p. 368,000.]
- Carinthia**, agr. prov. of the Austro-Hungarian Empire.
- Carlsbrooke**, *viz.* Isle of Wight, Eng.; King Charles I. imprisoned in castle, p. 4,000. [Canada, p. 5,000.]
- Carleton Place**, indust. *t.* in co. Lanark, Ontario.
- Carlingford**, *t.* co. Louth, Ireland, on Carlingford Bay, p. 660. [and Louth, Ireland.]
- Carlingford Lough**, *inlet* of sea between co.'s Down
- Carlinville**, *t.* in Illinois, U.S.A., cap. of Macoupin co., p. 3,640.
- Carlisle**, *t.* Cumberland, Eng., on R. Eden; important railway centre, anc. castle, and cathedral, p. 46,432; also *t.* Penn., U.S.A., college, etc., p. 10,000.
- Carloforte**, *t.* in Italy, on San Pietro Isl., Sardinia, tunny-fishery, p. 7,500.
- Carlopoli**, *t.* in Catanzaro, prov., S. Italy, p. 3,240.
- Carlow**, *t.* and co. (language agricul.), Ireland, p. (of *t.*) 7,000, (of co.) 36,151. [p. 9,420.]
- Carlowitz**, famous Hungarian wine *t.* on R. Danube.
- Carlsbad** or **Kaiser Carlsbad**, *viz.* *pl.* in Bohemia; resid. p. 15,000; visitors 50,000 annually.
- Carlskrona** or **Beckings**, chf. naval station in Sweden, on the S. coast, p. 2,500.
- Carlskrona**, fort *t.* and *g.* S. Sweden, p. 8,500.
- Carlsruhe**, *t.* 40 m. W. Stuttgart, cap. of Baden, headquarters of German army corps; many impt. industries, p. 100,000.
- Carlsbad**, on isl. nr. N. shore, L. Wener, Sweden, ironworks and match factories, p. 12,000. Carlsbad prov. (many rich iron mines), has p. 270,000.
- Carlstadt**, fort *t.* Croatia, Aust., p. 6,500; also smt. *t.* in Lower Franconia, on R. Main, Bavaria.
- Carlton**, Indust., *t.* 3 m. E. Nottingham, Eng., p. 15,385; also *viz.* in Dufferin co., Manitoba, Can.
- Carlisle**, min. *t.* in fruit-growing dist. of co. Lanark, Scotl., 19 m. from Glasgow, p. (of par.) 9,100.
- Carlyle**, *t.* in Clinton co., Illinois, U.S.A., p. 3,450.
- Carmagnola**, mfg. *t.* on R. Mella, N. Italy, p. 14,000.
- Carmarthen**, mfg. *t.*, co., and bay, S. Wales, p. of *t.* on R. Towy, 10,221. Area of co. 818 sq. m., p. 160,430. Mainly pastoral land; C. B. is 18 m. across.
- Carmaux**, *t.* in colliery dist. Tarn dep., France, glass mfg., p. 11,000.
- Carmel**, Mount (alt. 1,887 ft.), running down to prom. on coast of Palestine, nr. Acre.
- Carmen**, *t.* Bolivar State, Colombia, p. 7,500; also spt. on Campeche Bay, Mexico, p. 7,850; also *t.* on R. Negro, Argentina, p. 2,800.
- Carmi**, *t.* in Illinois, U.S.A., White co., p. 2,940.
- Carmignano**, *t.* in Val d'Ombro, Italy, nr. Florence, p. 12,000; straw-plait trade.
- Carmoe**, isl. Norway, 20 m. N.W. Stavanger, p. 6,850.
- Carmona**, old *t.* Andalusia, Spain 18 m. N.E. of Seville, p. 18,000; Roman necropolis, many int. archaeol. remains.
- Carnac**, *t.* in dep. Morbihan, France, nr. Lorient, reliques of stone age, p. 3,000 (communal).
- Carnarvon**, anc. *t.* on Menai Strait, cap. of co. of C. and G., p. 9,119. Also name of b. between co. of C. and Anglesey; also township at mth. of Gascoigne R., W. Australia.
- Carnarvonshire**, mtns. marit. co., N. Wales, area 564 sq. m., p. 125,040. Slate and stone quarries, lead mines; highest peak Snowdon (3,571 ft.); impt. towns, Carnarvon, Bangor, Conway, and Llandudno (p. 7).
- Carnatic**, *dist.* extending 550 m. on Coromandel
- Carnegie**, iron-smelting *t.* nr. Pittsburgh, Penn., U.S.A., p. 7,500. [p. 7,400.]
- Carnières**, quarry-dist. *t.* in Hainault prov., Belgium.
- Carniola**, crown prov. Austria, Cisleithian div.; area 3,896 sq. m., mtns. with quicksilver, coal, iron, and manganese mines, p. 50,000; cap. Laibach.
- Carnoustie**, summer resort, co. Forfar, Scotl., on Germ. Oc., p. 5,338. [p. (of dist.) 6,500.]
- Carwarth**, in ironworks dist. of co. Lanark, Scotl.,
- Carrollia**, indust. *t.* Spain, prov. Jaen, p. 8,000.
- Carolina**, North and South, States of the U.S.A., N. Carolina (area 52,350 sq. m.), bord. N. by Virginia, S. by Georgia and S. Carolina, E. by the Atlantic, and W. by the Alleghany Mtns., and Tennessee, cap. Raleigh, ch. port Wilmington, p. 2,206,287. S. Carolina (area 30,370 sq. m.), bord. N. by N. Car., S.W. by Georgia, and S.E. by the sea; cap. Columbia, chf. port Charleston, p. 1,575,400. Products cotton, rice, etc.
- Caroline Is.**, German Arch. in W. Pacific, 500 in number, lying between the Philippines and the Marshall Group, under the govt. of German New Guinea.
- Caroline Isl.**, a sm. Brit. atoll in Polynesia, between the Penrhyn and Marquesas groups.
- Caroni**, R. (400 m.), trib. Orinoco, S. America.
- Carouge**, *t.* Switz., canton of Geneva, on R. Arve, and subn. to Geneva, *p.* 7,400. [p. 6,000.]
- Carovigno**, *t.* in Lecce prov., S. Italy, nr. Brindisi, Caporetto, *t.* in Piacenza prov., Italy, p. 6,100.
- Carpathian Mtns.**, a range which separates Hungary from Moravia, Galicia, and the Bukowina, and Transylvania from Roumania; highest point, Mt. Rucpetze, Transylvania, 9,528 ft.
- Carpathian Sea**, the anc. name for a sm. part of the Aegean Sea N. of the Carpathians.
- Carpentaria**, Gulf of, large mlet on N. coast of Australia, between Wessel Isl. and Cape York.
- Carpentras**, *t.* dep. Vaucluse, France, on R. Auzon, the anc. Carpentoracte; many antiquities, p. 10,500.
- Carpi**, indust. *t.* in Modena, Cent. Italy, interesting cathedral, p. 20,000.
- Carpi**, *t.* in Foggia, S. Italy, on Mt. Gargona, p. 6,540.
- Carranca**, *t.* in prov. Minas Geraes, Brazil, pastoral *t.*, p. 4,250.
- Carrantuohill**, or **Carrantuel**, mtn, co. Kerry, nr. Killarney, loftest in Maglicuddy Reeks and all Ireland, alt. 3,414 ft. [for its white marble, p. 42,500.]
- Carrara**, *t.* Cent. Italy, prov. of Massa-Carrara, famed Carrick, *dist.* of co. Ayr, Scotl., S. of R. Down.
- Carrickfergus**, *spt.* on Belfast Lough, otherwise Carrickfergus, *p.* 4,200. [Irr. 17,000.]
- Carrickmacross**, mkt. *t.* co. Monaghan, Ireland, (of Carrick-on-Shannon, co. *t.* Leitrim, Ireland, p. 1,530.)
- Carrick-on-Suir**, mkt. *t.* co. Tipperary, Irel., p. 6,005.
- Carrizal-Alto**, *t.* in Atacama prov., Chili, nr. rich copper mine, p. 7,500. Carrizal Bajo is the port, 25 m.
- Carrollton**, *t.* in Missouri, U.S.A., p. 2,700.
- Carroll, R.** (20 m. l. c. Stirlingsh., Scotl., trib. of Forth; also vil. with famous ironworks, nr. Falkirk Scotl., p. (of vil.) 1,500.
- Carroonbrook**, *t.* in Perth co., Ontario, p. 1,200.
- Carruges**, *dep.* de Orne, France, nr. Alençon, p. 2,100.
- Carru**, *t.* N. Italy, nr. Mondovì, Piedmont, 4,430.
- Carsee**, term applied to three fertile districts in Scotl.—Falkirk, Gownie and Stirling.
- Carshalton**, *viz.* and resident. *dist.* in Surrey, Eng., nr. Croydon, p. 11,635.
- Carsoli**, *t.* in prov. Aquila, Italy, p. 6,120.
- Carson City**, State cap. of Nevada, U.S.A., silver-mining dist., p. 2,250.
- Carstairs**, *viz.* and *viz.* *hmc.* co. Lanark, Scotl., p. 1,800.
- Cart R.** (formed by Black and White Cart R.'s) trib. of Clyde, co. Renfrew, Scotl.
- Cartagena**, *spt.* (cap. of dep. Bolívar) on N. coast of Colombia, S. America, p. 112,000, also strong spt. and naval arsenal in Spain, prov. of Murcia, fine wharves and harbour, celebrated cathedral; the Roman Carthago Nova; present p. 100,000.
- Cartago**, *t.* in Costa Rica, nr. San José, frequently disturbed by earthquakes, p. 5,000; also *t.* in Republic of Columbia, dep. Cauca, p. 14,000.
- Cartaxo**, *t.* nr. R. Tagus, dist. Santarém, Portugal, corn and wine, p. 7,000.
- Cartaya**, *spt.* in Andalusia, Spain, nr. Huelva, p. 5,500.
- Cartersville**, *t.* of Barton co., Georgia, U.S.A., p. 3,540.
- Carterton**, *t.* in north isl. of New Zealand, p. (dist.) 2,500.
- Carthage**, *t.* N.E. Tunis, with ruins of anc. Carthage, destroyed by the Romans 146 B.C.; also several towns of the same name in U.S.A., the most impt. being in mining dist. of Jasper co., Missouri, p. 10,000.
- Cartmel**, mkt. and indust. *t.* in N. Lancashire, Eng., nr. Ulverston, p. 6,640. [from Winnipeg.]
- Cartwright**, *stn.* on C. P. Ry., Pembina section, 145 m.
- Carupano**, *spt.* in Venezuela, State of Bermudez, nr. Cumana, p. 13,000. [France, p. 8,500.]
- Carvin-Epinay**, mfg. *t.* dep. Pas-de-Calais, nr. Arras,

Casablanca, *t.* in Chili, prov. Valparaiso, p. 2,000; also spt. in Morocco, otherwise called Dar el Balda.

Casale Monferrato, old industr. *t.* on R. Po, prov. Alessandria, N. Italy, Lombard cathedral, p. 31,500.

Casal Maggiore, *t.* on R. Po, prov. Cremona, Italy, p. 26,000. [*p.* 4,500; also *t.* nr. Naples, p. 4,940.

Cassanovo, *t.* Italy, nr. San Severo, prov. Foggia.

Casal Fusterling, *t.* in Milan prov. Italy, p. 4,700.

Cassamicciola, *vol. pl.* Ischia Isl., S. Italy, terrible earthquake, 1883, p. 3,500.

Cascade Range, N. America, between Rocky Mtns., and Pacific coast. Extends from Mount Shasta (14,440 ft.), in California, through Brit. Columbia to Alaska.

Cascade R., tin-mining dist. of Tasmania, nr. Launceston.

Cascina, *t.* in Pisa prov., on R. Arno, Italy; silk and other industries, p. 25,000.

Caserta, *t.* 16 m. N. of Naples, cap. of C. prov., Italy; magnificent royal palace; p. (of *t.*) 33,000; of prov., 75,000; wine-growing dist.

Cashel, *t.* in Co. Tipperary, 100 m. S.W. of Dublin, Ireland; cathedral (ruined) on Rock of Cashel, p. 3,000. [Yashland.

Cashgar, *t.* in E. Turkestan (500 m.), trib. of the Kashmere or Kashmir (80,000 sq. m., p. 3 millions), trib. native State in N. India. Traversed by ranges of the Himalayas, in vale of C., rich agric. dists., also noted for textile products; cap. Srinagar.

Casio E. Casola, *t.* in prov. Bologna, Italy, p. 4,440.

Casiquiare, R., Venezuela, joins Orinoco to the Rio Negro, a trib. of the Amazon.

Casoli, *t.* in prov. Chieti, on mtn side, p. 6,800.

Casoria, industr. *t.* nr. Naples, Italy, p. 11,720.

Caspe, *t.* on R. Guadalupe, 80 m. E. Saragossa, Spain, p. 9,580.

Caspian Sea, great salt lake, 700 m. long, 270 m. wide, area nearly 170,000 sq. m., between Asia and Europe; largest inland sea in the world. Surface 84 ft. below ocean level. S. shores, Persian, rest, Russian. Receives Rivers, Volga, Ural, Kuma, Atrek, etc.; naval station of Russian Caspian flotilla; Ashurada, isl. nr. Persian shore. [house.

Casquets, great rocks, 7 m. W. of Alderney; light.

Casano, *t.* in prov. Milan, Lombardy; Prince Eugene defeated by the French, 1705. Moreau by Suvaroff, 1799; p. 8,300.

Cassel, *c.* on R. Fulda, cap. of Hesse-Nassau, Germany; military depot, museums, library, many impt. industries, p. 107,000; also *t.* in dep. Nord, France, p. 4,100.

Cassila, *t.* N.S.W., co. Bligh, p. (of dist.) 3,100.

Cassino, *t.* in Campania, Italy (formerly called San Germano), the anc. Cassinum; here Mark Antony stayed at M. Terentius Varro's villa, p. 13,500.

Castel, *v.* on R. Rhine, nr. Wiesbaden, Pruss., p. 6,830.

Castelbuono, *t.* Sicily, nr. Palermo, mmt. springs p. 20,500. [*p.* 2,740.

Castel del Monte, *t.* nr. Aquila, Italy, mediæval castle.

Castelfardo, *t.* nr. Loreto, prov. Ancona, Italy; battle between Papal troops and Italians, 1860, p. 6,750.

Castelflorentino, *t.* Tuscan, nr. Florence, p. 9,000.

Castel Forte, *t.* in prov. Caserta, Italy, p. 3,500.

Castelfranco, *thus* in Italy; (a) in prov. Avelino, nr. Benevento, p. 2,700; (b) in prov. Bologna, p. 6,800; (c) in prov. Treviso, on rly. to Verona, fine ch. and paintings, silk industry, p. 11,850.

Castelgandolfo, *vol.* on L. Albano, nr. Rome, summer resort of the Pope, p. 2,100.

Castellamare, *vol. pl.* and dockyard *t.* on Bay of Naples, p. 35,000; also spt. on G. of C., coast of Sicily, p. 14,500.

Castellana, *t.* prov. Bari, S. Italy, p. 11,000.

Castello Branco, *c.* of Portugal, cap. of dist. same name, p. (of *c.*) 6,800; (of dist.) 205,500.

Castellon de la Plana, *prov.* Spain, on Mediterranean, part of anc. Valencia, mainly mtns.; area 2,445 sq. m., p. 310,000, cap. Castellon, p. 31,000 (port El Grao, 4 m. off on coast).

Castelnau, *t.* in dep. Aude, France, on canal Languedoc; burned by Black Prince, 1355, p. 10,500.

Castel San Pietro, *t.* in prov. Bologna, Italy; saline springs, p. 13,800. [*p.* 25,000.

Castelvetro, industr. *t.* Sicily, prov. Trapani.

Casterton, *t.* on R. Glenelg, Victoria, p. (of dist.) 4,850.

Castiglione, industr. *t.* Sicily, nr. Catania, p. 20,000.

Castiglione della Stiviere, *t.* in prov. Mantua, Italy; here Bonaparte defeated the Austrians, 1796, p. 45,500.

Castiglione Fiorentino, *t.* nr. Arezzo, Italy; sericulture, p. 13,500.

Castile, cent. part (formerly a kingdom) of Spain; now div. into Old and New Castile.

Castilejos, Northern Morocco; Moors defeated here by General Prim, 1860.

Castlebar, *t.* Ireland, cap. of co. Mayo, p. 4,000; "Race of Castlebar" battle fought here in Rebellion of 1798. [*p.* 1,800.

Castleblayney, *t.* nr. Dundalk, co. Monaghan, Ireland.

Castle Cary, mkt. *t.* Somerset, Eng., nr. Yeovil, p. 2,135.

Castlecormer, mkt. *t.* co. Kilkenny, Ireland, p. 1,200.

Castle Donington, *t.* Leicestershire, Eng., nr. Ashby-de-la-Zouch, p. (of dist.) 6,418. [*p.* 3,025.

Castle Douglas, *t.* Kirkcudbright, Scotl., cattle fairs.

Castleford, *t.* W.R. Yorks, 10 m. S.E. of Leeds in glass-bottle and colliery dist., p. 23,701.

Castlemaine, gold-mining *t.* 80 m. N. Melbourne, Victoria, p. 8,000.

Castle Peak, *mtn.* Nevada, California (alt. 13,000 ft.), also mtn. in Colorado, U.S.A. (alt. 14,115 ft.).

Castlereagh, *t.* in Roscommon, Ireland, on R. Suck, p. 1,200; also in N.S.W., on R. Nepean, 40 m. from Sydney.

Castlons, *t.* Peak dist., Eng., site of Peveril castle p. 550; also vil. Roxburgh, p. (par.) 2,300; also *t.* Staten Isl., N.Y., U.S.A., p. 14,000; also *t.* Vermont, U.S.A., p. 3,850; also industr. suburb of Rochdale, Lancs, Eng., p. 7,200.

Castletown, *t.* with castle (Castle Rushen), and garrison, Isle of Man; former cap. of isl. p. 2,000.

Castletown Bearhaven, *spt.* co. Cork, Ireland, on Hantry Bay, p. 1,200.

Castres, *t.* Tarn dep., France, on R. Agout, former Huguenot stronghold; cathedr., textile mfg., p. 25,000. [*p.* 1,750.

Castri, *t.* Greece, on Mt. Parnassus, nr. Salona.

Castries, *spt.* St. Lucia Isl., Brit. W. Indies, p. 7,500.

Castro, *t.* and *dep.* Chile, Chilo Isl., p. (c.) 1,400; (dep.) 35,000. [Spain, p. 12,000.

Castro del Rio, industr. *t.* Andalusia, on R. Guadajoz.

Castrogiovanni, old *t.*, fort, Sicily, mineral springs, sulphur mines; p. 26,000.

Castropol, *spt.* N. Spain, nr. Oviedo, p. 8,330. [10,000.

Castro Real, *c.* Sicily, nr. Milazzo, p. (commune).

Castro Urdiales, *spt.* N. Spain, in mining dist. of Santander prov., p. 14,500.

Castrovillari, *t.* fort, Calabria, S. Italy, old Norman castle; olive oil ind.; p. 10,000.

Castuera, *t.* 68 m. from Badajoz, Spain, p. 7,740.

Cat Isl. (or *Guanahani*), Bahamas, W. Indies, area 340 sq. m., p. 2,500. [John's, p. 1,510.

Catalina, *spt.* Newfoundland 60 m. N.W. of St. John's.

Catalonia, old *prov.* N.E. Spain, between Mediterranean and Pyrenees, now divided; rich in minerals, but mountainous, p. about 2,000,000.

Catamarca, *prov.* and *t.* in N.W. Argentine, farming and mining; p. (of prov.) 100,000; (of *t.*) 8,000.

Catanduanes, *isl.* (40 m. long), nr. Luzon, one of the Philippine Isls.

Catania, *c.* and *prov.* on E. coast Sicily. City several times rebuilt in cons. of earthquakes; modern and thriving; at ft. of Mt. Etna, p. 150,000; p. (of prov.) 715,000.

Catanzaro, *c.* S. Italy, in prov. of same name, nr. the Ionian Sea; university and good trade, p. 32,000.

Catawaga, *t.* on Lehigh R., Penn., U.S.A., p. 4,240.

Catastrophe, Cape, S. extremity of Eyre, Penn., S. Australia.

Catawba (300 m.), R. of N. Carolina, U.S.A., rising in Blue Ridge Range.

Cateau, Le (or *Cateau-Cambresis*), mfg. *t.* Nord dep., France, p. (commune) 12,500. [10,847.

Catherham, *vil.* and residential *dist.*, Surrey, Eng., p. 1,500.

Cathay, old name for China and East. Tartary.

Cathcart, *t.* in co. Wexley, N.S.W.; also large industr. par. in Glasgow, Scotl., p. 13,500.

Charmadon, or *Khatmandu*, cap. of Nepal, India, p. (abt.) 50,000.

Catoche, Cape, N.E. nt. of Yucatan, Mex.

Catorce, large industr. upland t. in Central Mexico, 125 m. of San Luis, Potosi, p. 25,000.

Catrine, cotton mfg. t. in co. Ayr, Scotl., p. 3,000.

Catskill, t. on R. Hudson, N.Y., U.S.A., p. 5,500.

Catskill Mtns., range in N.Y. State, U.S.A., W. of the Hudson R., part of the Appalachian system; highest pt. Slide Mt., alt. 4,805 ft. (commune) 6,000.

Cattaro, fort. *spt.* on Dalmatian coast, Austria, p. Cattagat, or Kattagat, *chan.* between Jutland and Sweden, an arm of N. Sea.

Cattolica, t. in Sicily, prov. Girgenti, p. 7,400.

Cauca, r. of Colombia (600 m.), trib. of Magdalena.

Cauca, dept. of Colombia Republic, area (including isls. along Pacific and Atlantic coasts) 257,453 sq. m., p. 750,000; cap. Popayan.

Caucasia, Russ. *terr.*, area 180,843 sq. m., p. (abt.) 10,000,000; between the Black Sea and the Caspian; div. by Caucasus Mtns. into Northern or Cir-Caucasia, and Trans-Caucasia; cap. Tiflis (*q.v.*).

Caucasus, lofty *mtn.* range between Caspian and Black S.; natural boundary between Europe and Asia, highest summits Mt. Elbruz (18,526 ft.) and Kasbek (16,546 ft.). Length of System alt. 800 m., greatest width 120 m. Many lofty passes and imposing glaciers. [p. 7,500.]

Caudan, t. in dep. Morbihan, France, shipbldg.

Caudesac, anc. t. Seine-inf. dep., France, on the Seine, p. 2,500; also a neighbouring township of the same name, suburban to Elbeuf, on riv. to Louviers, textile factories, p. 7,000.

Caudete, t. in Spain, Alhacete prov., p. 5,500; also t. Tuertel prov. of Spain, p. 6,250. [p. 10,000.]

Caudry, t. Nord dep., France, lace and tulle industry, p. 10,000.

Caulfield, t. nr. Melbourne, Victoria, fine racecourse, p. 10,500.

Cauquenes, t. in Chile, cap. of Maule prov., p. 7,450.

Causade, t. in dep. Tarn-et-Garonne, once a Huguenot stronghold, p. 4,500.

Cauterets, *val* dep. Hautes-Pyrénées, France, mineral springs, p. 2,400. [cap. Tenacé.]

Cautin, *prov.* of S. Chili, area 3,320 sq. m., p. 82,000; *Canvey*, t. in S. India (475 m.), flows into R. of Bengal.

Cava, one of the Orkney isls., 1 m. long by $\frac{1}{2}$ m. wide.

Cava, or La Cava, t. in Salerno, Italy; popular summer resort, p. 7,500.

Cavan, inland co., Ireland, prov. of Ulster, area, 746 sq. m., p. 91,077; also its co. t., 72 m. S.W. Belfast, p. 3,540; also t. Ontario, 62 m. N.E. Toronto, p. (dist.) 4,250.

Cavazzere, industr. t. in prov. of Venice, on R. Adige, N. Italy, p. (commune) 18,500.

Cave City, t. in Kentucky, nr. the Mammoth Cave, Barren co., U.S.A., p. 3,500. [Nagarsa.]

Cave of the Winds, recess behind the Falls of Caverham, t. Oxfordsh., Eng., on R. Thames, p. 9,850. [Philippines] p. 5,500.

Cavite, *ftd.* *spt.* on Isle of Luzon, one of the Caves, or Cavour, t. Piedmont, Italy, nr. Pinerolo, p. 7,500. [p. 847.]

Cawdor, *vil.* co. Nairn, Scotl., nr. Cawdor Castle, Cawpore, *dist.* in Allahabad div. N.W. Prov., India, between Ganges and Jumna, area 2,579 sq. m., p. 2,999,000; cap. c. on R. Ganges, same name, textile and other factories, p. 200,000.

Cawood, *vil.* nr. Selby on R. Ouse, W.R. Yorks, Eng., p. 1,140.

Caxamarca. (See Cajamarca.) [alt. 10,535 ft.]

Cayambe, *mtn.*, Andes, Ecuador, on the Equator, Cayenne, *spt.*, cap. of French Guiana, South America, p. 21,000.

Caymans, on Alligator Isl.; 3 m. lvs. Brit. West India, in Caribbean Sea, nr. Jamaica.

Cazembe's Country, between L. Moen and L. Bangweilo; Brit. Cent. Africa, visited by Livingstone in 1868. [p. 3,000.]

Cazères, t. on R. Garonne, Haute-Garonne, France, *Coara*, *prov.* on Atlantic coast of N. Brazil, cap. Fortaleza (*q.v.*), area, 40,000 sq. m., p. 952,000.

Cebu, one of the Philippine isls., 135 m. long; here Magellan landed in 1521, p. 600,000; cap. Cebu, on the E. coast, p. 14,000.

Cedar Creek, Virginia, U.S.A., branch of R. Shenandoah, Sheridan's victory over the Confederates, 1864.

Cedar Falls, c. Iowa, in U.S.A., on Cedar R., p. 5,500.

Cedar Keys, *spt.* in Florida, on Gulf of Mexico, sponge trade, p. 2,800.

Cedar Mountain, a hill in Culpeper co., Virginia, U.S.A. Here Stonewall Jackson defeated Bull in 1862.

Cedar Rapids, c. of Linn co., Iowa, U.S.A., ry. centre, p. 32,812. [Minnesota and Iowa, U.S.A.]

Cedar (or Red Cedar) R. (400 m.) trib. of R. Iowa, Cefalu, *spt.* prov. of Palermo, N. Sicily; sardine fishing, p. 26,000. [bldg stone, p. 14,000.]

Ceglie, c. prov. Lecce, S. Italy, nr. Brindisi; olive oil, Celano, t. prov. Aquila, S. Italy, p. 9,000.

Celaya, mfg. t. 150 m. N.W. of capital, Mexico, p. Celebes (77,865 sq. m., p. 1,800,000), one of the four great Sunda isls. in the Dutch E. Indies; chief t.'s Modado and Macassar (*q.v.*).

Cellydyke, fishery t. in co. Fife, Scotland, p. 2,700.

Celle, mfg. t. on R. Aller, prov. Hanover, Prussia, former cap. of the Dukes of Brunswick-Lüneburg, p. 20,500.

Cenis, Mont, *mtn* and *pass*, 6,882 ft. high, in Graian Alps, between France and Italy. Tunnel made 1857-1859. [p. 90,000.]

Cento, industr. t. in Ferrara prov., Italy, nr. Modena, Central Africa, Brit. (area 150,000 sq. m.), the Brit. Protectorate on the Shire and about Lake Nyassa, native p. 2,000,000.

Central America, the narrow portion of the New World between Mexico and S. America, incl. part of Mexico (Yucatan), the 5 Republics (Guatemala, Honduras, Salvador, Nicaragua, and Costa Rica), Brit. Honduras, and part of Colombia, isls. and dep. of Panama.

Central Asia, usually applied to regions between 20° and 40° N. lat. and 55° and 85° E. long.; Russian C.A. is the dist. between China and Afghanistan and the Caspian.

Central City, *cap.* Gilpin co., Colorado, U.S.A., p. 4,000; also *cap.* t.'s in Neb. and Ky., U.S.A.

Central Falls, t. in Rhode Isl. nr. New Providence, U.S.A., p. 22,754.

Centralia, c. of Marion co., Illinois, U.S.A., colliery dist., p. 7,000; also t. Pennsylvania, U.S.A.

Central India (77,865 sq. m., p. 10,000,000), group of 9 Federated States; in the Brit. Cent. Provinces and the N.W.P. Gov.-Gen.'s Agent resides at Indore.

Central Provinces and Berar, new *prov.* Brit. India, area of Central Prov., 82,635 sq. m., p. about 11,000,000; Berar, area, 17,710 sq. m.; p. over 3,000,000.

Centreville, t. in Appanose co., Iowa, U.S.A.; coal-mining region, p. 5,500; also other t.'s in U.S.A., Canada, and Nova Scotia.

Centuripe, t. in Catania prov., Sicily, the anc. Centuripa, many antiquities, p. 10,000.

Ceas, Greek isl. in Aegean Sea, S.E. of Attica.

Cephalonia, mtns. *isl.*, one of the Ionian isls., Greece, area 915 sq. m., p. 83,500; cap. Argostoli.

Ceram, or *Strang*, *isl.* in Malay Arch., Dutch E. Indies, N. of Ambon, area, 0,624 sq. m., p. (estimated) 100,000 (4,000 perished in earthquake of 1899). Tobacco grown.

Cerna, health resort on Hex R., Cape Colony, 75 m. N.E. of Capetown.

Cerignola, industr. t. Foggia prov., Italy, Spanish victory over French 1503, p. 26,500.

Cerigo, most S. Ionian isls., the ancient Cytheria; area 107 sq. m., p. 15,500. [5 m. long.]

Cerigotto, sm. Greek *isl.* between Ceigo and Crete, Cerra del Cobre, *mtn.* of the Andes, in Chili, alt. 18,500 feet.

Cerro de Pasco, or Pasco, t. Peru, dep. Junin, with famous silver and copper mines, p. 15,000.

Cerro Gordo, *mtn.* *pass* between Vera Cruz and Jalapa, Mexico; also mining camp in Inyo co., California, U.S.A.

Cerve Gordo de Potasi, *mtn.* in Bolivia.

Cervin. (See Matterhorn.)

Cesena, old industr. t. prov. Forlì, nr. Ravenna, Italy; cathedral, antiquities, sulphur mines; p. 40,000.

Cette, *spt.* dep. Hérault, France; exports brandy and wine; first-class port; p. 33,500 (commune, 29,400).

Cettinjo, cap. of Montenegro, old palaces and monastery, p. 4,000.

Canta, Spanish *pt.* on coast of Morocco, opposite to and 16 m. from Gibraltar; the anc. *Abyla*; p. 14,300.
Ceva, *t.* Piedmont, on R. Tanaro, Italy, p. 5,500.
Cevennes, *mtvs.* France, separating basins of Rhône, Loire, and Tarn; highest pt. Mt. Mezenc, alt. 5,794 ft.; also name of former French prov. in Languedoc dist.

Ceylon, Brit. *isl.* in Indian ocean, S.E. of India; largest area (25,481 sq. m.) of all Brit. Crown Colonies; p. 4,109,470; princ. products, rice, tea, coconuts, fruits and spices. C. tra. area, Colombo (commercial and polit. cap.) and Kandy (old native cap.); interior mountainous; highest peak, Pedirralagalla, 8,980 ft. (wine country, p. 3,000).

Chablis, *t.* dep. Yonne, France, nr. Auxerre, famous Chassacomm, *mta.* of the Andes range, Bolivia, alt. 20,235 ft.

Chaco, *terr.* in N. of Argentine Republic; farming, and prairie land; area 57,741 sq. m., p. 12,500.

Chad, *L.* large sheet of water of N. Cent. Africa; area 50,000 sq. m. when in flood; many isls.; lies between the wooded region of the Soudan and the steppes leading to the Sahara desert.

Chadderton, cotton mfg. *t.*, Lancs, nr. Manchester, Eng., p. 28,305.

Chaffres, Spanish *str.* in group of isls. same name, N. coast of Morocco, nr. the Algerian frontier, p. (including troops), 1,000.

Chagos Arch., group of *isls.* in Indian Ocean, administered from Mauritius, fine harbour in Diego Garcia.

Chagres, *pt.* Colombia, S. America, on N. side of Isthmus of Panama, p. 1,200; also R. along line of the Panama Canal.

Chalcedon, or Kadiköy, *t.* on Bosphorus, S. of Scutari; Turkish p. 33,000.

Chaleurs Bay, an inlet between N. Brunswick and Gaspé Pen., Ont., Canada.

Chalgrove, *vil.*, Eng., 13 m. S.E. Oxford; battle, in which Hampden was mortally wounded, 1643. Prince Rupert victorious.

Chalkis, or Chalcis, *t.* on the Euripus, 34 m. N. of Athens, Greece, (the modern Negropoli, p. (commune), 16,500).

Chalon-sur-Saône, anc. industr. *c.*, dep. Saône-et-Loire, E. France, p. 31,450.

Chalons-sur-Marne, *c.* on R. Marne, N.E. France; military centre, brewery industry, p. 26,500.

Chalais, *t.* dep. Haute-Vienne, France, nr. Limoges, p. 2,850.

Chamba, hill *state*, Punjab, India; area 3,126 sq. m., p. 130,000; chf. *t.* same name, p. 5,250.

Chambal, R. of Centr. India (99 m.), trib. of R. Jumna, rising in Vindhya Hills.

Chambersburg, *t.* in Pennsylvania, U.S.A., in the Cumberland Valley, p. 9,100.

Chambéry, *cap.* Savoy dep., [S.E. France; passed into possession of France from Sardinia in 1860, p. (commune) 21,500.

Chambesi, R. S. Cent. Africa, flows into L. Bangweolo.

Chambou, *La*, *t.* of France, dep. Loire, ironworks, etc., p. 12,000; anc. castle of Feugerolles noteworthy.

Chamo-tu, or Chiamdo, *t.* in S.E. Tibet, p. 12,000.

Chamounix, French *vil.* at foot of Mont Blanc, in lovely valley drained by R. Arve, p. 2,540.

Champagne, old *prov.* N.E. France, famous for its wines, now subdivided. [versity, p. 10,000.

Champaign, *c.* of Champaign co., Ill. U.S.A., with Champaign, *dist.* of Brit. India, Patna div. of Bengal, area 3,331 sq. m., p. nearly 2,000,000; indigo planting.

Champigny, *t.* on R. Marne, dep. Seine, France; embroidery, piano-keys, p. 6,700.

Champlain, *L.* on N. frontier of N.Y. State, U.S.A., area 488 sq. m., 100 m. long, discharges by R. Richelieu into the St. Lawrence.

Chanar, anc. *t.* on R. Ganges, N.W.P., India, p. 9,500.

Chancellorsville, *vil.*, Virginia, U.S.A.; battle 1863, in which Stonewall Jackson was killed.

Chanda, *t.* Cent. Prov., Nagpur div., India; walled, with anc. temples, p. 20,500, cap. of Chanda dist. (area 20,749 sq. m., p. 90,000); produces rice and grain, also contains coalfield. [sugar, p. 20,000.

Chandauli, *t.* N.W.P., India, Moradabad dist., cotton.

Chandamagore, or Chundera, French *c.* and *terr.* on Hoogli R., India, 20 m. N. of Calcutta, p. 26,000.

Chandpur, *t.* N.W.P. India, Bijnaur dist., p. 12,000.

Chandra Roma, *t.* in Midnapur dist., Bengal, India, p. 13,500. [mining dist., p. 3,800.

Chaneral, *pt.* of Chili, Atacama prov., copper.

Chang-chu-fu, *c.* in Fo-kien prov., China, nr. Anuy, centre of silk trade, p. (est.) 750,000.

Changra, *t.* in Kastamuri prov., Asia Minor, once the metropolitan see of Paphlagonia, p. 13,000.

Chang-sha, *cap.* of Hunan prov., China, on the Heng Kiang, p. 50,000.

Channel Islands, group off N. coast, France (Jersey, Guernsey, Alderney, and Sark), area 75 sq. m., p. about 100,000; self-governing Brit. poss. Chf. *t.* St. Heliers, in Jersey. [India, p. 8,000.

Channama, *t.* in Baroda terr., Gujarat prov., Bombay, Chantabua, *pt.* on G. of Siam, occup. by the French since 1893; rubies, and other precious stones; p. 5,000. [p. 20,800.

Chantenay, *t.* nr. Nantes, prov. Loire-Inf., France.

Chantilly, *t.* with famous racecourse, in Oise dep., France, 25 m. from Paris, p. 5,000.

Chanute, *t.* in Kansas, U.S.A., p. 3,500.

Chapada, *t.* in Brazil, Mitto Grosso prov., p. 4,200; also *t.* in Minas Geraes prov., p. 3,000; and smf. *t.* in Maranhao prov., p. 2,100. [p. 300 sq. m.

Chapala, *L.* in Mexico, chiefly in Jalisco State, area Chapel-en-le-Frith, *t.* in the High Peak, Derbyshire, Eng., p. 16,557.

Chapelhall, *dist.* nr. Airdrie, Lanark, Scotl., p. 2,000.

Chapelized, *t.* in Liffey, nr. Dublin, p. 2,000.

Chapelle-Saint-Denis, *t.* in France, Seine dep.; chemicals, liqueurs, etc., p. 18,500.

Chapelton, *dist.* nr. Sheffield, Yorks, Eng., p. 7,500.

Chapra, *t.* on R. Ganges, 30 m. above Patna, Bengal, India; centre of saltpetre and indigo trade, p. 46,000.

Chard, *t.* Somerset, Eng., lace, and linen collar mfg., p. 4,568.

Charente, *R.*, and also brandy producing dep. in W. France; cap. Angoulême; centre of distilling trade, Cognac, *t.* (of dep.) 345,000.

Charente-Inférieure, *dep.* on S.W. est. France; cap. La Rochelle, area 2,732 sq. m., p. 445,000; wine and wheat.

Charenton-le-Pont, fort. *t.* at junct. of R. Marne and Seine, France, suburban to Paris, p. 17,000.

Charikar, *t.* in Afghanistan, 36 m. N. of Cabul, p. 5,000.

Charjul, *t.* on R. Aniu (Oxus) and *str.* on Russ. Trans-Caspian Ry., great raw-cotton collecting depot.

Charikhar, native *state* in Bundeskhand Agency, India; area 798 sq. m., p. 150,000.

Charierol, *c.* on Sambre R., Belgium, in colliery dist., p. 25,000; also mfg. *t.* of Washington co., Penn., U.S.A., p. 6,000.

Charles, *c.* Iowa, U.S.A., on Cedar R., p. 3,000, also R. in Mass. (75 m.), enters sea at Boston; also two sub-districts of Quebec. [p. 3,000.

Charlesbourg, *t.* cap. of Quebec co., Canada.

Charleston, *c.* and *pt.*, S. Carolina, U.S.A., defended by Forts Sumter and Moultrie; important position in Civil War, p. 28,824, more than half negroes; also *t.* W. Virginia, U.S.A., in bituminous coal dist. on Kanawha R., p. 22,996; also *t.* in Colco co., Illinois, U.S.A., p. 5,500.

Charlestown, *t.* Mass., U.S.A., nr. Bunker's Hill; burnt by Brit. 17 June, 1775 now part of Boston, also vil. and stn. N. frontier Natal; also vil. S. coast Cornwall, Eng.; also *t.* Virginia, U.S.A.; also two vil. co.'s File and Banff, Scotl.

Charleville, mkt. *t.* co. Cork, Ireland, p. 2,000; also *t.* on R. Meuse, adjoining Mézières, N.E. France, mfg., p. (commune) 2,000. [Lawrence.

Charlevoix, *c.* Quebec, Canada, abutting on R. St. Charles, *t.* nr. Montbrison, dep. Loire, France, p. 5,800.

Charlotte, *c.* in cotton and tobacco dist., Mecklenburg co., N. Carolina, U.S.A., p. 34,074; also *c.* Mich., U.S.A., p. 3,400.

Charlottenburg, *t.* on R. Spree, suburban to Berlin; Royal castle, and many flourishing industries; p. 190,000.

Charlottesville, *c.* on R. Rivanna, Virginia, U.S.A., p. 7,000.

- Charlottetown**, *spt.*, cap. of Prince Edward Isl., Canada, p. 12,000. [Melbourne; p. 1,500.]
- Charlton**, *t.* in Victoria, co. Gladstone, 178 m. W. of Charlton Kings, *t.* nr. Cheltenham, Gloucestersh., Eng., p. 4,490. [p. 3,500.]
- Charmes-sur-Moselle**, *t.* dep. Vosges, France, Chamois, *t.* at foot of Sierra Otzumatlan, Mexico, p. 6,500.
- Charmone**, *t.* dep. Seine, adjoining Paris on E., p. 23,400. [p. 8,500.]
- Charnadga**, *t.* in Peshawar dist., Punjab, India.
- Charters Towers**, *t.* N. Queensland, gold mines, p. 5,000 (dist. 21,000).
- Chartres**, *t.* Pemsyl., U.S.A., p. 3,000.
- Chartres**, *c.* France, cap. dep. Eure-et-Loir, 50 m. S.W. of Paris: finest Gothic cathedral in France; p. 22,500. [Grenoble, France.]
- Chartreuse**, La Grande, famous monastery nr. Chascol, ch. *t.* of dep. in Bulgarian E. Roumelia, nr. Philippopolis: carpets, woollens, silk-trade; p. 15,000.
- Châteaubriant**, *t.* dep. Loire-Inférieure, France, impt. rly. centre, p. 7,000.
- Châteaudun**, *t.* dep. Eure-et-Loir, France, p. 7,000.
- Château-Gonthier**, *t.* dep. Mayenne, France, p. 7,500.
- Château-Landon**, *t.* nr. Fontainebleau, France; whitening mfg., p. 3,000.
- Châteauguay**, *vill.*, *R.*, and *dist.*, Quebec, Canada.
- Châteauroux**, *t.* dep. Indre, France; woollen manuf.; p. 4,000.
- Châteaufort-Thierry**, *t.* in France, on R. Marne, p. 7,500.
- Chatelet**, mfg. *t.* Hainault, Belgium, on R. Sambre, p. 12,000. [Pottery, France, p. 20,000.]
- Châtelleraut**, cutlery mfg. *t.* dep. Vienne, nr. Chatham, *spt.* and naval arsenal on R. Medway, Kent, Eng.; p. 42,250; also mfg. *t.* Ontario, Canada, p. 10,000; also fish-exporting *spt.*, N.B., Canada, p. 6,000.
- Chatham Islands**, Brit. group in S. Pacific, 536 m. E. of New Zealand; largest isl., Wariraki.
- Châtillon**, *t.* on Dora Baltea, nr. Aosta, Italy, p. 3,000.
- Châtillon-sur-Seine**, *t.* dep. Côte-d'Or, nr. Dijon, France, p. 5,500.
- Chat-Moss**, peat bog in Lanc., Eng., nr. Manchester.
- Chatre**, *La*, *t.* in dep. Indre, France, p. 5,450.
- Chatterworth**, *par.* Derbysh., Eng., on R. Derwent, seat of Duke of Devonshire; also agr. dist. in N.S.W., on Hopkins R., Villiers co., also isl. at mouth of Clarence R., N.S.W., p. 1,340.
- Chattanooga**, *c.* on Tennessee R., U.S.A., iron and steel manuf.; seat of Grant Univ., p. 44,604.
- Chatteria**, mkt. *t.* Canlis, Eng., p. 5,250. [Canada.]
- Chaudière**, *R.*, and falls, above Ottawa, Quebec.
- Cbaudoc**, *t.* in French Cochinchina, cap. of Nangiang prov., [cap. of Bassiguy, p. 14,000.]
- Chaumont**, *t.* dep. Haute-Marne, France, formerly Chauny, *t.* on R. Oise, Aisne, France, p. 10,000.
- Chautauqua**, *c.*, and *co.*, N. Y. State, U.S.A., favourite summer resort, residential, p. 10,000.
- Chaux-de-Fonds**, *La*, *t.* Switz., canton Neuchâtel, centre of watch mfg., p. 36,000.
- Cheddle**, *t.* Staffs., Eng., coal-pits, metal manuf., p. 25,700; also Mersey-side industri. township of co. Chester, Eng., p. 11,000.
- Chebovay**, *t.* nr. Yarmouth, Nova Scotia, p. 2,100.
- Cheboygan**, *c.* Mich., U.S.A., on L. Huron, saw-mills, p. 7,000.
- Chechny**, *t.* on R. Czuma, Poland, p. 5,500.
- Cheddar**, *vill.* Mendip Hills, Somerset, Eng., famous for cheese, p. 2,000.
- Cheduba**, *isl.* in Aracan, B. of Bengal, fertile and well-wooded; area 240 sq. m.; p. 24,500.
- Cherash**, *t.* nr. Khotan, Chinese Turkestan, p. 20,000.
- Chefoo**, or Chifu, treaty port on N. coast, Shantung prov., China, p. 35,000.
- Chegla**, *t.* in prov. Murcia, Spain, on R. Q. par. nr. the ruined Roman *t.* of Begastri, p. 11,500.
- Chekking**, maritime prov. China, area 35,700 sq. m.; exports, silk, tea, cotton, etc.; p. 12,000,000; cap., Hangchow (*g.v.*). [Maldon.]
- Chelmer**, *R.* co. Essex, Eng., joins R. Blackwater at Chelmsford, *c.* *t.* of Essex, Eng., 30 m. N.E. London; mfg.; p. 18,000.
- Chelms**, *S. W. dist.* of London, Eng., p. 66,404; also *c.* of Suffolk co., Mass., U.S.A., p. 35,000; rubber mfg.
- Cheltenham**, watering place and educational centre, Gloucestersh., 120 m. W. of London, Eng.; p. 48,947.
- Chelyabinsk**, *dist.* *t.* of Russia, on Mijaz R. at beginning of W. Siberian lowlands; corn and cattle trade; p. 20,000.
- Chelyuskin Cape**, most N. point of Asia. [p. 4,500.]
- Chémillé**, *t.* nr. Angers, dep. Maine-et-Loire, France.
- Chenmitz**, *t.* the "Manchester of Saxony," 40 m. S.W. of Dresden, p. 20,000. [Seoul, the cap.]
- Chemulpo**, *spt.* on W. coast Corea, 25 m. S.W. of Chénab, *R.* of India, in the Punjab, *reg.* of Sutlej, rises in the Himalayas, and runs for 765 m. to the Ghayra. [p. 5,500.]
- Chénée**, *c.* in prov. Liège, Belgium, iron-works, p. 12,000.
- Chengalpat**, *dist.* of Madras, India, on B. of Bengal; area 2,842 sq. m., p. nearly 14 millions. [850,000.]
- Cheng-Tu-Fu**, cap. of Sze Chuan prov., China; p. 1,000,000.
- Chepo**, *t.* in dep. Panama, Colombia, p. 7,300.
- Chepsio**, mkt. *t.* on K. Wye, Mon., Eng.; fine ruined castle, p. 2,953.
- Cher**, *R.* flowing from Auvergne mtns.; also central dep., France; area 2,779 sq. m., p. 343,000; agr. and grape-growing; cap. of dep. Bourges.
- Cherascio**, *t.* in prov. Cuneo, Italy, on R. Tanaro silk and wine industries, p. 11,000.
- Cherbourg**, strongly fort. *p.* and naval arsenal on N. coast France, opposite to and 80 m. dist. from Portsmouth, p. 43,000.
- Cheribon**, *spt.* on N. coast, Java, p. 53,000; chf. *t.* of Dutch residency of W. Java, area 26,000 sq. m.; p. 1,500,000; rice and tea and coffee cultivation.
- Cherkaski**, *t.* nr. Kiev, Russia, imp. industries, p. 30,000.
- Chernigov**, *t.* (on K. Desna, p. 27,000) and prov. in Little Russia, E. of R. Dnieper, area 20,000 sq. m.; p. 2,500,000. [Russia, p. 55,000.]
- Chermomorskaya**, military *dist.* of Kuban, N. Caucasus, Cherokee, *t.* in Iowa, U.S.A., p. 4,420.
- Cherso**, Austrian *isl.* and *t.* in prov. of Istria, on Adriatic coast; p. (of *t.*) 5,000, (of *isl.*) 11,000.
- Cheris**, *t.* in Spain, nr. Tortosa, p. 3,600.
- Chertsey**, residential *dist.* *t.* on R. Thames, Surrey, Eng., p. 13,000.
- Cherwell**, *R.* (30 m.) trib. of Thames, nr. Oxford, Eng.
- Chesapeake Bay**, inlet on Atlantic coast, U.S.A., extending 200 m. from mouth of R. Susquehanna to C. Charles. [etc.; p. 8,200.]
- Chesham**, *t.* Bucks, Eng.; industries, boots, brushes, Cheshire, *co.* of Eng., borders on R. Mersey (area 1,027 sq. m., p. 954,919), textile and other manufs. 624; Chester (*g.v.*).
- Chesham**, *t.* in ukt. gardening *dist.* with Bishops Coll., Herts, Eng., p. 12,952.
- Chesil Bank**, a long bar on S. coast of Eng., extends from Portland to Bridport. [Isl., p. 16,400.]
- Chesme**, or Tchesme, *t.* in Asia Minor, opposite Suvo Cheste, *t.* in Spain, nr. Valencia, p. 5,500.
- Chester**, *c.* on R. Dee, Eng., 17 m. from Liverpool; cathedral, p. 39,038, also *c.* Ill., U.S.A., p. 4,040; also *c.* Delaware, U.S.A., cotton manuf. and shipbuilding, p. 38,537. [on K. Rother, p. 37,429.]
- Chesham**, mkt. *t.* in colliery dist., Derbysh., Eng.
- Chesterfield Inlet**, arm of Hudson Bay, U.S.A., 250 m. by 25 m. [Wear, p. 14,712.]
- Chester-le-Street**, mfg. *t.* co. Durham, Eng., on R. Chester, *par.* of Cambridgeshire, Eng., suburb of Cambridge, p. 11,534. [p. 3,000.]
- Chesterton**, *t.* in Maryland, U.S.A., on R. Chester.
- Chesticamp**, fishery *t.* on C. Breton Isl., Nova Scotia, p. 2,245.
- Chetopa**, *t.* Kansas, U.S.A., on Menohe R., p. 3,000.
- Chetvay**, *t.* in Malabar dist., Madras, p. 8,004.
- Chervot Hills**, between Scot. and co. Northumberland, Eng., highest pt. 2,676 ft. [Ose, p. 2,140.]
- Chevreuse**, *t.* in France, nr. Versailles, dep. Seine-et-Oise.
- Chewtow**, *t.* (mining) Victoria, 75 m. N. by W. from Melbourne, p. 2,500.
- Cheyenne**, state *cap.* of Wyoming, U.S.A., cattle ranching dist., p. 15,000; also name of R. in Dakota and Wyoming (500 m.), trib. of Missouri.
- Chhatarpur**, native state in Bundelkhand agency, India; area 1,176 sq. m., p. 175,000.
- Chhatissgarh**, *div.* of Central prov., India; area 29,500 sq. m., p. 2,350,000. [India, 4,650 sq. m., p. 408,000.]
- Chhindwara**, *dist.* of Norbudda div., Central prov., India.
- Chiapas**, maritime state of Mexico, area 27,230 sq. m., p. 360,000; produces coffee, tobacco, sugar and cocoa.

Chiaromonte, *t.* nr. Syracuse, prov. Potenza, Italy, p. 10,000.

Chiavari, *t.* of Liguria on the Riviera, Italy; shrine of the Madonna, p. 12,000.

Chiavenna, *t.* of Lombardy, Italy, nr. L. of Como, famous for beer, wine, and pottery, p. 4,700.

Chicacole, *t.* in Ganjam dist., Madras, India; anc. mosques; formerly famous for muslin, p. 20,000.

Chicago, *c.* on L. Michigan, Ill., U.S.A.; second *c.* in America; immense trade by rail and Great Lakes, flourishing university; great fire in 1871, 500 people perished and 100,000 rendered homeless; p. nearly 2,185,283; Chicago Heights, a suburb, has 5,500 inhabitants.

Chichester, *c.* in W. Sussex, Eng., fine cathedral; p. (of the extended bor.) 12,504.

Chickahominy, *A.* (75 m.), Virginia, U.S.A., trib. of James R. Several battles in Civil War nr. here.

Chickamauga Creek, branch of the Tennessee R. above Chattanooga; desperate battles in Civil War in 1863; site of a National Park.

Chiclana, *mtg.* *t.* nr. Cadiz, Spain, p. 13,000.

Chico, *t.* in California, Butte co., U.S.A., p. 4,100.

Chicopee, *t.* Mass., U.S.A., on R. Connecticut; iron-works, p. 20,000. [Mass., U.S.A., p. 3,845.

Chicopee Falls, *t.* on Chicopee R., Hampden co., Massachusetts, *t.* in Quebec, trib. of Saguenay R.; also *t.* on bank of lake, east of Chicoutimi co., p. 2,800.

Chidambaram, *t.* in S. Arcot dist. of Madras, Brit. India; pl. of pilgrimage, famous temple; p. 18,000.

Chiem See, large L. in Bavaria, nr. Munich, 12 m. by 8 m., 1,500 ft. above ocean level. [p. (dist.) 100,000.

Chiang-Mai, *t.* in N. Siam, centre of teak forest dist.

Chieri, *t.* nr. Turin, in Piedmont, Italy, was a mediæval republic; fine Gothic ch., p. 13,000.

Chiese, *R.* in Tyrol, Italy (75 m.), trib. of R. Oglio.

Chieti, *prov.* S. Italy, on Adriatic, area 1,105 sq. m., p. 372,000; *c.* in prov. the anc. Iocate Maritimum, p. (commune) 26,500.

Chieveley, *stn.* on Natal main line, 5 m. S. of Colenso.

Chievres, *t.* nr. Mons, prov. Hainaut, Belgium, p. 3,500.

Chignecto Bay, inlet of B. of Fundy, Canada.

Chigirin, *t.* of Chigirin, in prov. Kiev, Russia, p. 15,400.

Chigwell, residential *par.* in Essex, Eng., on borders of Epping Forest, p. 21,248.

Chihuahua, *state* of Mexico, adjoining the U.S.A., area 89,820 sq. m., p. 405,005, mining, stock-raising, and agr.; cap. *C.* Chihuahua, on Mexican Central Rly., electrically lighted, fine cathedral, p. 28,000.

Chikshilär, *stn.* on E. side of Caspian sea, in Russ. terr., nr. Persian frontier. [Cuddalore, p. 20,000.

Chilambaram, *t.* in S. Arcot dist. of Madras, India, nr. Chilas, fort hill *vt.* on R. Indus, 50 m. below Junji, commanding rd. from Gilgit to Punjab frontier.

Chilcoat, *K. and L.*, nr. Mt. Evans, Brit. Columbia.

Chilcoat, *R. and pass* in Alaska, leading into Yukon Valley.

Chill, or Chile, *para* (including Tacna) 307,600 sq. m., p. (abt.) 500,000. Republic on Pacific coast of S. America, independent of Spain since 1818. Sometimes styled "the United States of S. America."

Great nitrate output, and general min. wealth, also agr.; chf. port, Valparaiso, cap. Santiago (*q.v.*).

Chilka, shallow lagoons on coast of Bengal.

Chillian, picturesque *c.* in Nuble prov., Chili; fine squares and prosperous industries, p. 35,000.

Chillianwalla, *vt.* Punjab, N.W. India; battle, Sikh War, 1849.

Chillicothe, *cap.* of Ross co., Ohio, U.S.A., on Scioto R., *mtg.*; p. 14,000; also *t.* in Livingston co., Missouri, p. 7,500; also *t.* on L. Peoria, Ill., p. 2,230.

Chillingham, *vt.* in Northumberland, nr. Alwicks, Eng. In C. park is herd of British wild cattle.

Chillon, famous dungeoned castle on L. Geneva, Switz., nr. Vevey; also *t.* in Spain, nr. Ciudad Real, p. 2,850. [fair and religious festival.

Chilmari, *t.* in dist. Rungpur, Bengal, India, famous Chiloango, *R.* in N. of the Congo, W. Africa.

Chiloe, *isl.* on Chilean coast, length 120 m., greatest width 40 m., p. 28,000, cap. Ancud, or San Carlos.

Chiltern Hills, chalk range, Oxon, Herts, and Beds., Eng.; highest pt. 904 ft. nr. Wendover.

Chimaltenango, *t.* Guatemala, in agr. and cattle-raising dist., p. 4,840.

Chimborazo, *mt.* (alt. 21,200 ft.) in Andes or Ecuador, also *prov.* Ecuador, S. of Quito and Mt. Chimborazo; area 3,544 sq. m., p. 122,500; cap. Riobamba.

Chimkent, Russian *t.* in Central Asia, on mtn. stream Badam, nr. Tashkent, soap works and cotton-cleaning mills, p. 11,500.

China, total area 4,370,000 sq. m.; p. over 400,000,000, most populous country in E. Asia; cap. Peking in the N.; S. cap. is Nanking (*q.v.*). All important ports on the coast and rivers now open to foreign trade.

Britain reserves Yangtze Valley as her "sphere." Russia had, prior to the war with Japan, practically annexed Manchuria; Port Arthur and Talienwan being the naval and commercial termini of Trans-Siberian Ry. in that part of what was Chinese territory. China has great industries, in agr., tea and silk cult., and many manufs. Country partly mountainous, partly fertile plains with numerous navigable rivers. [Philippines.

China Sea, part of W. Pacific between Corea and Chinandega, *cap.* of prov. same name in Nicaragua; cotton, sugar, and banana trade, p. 12,000.

Chincha Isls., three small *isls.* on Peruvian coast, formerly a source of guano; included in Lima prov.

Chinchilla, *t.* in Albacete prov., Cent. Spain; p. 6,000.

Chinchón, *t.* nr. Madrid, Spain, p. 5,000.

Chinchorro, *dist.* in Nurubuddi div., Cent. Prov., India; area 4,630 sq. m., p. 407,000; chf. *t.* Chindwara, p. 9,000.

Chindwin, *R.* Burma, trib. of Irawadi, rising in the Kham range and navigable in the rainy season for considerable distance. Chindwin, Upper and Lower, are two Burmese provs., with fertile plains along the R., and extensive teak forests. Rice princ. crop, p. 345,000.

Chingalpat, *t.* Madras, India, p. 10,000 in prov. of the same name, area 2,842 sq. m., p. 1,315,000. Cotton weaving and salt manufacture.

Chingford, *vt.* bordering on Epping Forest, Essex, Eng.; p. 8,185.

Ching-Hai, *st.* China, prov. Che-Kiang, nr. Ning-po.

Ching-Tu, *c.* of China, cap. of Se-Chuen, prov. on R. Min-Kian.

Chiniot, *t.* nr. R. Chenab, Jhang dist., Punjab, India, p. 15,000. [above Nanking, China, p. 240,000.

Chin-Kiang, *treaty port* Yangtze-Kiang R., 60 m. Chün, indust. *t.* on K. Yünne, dep. Indre-et-Loire, Cent. France; ruined castle, once a royal residency, p. 6,500. [cutta, p. 30,000.

Chinsura, *t.* in Jharkhand, British India, 24 m. N. of Calcutta, *t.* in prov. Fo-Kien, China, nr. the port of Amoy; p. 30,000. [Venice, N. Italy, p. 25,000.

Chiongia, *st.* and cathedral *c.* on isl. in Gulf of Chippenharn, *t.* Wilts, Eng., on R. Avon; grain and cheese trade, cloth factories; p. 5,332.

Chippewa Falls, *c.* Wisconsin, U.S.A., on Chippewa R.; timber yards; p. 10,000. [Eng. p. 450.

Chipping Barnet, *t.* in Herts. (partly in Barnet par.), Chipping Camden, mkt. *t.* in Gloucestersh., Eng., p. 2,000.

Chipping Norton, mkt. *t.* Oxon, Eng., nr. Banbury, p. 3,972. [p. 1,200.

Chipping Sodbury, mkt. *t.* Gloucester, Eng., Chipping Wycombe, or High Wycombe, *mtg.* *t.* in Bucks, Eng., p. 15,750.

Chirke, *t.* on K. Cieriog, Denbigh, Wales, p. 4,561.

Chislehurst, *vt.* residential dist. W. Kent, Eng., 9 m. S.E. of London; Napoleon III. died here in 1871; p. 8,668. [to London; p. 38,705.

Chiswick, *t.* Middx., Eng., on R. Thames, suburban

Chitaldurg, *dist.* of the Nagpur div. Mysore, India, area, 4,871 sq. m., p. 384,000; cap. Chitaldurg, p. 4,500.

Chitral, *R.* state, and *t.* in Kashmir, extreme N.W.; India. The native *t.* of Chitral stands on the

Kashgar R. nr. the main watershed of the Hindu Kush. Chitral fort, besieged by native rebels in 1895, was relieved by British detachments after a

splendid storming of the Malakand pass, and order restored.

Chittagong, *st.* on E. side of B. of Bengal, terminus of the Assam-Bengal Ry., large trade; p. 30,000.

Chittore, *t.* in N. Arcot div. of Madras, Brit. India, p. 12,000.

Chivasso, *t.* nr. Turin, on R. Po, N. Italy, p. 5,000; formerly fort.

Chobe, *t.* Cent. Africa, trib. Zambesi.

Chobham, *v.* nr. Woking, W. Surrey, Eng., p. 3,500.

Choctawhatchee R. flows through Alabama and Florida (180 m.) U.S.A. to G. of Mexico.

Cholaseul, one of the Solomon Isls., Pacific Ocean.

Cholay-sur-Seine, or **Cholay-le-Roi**, *t.* 6 m. S.E. of Paris; cloth and other factories, and river trade; p. 12,500.

Cholon, *t.* French Cochinchina, nr. Saigon, p. 16,000.

Cholet, *t.* dep. Maine-et-Loire, France; cotton and linen factories, flannel weaving; p. 16,500.

Cholula, ancient city Puebla, prov. Mexico; Aztec temple, pyramid of Cholula, and other remains; p. 10,000.

Chong-Ping, large *t.* prov. Fo-Kien, China.

Chonos Arch., Chilian Isls., about 120 in number, on W. coast Patagonia.

Chooi, *R.* Asiatic Russia, flows (650 m.) from L. Issyk-Kul towards the Sir Daria. [p. 18,000.]

Chopra, *t.* in Khandesh dist., Bombay Pres., India.

Chorillo, *wet. pt.* nr. Lima, Peru.

Chorley, cotton-spinning and iron-working *t.* N. Lancsh., Eng., on R. Chor., p. 9,577; also sm. indust. *t.* Cheshire, nr. Macclesfield, p. 2,850.

Chorum, in Argona, valley of Asia Minor (the anc. Eucalyta) attacked by the Huns, A.D. 568; p. 12,500.

Chota Nagpore, prov. Bengal, India, hilly and forested; area 26,956 sq. m., p. 4,500,000.

Chotin, or **Khotin**, fort. Russ. *t.* in Bessarabia, on R. Dniester, p. 20,000.

Chotzen, *t.* on the Sille Adler, in Bohemia, p. 3,840.

Christchurch, *apt.* S. Hants, Eng., *t.* (urban dist.) 5,104; also cap. (p. 57,100) Canterbury prov., South Island, New Zealand; manufacturing, in agr. dist.

Christiania, cap. and ch. port of Norway, on C. Fiord, p. 21,831.

Christiansand, *apt.* Norway, 160 m. S.W. of Christiania, p. 15,000.

Christiansborg, fort. settlement on Gold Coast, nr. Accra, Brit. W. Africa. [in *Baffin's Bay*.]

Christianshaab, Danish settlement on Greenland coast.

Christiansstad, fortified *t.* Sweden, to m. from the Baltic, p. 10,500. [Danish W.I., p. 6,000.]

Christiansted, or **Bassia**, *t.* St. Croix Isl., cap. of Christiansted, *apt.* Danish *t.* on W. coast of Drontheim, Norway, p. 12,000.

Christinehamn, *t.* on Lake Wener, Sweden; iron works, large fair, p. 7,500.

Christmas Island, sm. Brit. *isl.* guano-producing, in Pacific; also Brit. coral *isl.* in Indian Ocean, to S.W. of Java; also *t.* in Little Bras d'Or, Cape Breton Isl.

Chrudin, *t.* in Bohemia, Austria, horse-mart and many manfs., p. 13,500. [sq. m., agr. p. 4,500.]

Clabuit, *terr.* of the Argentine Repub., area 93,427

Cudleigh, mkt. *t.* on Teign R., Devon, p. 2,000.

Cudleigh Cape, on N. coast Labrador, at extrem. of Hudson Strait. [Ganges].

Chumbul (650 m.) R. Cent. India, trib. of Jumna

Chunari, *mt.* in E. Hind.ayas, alt. 23,944 ft.

Clunair, or **Chunaghar**, fort. *t.* on R. Ganges, S.W. of Benares, p. 10,000.

Chung-King, or **Chungking**, treaty port on Yangtze R., prov. Szechuen, China, princ. commercial centre of the S.W. portion of Chinese Empire, p. (including Kiangpeh) 300,000.

Chunian, *t.* nr. Lahore, India, p. 8,500.

Chupat R., running to Atlantic, in Patagonia.

Chupra, *t.* on R. Gogra, nr. its junction with Ganges, cap. of Saran dist., Benar. Brit. India, p. 60,000.

Chuquibambas, *mt.* (alt. 21,000 ft.), an-*t.* nr. Arequipa, Peru, p. 6,450.

Chuquibambas, *dep.* of Bolivia, area 38,977 sq. m., p. 300,000; cap. Sucre. [under the Incas, p. 5,500.]

Chuquito, Peru, *t.* on W. side of L. Titicaca, imp. *t.*

Clair, cap. of Grisons canton, Switz., in Upper Rhine Valley, nr. Lacarne, cathedral, p. 10,000.

Church, *t.* suburban to Accrington, Lancashire, Eng., factories, p. 6,891.

Churchill, or **English R.** (95 m.) in Keewatin & Athabasca dist., Canada; enters Hudson Bay at Port Churchill; fine harbour.

Chusan Isl. and Arch., off E. coast, China. Chusaa,

the largest *isl.* of the group (p. 200,000) was occupied by the British in 1840 and 1860; cap. T Chinh.

Chust, *t.* on R. Naryn, Russian Turkestan, prov. Ferghana, p. 14,500.

Ciechanow, dist. *t.* of Russian Poland, on Prussia

Cienfuegos, *apt.* on S. coast, Cuba; fine land-locked harbour, imp. trade; fight here between American and Spanish, 1898; p. 31,500.

Cieza, *t.* of Murcia, Spain, in fertile plain and orange-growing dist., p. 12,500.

Cilicia, anc. prov. of S.E. Asia Minor, cap. Tarsus.

Cilli, picturesque old *t.* and *wet. pt.* of Syria, Austria, on R. Save, p. 7,000.

Cinaloa, or **Sinaloa**, state of Mexico, E. of California; area 55,889 sq. m., p. 220,000; cap. Culiacan.

Cincinnati, *t.* on Ohio R., Hamilton co., largest in Ohio, U.S.A., "the Queen City," pork-packing and many factories, p. 370,000.

Cinque Ports, five anc. Eng. ports on coast of Kent and Sussex: Sandwich, Dover, Hythe, Romney, and Hastings.

Cintra, *t.* Portugal, favourite summer resort, 18 m. from Lisbon; Royal residences, convents of C., 1808; p. 6,200.

Ciotat, *apt.*, *apt.* on Medit. coast, nr. Marseilles, France; shipbuilding; p. 12,000.

Cisra, old name for coastland along the Bay of Circassia, former *dist.* of W. Caucasus, now in govts. of Chernomorsk and Kuban.

Circleville, *t.* on Scioto R., Ohio, U.S.A.; furniture and iron implement factories, p. 7,500.

Cirencester, *t.* Gloucestersh., Eng., the Roman Conneum; wool trade, p. 7,652.

Cithaeron, or **Elatea**, *mt.* on boundary of Boeotia and Attica, Greece, alt. 4,000 ft.

Cittadella, *t.* of Venezia, nr. Padua, Italy; mediæval walls and towers, p. 6,500.

Cittanova, *t.* of Calabria, prov. Reggio, Italy; built of ruins of Casalnuovo (destroyed by earthquake in 1793); olive oil industry, p. 11,000. [pp. 22,000.]

Citta Vecchia, *t.* in Central Malta, formerly the cap.

Ciudad Bolívar, *apt.* on Orinoco R., Venezuela, cap. of Bolívar State (formerly called Angostura), great commercial centre, p. 15,000.

Ciudad Real, prov. of S. Central Spain (area 7,840 sq. m., p. 305,000), grazing grounds, forest, and quicksilver mines; cap. Ciudad Real; cattle fairs, p. 35,000; also a *t.* in Mexico, now called San Cristobal.

Ciudad Rodrigo, fort. *t.* in Salamanca, prov. Spain, captured by French in 1707 and 1710, by the Eng. in 1706, and stormed again by Wellington in 1812.

Cine cathedral, p. 8,000. [cathedral, p. 9,000.]

Ciudadela, *apt.* on W. coast Minorca, Isl. Spain;

Ciudad de las Camas, formerly cap. of Mexican State of Chiapas, first called Ciudad Real, and now San Cristobal, p. 15,000.

Civita Vecchia, *apt.* N. Italy, prov. Rome, the anc. Portus Traiani, destroyed by Saracens 9th cent., p. 15,000.

Civitella del Tronto, fort. *t.* Italy, nr. Teramo.

Clackmannan, smallest *co.* in Scotl., N. of the Forth and S. of Perth, p. 31,222; co. *t.*, Clackmannan, on R. Black Devon, at its confluence with the Forth, p. 1,600.

Clacton-on-Sea, *wet. pt.* on Essex coast, Eng., p. 2,600.

Clairac, *t.* dep. Lot-et-Garonne, nr. Agen, France, p. 2,800.

Clairvaux, *wt.* dep. Aube, France, famous Cistercian Abbey; also vil. nr. St. Paul's Bay, in Quebec.

Clancery, *t.* on R. Youne, nr. Nevers, France, p. 5,800.

Clane, *t.* to Kildare, Ireland, on R. Liffey, p. 1,500.

Clanwilliam, *dist.* W. prov. Cape Colony, watered by Oliphant's R., p. 12,000; also *t.* in Mimodoco co., Manitoba, Canada.

Clapham, S.W. dist. of London, Eng., p. partly div.; 28,616; civ. par. 58,596; also vil. nr. Settle, W.R.

Clare, famous caves.

Clare, a *co.* in prov. of Munster, Ireland, area 2,994 sq. m., p. 204,000; co. *t.*, Ennis; also *wt.* *t.* m. from Ennis; also *wt.* in Clew Bay, W. Ireland; mkt. *t.* W. Suffolk, Eng.; also *t.* in Australia, on Hurt R.

Claremont, *t.* in Sullivan co., New Hampshire, U.S.A., p. 7,100.

Clarence, *K. N.S.W.* (240 m.), enters Shoal Bay; also large pastoral dist. (area 5,000 sq. m.) in N.E. of the Colony.

Clarendon, sm. *t.* nr. Adelaide, S. Australia; also sm. *t.* Victoria, 83 m. from Melbourne (sometimes called *Carduroy*); also sm. *t.* la Eurolig goldfields dist. of N.S.W.

Clarinda, *c.* Iowa, U.S.A., cap. of Page co., p. 4,000.

Clarion, *bor.* nr. Oil City, Penn., U.S.A., p. 3,425.

Clarke Mt., highest peak of Australian Alps, N.S.W., alt. 7,256 ft.

Clarke's R. or Flathead R., fork (700 m.) of the Columbia R., running from Rocky Mtns. through Idaho and Washington, U.S.A.

Clarksville, *t.* on Cumberland R., Tennessee, U.S.A.; great tobacco mart, p. 10,000.

Clausthal, *t.* in Harz Mtns., Hanover, Pruss.; silver mines, p. 9,000.

Claverhouse, *vil.* 3 m. from Dundee, Scotl.

Clay Centre, *t.* in Kansas, U.S.A., p. 3,470. [p. 8,365.]

Clay Cross, *c.* Derbysh., Eng., coal and iron centre;

Clayton, industri. *t.* W.R. Yorks., Eng., suburban to Bradford, p. 4,863; also sm. *t.* nr. Manchester.

Clayton-le-Moors, cotton-manf. *t.* Lancsh., Eng., nr. Blackburn, p. 8,871. [Yorks, Eng., p. 1,876.]

Clayton West, *t.* in colliery dist. nr. Barmley, W.R. Clear Cape (the southernmost pt. of Ireland), on N.E. off S.W. coast, with lighthouse, [U.S.A., p. 5,500.]

Clearfield, *t.* on Susquehanna R., Pennsylvania.

Cleator Moor, colliery *t.* Cumberland, Eng., on R. Eden; p. 3,302.

Cleburn, *t.* in Johnson co., Texas, U.S.A.; p. 8,640.

Cleckheaton, mfg. *t.* nr. Bradford, Yorksh., Eng.; woollens, blankets, etc.; p. 12,867.

Clee Hills (1,800 ft.), Shropshire, Eng.

Cleethorpes, *wat. pt.* nr. Grimsby on Linc. coast, Eng.; fine oysters; *p.* (of dist.) 21,419.

Clerkenwell, industri. *dist.* of London immediately N. of the City; *p.* (of bor.) 57,166.

Cleimont, pastoral *dist.* (with bark forests) in Queensland, 570 N.W. of Brisbane; *p.* 6,500.

Clermont-Ferrand, *t.* in dep. Puy-de-Dôme, France; first crusade preached here; fine Gothic cathedral, formerly cap. of Auvergne, rubber industry; *p.* 65,370.

Clevedon, *wat. pt.* at mouth of R. Severn, Somers't., Eng.; p. 6,111.

Cleveland, *vil.* iron-tone and agr. *dist.* in N.R. Yorks., Eng.; between K. Lons and Whitby; fine houses. Also *c.* and port of entry, Ohio, U.S.A., on Lake Erie; great railway, steamboat, manuf., and educat. centre; *p.* 56,603.

Cleves, *wat. pt.* in Rhine prov. of Pruss.; old palace, many manufs.; *p.* 15,000.

Clew Bay (10 m. by 7 m.), on coast of Mayo, Ireland

Clewes, *par.* of Berks co., Eng., part of bor. of Windsor, p. 6,000. [p. 40,000.]

Clichy, N.W. *suburb* of Paris; oil and starch factories, Clifton, fashionable *suburb* of Bristol, Eng., on R. Avon, hot mineral springs, p. 21,000; also port on Niagara R., Ont., Canada; also name of numerous other places in Britain, the Colonies, and U.S.A.

Clinton, *cap.* (p. 24,000) of Clinton co., Iowa, U.S.A.; also *t.* (p. 25,557) on Naxos R., Worcester co., Mass., U.S.A.; also *t.* in Henry co., Missouri, U.S.A., *p.* 5,780; also several other places same name in the U.S.A. and the British colonies.

Clitheroe, cotton mfg. *t.* on R. Ribble, Lancash., Eng., p. 12,500.

Clock Point, promontory in Firth of Clyde, Scotl., nr. Greenock lighthouse.

Clogher, *t.* co. Tyrone, Ireland, cathedral.

Clonakilty, *spt.* nr. Bandon, co. Cork, Ireland, p. 3,740.

Cloncurry, *t.* in Queensland, on Cloncurry R., in gold mining and mountainous dist. S. of the G. of Carpentaria, *p.* 2,840. [p. 2,200.]

Clones, mkt. *t.* nr. Dundalk, co. Monaghan, Ireland.

Clonfert, *c.* Co. Galway, Ireland, formerly a Bishop's see, famous monastery with seven altars; *p.* (par.) 5,300.

Clonmel, *t.* on Suir R. in Munster prov., S. Ireland.

Clontarf, *wat. pt.* nr. Dublin, on the Bay, p. 5,000.

Cloudy Bay, inlet on N. coast of South Isl., New Zealand.

Clovelly, picturesque fish. *vil.* in Barnstaple Bay, N. Devon, nr. Ilfracombe, p. 641. [p. 1,220.]

Cloyne, mkt. *t.* nr. Middleton, co. Cork, Ireland, p. 6,000.

Clunes, gold-mining *t.* Victoria, nr. Ballarat, p. 5,600.

Cluny, or Clugny, *t.* in Saône-et-Loire dep., nr. Mâcon, France; famous Benedictine abbey, p. 4,300.

Clywd, *K.* in co. Denbigh, N. Wales (30 m.), flows into the Irish Sea at Rhyl, through romantic vale.

Clyde, R. (96 m.) and *frith*, towns four falls nr. Lanark, S.W. Scotland. On the Clyde stands Glasgow, the chief port and commercial centre of Scotland.

Clydebank, *t.* on the Clyde, 5 m. below Glasgow, Scotl. Shipbuilding and sewing machine factory, *p.* 37,547.

Clydesdale, *vall.* of R. Clyde, S.W. Scotl., agr., fine horses. Also *vil.* nr. Holytown Junction, N. Lanark; also *t.* in mining dist., Victoria, 88 m. from Melbourne.

Coahuila, *state*, Mexico, area 62,376 sq. m., *p.* 290,000; agr. and stock raising; cap. Saltillo (p. 71).

Coalbrookdale, *vil.* with coal and iron mines, on R. Severn, Shropsh., Eng., p. 2,400. [Tyrone, Irel.]

Coalsland, *vil.* nr. Stewartstown, in colliery dist., co. Coalville, *vil.* Leicestersh., Eng., nr. Ashby-de-la-Zouch, p. 18,550.

Coanza, *R.* in Lower Guinea, Portug. W. Africa (100 m.); enters Atlantic S. of San Paulo.

Coatbridge, colliery and iron mfg. *t.* Lanarksh., Scotl., p. 43,287.

Coatesville, *bor.* of Chester co., on Brandywine Creek, Penn., U.S.A.; boiler works, p. 6,400.

Coban, *t.* Guatemala, Cent. America; coffee and Peruvian bark trade, *p.* 18,000.

Cobar, *t.* in Robinson co., N.S.W.; copper mining, p. 6,000. [N. Cent. Africa.]

Cobbe, or Kobbe, *cap.* of Egyptian terr. of Darfur.

Cobija, *port* in Chili, prov. Atacama, p. 3,700.

Coblentz, or Coblenz, *c.* strongly fortified at junction of Moselle and Rhine, Germany, *vil.* of Eighth Army corps; wine trade and glass factories, *p.* 55,000.

Cobourg, *port* on L. Ontario, Canada, cap. of Northumberland co.; car works, etc., *p.* 5,000.

Coburg, *c.* and *duchy* (part of Saxe-Coburg-Gotha), Germany, old castle, flourishing industries, *p.* 23,500; also *vil.* and convict prison at Merri Creek, nr. Melbourne, Victoria. [p. 17,724.]

Cocalgne, *t.* in New Brunswick, nr. Shediac, Kent co.

Cocanada, *spt.* Godavari dist. Madras, India; rice-cleaning mills, flourishing trade, *p.* 48,500.

Cochabamba, *dep.* Bolivia, area 21,408 sq. m., *p.* 38,000; cap. *t.* of same name, *p.* 40,000 (also called *Jorpesa*), fine cathedral.

Cochin, *spt.* on Malabar coast, Madras, p. 18,000; also native State S. India, feudatory to Madras, area 1,362 sq. m., *p.* 820,000; principal products, rice, coconuts, pepper, coffee, etc.

Cochin China (23,000 sq. m., *p.* 2,900,000), name formerly applied to the whole E. part of Indo-China, but now limited to French col. in the S.E. of the peninsula, rice, silk, coffee, etc.; cap. Saigon.

Cochran, *cap.* of Harrow, Scotl., nr. Prestonpans on Firth of Forth, *p.* 2,470. [Ironworks, *p.* 5,214.]

Cockermouth, *t.* on R. Derwent, Cumberland, Eng.

Cockpen, colliery *vil.* Midlothian, Scotl., p. 5,000.

Cocos Islands.—(See Keeling.)

Codogno, *t.* nr. Lodi prov., Milan, N. Italy; chief mart for Parmesan cheese, *p.* 12,000 (terr., *p.* 3,400).

Coffeewill, *t.* in Kansas, U.S.A., adjoining Indian Congresshall, *c.* Essex, Eng., on R. Blackwater, *p.* 5,573.

Coghills Creek, *t.* in Talbot co., Victoria, 114 m. N.W. of Melbourne, *p.* 2,450.

Cognac, *c.* dep. Charente, France, on R. Charente, centre for famous brandy dist., *p.* 19,500.

Cohasset, *t.* in Mass., U.S.A., nr. the Bay, *p.* 2,780.

Cohoos, *c.* of Albany co., N.Y. State, U.S.A., on Hudson R., hosiery manuf., *p.* 24,704.

Coimbatore, *dist.* Madras Pres., India, area 7,800 sq. m., *p.* 2,250,000; agr., timber, etc.; also *t.* on Noyel R., cap. of dist., *p.* 54,000.

Coimbra, *c.* cap. of Beira prov., Portugal; wine-growing, earthenware manuf.; *p.* 19,000.

Coler, or Cluir, *cap.* of Swiss canton Grisons, the Roman "Curia Rhetorum." [dist. *p.* 8,540.]

Colac, *t.* on L. C., in Victoria, nr. Melbourne; fertile Colchagua, *prov.* Chili, S. America, area 3,787 sq. m., *p.* 100,000; stock-raising; cap. San Fernando.

Colchester, *spt.* Essex, Eng., on R. Colne, oyster fisheries, p. 43,463; also *t.* on L. Champlain, Vermont, U.S.A., p. 5,500.

Cold Harbour, *vil.* of Hanover co., Virginia, U.S.A.; bottles between Cent and Lee, 1864. [p. 375]

Coldstream, *t.* Berwickshire, Scotl., on R. Tweed, p. 6,420.

Coldwater, *t.* cap. of Branch, co. Michigan, U.S.A.; p. 6,420. [Persante, p. 18,000]

Coleberg, fort. *spt.* in Prussia, prov. Pomerania, on R. Coleford, *t.* Forest of Dean, Gloucester, Eng., p. 4,387.

Colenso, *vil.* on Tugela R., Natal, great battle, Dec. 15, 1899.

Coleraine, *spt.* on Bann R., Ulster, Ireland, p. 7,000.

Colesberg, *t.* in stock-raising dist., N. of C. Colony, nr. Orange R. [nunningham, p. 2,750]

Colehill, mkt. *t.* Warwickshire, Eng., 10 m. N.E. Birmingham, c. state, and vol. on Pacific coast, Mexico; c. on Colima R., in fertile valley, p. 19,000; state, area, 2,273 sq. m., p. 65,000; agr. and stock-raising; vol. 10 m. N.E. of c.) alt. 12,685 ft.

Coll, *vil.* (30 sq. m.) Hebrides, Argyllshire, W. Scotl.

Colle di Val d'Elsa, *t.* in prov. Siena, Tuscany, Italy; ironworks; p. 6,000. [U.S.A., p. 7,200]

College Point, *bor.* of New York co., on Flushing Bay, Collingwood, *t.* Simcoe co., Ont., Canada, on L. Huron, dry dock, etc., p. 5,750; also a populous suburb of Melbourne, Victoria, p. 57,500.

Collinsville, c. Ill., U.S.A., 12 m. E. St. Louis, p. 4,000.

Collumpton, *t.* nr. Exeter, Devon, Eng.; paper mills; p. 3,500.

Colmar, *t.* cap. Uv. Alsace, Germany; textile industries, wine-growing; p. 37,000.

Colmenar, *t.* nr. Malaga, Spain; sm. manuf.; p. 5,000.

Colmonell, *pic.* *vil.* in Argyll, Scotl., on R. Stinchur, p. 2,250.

Colnbrook, *vil.* Bucks, Eng., nr. Wraybury, p. 2,500.

Colne, mktg. *t.* E. Lancs, Eng., p. 25,693; also name of R.'s in Essex, Herts, Yorks, and Gloucestersh.

Colney Hatch, *col.* Middlesex, Eng., 6 m. N. London; large lunatic asylum.

Colonia, mktg. *t.* Italy, 19 m. from Verona, p. 8,000.

Cologne, *c.* and *spt.* strongly fort., on R. Rhine, cap. Rhin., Prussia, magnificent cathedral with spires 515 ft. in height, p. 516,707. Import trade and industries.

Colongo, *t.* Lombardy, Italy, nr. Bergamo, p. 3,500.

Colombes, *vil.* and resident. *dist.* dep. Seine, France, nr. Paris, p. 10,000.

Colombey, *vil.* nr. Metz in Lorraine; here, in 1870, Steinmetz checked the French under Bazaine.

Colombia (504,773 sq. m., p. 4,000,000), *Republic* of S. America, comprising 9 states and 6 territories, formerly known as New Granada, great mineral wealth; cap. Bogota (p. 21). [tea, p. 160,000]

Colombo, *cap.* and chief port of Ceylon; great trade in Colon, or Aspinwall, *t.* on Atlantic side of Isth. and Canal of Panama, in Colombia Repub., burnt down in rev. of 1895, p. 5,000; also *t.* in Cuba, prov. Matanzas sugar-planting centre, p. 8,000.

Colonia Uruguay (p. 2,800), and dep. on the R. L. Plata, area 1,960 sq. m., p. 97,500.

Colonna Cape, most S. pt. of Attica, Greece.

Colonsay, *isl.* of the Inner Hebrides, Scotl., 8 m. long, ecclesiastical antiquities.

Colorado, *R.* formed by union of Grand and Green R.'s (20 m. long, navigable for 600 m.) in W. of N. America, with wind, cañon, ent. G. of California; also R. (900 m.) in Texas, U.S.A., flows to G. of Mexico.

Colorado (103,925 sq. m., p. 540,000) rich mining state, Rocky Mtn. region, U.S.A.; cap. Denver (p. 21).

Colorado Springs, *wat. pt.* Col., U.S.A., on Fontaine qui Bouille R., 64 m. S. Denver; p. 29,078.

Coltness, *par.* in N. Lanark, Scotl., ironworks, p. 3,500.

Columbia, *cap.* of S. Carolina, U.S.A., burned 1865, p. 26,310; also mktg. *t.* Penn., U.S.A., p. 13,500; also c. in Missouri, seat of State University, p. 6,410; also *t.* on Duck R., Tennessee, p. 6,740; also R. (1,400 m.) on Pac. slope of N. America, sometimes called the Oregon, rising in the Rockies.

Columbia, British (—See British Columbia.)

Columbia District (1 m. sq. m.), on left bank of Potomac R., contains Washington, the federal cap. of U.S.A.

Columbus, state *cap.* of Ohio, U.S.A., mktg. and riv.

centre, p. 181,511; also name of smaller t.'s in Ga., Ind., Miss., and Tex., U.S.A. [p. 5,000]

Colwyn Bay, *wat. pt.* on Denbigh coast, N. Wales.

Colyton, mkt. *t.* on R. Coly, E. Devon, Eng., p. 1,950.

Comacchio, *c.* 30 m. N. Ravenna, nr. the Adriatic, Italy, p. 9,730. (formerly called Valladoid, p. 12,000.)

Comayagua, *c.* Honduras Republic, C. America, Comacomban, *c.* in delta of Cauvery R., Tanjore dist., Madras, India, p. 50,000.

Comilla, or Kumilla, *t.* in Tippera dist. of Bengal, India, p. 15,000.

Comines, *t.* partly on French and partly on Belgian side of R. Lys; p. of French t. (in dep. Nord), 7,000; of Belgian t. (in E. Flanders), 4,740.

Comiso, *t.* in Syracuse prov., Sicily, fine medicinal springs, the famed "Bath of Diana," porcelain manufacture; p. 25,500. [p. 12,000]

Commentrey, mun. *t.* Allier dep., France, nr. Moulins; Comoy, *c.* (40,000), silk industry, at foot of the Alps, N. Italy; also beautiful L. (35 m. long), both in the prov. of Como, area 1,050 sq. m., p. 580,000.

Comorin, Cape, S. most pt. of India.

Comoro Isls., French group between N. Madagascar and African est.: total area 700 sq. m., p. 70,000.

Compassberg, *mun.* in Cape Colony, Graaf Reinet dist., alt. 8,500 ft.

Compiègne, *t.* dep. Oise, on R. Oise, France; famous castle; sugar mills, hosiery manuf., etc., p. 17,000.

Compton, name of numerous *par.* in Britain; also a dist. on Craticook R., Quebec, Canada.

Comrie, on R. Earn, *vil.* co. Perth, Scotl., p. 1,745.

Concarneau, *t.* dep. Finistère, France, on Isl. nr. Quimper; salted fish and preserve trade, p. 5,500.

Concepcion, *c.* (p. 50,000) and *prov.* (3,355 sq. m., p. 188,000) of Chili; also *t.* Bolivia, p. 2,400; also *t.* in Paraguay, p. 15,000; also *t.* in Hayti, p. 3,200; also *t.* on Uruguay R., Entre Rios prov., Argentina, p. 15,000.

Conception Bay, *vat.* inlet on E. coast of Newfoundland, N.W. of St. John's.

Conception Cape, on coast of California.

Concord, *t.* Mass., U.S.A., literary centre, p. 6,000; also *t.* p. 21,497, on Merrimac R., cap. of New Hampshire, U.S.A.; also *t.* on Rocky R., N. Carolina, U.S.A., p. 8,500.

Concordia, *c.* Kansas, U.S.A., on Republican R., p. 4,000; also *t.* in Italy, prov. Modena, p. 10,000; also *t.* on R. Uruguay, Argentina, p. 14,500.

Condamine, *R.* in E. Australia, trib. of Darling R.

Conde, *t.* dep. Nord, France, on R. Scheldt, nr. Valenciennes, p. 5,000; also *t.* nr. Caen, in Normandy, p. 7,000; also *spt.* N.E. Bahia, Brazil, p. 2,500.

Condom, *t.* in France, nr. Auch, dep. Gers, p. 9,000.

Conegiano, *t.* N.E. Italy, nr. Treviso, p. 9,500.

Coney Island, pop. *wat. pt.* on Long Isl., N.Y., U.S.A., 5 m. long, a mile wide; comprises Manhattan Beach, Brighton Beach, West Brighton, and West End.

Congleton, *t.* E. Cheshire, Eng., manuf. silks, ribbons, etc., p. 11,310.

Congo, *great R.* (estimated length 3,000 m.) in Africa, with its numerous tribs.; drains 1,500,000 sq. m., navigable from sea to Matohi, and above the Rapids and Falls; estuary, 7 to 10 m. wide.

Congo, Portuguese *dist.* W. Africa, comprising Kabinda terr. and Northern Angola; chf. t. Kalinda, on the coast, 35 m. from mouth of Congo R.

Congo Free State (900,000 sq. m.), p. variously estimated at from 14,000,000 to 30,000,000, recognised as a sovereign power in 1885, under rule of the King of the Belgians. Congo also tribs. form over 10,000 m. navigable waterways; chf. trs., Boma on the Congo, and Leopoldville on Stanley Pool.

Congo, French. (—See French Congo.)

Coni, or Cunio, *prov.* of Piedmont, N. Italy, area 2,755 sq. m., p. 670,000; cap. Coni, nr. Turin, p. 13,200. [the Eng. Lake dist., alt. 2,575 ft.]

Coniston Old Man, *mun.* at head of L. Coniston, in Conistat Water, L. N. Lancashire, Eng., 6 m. S.W. of Ambleside, length 55 m.

Conjevarum, or Kancharivum, *c.* Madras, the "Holy City" of S. India; p. 2,500.

Con Lough, co. Mayo, W. Ireland.

Connaught, *prov.* W. Irel. (6,863 sq. m., p. 646,000), embracing co.'s Galway, Mayo, Sligo, Leitrim, and

Roscommon; was a distinct kingdom till the reign of Henry I. of England.

Conneant, *t.* in Ashtabula co., on L. Erie, Ohio, U.S.A., good harbour, p. 7,500.

Connecticut (4,990 sq. m., p. 1,200,000), most S. of the six New Eng. States, U.S.A.; copper and brass mills, textile and other factories, cotton, silk, and agr. Hartford, on R. Connecticut, is the cap., New Haven the largest *c.*

Connecticut, R. (450 m.), flows S. between Vermont and New Hampshire, through Mass. and Conn. to Long Isl. Sound, U.S.A.

Connellsville, *t.* in Fayette co., Penn., U.S.A.; colliery region; p. 7,500.

Connessara, mtns. *dist.* W. of Ireland, in co. Galway, many lakes and bogs. [White-water R., p. 7,500.

Connersville, *t.* in Fayette co., Penn., U.S.A., on Connessara, on R. Derwent, co. Durham, Eng.; colliery and ironworks *dist.*, p. 11,209.

Conshohocken, *t.* in Montgomery co., Penn., U.S.A., on Schuylkill R., p. 6,000.

Constance, old *c.* Baden, Germany, on Rhine, where it leaves Lake C., p. 22,000.

Constance L., or "the Swabian Sea," between Switz. and Germ., 45 m. long, 9 m. broad, area 207 sq. m.; R. Rhine flows through.

Constanta, or Kustendil, *spt.* of Roumania, on the Black Sea, the anc. Tomi; fav. wat. pl.; p. 13,000.

Constantia, wine *dist.* of Cape Colony, S. Africa, nr. Rondebosch. [agr., p. 11,000.

Constantina, *c.* Andalusia, N. of Seville prov., mainly Constantine, *c.* and *cap.* of E. Algeria, standing 2,130 ft. high on a rock; thriving trade and industries; Philipperville is its port, p. 52,000 (nearly 20,000 French).

Constantinople, *cap.* and *chf. port* of Turkey at S. entrance to the Bosphorus. Turkish *t.* (Stamboul) and Christian subs. (Galata and Pera) sep. by the "Golden Horn." The anc. Byzantium. Magnif. mosque of St. Sophia; p. nearly 1,250,000.

Constantinor, *t.* in Russia, govt. Volhynia, nr. Zhitomir; p. 16,500.

Conversano, industri. *c.* S. Italy, prov. Bari; p. 13,000.

Conway, or Aberconway, *spt.* (one of the Carnarvon boroughs) in Carnarvonshire, N. Wales; wat. pl. (p. 5,242) at mouth of R. Conway, nr. Great Orme's Head.

Cooch Behar, native state, Bengal, India, nr. Darjeeling; area 1,307 sq. m., p. 605,000; *cap.* Cooch Behar, on R. Torsha, p. 10,000; suffered severely from earthquake in 1897.

Cook, *dist.* in North Queensland, area, 25,000 sq. m.

Cook, mtn. (12,350 ft.) highest point in S. Alps, nr. Canterbury, New Zealand.

Cookham, *par.* nr. Maidenhead, Berks., Eng., p. 12,000.

Cook Inlet, *c.* (200 m. long) on S. coast of Alaska.

Cook Is., or Hervey Arch., Brit. group (Karatonga, etc.) in S. Pacific, 700 m. S.E. of Samoa.

Cook's Peak, mtn. ([8,330 ft.) in Grant co., New Mexico, nr. *mining*, p. 15 to 18 m. wide.

Cook Strait, *chan.* between N. and S. islands, of N.Z.

Cookstown mkt. *t.* co. Tyrone, Ireland, p. 3,950.

Cooktown, *spt.* in N. Queensland, at mouth of Endeavour R., pearl fishery and mining *dist.*, p. 3,000.

Coolgardie, gold mining *t.* (p. 5,000) and *dist.* (p. 12,000), W. Australia. [3,283 ft.

Coolin Mts. in Isl. of Skye, Scotl., highest peak, Coomassie (Kumazi), former *cap.* of Ashanti, Africa, 124 m. N.W. of Cape Coast Castle, now Brit. terr.

Coomoor, *marshy* (6,000 ft. above sea-level) in Nulgin Hills, S. India.

Copper's Creek, or Barcoo, an inland R. of Queensland and S. Australia, in copper-mining *dist.*

Coopers town, *t.* on R. Susquehanna, New York, U.S.A., p. 3,000.

Coorg, *prov.* S. India, subordinate to the Govt.-Genl. through the Resident of Mysore, lying on the Western Ghats; area 1,583 sq. m., forest and coffee plantations p. 180,000, *cap.* of Mysore.

Coorong, The, a lagoon or long tongue of land on coast of S. Australia.

Cooma, R. (350 m.) in Georgia and Alabama, U.S.A.

Cooms Bay, on the coast of Oregon, U.S.A.

Cootamundra, *t.* N.S.W., 253 m. S. Sydney, p. 2,500.

Cootahill, mkt. *t.* co. Cavan, Ireland, nr. Bellamont forest, p. 2,000.

Copeland Is., group off N.W. coast of co. Down, Ireland, at entrance to Belfast Lough.

Copenhagen, *ch. port* and *cap.* of Denmark on E. coast of Zealand Is., strongly fortified; p. (with subs.) 900,000.

Copertino, *t.* in Lecce prov., S. Italy, p. 6,000.

Coplapo, *spt.* (p. 11,500) and R. in prov. Atacama, Chili, several times overwhelmed by earthquakes; also volcano in Andes range, alt. 17,000 ft.

Coppermine, R. in N.W. Terr., Canada (300 m.), flows N. into Arctic Ocean. [W. of Mount St. Elias.

Copper R., or Atna R., in Alaska, flowing to Pacific Copperopolis, mining *t.* in Calaveras co., California, U.S.A., p. 4,500.

Copple, R. (40 m.) and *str.* Northumberland, Eng., nr. Coquimbó, *spt.* (p. 20,000) and *prov.* of Chili on the Argentine border, copper-mining *dist.*

Coral Sea, part of the Pacific Ocean, extending from the New Hebrides to Australia. [duction, p. 42,000.

Corato, *c.* prov. Bari, S. Italy, olive and wine *prov.*

Corazon, mtn. in the Andes of Ecuador, alt. 15,871 ft.

Corbell, industri. *t.*, dep. Seine-et-Oise, France, on R. Seine, p. 7,500.

Corbetta, *t.* nr. Milan in N. Italy, p. 5,870.

Corbie, *t.* nr. Amiens, dep. Somme, France, p. 5,000.

Corbridge, *t.*, Eng., on the Tyne, nr. Hexham, p. 2,100.

Coribana, name of mtn. chain, frequently applied to the Andes.

Cordoba, *c.* (p. 80,000) and agr. *prov.* (area, 62,160 sq. m., p. 572,000), Argentina; also *t.* State of Vera Cruz, Mexico, p. 6,000.

Cordova, *prov.* in Andalusia, Spain (5,300 sq. m., p. 450,000), agr., olives, vines, live-stock; also *c.*, *cap.* of prov. on R. Guadalquivir; cathedral, formerly one of the most sacred mosques of the Mohammedans, leather and other factories, p. 67,000.

Corea, 159,000 sq. m., p. variously estimated at 8,000,000 to 16,000,000, *prov.* E. Asia, extending between Yellow Sea and Sea of Japan; formerly tributary to China, now under the influence of the Mikado.

Corella, *t.* Navarre, Spain; liquorice, oil mills, distilleries, p. 6,000. [Dutch Guiana.

Corentyn, R. (400 m.) in America, separating Brit. and Corfe Castle, *t.* Dorsetsh., Eng., nr. Wareham, p. 1,878.

Corfu, the largest and most N. of Ionian Is., Greece, area 274 sq. m., p. 125,000, mountainous, olives, wine; also Corfu, *spt.* L., the *cap.*, p. 18,000. [14,500.

Corigliano, industri. *t.* prov. Cosenza, S. Italy, p. Corinaldo, *t.* in the Marches, nr. Ancona, Italy, p. 6,130.

Coringa, *port* at mouth of Godavari R., Madras, India, p. 6,000. [dist. 4,460.

Corinna, goldfield *dist.* on R. Bieman, Tasmania.

Corinth, *c.* Greece, in Isth. of Corinth, across which a ship canal has been cut, p. 4,500. Occupies a site 3 m. distant from the anc. classic city, destroyed by an earthquake in 1828. Also a *t.* in Alcorn co., Mississippi, U.S.A., p. 4,000.

Corinth, Isthmus of, divides the Saronic G. from the G. of Corinth, Greece. [Republic, p. 2,000.

Corinto, *t.* in Nicaragua, on the Pacific, *chf. port* of the *Corik*, co. Ireland, largest and most S., area 2,800 sq. m., p. 397,120, agr., fisheries; *cap.* Cork, on the R. Lee, p. 76,632. [steamers.

Cork Harbour, *port of call* (Queenstown) for Atlantic Corleone, industri. *t.* Palermo, Sicily, p. 18,000.

Corneto Tarquinia, *t.* nr. Civita Vecchia, in prov. Rome, Italy, Etruscan antiquities, p. 7,500.

Corning, *t.* in tobacco-growing *dist.*, N.Y. State, U.S.A., on R. Chemung, p. 12,000.

Cornplanter, *township* of Penn., U.S.A., contains Oil city, etc.; p. 11,200.

Cornwall, *c.* (area 1,357 sq. m., p. 328,131) in S.W. Eng., rich in tin and other minerals, extreme pt. Lands End, co. t. Rodman; also *t.* prov. Ont., Canada, on St. Lawrence R.; p. 6,750.

Cornwallis Islands, Arctic O., Brit. N. America, east of Bathurst. [New York State, U.S.A.

Corvallis, on the Hudson, *west pt.* in Orange co. of Cora, *t.* Venezuela, *cap.* of Falcon state, nr. the B. of Coro, p. 10,000. [mines, p. 9,540.

Corocoro, *t.* Bolivia, dep. La Paz, copper and silver

Coromandel Coast, E. coast of Madras Pres., India.

Corona, sm. *t.* in New York State, U.S.A., p. 2,750; also vil. in Italy, nr. Verona; battle between French and Austrians, 1797.

Coronation Gulf, arm of Arctic O. extreme point N. Canada, discovered by Franklin.

Corpus Christi, *city*, Bexar co., Texas, U.S.A., p. 1,500.

Correggio, *t.* of Emilia, Italy, cheese and hats, p. (commune) 15,000.

Corrèze, mountainous *dep.* S. Cent. France, area 2,273 sq. m., p. 305,000, agr., mts., etc., cap. Tulle.

Corrib, Lough, *L.* co. Galway, and Mayo, Ireland, area 68 sq. m.; R. Corrib flows from it into Atlantic.

Corrientes, trading *port* (p. 17,000), at junct. of Paraná and Paraguay R., cap. of prov. of C. Argentina, area (of prov.) 32,579 sq. m., farming; p. 280,000.

Corrievean, *whirlpool* between Jura and Scarpa I., W. Scotl.

Corrikan, *L.* in Skye, Scotl., nr. Portree. [5,500.

Corry, *c.* of Erie co., Pennsylv., U.S.A., oil region, p. 3,840.

Corsica (3,368 sq. m., p. abt. 300,000), Fr. isl. in Mediterr. agr., fruit, and wine growing; cap. Ajaccio, birthpl. of Napoleon.

Corsicana, *t.* Texas, U.S.A., cap. Navarro co., cotton.

Corrall Point, on W. coast of Wigtonshire, Scotl.

Corstorphine, vil. in Edinburgh, Scotl., p. 1,200.

Corte, *t.* nr. the centre of Corsica; corn, wine and marble quarries; p. 6,000. [U.S.A., p. 10,000.

Cortland, industr. *t.* on Tioughnoga R., N.Y.

Cortona, *t.* Tuscany, Cent. Italy, nr. Perugia; silk factories; p. 30,000.

Corunna, *city*, on N.W. coast of Spain, and cap. of agr. and mining prov. (area 3,078 sq. m., p. 631,450) of same name, import trade; p. 45,000; victory and death of Sir John Moore, 1809.

Corvo, *isl.* most N. of the Azores. [Bala, p. 2,850.

Corwen, mkt. *t.* on R. Dea, Merioneth, Wales, nr. Coe, *isl.* sep. fr. Cape Krio, Asia Minor, by a narrow strait, p. 10,000. [severely from earthquakes; p. 22,000.

Cosenza, industr. *t.* in Calabria, S. Italy, suffered Coshont, industr. *t.* on Muskingum R., Ohio, U.S.A., p. 6,750. [p. 9,000.

Cosne, *t.* on R. Loire, Cent. France; pottery, etc.

Cossacks, Country of the Don, govt. of Russia, N.E. of the sea of Azof, area 61,497 sq. m., p. 1,500,000.

Cossey, or Kossel, *city*, Egypt, on the Red Sea.

Costa Rica (18,000 sq. m., p. 350,000), republic in South Cent. America; agr., coffee, and banana cult.; cap. San José.

Cotswold, *t.* nr. Ainhalt, Germany, on R. Elbe, p. 6,200.

Côte d'Or, *mt.* (highest pt. 1,968 ft.) and *dep.* in E. France, traversed by S. Saône, area 3,383 sq. m., p. 361,000; cap. Dijon.

Cotentin, *pen.* in N. France, 50 m. long; Cherbourg, at its extremity, is only 80 m. from Portsmouth.

Côtes-du-Nord, agr. *dep.* Brittany, W. France, area 2,987 sq. m., p. 610,000; cap. St. Brienc.

Cöthen, *t.* on R. Elbe, Ainhalt, Germany, beet-root sugar industry, p. 10,000.

Cothi, *R.* (63 m.) in S. Wales, trib. of the Towy.

Cotopaxi, *mt.* (alt. 19,613 ft.) in the Andes of Ecuador, nr. Quito; loftiest act. vol. in the world.

Cotrone, *fid.* *t.* and *city*, Catanzaro, S. Italy; good trade in wine, olive oil, etc.; p. 10,000.

Cotswold Hills, W. Engl., between I.R. Severn and Up. Thames, highest pt. 1,606 ft.; fine sheep pasturage. [machinery, p. 40,000.

Cottbus, industr. *t.* on R. Spree, Prussia, cloth and Councill Bluff, *c.* on the R. Missouri, Iowa, U.S.A., railway depot and manu.; p. 30,000.

Coupar Angus, mkt. *t.* nr. Perth, co.'s Perth and Forfar, Scotl.; p. 2,095.

Courbevoie, *t.* on the R. Seine, nr. Paris, residential suburb of the cap.; p. 26,000.

Courcelles, *t.* in Hainaut prov., Belgium; colliery dist., linen factories; p. 16,000.

Courland, Russ., *prov.* on Baltic, area 10,500 sq. m., p. 750,000; agr., manu., and maritime industries; cap. Mitau.

Courtrai, *t.* on R. Lys, West Flanders, Belgium; linen factories; p. 32,500. Battle of the Spurs, 1513.

Coutances, *t.* in Cotentin pen., N. France, nr. Cherbourg; p. 8,500.

Coventry, mfg. *t.* N. Warwicksh., Eng. Formerly famous for its ribbon manuif., now chief centre of cycle trade in Engl.; p. 106,577.

Covilhão, *t.* in Beira prov., Portugal, nr. Guarda; cloth factories; p. 16,400. [opposite Cincinnati; p. 25,270.

Covington, industr. *t.* on Ohio R., Kentucky, U.S.A.

Cowbridge, *t.* co. Glam., S. Wales, nr. Cardiff; p. 1,167. [Scotl.; p. 14,000.

Cowdenbeath, mining *t.* near Dumfries, co. Fife.

Cowes, W. (p. 6,635) and E. (p. 4,660), *boat* *clubs* on N. coast I. of Wight, Eng., on both sides of estuary of Medina R., headquarters of Royal Yacht Club.

Cowpen, est. mnt. *t.* nr. Morpeth, Northumberland, Eng., p. 13,000.

Cowpens, *bat.* Spartanburg, co., S. Carolina, U.S.A.; British defeated here by Genl. Morgan in the Revolution, 1781. [Sydney, p. 14,500.

Cowra, agr. and mining *dist.* of N.S.W., 219 m. W. of Cracow, cap. Austrin prov. Galicia Formerly cap. of Poland, strong fortress, university, impt. manu.; p. 92,000.

Craddock, *t.* in Cape Colony, wool trade; p. 8,500.

Crail, *city*, in Fife, Scotl., nr. St. Andrews, p. 1,000.

Craiova, *t.* in Roumania and cap. of Little Wallachia, good trade in agr. prod.; p. 40,000.

Cramlington, *t.* nr. Newcastle, Northumberland, Eng., p. 3,300.

Cramond, *vil.* on Firth of Forth, Scotl., nr. Edinburgh; p. 3,200. [nr. Melbourne, Victoria, p. 263.

Cranborne, *t.* in N.H. Dorset, Eng., p. 2,800; also *t.*

Cranbrook, mkt. *t.* in Weald of Kent, Eng., p. 4,300.

Cranston, industr. *t.* in Providence co., Rhode Isl., U.S.A., p. 21,207.

Crathie and Braemar, *par.* Aberdeensh., Scotl., adjoining Balmoral Castle and Abergeldie Castle estates. [p. 4,750; Edward III.'s victory, 1346.

Crécy, *bat.* Somme dep., N. France, nr. Abbeville.

Credition, mkt. *t.* nr. Exeter, Devon, Eng., p. 3,600.

Creede, *t.* in silver mining dist. of Colorado, U.S.A., destroyed by fire in 1892; pres. p. 1,000.

Cresfeld, busy mfg. *t.* Rhine Prov., Prussia; velvet and silks; p. 107,000. [manuf., p. 10,000.

Cress, *t.* on R. Oise, nr. Beauvais, France; machinery

Cremona, *c.* on R. Po, N. Italy, 51 m. from Milan, import. silk and iron industries; p. 38,500.

Creston, *t.* on the high prairie, Union co., Iowa, U.S.A., p. 7,800.

Crickwick, *bar* of co. Talbot, Victoria, in agr. and

Crete (area 3,327 sq. m., p. 310,751), *isl.* in E. Medit.; since the Balkan War part of the Hellenic Kingdom, 60 m. from nearest pt. in Greece Other cities, Carca and Retimo. Cap. Candia, exports fruit, oil, etc.

Creuse, *dep.* Cent. France, area 2,164 sq. m., p. 280,000; agr., etc.; cap. Gueret.

Creusot, *Le*, *t.* Saône-et-Loire dept., France; large ordinance works; p. 31,000.

Crevillente, *t.* 20 m. W. of Alicante, Spain, in wine, wheat, and fruit dist., p. 8,000.

Crewell, *t.* (L. and N.W.R.) Cheshire, Eng., p. 44,070.

Crewkerne, mkt. *t.* Somerset, Eng., nr. Taunton, p. 3,939.

Criccieth, *vat.* *pl.*, Cardigan B. N. Wales, p. 1,776.

Crickhowell, mkt. *t.* on R. Uck, Brecon, S. Wales; p. 1,400.

Cricklade, mkt. *t.* on R. Thames, N. Wilts, Eng., p. (including Wootton Bassett) 11,004.

Crief, *t.* and summer resort, on R. Earn, Perth, Scotl., p. 5,577. [Zealand.

Crieff, *mt.*, gold-mining dist. in Pisa range, New

Crillon, *mt.*, in Alaska, U.S.A., alt. 13,500.

Crimea (100 by 125 m.) Russian *pen.* between Black S. and S. of Azof, campaign 1854-5 between Russia and the allied forces of Turkey, Britan, France, and

Sardina was chiefly fought out here (Alina, Balaclava, and Sebastopol); p. 500,000, mainly Mahomedans.

Crimmitschau, *t.* nr. Zwickau, Saxony; woollen cloth factories, p. 23,000.

Crian Canal, across pen. of Cantyre, S.W. Scotl., connecting Loch Gilp with the Atlantic.

Cripple Creek, mining *t.* of El Paso co., Colorado, U.S.A., p. 10,500.

Croaghpatrick (2,510 ft.) *mt.* co. Mayo, W. Ireland.

Croatica (16,417 sq. m., p. nearly 2,500,000), a Dalmatian *prov.* (incl. Slavonia) of Hungary, partly mountainous,

' partly agr.; Cap. Agrain, Turkish Croatia (to the S.E.), is now included in Bosnia.

Crocodile R.—(See Limpopo.)

Cromarty, t. first, (and form, a co.) of N.E. Scotl. (in 1899 united to Ross); p. (of burgh) 5,698.

Cromer, wat. pl. on Norfolk coast, Eng., p. 4,074.

Crompton, mfg. t. nr. Oldham, Lancs., Eng., p. 14,758.

Cronstadt, spt. (strongly fort.) on an isl. in G. of Finland.

Croatia, cap. and naval stn. of Russia, p. 60,000.

Crookhaven, fishery wh. on rocky coast of Co. Cork, Ireland.

Crookston, t. on Red Lake R., Polk co., Minnesota, U.S.A., p. 5,800.

Crosby, or Great Crosby, wat. pl. nr. Liverpool, 12,274.

Crossen, t. on the Oder, Prussia; brick trade, p. 8,420.

Cross Fell, mtn. in Cumberland, Eng., on E. border of co., alt. 2,930 ft. [Linc., Eng., p. 3,000.]

Crowland, or Croyland, mkt. t. with anc. abbey.

Crowley, t. in Lincolnshire, Eng., nr. confluence of R.'s Don and Trent, p. 2,853.

Croydon, residential t. Surrey, nr. London, Eng., p. 169,550; also gold-mining region in Queensland, 120 m. E. of Normanton.

Crozet Isls., mountainous uninhabited group in S. Indian Ocean; Possession Isls., the highest, has a snowy peak rising 5,000 ft. alt.

Csaba, or Bekés-Csaba, mkt. and industr. t. in Hungary, 50 m. S.W. of Grosswardein, p. 18,000.

Csongrad, mkt. t. in agr. dist. at junct. of R.'s Theiss and Koros, Hungary, p. 23,400.

Csorna, Lake of, the "Pearl of the Tatra"; extensive mtn. L. in Lipto county, N. Hungary, a favourite tourist resort.

Cuba (area 45,000 sq. m., p. 2,150,112), W.-most and largest of W. Indian Isls., taken from Spain by the United States, but later relinquished to the people and constituted an independent republic. Has rich copper mines, and produces tobacco, coffee, and sugar. Cap. Havana (p. v.). [p. 6,000.]

Cubacao, gold-mining t. in prov. Matto Grosso, Brazil.

Cubango, R. S. Africa, enters L. Ngami.

Cuchulain (or Coolin) Hills, m. I. of Skye, Scotl.; highest point, Scur-na-Gilleann, 3,183 ft.

Cuckfield, mkt. t. Sussex, Eng., nr. Lewes, p. 1,899.

Cuddalore, spt. on E. coast India, nr. Pondicherry, S. Arcot div. of Madras; good trade, p. 59,000.

Cuddalore, t. and mtr. Madras, India, nr. the Pennar R.; cotton, cloth factories, p. 18,000.

Cuddesdon, t. nr. Oxford, Eng., p. 1,740.

Cudegong, min. t. and R. N.S.W., co. Wellington, p. (dist.) 4,240.

Cuenca, t. on Júcar R. (p. 11,000), and agr. and mining prov. of cent. Spain, area 6,599 sq. m., p. 250,000; also c. in Ecuador; important industries, p. 25,000.

Cuernavaca, cap. of Morelos State, Mexico; anc. Indian t. captured by Cortes, p. 17,000.

Cuero, industr. t. in Texas, U.S.A., p. 3,100.

Cuesmes, coal-mining t. adjoining Mons, Belgium, p. 9,000. [Medit. p. 21,000.]

Cuevas de Vera, old mkt. t. in Almería, Spain, nr. the Cañiles, spt. on Júcar R., Spain, in Valentia prov., p. 11,500.

Culebra, valley and mtns. in Northern New Mexico, nr. Colorado border; also spt. of Costa Rica, fine harbour. [of Cindoa, p. 10,500.]

Cullacan, c. Mexico, on R. of same name, 90 m. S.E. Cullen, spt. and royal burgh on Moray F., N.E. Scotl., one of the Elgin Burghs, p. 2,153.

Culloden Moor, 6 m. E. of Inverness, Scotl. Defeat of Prince Charles Edward in 1746.

Cullompton, or Collumpton, mkt. t. Devon, Eng., nr. Exeter; paper mfg., p. 3,500.

Culroos, m. pt. on F. of Forth, Scotl., co. Perth. One of the Stirling Burghs.

Cumana, spt. c. and G. on N. coast Venezuela, in State of same name, p. of port, 125,780.

Cumberland, t. 1,515 sq. m., p. 205,720, border co. N.E. Englnrd., includes "Lake district," co. t. Carlisle (p. v.).

Cumberland, industr. t. on Potomac R., Maryland, U.S.A., p. 21,891; also rural t. N.E. of Rhode Isl., U.S.A., p. 9,000; also R., trib. of Ohio, flows 700 m. in Kentucky; also pen. of Arctic America.

Cumbermauld, t. in Dumbarton co., Scotl., nr. Glasgow, p. 1,800. [Buteshire, Scotl.]

Cumbræ, Great and Little, two isls. in F. of Clyde, Cumberland Mtns., enclosing Eng. Lakeland in Cumberland, Westmorland, and Lancashire.

Cumdammarca, dep. of Colombia, Cent. America; contains the Fed. cap. Bogotá; area 79,691 sq. m., p. 500,000 (only one-fourth whites).

Cummock, Old (p. 3,100), and **New** (p. 3,840), two t.'s in mining dist. of Ayrsh., Scotl.

Cumaor, par. on the Oxford border of Berks, Eng., p. 1,200.

Cunamulla, t. on Warrego R., Queensland, p. 2,400.

Cundestown, t. on Manning R., N.S.W., p. 1,580.

Cunene (or Nourae), R. (500 m.), Porting. W. Africa, falls into Atlantic.

Cunob, cathedral t. (p. 27,000), and prov. (silk-spinning) of Piedmont, I. Italy.

Cunha, industr. t. São Paulo, Brazil, p. 4,000.

Cuorgne, t. nr. Ivrea, Piedmont, Italy, p. 3,500.

Cupar, co. t. Fife, Scotl., on R. Eden, one of the St. Andrews Burghs, p. 4,780.

Curaçoa, t. (Dutch) W. Indies, in the Caribbean Sea, off N. Coast of Venezuela; area 212 sq. m., p. 55,000. Cattle-rearing, fruit growing, etc.; cap. Willemstad.

Curico, prov. of Chile, S. America, area 2,973 sq. m., p. 100,000; cap. Curico, c. 114 m. from Santiago, p. 15,000. [70 m. long.]

Curione Hafl, a lagoon of the Baltic, E. Prussia.

Curitiba, commerc. c. in the Paraná prov., Brazil, p. 20,000.

Curragh, plain co. Kildare, Ireland; large military camp and race-course. [Ireland.]

Curragh (or Corragh Mtns.), range in co. Tyrone, Carraig d'Argead, t. in Roumania, on Southern slopes of the Carpathians; cathedral, p. 4,200.

Curzola, t. and t. of Austrian Dalmatia, in the Adriatic; fishing, seafaring, agric., p. (of Isl.) 19,000; (of t.) 6,500.

Cusano, industr. t. in prov. Benevento, Italy, p. 4,200.

Cushendun Bay, nr. Knocknecarry, co. Antrim, Ireland.

Cushier, R. in co. Armagh, Ireland.

Cusset, t. dep. Allier, France, nr. Vichy; famous for mineral waters, p. 6,500.

Custozza, t. of Verona, Italy; here Austrians defeated Sarlinians, 1848, and Italians in 1866.

Custrin, or Kuestrin, t. nr. Frankfort, Prussia; machinery works, p. 16,500.

Cutch (6,500 sq. m., p. 487,500), *pen.* and native *state* on N.W. coast India; suffered much in the famine of 1899-1900; also from plague; famous for silver filigree work and embroidery; cap. Bhuj.

Catch Grundava, prov. Baluchistan, in Orissa div., Bengal, India; area, 3,633 sq. m., p. 2,000,000; rice exports; also c. cap. of Orissa, on R. Mahanadi, p. 50,000.

Cathagen, outpost of Hamburg at the mouth of R. Elbe, Germany; fine harbour, p. 7,000.

Cuyaba, industr. c. cap. of Matto Grosso prov., Brazil, on R. C., p. 19,500.

Cuyahoga, R. (85 m.) in Northern Ohio, U.S.A., flowing into L. Erie at Cleveland; Cuyahoga Falls is a t. on the R. bank, p. 3,120.

Cuzco, anc. c. in the Andes of Peru; once capital of the Incas; temple and fortress, besieged and sacked by Manco Inca in 1536; cathedral, p. 30,000; present cap. of Cuzco prov. (area 156,270 sq. m., p. 136,649).

Cyclades, group of t.s. in the Grecian arch.; p. (total) 135,000; ch. t. Syra. [In 4,500.]

Cynthiana, t. on South Licking R., Kentucky, U.S.A., p. 3,584 sq. m., p. 274,108, Brit. 1515, in the Levant; greatest length, 140 m., greatest width, 60 m.; salt lakes, rock crystal, asbestos, copper, etc.; cap. Nicosia; chf. port, Larnaca; centre of wine trade, Limassol.

Cyrene, and c. of Cyrenica (now Ghrennah), 10 m. from the Meditr., N. Africa; many temples.

Czaisau, t. in Bohemia, Austria; chf. t. of dist. same name; garrisoned, sugar refinery, p. 9,400.

Czegled, t. 50 m. S.W. Budapest, Hungary; famous for wines, and a great grain mart, p. 30,000.

Czenstochowa, industri. *t.* on R. Warta, in prov. Petrikau, Poland; noted monastery; *p.* 15,000.
Czernowitz, *t.* on R. Pruth; cap. of Bukovina prov., Austria; university, Greek cathedral, thriving trade, *p.* 88,000.
Czirkaitzer (or Zirkaitzer See), *L.* (with *ist.*) in Carniola prov., Austria, south of Laibach, 6 m. long; extraordinary variations in depth.
Czornahora, *mt.* in the Carpathians, Hungary; alt. 3,400 ft. [*p.* 2,500.]
Czudin, sml. industrial *t.* S. of Czernowitz, Austria,

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Dabaz Isl., one of the Bishop's Isls., group of the Hebrides, in the shire of Inverness, Scotl., 1 m. long by 1/2 m. wide.
Dacca, *div.* Bengal, British India, area 15,000 sq. m., *p.* nearly 10,000,000; also dist. of the div. between Ganges and Lower Brahmaputra, area 2,797 sq. m., *p.* 2,500,000; also cap. same name, on Buriganga R., an old channel of the Ganges, *p.* 91,000; impt. ind.; *c.* suffered severely in earthquake, 1897.
Dachstein, *mt.*, one of the highest peaks of the Limestone Alps, Salzkammergut, Hungary, alt. 9,830 ft. [Penrith, *p.* 1,000.]
Dacre, *vil.* Cumberland, Eng., on R. Dacre, nr. Dagenham, *par.* in S. Essex, Eng., *p.* 3,500.
Daghestan, *prov.* Asiatic Russia, in the Caucasus, one of the most mountainous dists. in the world; 11,492 sq. m., *p.* 597,400; cap. Derbent or Derbent.
Dago, *vil.* Russia, at entrance G. of Finland, *p.* 15,000.
Dagupan, commercial *t.* in Pangasinan prov., Luzon, Philippine Isls., *p.* 16,000. [Massowah; Italian.]
Dahlac, or **Dahlak**, group of *isls.* in Red Sea, nr. Dahlen, *t.* Rheinisch Prussia, nr. München Gladbach, *p.* 6,500; also *t.* Saxony, nr. Leipzig, *p.* 3,000.
Dahomey, old *kingdom*, Upper Guinea, N.W. Africa, now a French colony, 59,000 sq. m.; natives pure negroes and fetish worshippers; *p.* (abt.) 1,000,000, cap. Abomey.
Dalguire, *vil.* nr. Santiago, Cuba, *p.* 1,500; American army landed here 1890. [Maybole, *p.* 2,230.]
Dailly, *par.* in co. Ayr, Scotl., on R. Girvan, nr. Dairies, *par.* co. Fife, Scotl., nr. Cupar, on R. Eden.
Dakahlieh, *prov.* Lower Egypt, area 9,309 sq. m., *p.* 960,000.
Dakota, North (79,795 sq. m., *p.* 600,000), a N. state, U.S.A., famous for wheat production, bordering on Canada; cap. Bismarck.
Dakota, South (77,650 sq. m., *p.* 593,000), state U.S.A., in Upper Missouri basin; agr., mtous. in the W.; cap. Pierre. [corn, *p.* 27,000.]
Dalaguete, *t.* in Cebu, Philippine Isls.; sugar, Indian
Dalbattie, *t.* Kirkcudbright, Scotl., nr. Dumfries; granite; *p.* 3,357.
Dalcarrila, "the Dales" dist. of mid-Sweden; iron, copper, and other mines; peasant proprietary, much forest land and mtin.; now Kopparberg or Fahlun prov.
Dalsen, *t.* nr. Zwolle in Overijssel, Holland, *p.* 5,500.
Dalgetty, mining *par.* nr. Dunfermline, Fife, Scotl., *p.* 1,500.
Dalhousie, health *resort* in Curdaspur dist., Punjab, India, 7,687 ft. above sea-level.
Dallas, industrial *t.* Alameda, Spain, *p.* 10,000.
Dalkeith, *t.* nr. Edinburgh, ironworks and colliery dist., *p.* 7,019.
Dalky, *t.* nr. Dublin, Ireland, *p.* 3,000; also sml. *t.* and dist. in S. Australia, nr. Adelaide, *p.* 1,500.
Dallas, *c.* cap. of Dallas, co. Tex. in U.S.A., in cotton and grain-growing region, *p.* 66,202. [*p.* 3,250.]
Dalles, *t.* on the Oregon R. in Oregon State, U.S.A.,
Dalmatia (4,954 sq. m., *p.* with garrison, 700,000), Crown land and kingdom of Austria-Hungary, on Adriatic coast, with many isls.; mainly a mountainous tract, producing wine and oil.
Dalmellington, *vil.* in co. Ayr, Scotl., *p.* 1,500.
Dalmeny, *vil.* Linnithgowshire, Scotl., *p.* 1,700.
Dalmy, *is.* built by Russia, nr. Port Arthur on the Liaotung Pen., in Manchuria, *p.* 50,000.
Dalry, mining *t.* Ayrshire, Scotl., on R. Garnock; *p.* 5,500.
Dalsersf, Clyde-side, industrial *dist.* in co. Lanark, Scotl.; *p.* 16,000.

Dalston, N.E. dist. of London, Eng.
Dalton-in-Furness, *t.* N. Lancs., Eng., nr. Furness Abbey, ironworks and mining; *p.* 10,765.
Dalton-le-Dale, industri. *par.* nr. Sunderland, Durham, Eng.; *p.* 14,500.
Damas, **Damasus**, or **Damasc**, Portug. *sp.* and *terr.* on G. of Cambay, W. Indies; salt industry; area of prov. 148 sq. m.; *p.* 65,000.
Damanhur, anc. *t.* Lr. Egypt, nr. Alexandria; cotton factories, great fairs; *p.* 30,000. [*p.* 25,000.]
Damar, *t.* of Yemen, Arabia, nr. Sana, impt. trade;
Damaraland, part of Ger. S.W. Africa. Its only port, Walvisch Bay, is Brit. Cattle-rearing.
Damascus, *cap.* of Syria and largest *c.* in Asiatic Turkey, 70 m. E. of its port, Beyrout; *p.* variously estimated at from 300,000 to 360,000.
Dambula, *vil.* nr. Kandy, Ceylon, with noted Buddhist temples, once famous for dandy, now a trading and fishing town; *p.* 45,000.
Damili, *t.* in prov. Ciudad Real, Spain, *p.* 12,000.
Damoh, *dist.* Jabalpur div. of Cent. Prov., India; area 2,831 sq. m.; *p.* 285,000. Suffered much in famine of 1896-97, cap. Damoh; *p.* 12,000.
Dampier Arch., group of sml. *isls.*, off N.W. coast of Australia.
Dampier Straits, *chan.* between N.W. of New Guinea and Waigu Isl.; also strait in Bismarck Arch., between Rook Isl. and New Britain.
Danakil, or **Dankali** Country, coast land between Red Sea and Abyssinia, called also Afar country.
Danao, *t.* on Cebu coast Philippine Isls., rice and sugar dist.; *p.* 16,000.
Danbury, *t.* Connecticut, U.S.A., Fairfie d co., hat and boot industries; *p.* 20,000.
Danby, *par.* nr. Guisborough, N.R. Yorks, Eng., agr., *p.* 1,591. [region.]
Dankara, *vil.* nr. Coomassie, in Upper Guinea, in gold Danang, or Danang, rough fort *cast.* on R. Visula, near its mouth (G. of D.), W. Friesia; *p.* 180,000; military headquarters, shipbuilding, etc.
Danube, R. (1,770 m.), second largest river in Europe, rises in Schwarz Wald and flows into Black Sea. Navig. for steamers from Ulm to the sea Vienna, Budapest, Belgrade, and other large cities on its banks; Lower Danube under international control.
Danvers, rural mfg. *t.* Mass., U.S.A., 19 m. N. Boston, *p.* 9,000.
Danville, *c.* in colliery dist., Ill., U.S.A., *p.* 77,871; also *c.* in tobacco region of Virginia, *p.* 17,000; also iron mfg. *t.* in Penn., *p.* 8,000; also *c.* (cap. of Boyle co.) Kentucky, U.S.A., *p.* 5,000.
Darab, or **Darabgherd**, *t.* prov. Fars, Persia, *p.* 2,000; the anc. Pasargarde.
Darabangah, *dist.* Patna div. of Behar, Bengal, India, area 3,335 sq. m., *p.* 3,000,000; also *c.* cap. of dist., *p.* 66,000, on Little Baghmata R. Magnii. palace of Rajali.
Darby, ind. *t.* in Penn., U.S.A., *p.* 3,500.
Dardanelles, strait between Europe and Turkey in Asia, 40 m. long, commanded by castles; also chf. of Turkish prov. of Ighda, Asia Minor, on the narrowest part of the Strait; *p.* (exclusive of garrison) 13,000. (estimated) 20,000.
Dar Elbaida, grain port of Central Morocco, *p.* 10,000.
Darent, R., in co. Kent (20 m.), Eng., flows to Thames at Erith.
Darfield, colliery *dist.* nr. Barnsley, W. R. Yorks, Eng.
Darfur, country N. Cent. Africa, W. of Kordofan; area 106,000 sq. m.; cap. El Fasher; *p.* about 4,000,000, mainly negroes and Arabs.
Dargyle, waterfall and romantic glens, co. Wicklow, Ireland, nr. Bray.
Dariel, famous forti. gorge of the Caucasus, the anc. "Gate of the Iberians." Russian fort at one end stands 1,422 ft. high.
Darien, Gulf of, portion of Caribbean Sea on N. coast of Isthmus of Panama, or Darien, Centl. America.
Darjiling, or **Darjeeling**, hill *stn.* and dist. Beliar div., Bengal, India, area 1,164 sq. m., *p.* 250,000; tea and opium producing; also *cap.* of dist. Sanatorium for British troops; suffered from earthquake and landslips; *p.* 17,400. [*p.* 17,107.]
Darlston, *t.* Staffordsh., Eng., coal and iron works,
Darling, or **Calewatta**, R. New South Wales (160 m.)

- joins Murray R. at Westworth; also D. mtns., granite range; great grazing country of West Australia parallel with coast, highest pk. 3,500 ft.; also D. Downs, rich pastoral dist., Queensland, W. of Brisbane.
- Darlington**, colliery and mfg. t. Durham, Eng., p. 55,633; also t. S. Carol., U.S.A., p. 3,100; also suburb of Sydney, N.S.W.; p. 2,700.
- Darmstadt**, t. Germany, cap. of Grand Duchy of Hesse Darmstadt, on R. Dirm., nr. Frankfurt-on-Main; carpet and niching, munif., p. 88,000.
- Darrang**, *dist.* in Brahmaputra Valley div., India; area 3,418 sq. m.; tea culture; p. 340,000.
- Dart**, R. (46 m.), Devonsh., Eng., enters English Channel at Dartmouth.
- Dartford**, mkt. t. Kent, Eng.; chemical works, p. 23,609.
- Dartmoor**, high stony plateau, S.W. Devonsh., Eng.; 140,000 acres; convict prison.
- Dartmouth**, *spt.* S. Devonsh., Eng., p. 7,005; also industri. t. Nova Scotia, Halifax co., p. 7,000; also t. Mass., U.S.A., p. 3,740; also port on Richmond Bay, Prince Edward Isl.
- Darton**, t. W. R. Yorksh., Eng., nr. Bamsley, p. 9,348.
- Darvar**, t. nr. Pesege, Hungary, marble quarries; p. 10,000.
- Darwen**, t. N.E. Lancashire, Eng., nr. Blackburn; cotton trade and blast furnaces; p. 40,344.
- Darwin**, *Mount*, peak in King Charles's South Land, Tierra del Fuego, alt. 6,800 ft.
- Dashkova**, t. govt. of Mohylev, Russia, on R. Dnieper; p. 8,500.
- Datchet**, *vill.* adjoining Windsor, on R. Thames, Eng., p. 1,450.
- Datta**, native state, Cent. India, Bundelkhand Agency, nr. Gwalior; area 837 sq. in.; p. 190,000; also c., cap. of State, stonewalled, with palaces; p. 28,000.
- Datschitz**, t. nr. Iglau, in Moravia, fine chateau, p. 3,100.
- Daudnagar**, t. Patna div., Bengal, India, on R. Son; Dauphine, old prov. S.E. France, now dep. Isère, Drôme, and Hautes-Alpes.
- Dauria**, country circling Nerchinsk, Transbaikalia, Davangere, t. in Mysore, India, p. 6,500.
- Davenport**, c. Iowa, U.S.A., at foot of Rock Isl. Rapids, on Mississippi; flour mills; p. 14,028.
- Daventry**, boot mfg. t. Northamptonsh., Eng., p. 3,517.
- David**, c. Nelraspo, Panama State, p. 5,000.
- Davot** and Daulichy, *par.* Scot.; also t. Naim and Inverness; p. 1,350.
- Davis Strait**, channel between Greenland and Brit. N. America; connects Atlantic with Baffin Bay.
- Davos Platz**, Alpine winter resort, Grons, Switz.; alt. 4,845 ft.; p. 4,200.
- Dawdon**, or **Seaham Harbour**, mfg. t. Durham, Eng., nr. Sunderland, p. 10,000.
- Dawley**, t. Shropshire, nr. Wellington, Eng., p. 7,701.
- Dawlish**, *wat. pl.* S.E. coast, Devonshire, Eng.; p. 4,059.
- Dawson**, R. Queensld., Australia, *vill.* of R. Fitzroy; also isl. in Magellan Strait, Tierra del Fuego.
- Dawson City**, on R. Yukon, Canada, nr. the Klondyke goldfields, p. 10,000 [spring, horse mart; p. 10,500].
- Dax**, t. S.W. France, on R. Adour; hot sulphur Daylesford, t. Victoria, Australia, 76 m. from Melbourne, p. 5,000.
- Dayton**, t. Ohio, U.S.A., on Great Miami R.; iron and steel, agr. implements, etc.; p. 120,000; also t. on the Ohio R., Kentucky, U.S.A.; p. 6,500.
- De Aze**, t. and *par.* *junction* in C. Colony, 50 m. from Dead Sea, salt-water l. in Palestine, receives R. Jordan; surface 1,292 ft. below level of the Mediterranean; area 340 sq. m., length 47½ m., greatest width 6½ m. [dist., p. 4,200].
- Deadwood**, mining t. Dakota, U.S.A., in Black Hills
- Deal**, anc. *spt.* and *wat. pl.* E. Kent, Eng.; opposite to the Goodwin Sands and nr. where Julius Caesar is said to have first landed; p. 11,297.
- Dean**, Forest of, Gloucestersh., Eng.; between Wye and Severn R.'s; coal and iron dist.; 22,000 acres.
- Deboe Lake**, north Cent. Afr., 120 m. S.W. of Timbuctoo, an expansion of the R. Niger.
- Debreceen**, t. in pastoral plain of Hungary, 114 m. E. of Budapest, p. 75,000.
- Decatur**, mfg. t. in colliery dist., Macon co., Illinois, U.S.A., p. 31,140.
- Decazeville**, t. in Aveyron dep., France, coal and iron works, p. 12,000.
- Decan**, The, great upland of S. India, bounded by the Nerbadda and Kistna R.'s.
- Decorah**, t. on the Iowa R., in Iowa, U.S.A.; p. 3,700.
- Deceagatch**, *spt.* of Turkey, on m. N.W. of the mouth of R. Maritza, oak-timber trade; many antiquities; p. 4,000.
- Dedham**, t. in Norfolk co., Mass., U.S.A.; woollen
- Dee**, R. in N. Wales and Cheshire (90 m.); also R. in Aberdeen and Kincardine co.'s, Scotl. (87 m.); also R. in Kirkcubrightsh., Scotl. (38½ m.); also R. in Ireland, co. Louth (20 m.), flowing to Dundalk B.
- Deer**, L. (146 m. long) in Canada, drains into R. Mississippi.
- Deer**, Old (p. 4,313) and New (p. 4,371) two *par.* in
- Deering**, t. nr. Portland, Maine, U.S.A., p. 6,000.
- Dees** or **Des**, t. on R. Szamos, Hungary; large distillery, p. 10,000.
- Defiance**, mfg. t. on R. Maumee, Ohio, U.S.A., p. 17,600.
- Dehra**, t. N.W. Provs., India, hdqrs. of the Dehra Dun dist., p. 26,000; area of dist. 1,193 sq. m., p. 178,000.
- Deir**, or **Deir-az-Zor**, t. of Asiatic Turkey, on R. Euphrates, cap. of Zor sanjak, p. 7,000.
- Deitz**, t. Rd. Rhenish Prussia, on the Rhine, opp. to and incorporated with Cologne; artillery stores, p. 19,000.
- Delagoa Bay**, harbour in Indian Ocean, S.E. Africa; Portuguese training stn. of Lorenzo Marques on N. side.
- Delaware** (2,050 sq. in., p. 190,000) Middle Atlantic State, U.S.A.; fruit and grain growing, manuf., etc.; cap. Dover; ch. port, Wilmington, Delaware R. flows (350 m.) from New York State along the Pennsylvania border, through New Jersey to Delaware Bay. Delaware is also the name of a country and its cap. in Ohio, U.S.A.
- Delhino** or **Delvino**, t. (fort.) in Albania, nr. Janina; p. 3,200.
- Delémont**, t. in canton Bern, Switzerland, p. 3,200.
- Delft**, anc. t. and port on R. Schie, S. Holland, nr. Rotterdam, butter and cheese mart; earthenware mfg.; p. 35,000.
- Delftshaven**, t. on R. Mass, Holland, suburban to
- Delgoa**, native t. in Bornu, Cent. Afr., nr. Kuika, p. 15,000.
- Delhi**, cap. of India, was constituted a province (area 557 sq. m.), Oct. 1, 1912, out of the Punjab division. Seat of government; cotton mfg. and other imp. industries; p. 991,828; ancient cap. of Mogul Empire.
- Dell** or **Deal**, R. in co.'s of Limerick and Cork, trib. (26 m.) of the Shannon.
- Delly**, *vill.* in Algeria, p. (of dist.) 35,000.
- Delmenhorst**, t. in Germany, on R. Delme, nr. Bremen; cork-cutting, jute, etc.; p. 16,570.
- Delphi**, anc. t. in Phocis, Greece, on the Corinthian G. at ft. of Mt. Parnassus, the modern Kastri; site bought for excavation of antiquities by France in 1801.
- Delphos**, t. nr. Lima, Oregon, U.S.A., p. 4,000.
- Demavend**, *mtn.* 21,000 ft.; highest peak in Elburz Mtns., N. Persia; volcanic.
- Dembea**, L. in Abyssinia; 60 m. by 25 m.; the source
- Demerara**, R. (200 m.) in Brit. Guiana, falls into Atlantic at Georgetown.
- Demir-Hissar**, t. nr. Seres, European Turkey, p. 16,000.
- Demirkapu**, The Iron Gate, rocky defile, through which the Danube rushes, in the Transylvanian Alps.
- Demmin**, t. in Pomerania, Prussia, nr. Stralsund, p. 12,000.
- Demonte**, fort. t. on R. Stura, Italy, lead mines; p. 16,000.
- Demotica**, t. nr. Adrianople, Turkey, p. 10,000.
- Denain**, t. Nord dep., N. France, nr. Douai; colliery dist.; p. (commune) 23,500.
- Denbigh**, *par.* in N. Wales, p. 6,892; cap. of co. (area 662 sq. m., p. of co. 144,796) agr., min. and quarrying.
- Denby**, *vill.* t. Cumberworth, a Yorks. township, 8 miles W. of Bamsley, Eng., p. 3,681.
- Dendera**, *vill.* on R. Nile, Up. Egypt, the ancient
- Tentyra**, temple of Hathor.
- Dendermonde**, or **Termonde**, t. on Dender R., E. Flanders, Belgium, nr. Ghent, p. 9,000.

Denholme, *t.* in W.R. Yorks, Eng., nr. Bradford, p. 2,971.

Denia, *sp.* Almeria, Spain, 45 m. N.E. of Alicante; exports raisins, grapes and onions, p. 12,500.

Denlquin, *t.* on Edward R., N.S. Wales, p. 4,800.

Denison, *t.* on Red R., N. Texas, U.S.A., cotton depot, p. 12,000.

Denizli, *t.* in Aidin vilayet of Asia Minor; beautiful gardens, "the Damascus of Anatolia," p. 17,000.

Denmark (area 14,830 sq. m., p. 2,800,000), kingdom in N.W. Europe, consisting of pen. of Jutland and Isls. in Baltic, chiefly agr.; cap. Copenhagen (p. 71).

Denny and Dunipace, *burghs* of co. Struing, Scotl.; iron and chemical factories, p. 5,104.

Desat du Midi, *mtn.* (10,778 ft.) in the Valais Alps.

Desfont, *t.* nr. Manchester, Lancs., Eng., felt hat making, p. (with Haughton) 10,880, also *t.* in Dallas, Texas, U.S.A., p. 5,200.

D'Entrecasteaux Is., Brit. group off S.E. New Guinea; D. Point, a cape at S.W. extremity of Australia.

Denver, "the Queen of the Plains," on the E. slope of Rocky Mts., cap. of Colorado, U.S.A., on South Platte R., in Arapahoe co.; seat of University and many important industries, p. 220,000.

Desband, *t.* N.W. P., India, Meerut div., p. 23,000.

Desdar, *sn.* native state, Gujarat, Bombay, India, area 440 sq. m., p. 17,000.

Deogarh, *t.* in Santal Parganas dist. of Bengal, India; numerous temples, a place of pilgrimage, p. 8,000.

Deori, *t.* Nagpur, Cent. India, nr. Sagar, p. 7,500.

Deptford, *t.* on Thames in S.E. dist. of London, Eng., p. 100,498.

Dera Ghazi Khan, *t.* W. side of Lr. Indus, in the Derajat div. of the Punjab, India, handsome mosques, p. 30,000; also name of dist., area 5,608 sq. m., exports wheat and mango, p. 445,000.

Dera Ismail Khan, *t.* in Punjab, India, Derajat div., large bazaar for Afghan traders, p. 27,000; also name of dist., area 9,440 sq. m., exports wool and wheat, p. 528,000.

Derajat, *div.* in W. of the Punjab, India, area 22,315 sq. m., p. 1,750,000.

Derwent, or Derbend, *cap. and fort* of Daghestan, on W. side of Caspian Sea, incorporated with Russia in 1873, p. 16,000.

Derby, *cap. of* Derbyshire, Eng., on R. Derwent, centre of M.K. system, p. 123,433. Derbyshire co., hilly and rich in minerals, area 1,029 sq. m., p. 583,564.

Derby, *t.* in New Haven co., Connecticut, U.S.A., on Housatonic R., p. 12,500.

Derby, *agr. centre*, p. 5,799.

Dereham, *East*, *t.* nr. Norwich, co. Norfolk, Eng.; Derg, Lough, in bay of R. Shannon, W. Ireland, separating Galway and Clure from Tipperary; also sm. l. in co. Donegal, with cave on an isl., much visited by Roman Catholic pilgrims and known as "St. Patrick's Purgatory."

Derna, *sp.* Barca, N. Africa, p. 6,000.

Derwent, R. in Derbyshire (50 m.); also in Yorks (57 m.); also in Cumberland (13 m.); also a tributary of the Tyne (50 m.) all in Eng.; also the largest R. in Tasmania, flowing (30 m.) to Storm Bay. [3 m. long.

Derwentwater, *L.* in Cumberland, Eng., nr. Keswick.

Desagadero, R. in Bolivia, S. America (180 m.), outlet of L. Titicaca; also R. in Argentina, from the Andes (500 m.) to Urre Languen; also the name of the plateau in S. Peru and W. Bolivia between the Andes ranges, the highest tableland in the world except that of Tibet.

Desertas, rocky *isls.* S.E. of Madeira.

Deslaur, *isl.* Fr. W. Indies, nr. Guadeloupe, area 10 sq. m., p. 1,700.

Des Moines, R. in Iowa, U.S.A., trib. of Mississippi (550 m.) flowing from Minnesota; also c., cap. of Polk co., the largest c. in Iowa, U.S.A., great rly. and mfg. centre, p. 87,000.

Desna, R. trib. of Dnieper R., Russia (550 m.), flowing Desoto, c. Jefferson co., Missouri, U.S.A., p. 6,000.

Despot Dagh, *mtn. range* in Turkey, a branch of the Balkans, alt. 7,800 ft.

Dessau, *t.* cap. of Anhalt, in R. Mulde, N. Germany; mnt. trade and industries, p. 55,000.

Detmold, *t.* cap. of Lippe, on R. Werre, N.W. Ger.; many linen mfrs., tanning, &c., p. 73,000.

Detroit, ch. c. and *port* of Michigan, U.S.A.; busy

commercial and industri. centre and great grain mart., p. 470,000.

Detroit R., channel between L. St. Clair and L. Erie, U.S.A. (25 m.); separates the State of Michigan from Ontario, Canada.

Dettingen, *mt.* on R. Main, 15 m. above Frankfurt, Bavaria; battle 1743, in which George II. of England defeated French under Noodles.

Devta, industri. *t.* in Hungary, nr. Alsholt, p. 11,000.

Deva, *t.* in S.E. Hungary, nr. R. Maros; imposing ruined fort, p. 3,000.

Deventer, c. and old Hanse *t.* on R. Yssel, Holland; commercial centre, p. 29,000. flows into Moray Firth.

Deveron, R. of Aberdeen and Banff, Scotl. (61 m.); Deveron, mkt. *t.* N. Wills, Eng., nr. Salisbury; engineering works, p. 6,741.

Devon, *t.* trib. of Forth, Scotl. (34 m.), flows past Devonport, *sp.* (Rd.) and har. on estuary of R. Tamar, adjoining Plymouth, Devon, Eng.; royal dockyards and naval sta., p. 81,694.

Devonshire, area 2,605 sq. m., p. 699,730, maritime co. S.W. Eng., between English and Bristol Channels; famous for butter and cider; ch. t.'s Exeter and Plymouth (p. 21).

Dewas, native state in Indore Agency of Cent. India; area 288 sq. m., p. 166,000; cap. Dewas, p. 25,000.

Dewsbury, mfg. *t.* W.R. Yorks, Eng., on R. Calder, 9 m. from Leeds, p. 53,358; parl. bor. 76,935.

Dezful, *t.* in Persia, on R. Dezful, nr. Schuster, p. 15,000.

Dhar, native state in Bhopawar Agency, Cent. India; area 1,740 sq. m., p. 175,000; cap. Dhar (a centre of opium trade), p. 15,000.

Dharampur, native state in Gujarat div. of Bombay, India; area 794 sq. m., p. 125,000; also c. State cap., p. 5,000.

Dharwar, *t.* in Bombay, 70 m. E. of Goa, cap. (p. 34,000) of Carnatic dist. (area 4,604 sq. m., p. 1,114,000).

Dhawalagiri, *mt.* in Himalayas, N. India, alt. 26,265 ft. [1,403 sq. m., p. 208,500.

Dhenkanal, trib. state of Orissa, Bengal, India; area 2,156 sq. m., p. 271,000; suffered from drought and famine; cap. Dholpur, nr. Agra, p. 101,000.

Dhrangadra, native state Gujarat div. of Bombay; area 1,144 sq. m., p. 105,000; cap. Dhrangadra, p. 16,400.

Dholpur, *t.* in Bombay, Gujarat div. of Bombay; Dholia, *t.* Bombay, administrative hqrs. of Khandish dist.; cotton industry; p. 20,000.

Diamantina, *t.* in Minas Geraes State, Brazil, centre of diamond dist.; p. 13,000.

Diarbekir, *t.* on R. Tigris, Asiatic Turkey, the anc. Amid, old walls, gates and citadel, great mosque and palatial remains; p. 25,000; in stock-raising and fertile agr. dist.

Dibrugarh, *t.* in Lakhimpur dist. of Assam, Brit. India; coal and tea exported; p. 10,000.

Didcot, *t.* and *ry. junc.* Berks., Eng.; p. 1,140.

Dieblich, *t.* nr. Stockport, Lancs., Eng., p. 5,600.

Diedenhofen, fort. *t.* of Germany, in Alsace-Lorraine; wine, fruit, etc.; capitulated to Prussia in 1870; p. 11,000. [Ocean, the largest of the Chagos group.

Diego Garcia, Brit. *isl.* and coaling sta. in Indian Ocean.

Diego Suarez, French colony on N. coast Madagascar; p. (about) 5,000.

Dieppe, *sp.* and *nat. pl.* on coast of France, 35 m. N. of Rouen; lace, woollen and ceramic manu., p. 22,000.

Dies, *t.* in Hesse-Nassau, Prussia; castle-prison, mills, Dig, *t.* in Bharpur State, Rajputana, Cent. India; p. 16,000.

Digby, port of entry, Nova Scotia; p. 2,000, [p. 20,000.

Dignano, *t.* in Trentino, nr. Pula, Austria; vineyard dist.; Digne, *t.* dep. Basses-Alpes, France, nr. Aix; cathedral, p. 7,000.

Digoin, *t.* nr. Charolles, dep. Saône-et-Loire, France; Digong R., the name given to the R. Brahmaputra in its middle course through Assam.

Dijon, strongly fort. frontier *t.* E. France, dep. Côte-d'Or; the Roman Castrum Divionense; cathedral, bathing, and casino; manu., p. 77,000.

Dillingen, *t.* on R. Danube, Bavaria, nr. Augsburg p. 6,000.

Dilolo, *L.* of S. Cent. Africa, source of R. Zambezi.

Dimbola, *t.* in corn-growing dist. of Victoria, 250 m. N.W. of Melbourne, p. 4,400.

Dinajpur, *dist.* Cooch Behar div. Bengal, India; area 4,718 sq. m., p. 2,500,000; cap. Dinajpur, c. severely damaged by earthquake in 1897, p. 12,500.

Dinan, *t.* in dep. Côtes-du-Nord, France, nr. St. Brieux; mineral waters, p. 21,500.

Dinant, *t.* fortif. on R. Meuse, prov. Namur, Belgium; famous for brass and copperware, p. 7,500.

Dinapur, *milit.* *t.* on R. Ganges, Patna dist., Bengal, India, p. 45,000.

Dinaric Alps, *mtn. range* on E. side of the Atlantic, between Dalmatia and Bosnia; highest pt., Mt. Dinara (6,007 ft.). [nr. Dolgely, p. 1,200.]

Dinas-Mowddwy, old mkt. *t.* Merioneth, N. Wales.

Dindigul, *t.* in Madura div. of Madras, Brit. India; cigar and tobacco factories, p. 25,000.

Dindings, *The*, Brit. *isls.* and *terr.* on W. coast of Malay pen. in the Straits Settlements.

Dineir, *sml. t.* in Asia Minor, nr. the sources of the R. Meander, built amidst the ruins of the Celene-Apamea, p. 2,500. [2,000.]

Dingle, *spa.* and *b. S.W.* coast Ireland, co. Kerry, p. 1,500.

Dingwall, *co. t.* of Ross, Scotl., one of the Wick Burghs, p. 2,639.

Diomedé Isls., two sm. granite *isls.* a mile apart in Behring Strait, inhabited by Eskimoes (85 in all); boundry line Russ. and U.S.A. possessions passes between them. [and steel works, p. 13,500.]

Diosgyor, *mkt. t.* of N. Hungary, nr. Miskolc; iron **Dirk Hartog**, *L. off W. Australia*, Shark Bay.

Dirschau, *t.* nr. Dantzig, W. Prussia, on R. Vistula; railway works, sugar factories, etc., p. 12,500.

Disco, Danish *isl.* off W. coast Greenland, in Baffin's Bay, contains harbour of Godhavn.

Dismal Swamp, *marshes* in S. Virginia and N. Carolina, U.S.A.; contains Lake Drummond, and extends 50 to 40 m. S. from nr. Norfolk.

Dise, *mkt. t.* Norfolk, Eng., on R. Waveney, p. 2,769.

Ditchling, *spa.* nr. Brighton, Sussex, Eng., p. 1,750.

Dittersbach, *t.* nr. Waldenburg, in Silesia, Prussia; collieries and match factories, p. 10,000.

Ditton, *The*, *par.* of Surrey, Eng., nr. Kingston-on-Thames (with Esher), p. 12,518.

Diu, Portuguese *spa.* and *isl.* off coast of Kathiawar, Bombay, India; area 200 m. p. 13,500. [p. 4,250.]

Dixmude, *t.* on R. Yser, W. Flanders, Belgium.

Dixon, *t.* on the Rock R. Lee, co., Illinois, U.S.A., p. 8,500. [and Alaska, Brit. Columbia, p. 8,500.]

Dixon Entrance, *chan.* between Queen Charlotte Is.

Dizful, *t.* in Khuristan prov. of R. Dizful, trib. of Karun R., Persia; consil trade, p. 30,000.

Djockjokarta, *cap.* Dutch Residency, Java, of same name; area 1,791 sq. m., p. (of t.) 60,000 (of Res.), 500,000. [40 m. N. of Moscow, p. 10,000.]

Dmitrov, or **Dmitroff**, *industri. t.* Cent. Russia.

Dmitrovsk, *t.* in the govt. of Orel, Russia, on R. Neroca, p. 7,240.

Dnieper, *R.* (length over 900 m.) of Russia, rises in govt. Smolensk and flows into the Black Sea; connected by canals with Baltic, etc.

Dniepropetrovsk, *t.* in govt. Tauris, Russia, on R. Dnieper, p. 8,500. [and flows into the Black Sea.]

Dniester (700 m.), of W. Russia, rises in Carpathians

Doab, *dist.* between "two rivers," Jinnia and Ganges, in N.W. Prov., India.

Dobbo, *t.* in Aru Isls., Dutch New Guinea, p. 2,500.

Döbeln, *t.* Saxony, on R. Mulde, nr. Leipzig; manuf. and trade; p. 17,500.

Dobrudja, or **Dobradachia**, Rumanian *dist.* S. of and including delta of Danube and Black Sea; area 6,102 sq. m. Traversed by anc. wall of Trajan.

Dobosina, *t.* nr. Kassa, N. Hungary; curious cave containing ice-field of two acres; p. 5,250.

Doca, *R.* (400 m.), of Brazil, flows to Atlantic.

Dochart, *Loch*, and *R.* of Perth, Scotl., draining through Glen D. to Loch Tav. [p. 2,264.]

Dodderth, *mining t.* nr. Barnsley, W.R. Yorks, Eng.

Dogger Bank, sandbank in N. Sea, between England and Denmark. Valuable fishing ground. Russian Baltic fleet incidentally.

Dogliani, *t.* in prov. Coss. Italy, nr. Mondovì, p. 5,750.

Doga, *Isle of*, riverside *dist.* formed by bend in the Thames, off Greenwich, London, Eng.

Dohad, *t.* in Panch Mahals dist. of Bombay, India, p. 13,500. [p. 4,500.]

Dolkum, *t.* in Friesland, Holland, nr. Leeuwarden.

Dol, anc. *t.* Brittany, nr. St. Malo, France, p. 4,600.

Dole, *t.* dep. Jura, on R. Doubs, nr. Dijon, Fr. France; anc. cap. of Franche-Comté, cedded to France in 1793, p. 15,500. [alt. 5,500 ft.]

Dôle, *L. mtn.* of the Jura range, Switz, nr. Geneva.

Dolgelly, *ch. t.* of Merionethsh., nr. Barmouth, N. Wales, p. 2,160. [Hills, p. 1,497.]

Dollar, *t.* in Clackmannan, Scotl., at base of Ochil

Dollar Law, *mtn.* nr. Peebles, Scotl., alt. 2,680 ft.

Dollart Bay, inlet at mouth of R. Ems, Germany, on Dutch frontier.

Dolina-Tuzla, *t.* on Julia R. in Bosnia, Austria-Hungary; salt indust., p. 10,500, all Mahomedans.

Dolores, *t.* in the Argentine, Buenos Ayres prov., p. 10,000; also *R.* in Utah, U.S.A. (250 m.), alt. of Rio Grande.

Domfront, *t.* nr. the Varenne, in Orne, France, p. 4,850.

Domnica, Brit. *Leeward isls.* West Indies, area 2,915 sq. m., p. 30,000. Exports, lime-juice, sugar, cacao, fruits, and spices; cap. Roseau

Dominican Republic, independent negro State in Haiti, West Indies, area 20,000 sq. in., p. 300,000. Produce, sugar, tobacco, coffee, etc.; cap. Santo Domingo (St. Domingo), p. 2,500. [p. 2,879.]

Dommel, *R.* of Holland, trib. of the R. Maas

Domo d'Ossola, *t.* Piedmont, N. Italy, nr. the Simplon, p. 4,200. [birthplace of Joan of Arc.]

Domremy, *vill.* on R. Meuse, Vosges dep., E. France;

Don, *R.* in Aberdeensh., Scotl. (82 m.); also *R.* in W.R. Yorks, Eng. (70 m.), trib. of R. Ouse; also *R.* of France, dep. Maine-et-Loire (40 m.); also large *R.* of W. Russia (1,325 m.), falls into Sea of Azof.

Don, Province of the Russia, —(See **Cossacks**.)

Donaghadee, *spa.* co. Down, Ireland, nearest pt. to Scotland, p. 2,200 (par. 5,500). [p. 2,879.]

Donaldsonville, *t.* Louisiana, U.S.A., on R. Mississippi.

Don Benito, *t.* prov. Badajoz, Spain; good trade in wheat, wine, fruit, etc.; p. 16,500.

Doncaster, *mktg. t.* W.R. Yorks, Eng., on R. Don; rly wks and famous race-course, p. 30,500.

Donchery, anc. *t.* on R. Meuse, nr. Sedan, Ardennes dep., France; great battle between French and Bavarians here, 1870, followed by the capitulation of Napoleon at Sedan.

Donegal, *spa.* W. coast, Ulster, Ireland, and cap. of co. D., on D. Bay, p. 1,500. Area of co., 1,270 sq. m.; rugged coast, mountainous surface; agr. and stock-keeping; p. (decreasing) 168,420.

Doneraile, *mkt. t.* co. Cork, Ireland, on R. Awbeg, nr. Mallow, p. 2,000.

Donetz, *R.* of S. Russia (400 m.), trib. of R. Don.

Dongola, New and Old, *t.s.* on banks of R. Nile, in Upper Nubia, p. 20,000. [p. 1,200.]

Donnington, *mkt. t.* Shropshire, Eng., nr. Newport.

Donnybrook, S.E. *suburb* of Dublin, Ireland, on R. Dodder, p. 16,000; formerly famous for its races, and the riotous fun associated therewith, suppressed in 1855.

Doobant, *R.* of Mackenzie and Keewatin dist., Canada, rising in Wholdah L. and draining Doobant L. into Hudson B. [p. 14,000.]

Doobooks, *industri. t.* on R. Volga, Russia, nr. Saratov.

Doon, *R.* Ayrsh., Scotl., flows from Loch Doon (25 m.) to Firth of Clyde. [at D. Bay.]

Doonbeg, *R.* co. Clare, Ireland, falls into the Atlantic

Dora Baltea, *R.* in Piedmont, N. Italy.

Dorcas, *t.* in Arabia, nr. Doreyeh, p. 7,800.

Dora Ripaire, *R.* Italy, trib. of R. Po, flowing (60 m.) from the Cottian Alps past Turin.

Dorchester, *co. t.* of Dorsetsh., Eng., on R. Frome, p. 9,842; a vill. p. m. S.E. of Oxford; also pt. of entry, New Brunswick, on Petitcodiac R.

Dordogne, *dep.* S.W. France, cap. Périgueux; also *R.* (290 m.) which joins Garonne to form the Gironde.

Dordrecht, or **Dordt**, *t.* (p. 48,000) on Maas R., nr. Rotterdam, Holland; timber trade; also Dutch *t.* in C. Colony, battle Dec. 30th, 1899.

Dorus, *spa.* on Loch Ness, Inverness, Scotl., p. 1,200.

Dorking, *mkt. t.* and residential *dist.* Surrey, Eng., p. 7,850.

Dornbirn, *t.* in Feldkirch dist., Austria, machinery mfg., p. 14,300.

Dornoch, *co.* of the Wick Burghs, Scotl., on D. Firth; one of the Wick Burghs, p. 741.

Dorobol, or **Dorogol**, *t.* on R. Shiska, Roumania, good transit trade, p. 13,000, more than half Jews.

Dorp, mfg. *t.* Rhen. Prussia, on R. Wipper, nr. Cologne, p. 14,000.

Dorpat (now Yurief or Jurjev), *t.* in Russ.; prov. of Livonia, on R. Embach; university and observatory; formerly one of the Hanse towns; p. 43,000 (mostly Germans).

Dorset (568 sq. m.), p. 23,274, *co.* on S. coast Eng.; mainly agr.; *co. t.* Dorchester (7. v.).

Dortmund, busy commercial, yet anc. *t.* of Westphalia, Germany, in colliery dist., nr. Dusseldorf, p. 215,000.

Douai, or **Douay** (fort.), *t.* nr. Lille, N.E. France; glass, bell-founding, arsenal, etc., p. 37,000.

Douarnenez, *spt. prov.* Finistère, N.W. France, on D. Bay; p. 12,000.

Doubs, *dep.* E. France, traversed by the Jura range and the R. Doubs, area 2,052 sq. m., chiefly agr.; p. (declining) 97,000; watchmkg. industry; *cap.* Besançon.

Douglas, *cap.* of Isl. of Man, 75 m. W. of Liverpool, Eng.; a favourite wat. pl.; *p.* (with subs.) 22,000.

Doune, *vil.* on R. Teith, Perthshire, Scotl., with castle, p. 803.

Dour (400 m.), *R.* Spain and Portugal, enters Atlantic below Oporto. Also name of a former Portuguese prov. now divided into Coimbra, Aveiro, and Oporto dists. [Marsan.]

Douze, *R.* (55 m.) in France, joins Midou at Mont di Dove, *R.* of Derbyshire, and Staffs, Eng., trib. of Trent; flows (45 m.) through a beautiful dale.

Dover, old Cinque port in English coast, Kent *co.*; nearest pt. of passage to France, the Strait of D. being only 21 m. wide. Strongly fortified. Splendid national harbour constructed, cost £4,000,000; *p.* (of extended bor.) 43,647. Also name of *t.* on Colicchio R., New Hampshire, U.S.A.; p. 13,500; as well as of small industr. *t.*'s in New Jersey, and Delaware, U.S.A. [p. 3,850.]

Dovercourt, *wat. pl.* nr. Harwich, Essex, Eng.

Doverfjord, plateau, Norway; a spur of the Scandinavian mtns., separating N. and S. Norway, alt. 7,500 ft.

Dowlais, *colly. dist.* Merthyr Tydvil, S. Wales; p. 17,800.

Down, maritime *co.* in S.E. Ulster, Ireland; area 957 sq. m.; *p.* 204,580; industries, agr. and fishy., except in neighbourhood of Belfast, where are factories; *cap.* Downpatrick. [p. 2,497.]

Downham Market, *t.* on R. Ouse, Norfolk, Eng.

Downpatrick, *co. t.* of Down, on R. Quoile; p. 3,900.

Downs, natural harbour of refuge for shipping between Kent coast and Goodwin Sands in the English Channel.

Downs, North and South, two chiefly pastoral broad chalk ridges in S.E. Eng.; N. Downs ending at Dover and S. Downs at Beachy Head; fine grazing ground for sheep.

Downton, *t.* and *par.*, with agr. College, nr. Salisbury, S. Wilts, Eng., on R. Avon; p. 1,100. [p. 2,810.]

Doylestown, *t.* nr. Philadelphia, Penn., U.S.A.

Drachenfels, *mtn. pl.* on the Rhine, the steepest of the Siebengebirge range, nr. Königswinter, alt. 1,005 ft.; ascended by a light railway; famous cave of legendary dragon.

Dragagean, *t.* in Roumania, on R. Olt, fine white wine dist.; p. 4,400. [Toulon, p. 10,000.]

Draguignan, *cap.* of Var dep., S.E. France, nr. **Draguignan**, or **Kathlamba**, Mtns., between Natal and Orange R. Col., S. Africa, highest peaks (each over 10,000 ft. alt.) Catkin and Mont aux Sources; railway crosses range by Van Rensselaer Pass.

Drumberg, *t.* nr. Costlin, Pomerania, Russia, p. 5,850.

Drummen, *spt.* Norway, on the Drammens Ely, nr. Christiania; exports timber, wood-pulp, paper, etc.; p. 24,500.

Drumtown, *dist.* with ry. sta. in co. Londonderry, Ireland, *p.* (dist.) 2,190.

Drava, or **Drave** (360 m.), *R.* trib. of Danube, flows from the Tyrol across Carinthia and Styria, into Hungary, joining the D. at the town of Eisek.

Drenthe, an E. prov. of Holland, on Prussian frontier; area, 1,068 sq. m.; *p.* 125,000; *cap.* Assen.

Dresden, *cap.* of Saxony, on R. Elbe; military hardware and heavy iron mfg., flourishing trade, p. 10,000.

Drewenz, *R.* in Prussia, rising S.E. of Osterode, passes through L. of Drewenz (7 m. long), and after a course of 148 m. S.W. enters R. Vistula, nr. Thorn L. D. is connected by the Elbing Canal with the Baltic.

Driffield, Great, *t.* on the Wolds of E. Yorks, Eng., 13 m. from Beverley, oil-cake works, p. 5,600.

Drighlington, industr. *t.* W. R. Yorks, Eng., 5 m. S.E. Bradford, p. 4,126. [Alessio.]

Drin, *R.* of Albania, flowing (110 m.) to the Adriatic, nr. Drina, R. trib. of the Save, separating Servia from Bosnia, flows 300 m. from its Montenegro source to about 65 m. W. of Belgrade. [Carrying, p. 3,100.]

Droebak, *spt.* Norway, on Christiania Fjord; timber.

Drogheda, *spt. co.* Louth, Ireland; considerable trade in agr. prod., salmon, &c.; stormed by Cromwell in 1649, *p.* 12,425.

Drobovitz, *t.* in Galicia, Austria; salt, naphtha, and oil prod., trade in corn and cattle, p. 20,000.

Droitwich, *t.* Worcestersh., Eng.; brine baths, salt works, &c., p. 4,746.

Drome, *dep.* S.E. France; traversed by Alps, and watered by R.'s Rhone, Drôme, and Isère; area 2,533 sq. m.; *p.* 204,000; agr., forestry, silkwork growth, textile industry, *cap.* Valence. [p. 2,500.]

Dromore, mkt. *t.* on R. Lagan, *co.* Down, Ireland.

Dronero, *t.* at foot of Alps, in Cuneo prov., Italy, p. 7,500.

Dronfield, mining *t.* Derbyshire, Eng., between Chesterfield and Sheffield, *p.* 3,943.

Dronne, *R.* France (90 m.) trib. of R. Dordogne.

Drontheim. See **Tromsø**.

Drossen, *t.* nr. Frankfort-on-the-Oder, Prussia, p. 5,500.

Droylsden, *t.* Lancash., Eng.; cotton-spinning suburb of Prestwich div., Manchester, *p.* 11,500.

Drumclog, *moor* nr. Strathaven, W. Lanark, Scotl.; Covenanters' victory, 1679. [Sydney, *p.* (dist.) 7,500.]

Dubba, *t.* on Macquarie R., N.S.W., 226 m. N.W. of Dublin, metropolitan *c.* and *co.* of Ireland, *p.* (of *co.*) 476,500; (of *c.*) 509,270, on R. Liffey at its entrance to Dublin Bay; cathedral, University, castle, spirit and chemical produce, stout, glass, &c.; also *t.* same name in Texas, U.S.A., *p.* 2,500.

Dubois, *bor.* of Clearfield, *co.* Penn., U.S.A., in coal.

Dubooka. See **Dubooka**. [mining dist., p. 10,000.]

Duboonia, *t.* on R. Dnieper, nr. Mohilev, Russia, p. 7,500. [p. 10,000.]

Dubossary, *t.* on R. Dniester, govt. Kherson, Russia.

Dubuque, *t.* Iowa, U.S.A., *cap.* of Dubuque *co.*, on Mississippi R.; clothing and carriage factories, p. 15,000.

Duddeston, N.E. industr. dist. of Birmingham, Eng.

Duddingston, *t.* suburban to Edinburgh, Scotl., p. 11,250. [flows (20 m.) to Irish S.]

Duddon, *R.* in *co.*'s Cumberland and Lancash., Eng.

Duderstadt, *t.* nr. Göttingen, Hanover, *p.* 4,750.

Dudley, min. and mfg. *t.* Worcestersh., Eng., 8 m. N.W. Birmingham, *p.* 57,092; also *t.* Mass., U.S.A., p. 3,100. [and colliery dist., p. 17,500.]

Dudweiler, *t.* nr. Saarbrücken, Prussia, in ironworks.

Duffield, *t.* on K. Derwent, Derbyshire, Eng., p. 2,750.

Duisberg, *t.* Rhenish Prussia, in Ruhr coalfield, nr. Dusseldorf; extensive iron and other industries, p. 230,000. [Eng., p. 19,246.]

Dukinfield, township in bor. of Stalybridge, Lancash.

Dulcigno, anc. *c.* in Montenegro terr., formerly belonging to Turkish Albania; passed by Berlin Treaty, 1810, *p.* 5,000. [and ironworks, p. 10,000.]

Dulken, *t.* in Prussia, nr. Crefeld, Rhine prov.; textile.

Duluth, *port* at W. end of L. Superior, Minn., U.S.A.; great trade in grain, timber, and iron ore, *p.* 78,000.

Dulwich, suburb of S. London, Eng.; residential and educat.; *p.* (party div.) 101,737.

Dumangas, *t.* in Panay, one of the Philippine Isls., p. 26,000.

Dumbartonah, a western *co.* of Scotl.; area 267 sq. m., agr., stock-raising, ship bldg., chemicals, dyeing

- paper-making, mining, quarrying, etc.; p. 139, 831; co. t., Dumbarton, one of the Kilmarnock burghs, spt. on R. Leven, nr. its confluence with the Clyde; p. 21, 999. [tribs. to the Danube.]
- Dumbowitz, R.** in Roumania, joins the Arlis, both **Dum Dum**, *t.* and *caravanserai* Bengal, India, 4½ m. from Calcutta; p. 1 (including military), 1,780.
- Dumfriesshire, m. co.** Scotland, on Solway Firth; area 1,068 sq. m., p. 72, 824. Northern pts. mtns., much of the remainder pastoral; lead ore, coal, sandstone; co. t. Dumfries (burgh) on R. Nith; p. 19, 077.
- Dumraon, t.** in Shahabad div., Bengal, India; **Dina**, or Southern Dwina, R. of Russ., rises in govt. of Tver, and falls into S. at Riga (600 m.); navigable most of its course.
- Dinaburg, or Dvinsk, t.** (fid.) on R. Dina, govt. Vitebsk, Russia, p. 80, 000.
- Dun Bar Point, c.** on Cantire, W. coast Scotl.
- Dunbar, spt. co.** Haddington, Scotl., Scots defeated here by Edward I. in 1296, and by Cromwell in 1650; p. 3, 346.
- Dunblane, mkt. t.** on Allan Water, Perthsh., Scotl. 5 m. from Stirling; anc. cathedral, p. 2, 978.
- Duncansby Head, promontory** of Caithness, the N.E. extremity of Scotl. [centre; p. 13, 128.]
- Dundalk, spt. and cap. co.** Louth, Ireland; imp. ry. **Dundas, t.** Westworth co., Ontario, Canada, at head of Burlington Bay, Africa.
- Dundas Is., sm. group** of the E. coast of Equatorial **Dundas Strait, separating** Melville Isl. from Coburg pen. in N. Australia.
- Dundee, spt. and mfg. t.** Forfarsh., Scotl., on F. of Tay, 50 m. N. Edinburgh; p. 105, 006; also coal mining t. in N. of N. at; also p. of entry, Huntingdon co., Quebec, Canada, p. 1, 070.
- Dundrum Bay, inlet** on W. coast of co. Down, Ireland, 9 m. wide; also sm. spt. on B. [6,000.]
- Dundwaragan, t.** in Etah dist. N.W. prov., India.
- Dunedin, cap. of Otago** and chief t. in S. Island, N. Zealand, p. 54, 000. Fine bldgs., institutions, and good trade. [nr. Strathane.]
- Dunfanaghy, mkt. and spt. t.** co. Donegal, Ireland.
- Dunfermline, t.** Fife, Scotl., one of the Stirling Burghs, table linen and cover factories; tomb of Robert Bruce discovered here in 1818; p. 28, 103.
- Dungannon, t. co.** Tyrone, Ireland, the anc. seat of the O'Neills; p. 3, 600.
- Dungarpur, native state** of India, Rajputana Agency; very hilly; area 1,440 sq. m., p. 100, 000; lessened by famine of 1899-1900 by 30 per cent. [ing] 4, 800.
- Dungarvan, spt. co.** Waterford, Ireland; p. (decreas- **Dungess, hd. on** S. coast of Kent, Eng., 10 m. S.E. of Rye. [2,752.]
- Dungra, t.** 130 m. N. of Sydney, N.S.W., p. (of dist.) Dungra, with Denny (q.v.). [cathedral.]
- Dunkeld, anc. t.** Perthsh., Scotl., on R. Tay, ruiner.
- Dunkirk, or Dunkerque, most N. p. of France** Strong fort, good harbour and trade; p. 41, 500; also p. on L. Erie, N.Y., U.S.A., good trade inland, p. 12, 000. [Kilmarney co. Kerry, Ireland.]
- Dunloe, Gap** of, romantic *min. pass* nr. L. of Dunmore, min. t. nr. Scranton, Pa., U.S.A., p. 14, 000.
- Dunmow, Great and Little, Essex, Eng., on R. Chelmer;** p. (combined) 3, 120. [Scotl.]
- Dunnet Head, prom.** of Caithness, most N. pt. of **Dunnotar, par.** on Kincardine coast, nr. Stonehaven, Scotl.; ruined castle, p. 1, 750.
- Dunolly, mining t.** Victoria, Australia, p. (dist.), 1,760.
- Dunoon, wpt. sh.** on Argyll side of F. of Clyde, nearly op. Greenock, p. 6, 800.
- Dunrobin, castle seat** of Duke of Sutherland on Scottish coast nr. Golspie.
- Duns, burgh** of Berwicksh., Scotl., p. 2, 069.
- Dunsinane (alt. 2,012 ft.), hill** of the Sidlaws, nr. Perth, Scotl.
- Dunsink, observ.** nr. Dublin. [trade, p. 8, 062.]
- Dunstable, t.** Beds., Eng., straw hat and bonnet **Dunthorpe, mfg. t.** in Dumbartonsh., Scotl., p. 2, 000.
- Dunvegan, vil.** with castle, on Dugan Bay, Isle of Skye, Scotl.; also stat. on Peace R., Athabasca, Canada.
- Duppel, t.** in Schleswig-Holstein, Prussia, entrenched and fortified and the scene of much fighting between Danes and Germans before the fortification of Kiel.
- Duquesne, bor. of Allegheny co., Penn., U.S.A., on** the Monongahela R.; iron mfg., p. 10, 000.
- Duquola, industri. t.** in Illinois, U.S.A., p. 4, 500.
- Durance (217 m.), R. S.E. France,** trib. of Rhone, the anc. Drontia, a mtn. torrent rising at the Goudron Pass in the Hautes-Alpes dep., and rushing down to frigate vast tracts of land in Vaucluse and the Bouches du Rhône.
- Durango, state** of Mexico, area 38,000 sq. m.; rich as to mining, agr. and stock raising, p. 450, 000; cap. Durango, c., has a fine cathedral, p. 35, 500.
- Durazzo, Turk. p. 009** Albanian coast of the Adriatic; olive oil and corn, p. 5, 000.
- Durban, spt. of Natal and chf. com. t. in S.E. Africa,** p. 59, 000 (nearly one-half Europeans).
- Durcal, vil. nr. Granada, Spain,** p. 2, 750.
- Duren, mfg. t.** on R. Ruhr, Rhein, Prussia, p. 28, 900.
- Durham, cathedral c.** on R. Wear, cap. of co. Durham, N.E. Eng.; university and mfg., p. 17, 500. Area of D. co., 1,011 sq. m., many collieries and other industries, besides agr. and stock-keeping, p. 1, 370, 000. Also Durham, t. cap. of Durham co., N. Carolina, U.S.A., tobacco factories, etc., p. 12, 000.
- Durrenstein, vil.** on the Danube R., Lr. Austria; Richard I. imprisoned in castle here.
- Durrisdeer, par.** in Dumfriessh., Scotl., nr. Thornhill, p. 1, 250.
- Dursley, mkt. t.** in co. Gloucestersh., Eng., p. 2, 400.
- Düsseldorf, t.** on R. Rhine, Prussia; one of the handsomest and most flourishing c.'s in Germany; iron foundries, mach., and other factories; p. 350, 000; art and educat. centre.
- Dutch East Indies.**—(See Malay Archipelago.)
- Dux, t.** in the lignite coalfield of Bohemia, Austria; p. 12, 000.
- Dwaraka, sacred Hindu t. of Gujarat, British India,** containing shrine of Krishna, p. 5, 000.
- Dwina, R. (N.) flows** to White Sea, Archangel, and is formed by the junc. of the Suchona and Vitchevda R.'s in the Vologda govt. of Russia. It flows (including the course of the Suchona) for 1,000 m. (See Duna.)
- Dysart, spt. Fife, on F. of Forth, Scotl., (one of the** Kirkcaldy Burghs), p. 4, 197, of partly, burgh, 11, 500.
- Działoszyce, t.** on R. Warta, Poland, p. 4, 950.
- Drungaria or Jungaria, broad trench** leading to the Mongolian plateau from the lowlands round L., Balkash; formerly an indep. state now belonging partly to Russian Turkestan, and partly to the Chinese.

- Eaglehawk, t.** Victoria, nr. Bendigo c. and gold mines; p. 8, 500.
- Eagle Pass, on the Rio Grande, 140 m., in S.W. of** San Antonio, Texas; imp. ry. junction.
- Eaglesfield, vil.** co. Dumfries, Scotl., nr. Kirtlebridge.
- Eaglesham, vil.** co. Renfrew, Scotl., nr. Glasgow; p. 1, 138. [61, 835.]
- Ealing, t.** Middx., Eng., suburban to W. London, p. 8, 000. [Erdeldoune; p. 1, 749.]
- Earlestown, mfg. t.** S. Lancs., Eng., nr. Warrington; p. 8, 000.
- Earlston, vil.** co. Berwick, Scotl., formerly called **Earn, R.** Perthsh., Scotl. (46 m.) issues from Loch Earn (6½ m. long) and falls into the R. Tay.
- Earnslaw, mountains** dist. of Otago, S. Isl., N.Z.; highest peak, 9, 265 ft. [quarries.]
- Easdale, 117 off W. Argyllsh., Scotl., nr. Oban, slate** **Easingwold, t.** in agr. dist., N.R. Yorksh., Eng., nr. Thirsk, p. 2, 100. [Ballina.]
- Easky, vil.** co. Sligo, Ireland, on R. Easky, nr. **Easley, t.** S. Carolina, U.S.A., nr. Greenville, p. 3, 300.
- East Africa.**—(See Brit. E. Africa; also German and Portuguese E. Afr.) [Norfolk and Suffolk, Eng.]
- East Anglia, anc. name** of the dist. comprising **East Barnet.**—(See Barnet.)
- Eastbourne, wpt. sh.** E. coast of Sussex, Eng., 19 m. E. of Brighton, p. 52, 544. [13, 000.]
- East Bridgewater, t.** nr. Boston, Mass., U.S.A., p. 13, 000.
- East Cape, extreme N.E. pt. of Asia; also eastern** extremity of New Guinea.

East Cowes, Isle of Wight.—(See Cowes.)
East Dereham, *t.* Norfolk, Eng., p. 759.
Eastler Isl. (or Wahu Isl.), in Pacific, W. of Chili;

Eastern Arch.—(See Malay Arch.)
Eastern Roumelia.—(See Bulgaria.) [2,500.

East Farham, *t.* in Brome co., Quebec, Canada, p. 7,000.
East Grinstead, mkt. *t.* E. Sussex, Eng., p. 7,000.

East Haddam, *t.* in Connecticut, U.S.A., p. 3,000.
East Ham, bor. Essex, Eng., suburban to E. London, p. 133,504.

[Chester Ship Canal, p. 2,000.
Eastham, vil. Cheshire, Eng., nr. entrance to Man-
Easthampton, *t.* in the Connecticut valley, Hampshire

co., Mass., U.S.A., p. 6,000. [p. 7,140.
East Hartford, *t.* of Hartford co., Connecticut, U.S.A.;

East Indies, term applied to India; Indo-China and Malay Arch. [Miguel co., p. 3,000.

East Las Vegas, *t.* in New Mexico, U.S.A., San
East Liverpool, pottery mfg. *t.* Ohio, U.S.A., on

Ohio R., p. 20,387.
East Linton, or **Preston Kirk**, *par.* in co. Had-
 dington, Scotl., p. 877. [7,000

East London, *spa.* Cape Colony, on S.E. coast, p.
East and West Molesey, Thames-side *dist.* of Surrey,

Eng., p. 6,500.
Easton, *t.* on Delaware R., Pa., U.S.A., great ry.

centre, p. 30,000; also *t.* Maryland (p. 7,000), and
 Mass. (p. 4,500), U.S.A.

East Orange, *t.* (residential suburban to New York)
 in New Jersey, U.S.A., p. 34,371.

Eastport, *c.* and *wat. pl.* Maine, U.S.A., on Moose Isl.
 in Passamaquoddy Bay, p. 5,500. [p. 15,000.

East Portland, *c.* Oregon, U.S.A., on Willamette R.
East Providence, *c.* Rhode Isl., U.S.A., on Seekonk

R., p. 14,500. [berg (p. v.).
East Prussia, *prov.* of Prussia, Germ.; cap. Königs-

East Retford, mfg. *t.* in co. Notts, Eng., p. 12,500.
East River, *channel* between New York and Brooklyn,

U.S.A. [St. Louis, extensive dockyards, p. 58,547.
East St. Louis, *c.* Ill., U.S.A., on Mississippi, opposite

East Stonehouse, *t.* Devonsh., Eng., adjoining Plym-
 outh and Devonport, p. 13,754. [p. 1,750.

East Vale, *t.* Staffordsh., Eng., nr. Stoke-on-Trent,
Eastwood, industri. *par.* nr. Nottingham, Eng., p. 4,602.

Eau Claire, *t.* Wis., U.S.A., at head of Chippewa R.,
 saw mills and timberyards, p. 17,500. [Pau.

Eaux Bonnes, *Les*, *wat. pl.* in French Pyrenees, nr.
Eaux Chaudes, *wat. pl.* French Pyrenees.

Ebal, Mt., in Palestine, opposite Cezizim (modern
 "Jebel Es-Samiyah"), alt. 2,985 ft.

Ebbw Vale, *vil.* nr. Ramsgate, E. coast Kent, Eng.,
 landing pl. of Hengist and Horsa and of St. Augustine.

Ebbw Vale, *t.* Monmouths., Eng., iron and coal, p.
 30,550. [Prussia, p. 22,500.

Eberswalde, industri. *t.* on the Finow Canal, nr. Berlin,
Eboe, or **Abohi**, *t.* Guinea, W. Africa, on the Niger,

p. 6,000. [p. 17,500.
Eboli, or **Evoli**, *t.* Italy, in Salerno, 44 m. S.E. Naples.

Ebro, R., N.E. Spain 60 m.; flows to Mediterranean
 from Cantabrian Mts.

Ebwy, *t.* of Monmouth (24 m.), Eng., trib. of R. Usk.
Ecclefechan, *vil.* Dumfriess., Scotl., birthplace of

Thomas Carlyle.
Eccles, *t.* on Manchester Ship Canal, Lancs, Eng.;

silk-throwing, fustian, gingham, etc., p. 41,946.
Eccleall Bierlow, *t.* W.R. Yorks, Eng., suburban to

Sheffield, p. 64,000.
Ecclesfield, *t.* W.R. Yorks, Eng., 5 m. N. of Sheffield;

cutlery, p. 27,000.
Eccleshall, mkt. *t.* in N.W. Staffs, Eng., p. 5,492.

Eccleshall, *t.* on R. Aire, W.R. Yorks, Eng., suburban
 to Bradford, p. 8,500. [3,400.

Ecdeson, industri. *t.* nr. Prescott, Lancs, Eng., p.
Echinos, *t.* in prov. Acarnania and Aetolia, Greece,

p. 6,100. [Armenian monastery.
Echmiadzin, *t.* in govt. Erivan, Russia, with fortified

Echternaer, *t.* Luxembourg, Netherlands, famous
 abbey, with annual Whitstide dancing-procession,

p. 4,500. [Lancs, p. 4,000.
Echuca, *t.* on R. Murray, in vineyard *dist.* Victoria.

Echuca, *t.* in S. Australia, in agr. and gold-digging
dist. nr. Adelaide, p. 2,500. [Aust., p. 25,000.

Eckernförde, *t.* on the Baltic, Schleswig-Holstein,
 Germany; good harbour and trade, p. 7,000.

Ecuador (128,630 sq. m., p. 1,750,000), Republic,
 S. America, between Colombia and Peru; cacao the

princ. product; cap. Quito.
Ede, fort. frontier *t.* of Sweden, nr. Carlstadt; p. 6,000.

Ede, *t.* Holland, 23 m. N. Amsterdam, on Zuyder
 Zee; noted for cheese; p. 6,500.

Edar, State in Kathiawar, Rajputana, India, area
 4,000 sq. m., p. 250,000; cap. Edar, 64 m. N.E. of

Ahmadabad; p. 6,500.
Eday, *isl.* of the Orkneys, Scotl., included in Stronsay

par. (7 m. long, 2 m. wide), the Ocell of Ptolemy.
Eddystone, famous rock with lighthouse in Eng.

chan. off Plymouth. [Holland; p. 12,500.
Ede, industri. *t.* nr. Arnheim, prov. Gelderland,

Ede, R. Cumb. and Westmorl., Eng. (69 m.), flows
 into Solway F.; also R. of Fife, Scotl., flowing

to St. Andrews Bay; also R. of Scotl. (aff. of the
 Tweed, 23 m.) nr. Kelso.

Edenburgh, *t.* Orange R. Col., S. Africa, on main line
 47 m. S. of Bloemfontein. [border; p. 2,500.

Edenhope, *t.* in Victoria, nr. the South Australian
Edenkoben, *t.* nr. Landau, Rhenish Bavaria; p. 5,500.

Edessa.—(See Urfa.) [temples; p. 2,000.
Edfu or **Esfou**, *t.* on the Nile, Upper Egypt, raised

Edgbaston, S.W. *dist.* of Birmingham, Eng.; p. 25,000.
Edgill, ridge 15 m. S. Warwick, Eng. First battle

in Civil War, nr. Warwick.
Edgewater, *t.* on Staten Isl., New York, U.S.A.;

p. 15,000.
Edgeworthstown, *t.* co. Longford, Ireland; p. 1,050.

Edgware, *par.* of Middlesex, co. Eng., suburban to
 London, p. 5,658.

Edinburg, *t.* in Indiana, U.S.A., p. 3,500; also smir.
t. in nine others of the U.S.A.

Edinburgh (p. 320,315) cap. of Scotland, on S. side of
 F. of Forth (3 m. dist.). Has famous University,

castle and pal. (Holyrood), also import industry,
 and is the literary as Glasgow is the commercial

centre of Scotland, E. c. is also the capital of co. E.
 (or Midlothian), area 362 sq. m., p. 577,662.

Edinburgh, *wat. pl.* in S. Australia, G. of St. Vincent;
 p. 2,400.

Edmonton, *sub. vil.* and residential *dist.* nr. London,
 Eng., p. 64,820; also *t.* on Saskatchewan R.,

Alberta, Canada, p. 25,000.
Edrom, *par.* E. Berwick, Scotl., nr. Duns, p. 1,509.

Edsum, *vil.* in co. Roxburgh, Scotl., nr. Kelso.
Edwardsburg, or **Port Elgin**, *t.* in Grenville co.,

Ontario, Canada, p. 5,500.
Edwardesabad (or **Dhulimagar**), milit. sta. Kuzam

Val, Punjab, N.W. India, p. 10,000.
Edwardsville, *t.* in Madison co., Ill., U.S.A., p. 4,500;

also *t.* in Lucerne co., Pa., U.S.A., p. 5,750.
Eeloo, *t.* in Belgium, nr. Ghent, E. Flanders,

p. 12,500. [Abbeokuta.
Egbe, nat. state in Brit. Nigeria, W. Africa, cap.

Egbin, *t.* on R. Bode, nr. Magdeburg, Prussia
 Saxony, p. 5,500.

Eger, *t.* in Bohemia, nr. Prague, on R. Eger; cloth,
 hat, and shoe factories; p. 25,000.

Egerdir, *t.* in Asia Minor, nr. Isbarta, on R. Egerdir;
Egga, *par.* on R. Niger, Africa, in Yoruba country,

p. 10,000.
Egham, *vil.* and residential *dist.* on R. Thames

Eng., nr. Staines; contains the field of Runnymede,
 where King John signed Magna Charta, also the

artificial L. Virginia Water, p. 12,551.
Elgin, *t.* on R. Euphrates in Asiatic Turkey, p. 10,000;

many Armenians massacred 1895. [Haiti, p. 30,000.
Egorievsk, *t.* in Ryazan *govt.* of Russia; import corn

Egremont, mkt. *t.* on R. Eden, Camb., Eng., p. 6,305;
 also sub. of Birkenhead, Cheshire, p. 3,500.

Egypt (including the provs. re-conquered in the
 Soudan, 760,000 sq. m., p. 11,000,000); E. proper

stretches from the Medit. to Wady Halfa, but
 Egyptian and Brit. authority has now been extended

over the whole of E. Soudan up to the Great Lakes,
 including, by treaty, wld. France, the Bahi-El

Chassi and Darfur to the W. of the Nile; cap. Cairo,
 chief port Alexandria; cap. of Soudan, Khartoum;

port Suakin (p. v.). [Irish R.

Eken, sm. R. (12 m.), Cumberland, Eng., flows into

Elbingen, *t. nr. Ulm*, Wurtemberg, Germany, p. 4,300.
Ehrenbreitstein, *t. and fort* on Rhine, opposite Coblenz, the "Gibraltar of the Rhine," p. 6,000.
Ehrenfeld, *t. Rhin. Prussia*, mfg. sub. of Cologne, p. 28,500.
Ehrenfriedersdorf, *t. nr. Dresden*, Saxony, p. 4,300.
Ehrenstock, *t. Saxony*, 13 m. S. Zwickau; tainbour embroidery, p. 7,500. [Bavaria; cathedral, p. 8,000.
Ehrstätt, *t. on R. Altmühl*, in Middle Franconia, Bades. *t. between Schleswig and Holstein*, Germany (30 m.) now connected with Emperor William Canal.
Eldavold, *t. nr. Christiania*, Norway, p. 7,350.
Elger, *mtn.*, one of the highest peaks of the Bernese Oberland, Switz., alt. 13,042 ft.
Elgg, *tbl.* of the Hebrides, Scotl., included in co. Inverness; basaltic rocks on coast.
Eldon Hills, three peaks nr. Melrose, Roxburgh, Scotl., highest pt. 1,395 ft. [anc. castle, p. 16,000.
Elmberg, mfg. *t. on R. Mulde*, Prussian Saxony;
Elmbeck, *t. in Hanover*, Germany; antiqu. museum, p. 6,000.
Elmledin, *t. cant. Schwyz*, Switz.; old monastery.
Elmenach, *t. Saxe-Weimar*, Cent. Germany, on R. Nesse, at foot of the Thuringian forest, p. 39,500.
Elmmerz, *min. t. in Erzberg mtns.*, Styria, Austria, p. 6,500.
Elmleben, *t. Prussian Saxony*, 39 m. from Leipzig; birthpl. of Luther, centre of copper and silver man. regn., p. 24,000. [great grain trade, p. 69,000.
Ekaterinburg, busy Cosack *t. on Kuban R.*, S. Russia;
Ekaterinburg, *t. on R. Isset* in the E. Ural, Russia, govt. mining centre, many import. industries, p. 60,000.
Ekaterino-Nikolskaya, *vil.* (p. 2,000) in Amur prov. of Asiatic Russia, 340 m. below Blagovestchensk, centre of govt. for the Amur Cosacks.
Ekaterinoslav, *prov.* of govt. of S. Russia; area 22,290 sq. m. (abt.) 2,500,000; rich in minerals, soil fertile black earth; cap. Ekaterinoslav, on R. Dnieper, p. 125,000. [col. of Natal since Dec. 1897.
Ekowe, *cap. of Zululand*, S. Africa, part of the Brit.
Elabuga, *dist. of Russia* on Kama R., 279 m. S.E. of Vyatka; good corn trade, anc. burial ground, many relics of Stone Age, p. 10,000. [Pretoria.
Elandsfontein, *ry. junc.* between Johannesburg and Elands Laagte, *vil.* and *sta.* N. Natal, nr. Ladysmith; Brit. vict. Oct. 31, 1899. [coast, p. 17,000.
El Arahah, *sp.* fortified, Morocco, on the Atlantic
El Fasher, *cap.* of Darfur, E. Soudan, p. 12,000.
El Hassa, Turk. *prov.* on Persian Gulf, cap. Hofuf.
El Khargeh, the great oasis in the Libyan desert, Egypt.
El Khattif, *t. fortified* of Turk. prov. El Hassa, p. 20,000.
El Khullif, or Hebron, anc. *t. S. Palestine*, p. 18,000.
El Obeid, *cap.* Kordofan, E. Soudan, p. 30,000 to 40,000. Mahdist victory over Hicks Pasha's Egyptian army, 1883.
El Oud, or El Wad, *t. in Algerian Sahara*, p. 7,700.
El Paso, two frontier *t.s.* on Rio Grande; one in Texas, p. 30,779; the other in Mexico, p. 8,000.
El Vaso, *t. in Andalusia*, Spain, p. 3,500.
Elba, *tbl.* on Tuscan coast, Italy, prov. Leghorn; iron ore, wine, salt, convict prisons, p. 27,000; chf. t. Porto Ferrajo. Napoleon dwelt on the isl., 1814-1815.
Elbe, (725 m.), chf. *r.* of Germany, the Roman "Albis" rises in Bohemia and flows into North Sea 65 m. below Hamburg. Navig. to Melnik in Bohemia (over 500 m.). [p. 170,000.
Elberfeld, import. mfg., *t. Rhine prov.*, Prussia.
Elbeuf, *t. on R. Seine*, France, 14 m. W. of Kouen;
Elbing, *t. W. Prussia*, on R. Elbing, nr. the Frisches Haff; shipbldg., p. 50,000. [3,450.
Elbogen, fort. *t. in Bohemia*, 74 m. from Prague, p. 18,000.
Elbruz Mt., highest pt. in the Caucasus, alt. 18,520 ft.
Elburz, *mtn.* *t.* in Persia, bordering on Caspian Sea; highest peak, Demavend, 27,000 ft.
Elche, *t. nr. Alicante*, Spain, on R. Vinalopó; oil, soap, and other manuf., p. 29,500.
Elderslie, *vil.*, nr. Paisley, co. Renfrew, Scotl.; birthpl. of Wallace, p. 1,200. [cave sculptures.
Elephanta, *tbl.* in Bombay Harbour, with wonderful
Elephantine, *tbl.* in the Nile, Upper Egypt, opposite Assuan.

El-Euthera, Brit. *tbl.* Bahamas, W.I., p. 3,500.
Elfkärleby, *t. in Sweden*, at mouth of Elf-Dal, Gulf of Bothnia, fisheries, p. 5,400.
Elgin, or Moraysh. *co.*, N.E. Scotl., area 488 sq. m., p. 43,427; distilling, woollen manuf., agr.; co. t. Elgin on R. Lossie, p. 8,666. Also Elgin, co. in Kane co. Illinois, U.S.A., watch-making, p. 26,000.
Elgon Mt. (or Masawa), extinct volcano in Brit. E. Africa, a vast mass, 40 m. in diam., alt. 14,800 ft., cave dwellings on slopes.
Elizabethgrad, *t. (fort.)* on R. Ingal in Kherson, govt. Russin, flour mills, corn trade, p. 64,000.
Elizabeth City, mfg. *t. New Jersey*, U.S.A., p. 74,000; also t. on Pasquotank R., N. Carolina, U.S.A., timber industry, p. 7,500.
Elizabethpol, *t. Transcaucasia*, Russia, cap. of govt. snits name; gardening, silk-wool-rearing; p. 22,000.
Elk Mtns., lofty *pt.* in W. Colorado, U.S.A., highest pt. Castle Peak, alt. 14,175 ft. [56,500.
Elkhart, mfg. *c. of Elkhart co.*, Indiana, U.S.A., p. 11,000.
Elland, *t. on Calder R.* W.R. Yorks, Eng., nr. Halifax, cotton mills, p. 10,678. [p. 1,946.
Ellesmere, mkt., *t. Shropshire*, Eng., nr. Whitechurch.
Ellesmere Land, *reg.* in Arctic America.
Ellesmere Port, Cheshire, Eng., p. 10,366.
Ellice Isl., Brit. group in S. Pacific, N. of Fiji.
Ellichpur, milit. *sta.* in Berar, S. India, on R. Bichan, p. (with cantonment) 36,000. [3,797.
Ellon, *vil.* Aberdeen co., Scotl., on R. Yohm, p. [par.]
Ellora, *vil.* Nizam's Demn., S. India, with wonderful rock temples.
Ellore, *t. Godavari dist.*, Madras, India; cotton-manuf., p. 33,000. [p. 15,000.
Elmina, *t. fort.*, Brit. Gold Coast Colony, W. Africa.
Elmira, mfg., *t. N.Y. State*, U.S.A., p. 37,776.
Elmhorn, *t.* in Schleswig-Holstein, Prussia, tanneries, etc., p. 15,000.
Elmpura,—(See Sandakan.)
Elmore, *cap.* of Oklahoma co., Canada, p. 3,500.
Elmore, Ger. name of Alsace, *prov.* taken from France in 1871.
Elmsnor, *sp.* Denmark, at narrowest pt. of the Sound, 58 m. from Copenhagen, shipbldg. trade, p. 14,500.
Elster (White), R. Germany, flows 120 m. N. from Bohemia to Saale, also (Black) R. rises in Saxony, and joins the Elbe. [manuf., p. 4,200.
Elsterberg, *t. in Saxony*, on White Elster R.; cotton
Elstow, *vil.* Bedfordsh., Eng., birthpl. of Bunyan.
Elstree, *vil.* residential and scholastic dist., Herts, Eng.
Elswick, *t. Northumberland*, Eng., nr. Newcastle; Armstrong's shipbuilding and ordnance works.
Eltham, *vil.* and residential dist. Kent, Eng., p. 6,500; also t. Victoria, 14 m. E.N.E. Melbourne, on R. Yarra.
Elton, mfg. *t. Lancs*, Eng., in Bury bor.; p. 12,500; also salt L. govt. Samara, Russia. [p. 13,000.
Elvas, *c. (fort.)* on R. Guadiana, E. frontier of Portugal.
Elwood, *t. (indust.)* of Madras co., Indiana, U.S.A., on Duck Creek, p. 14,500. [growing dist., p. 7,700.
Elw, cathedral *c. on K. Ouse*, Cambs, Eng., in fruit
Elw, *tbl.* industr. *t. in Loraine co.*, Ohio, U.S.A., p. 8,400.
Embo, *vil.* Sutherland, Scotl.; great battle between Earl of Sutherland and the Danes in 1259.
Embran, *c. (fort.)* on R. Durance, dep. Hautes-Alpes, France, p. 4,000.
Emden, *sp.* on Dollart Bay, Hanover, Prussia; agr. produce, live-stock, etc.; p. 27,000.
Emerald Hill, suburb of Melbourne, Victoria, p. 28,000.
Emerson, *t. prov. of Manitoba*, Canada, 65 m. S. of Winnipeg. [straw-plaiting, agr., etc.
Emilia, *tbl.* Cent. Italy, area 9,272 sq. m., p. 2,500,000.
Erdsabad, *t. in the Punjab*, India, Gujarwala dist.; p. 6,000.
Erzin Pasha's Prov., on White Nile, Equatorial Africa.
Emley, *par. W.R. Yorks*, Eng., 7 m. S.E. Huddersfield, p. 1,002. [3,500.
Emmaville, mining *t.* 403 m. from Sydney, N.S.W., p. Emmethal, *tbl.* in cant. Bern, Switz., through which flows R. Emmen, trib. of R. Aar.
Emmerich, walled *t. Rhinish Prussia*; nr. Düsseldorf; tobacco factories, shipbldg.; p. 10,000.
Empedrado, *t. Argentine Republic*, prov. Corrientes, S. America; p. 9,400.

Emperor William's Land, German possession on N. side of New Guinea; also a tract in E. Greenland.

Emperstrasse, valley in Westphalia, ironworks and coal mines. [etc.; p. 8,500.]

Emporia, cap. of Lyon co., Kansas, U.S.A.; college.

Enna, west. pt. Hesse-Nassau, Prussia, on R. Lahn; resident, p. 7,000; also R. (205 m.) N. Germany, flowing to North Sea.

Ennaworth, sp. Hants, Eng., nr. Havant, p. 2,000.

Enu Park, west. pt. nr. Rockhampton, Queensland.

Enara, L. in Russian Lapland, area 685 sq. m., outlet into Arctic Oc.

Encounter Bay, S. Australia, receives Murray R.

Endorby Land, extensive territory in the Antarctic Ocean. [Lomond.]

Endrick, R. in Stirling co., Scotl., flows (30 m.) to Loch.

Enfield, L. Middlesex, Eng., 10 m. N. London, 4,600. small arms factory, p. 56,344; also gunpowder mfg. t. in Hartford co., Connecticut, U.S.A., p. 7,000.

Engadine, Alpine valley in Grisons, Switz., watered by R. Inn; favourite health resort.

Engano, C. S. extremity of Luzon, Philippine Isls.

Engien, wat. pt. nr. Paris, p. 2,400; also mfg. t. Hainault, nr. Mons, Belgium, p. 4,500.

England, area 50,823 sq. m., p. 32,567,075 (1901 census) S. and most populous portion of Great Britain, the largest European isl. Nearest point to Continent (Dover) 21 m. from N.E. coast of France; greatest length, Berwick to the Lizard, 420 m.; greatest breadth, Lowestoft Ness to Land's End, 350 m. Chief ports, London (the metropolis of the Empire), Liverpool, Bristol, Southampton, Hull, Newcastle-on-Tyne, Sunderland, Yarmouth, Plymouth and Falmouth, all of which see.

English Channel, narrow *stra* separating England from France, extends from *strait* of Dover to Land's End in Cornwall; length 500 m., greatest width, 125 m.

Enguera, L. nr. Valencia, Spain, p. 6,500. [Sea of Azov.]

Enikale, or Venikale, strait between Black Sea and Enkhulzen, Dutch *sp.* on W. side of Zuyder Zee, Holland, p. 6,000. [Whitehaven.]

Ennerdale Water, L. in co., Cumberland, Eng., nr. Ennersdale, *sp.* on Natal main line, between Escourt and Coleston, South Africa.

Ennis, L. co. Clare, Ireland, on R. Fergus, p. 6,400.

Ennisicorthy, L. co. Wexford, Ireland, on R. Slaney, p. 5,750.

Enniskillen, co. L. of Fermanagh, Ireland, p. 5,400.

Ennistimon, L. on R. Oyna, co. Clare, Ireland, p. 1,350.

Enns, R. (112 m.), Austria, trib. of Danube, also anc. t. on R. Enns, walled; p. 4,450.

Enos, sp. at mouth of Maritza R., Turkey, p. 7,000.

Enschede, L. in prov. Overijssel, Holland, on Prussian frontier; cotton-spinning, p. 35,000. [Portugal]

Entre Douro et Minho, fruit-growing prov. of N. Entre Rios, stock-raising *prov.* between the rivers Paraná and Uruguay, Argentina.

Entry, isl. New Zealand, on E. side of Cook's Strait.

Eperjes, L. Hungary, on R. Tarcza; linen manuf., p. 13,000. [p. 20,000.]

Epernay, L. Champagne dist., E. France, on R. Marne

Ephesus, ruined c. of Asia Minor, 35 m. from Smyrna

Epinal, cap. of Vosges dep., E. France, many manuf.; p. 28,000.

Epirus, anc. dist. S.W. Turkey and N.W. Greece.

Eppendorf, L. nr. Hamburg, Germany, p. 7,450. [4,253.]

Epping, L. and forest, Essex, Eng., p. (urban dist.)

Epsom, mkt. Surrey, Eng., famous race-course, p. 10,156. [of John Wesley, p. 2,150.]

Epworth, L. Lines, Eng., nr. Gainsborough; birthpl. of Dr. Chalmers, p. 12,000.

Erandol, L. in India, Khairabad div., Bombay, p. 12,000.

Erebus, Mt. active volcano, Victoria Ld., Antarctic; alt. 12,347 ft. [Heracles, p. 700.]

Eregli, L. on the Black Sea, Asia Minor, the anc.

Erfurt, L. assoc. with Luther, nr. Weimar, Saxony; two citadels, mkt. gardening and seed growing dist. p. 112,000. [p. 6,500.]

Ergasteria, min. t. Greece, S.E. coast of Attica;

Erich, loc. in the Grampians, Scotl., 14,500 m. long.

Erie, L., the most southerly of the Great Lakes of N. America, 2,600 sq. m. in area; also rt. on L. Erie and cap. of Erie co., Pennsylvania, U.S.A.; gt. trade centre; p. 67,000. [Ulster]

Eriksay, one of the Hebrides isls., Scotl., South of

Erith, L. on Lower Thames, Kent, Eng.; p. (urban dist.) 27,755. [sq. m.; p. 400,000.]

Eritrea, Italian colony on Red Sea coast; area 88,500

Erivan, Russian L. in prov. same name in Caucasus, 34,000; old Persian fortress on R. Zange.

Erlangen, L. Bavaria on R. Regnitz, nr. Nuremberg, University; p. 24,000. [red wine; p. 23,000.]

Erlau, L. in Hungary, 80 m. N.E. of Pesth, cathedral.

Erne, R. (72 m.) and L. Ulster, Ira, Donegal Bay, their outlet. [p. 15,000.]

Erode, L. in the Colmbatore dist. of Madras, India;

Eromanga, isl. in New Hebrides; p. 2,000.

Ersék-Ujvar, industri. L. nr. Sellye, on R. Neutra, Hungary; p. 10,750.

Erstein, L. in Alsace, on R. Ill., nr. Strasbourg, p. 5,400.

Erzerum, L. Armenia, As. Turkey, in v. of same name; forests and mineral springs, in dist.; large garrison; massacre of Armenians, 1895, earthquake, 1901; p. 40,000. [highest peak, 4,123 ft.]

Erzgebirge, min. range between Saxony and Bohemia,

Erzingan, L. in the western Euphrates vall., Asiatic Turkey, military centre; the anc. Arsing; p. 23,000.

Esbjerg, L. on Jutland coast, Denmark, gt. trade, p. 15,000. [trade; p. 10,000.]

Escanaba, L. in Delta co., Michigan, U.S.A.; timber

Schwège, L. on R. Werra, prov. Hesse-Nassau,

Essa, R. 120 m. from Cairo, Egypt, p. 20,000.

Essau, R. Rhénus, p. 10,000. [foundries, etc.]

Esdrælon, plain in N. Palestine, between Carmel and Gilboa Mts.

Essen, L. in Hanover, Prussia, nr. Emden, p. 2,500.

Esh, L. 5 m. from Durham, Eng., p. 6,500.

Esher, vil. and resident. dist. on R. Mole, Surrey, Eng., p. 3,500. [Scotl.]

Est, name of sin. R.'s in Dumfri., Edin., and Forfar,

Eske, R., Eng. flows into North Sea at Whitby.

Esklatsna, L. in Sweden, on R. Esklatsna, 55 m. from Stockholm; cutlery, p. 30,500.

Esaki Shehr, Turkish L. in Asia Minor, on Pursak Su R.; meerschuim mines, p. 20,000.

Esaki-Zagra, L. prov. Eastern Roumelia, European Turkey, p. 17,500, mainly Bulgarians.

Esala, R. Spain, 152 m., affl. of the Douro

Esmeralda, L. in prov. and on R. of the same name, Ecuador, S. America.

Esneh, L. on R. Nile, U. per Egi pt., p. 10,000.

Esperance, L. and summit resort in Western Australia, interesting caves.

Esperanza, old L. Santa Clara prov., Cuba; guava jelly, p. 2,500.

Espiritu Santo, maritime prov. of Brazil, cap. Victoria.

Esquimaux, Brit. naval sta. on S.E. coast of Vancouver Isl., Brit. Columbia, p. 1,500. [Hungary, p. 20,000]

Essek, or Esjek, industri. L. of Slavonia on R. Drave,

Essen, L. Rhénus, Prussia; Krupp's ordnance and engineering works, p. 125,000. [serving, p. 16,000.]

Essendon, L. in Victoria, nr. Melbourne; meat-pres-

Essentuki, wat. pt. in North Caucasus, Russia, nr. Pyatigorsk, p. 10,000.

Essequibo, R. Brit. Guiana (620 m.), flows into Atlantic; also country of B.G. formerly a separate colony.

Essex (area 1,522 sq. m., p. 1,351,102), co. in E. Eng., on N. side of Thames; co. t. Chelmsford; largest t. Stratford, E. sub. of London; also sm. t.'s in Vermont and Connecticut, U.S.A. [of Cairo]

Fa Siwah, oasis in Libyan desert, Egypt, 30 m. S.W. Esling, vil. Lower Austria, on the Danube, nr. Vienna; battle, 1809.

Esslingen, fort. L. Württemberg, Germany, on R. Neckar; cotton manuf., p. 33,000.

Essone, L. nr. Corbeil, dep. Seine-et-Oise, France; paper factories, p. 10,000.

Estcourt, L. Natal, S. Africa, 150 m. from Durban.

Este, L. nr. Padua, Italy; castle with leaning campanile, p. 7,000. [10,000.]

Estella, L. prov. Navarre, Spain, on R. Ega; formerly a Carlist stronghold, p. 7,000.

Fetepona, L. prov. Malaga, Spain, nr. Gibraltar, p. 10,000.

Estonia, a prov. of Russia (area 7,816 sq. m., p. 500,000) extending along S. shore of the G. of Finland, cap. Revel. [Eng. blast furnaces, p. 12,000.]

Eston, industri. dist. nr. Stockton-on-Tees, Yorks.

Estrella, Serra da, min. range in Beira, Portugal, highest pt. 7,524 ft.

- Estremadura**, former coast *prov.* Portugal, on the Atlantic Oc., now divided; *chf.* *t.* Lisbon; also old dist. Cent. Spain, now turning provs. Badajoz and Caceres. [quarries, *p.* 8,400.]
- Estremoz**, fort. *t.* in Prov. Alentejo, Portugal; marble
- Estergon**, industrial *t.* in Hungary, cap. co. same name, *p.* (with subls.) 18,500. [Channel, *p.* 4,500.]
- Etahles**, *t.* dep. Côtes-du-Nord, France, on English
- Etah**, *t.* (*p.* 8,000) in dist. same name, Agra div. of N.W. prov., India; area 1,741 sq. m., *p.* 803,719.
- Etampes**, commercial *t.*, dep. Seine-et-Oise, France, *p.* 9,000. [4,500.]
- Etampes**, *t.* in Pas de Calais, France, nr. Boulogne, *p.* Etawah, dist. N.W. Provs., Agra div., India, area 1,691 sq. m., *p.* 807,000; cap. same name, on R. Jumna, *p.* 38,000.
- Etes**, *t.* in prov. Chucayo, Peru, *p.* 3,750.
- Ethiopia**, former name of African countries S. of Egypt.
- Etive**, R. (20 m.) and Loch, Argyllsh., Scotl., anu of Atlantic.
- Etna**, act. volcano N.E. coast of S. Italy, alt. 10,784 ft.; also bor. Pennsylvania, U.S.A., on R. Allegheny, *p.* 6,000. [school, opp. Windsor, *p.* 3,192.]
- Eton**, *t.* Bucks, Eng., on R. Thames; famous public
- Etowah**, R. in Georgia, U.S.A., trib. of R. Coosa.
- Etruria**, *t.* with large Wedgwood potteries, and iron works, near Burslem, Staffs, Eng.; also ane. Italian country (now Tuscany, and part of Umbria).
- Ettelbruck**, *t.* nr. Diekirch, Luxembourg, *p.* 3,850.
- Ettrick**, forest and R. (32 m.) in Selkirksh., Scotl.
- Et Tyb**, desert in Arabia, N. of pen. of Sinai.
- Eu**, *t.* N. France, nr. Dieppe; famous chateau, *p.* 5,000.
- Euboea**, or Negropont, Greek *isl.* in Aegean S., 115 m. long, *p.* 115,500. [4,500.]
- Eufaula**, *t.* on Chattahoochee R., Alabama, U.S.A., *p.* Eupatoria, *spt.* on W. coast of Crimea, Russia; soap, leather, locks, etc., *p.* 17,000.
- Eupen**, mfg. *t.* Prussia, Rhine prov., *p.* 16,800.
- Euphrates** (1,780 m.), largest R. in S.W. Asia, rising in Armenian Uplands and joined by the Tigris and the Persian G. as the Shatt el-Arab. Anciently E. valley was densely populated (c. of Babylon being on its banks).
- Eure**, dep. (mainly agr.), Normandy, France; area 2,331 sq. m., *p.* (decreasing) 390,000; cap. Evreux, on R. Eure (117 m. long), at its confluence with Seine.
- Eure-et-Loir**, dep. Northern France, area, 2,293 sq. m., *p.* (decreasing) 274,000; cap. Chartres.
- Eureka**, co. and mining *t.* Nevada, *p.* 4,500; also portion Humboldt B., Cal., U.S.A., *p.* 7,400.
- Eureka Springs**, *wat. sp.* Carroll co., Arkansas, U.S.A., *p.* 4,500. [Victoria, *p.* 8,500.]
- Euros**, *t.* in pastoral dist., 93 m. from Melbourne.
- Europe**, continent, forming N.W. portion of the Old World; area nearly 4,000,000 sq. m., *p.* (about) 400,000,000. Separated from Asia by the Ural Mts. and R., and bounded on the N. by the Arctic O., W. by the Atlantic, and S. by the Mediterranean. Principal co.'s, the insular kingdom of Great Britain and Ireland, France, Germany, Russia, Italy, Spain, Portugal, Austria-Hungary, Switzerland, Sweden, N. N. Denmark, Holland, Belgium, Turkey, Greece, etc. (all of which see separately). Chief mtns., Alps, Apennines, Pyrenees, Carpathians, and Balkans, with the Ural and Caucasus ranges on the confines. Principal R.'s, the Volga, Don, Dnieper, Danube, Danube, Bug, Po, Tiber, Arno, Rhone, Ebro, Guadalquivir, Guadiana, Tagus, Douro, Garonne, Loire, Seine, Rhine, Weser, Elbe, Oder, Vistula, Dvina, and Mezen. (See separate entries.)
- Euskirchen**, *t.* in Rhenish Prussia, n. Cologne, *p.* 20,500.
- Evansston**, *t.* Ill., U.S.A., on L. Michigan; university, *p.* 24,978. [p. 70,000.]
- Evansville**, mfg. *t.* of Indiana, U.S.A., on Ohio R.,
- Evenloode**, a *par.* in Worcestersh., Eng., on R. Evenloode, a trib. of R. Thames. [and in the world.
- Everest**, Mt. (29,000 ft.), highest mtn. in the Himalayas
- Everett**, mfg. *t.* nr. Boston, Mass., U.S.A., *p.* 33,484; also *t.* on Puget Sound, Washington, U.S.A., *p.* 24,314.
- Everglades**, extensive uninhabited marsh in S. Florida.
- Everton**, a division of Liverpool, Eng., *p.* 84,416.
- Evesham**, munic. bor. and mkt. *t.* in Worcestershire, *p.* 8,341. [Its mules and cork woods, *p.* 15,500.]
- Evora**, cap. of Alentejo, prov. Portugal; famous for
- Evreux**, cap. of Eure dep., France; tucking and other textile manuf., fine town hall, *p.* 20,000. [p. 3,800.]
- Evron**, *t.* in prov. Mayenne, France, nr. Laval, *p.* 10,400. [Ross-sh., Scotl., inlet of The Minch, with sml. isl. same name. [Eng., 4,700.]
- Ewell**, *vil.* and residential dist. in Epsom, Surrey,
- Excelsior Springs**, *t.* in Missouri, U.S.A., *p.* 3,240.
- Exe**, R. Somerset and Devon (55 m.), rising on Exmoor.
- Exeter**, anc. *t.* on R. Exe, co. t. of Devonsh., Eng., fine cathedral (12th cent.), *p.* 48,660, also *vil.*, Huron co., Canada.
- Exminster**, *t.* nr. Exeter, Eng., *p.* 2,450.
- Exmoor**, extensive moorland and forest tract, borders of co.'s Somerset and Devon, Eng.; highest point, Dunkery Beacon, 1,707 ft. [p. 11,963.]
- Exmouth**, *wat. sp.* Devon, Eng., at mouth of R. Exe,
- Exploits**, R. Newfoundland, flows 150 m. to Exploits Bay. [p. 2,300.]
- Exumas**, group of sml. *isls.* in Bahamas, W. Indies,
- Eyam**, *t.* in Inglewell, Derbysh., Eng., *p.* 1,100.
- Eye**, mkt. *t.* Suffolk, Eng., *p.* 2,000.
- Eyemouth**, *spt.* Berwick, Eng., 2,563.
- Eygueres**, *t.* in dep. Bouches-du-Rhône, France, nr.
- Żywiec**, *t.* E. Prussia, nr. Königsberg, *p.* 4,500; famous battle, 1807, between Napoleon's troops and those of Russia and Prussia. [length 95 m.]
- Eyre**, L. (salt), N. part of S. Australia, area 4,000 sq. m.,
- Eyria**, pen. in S. Australia, N.W. of Spencer G.
- Ezcaray**, *t.* prov. Logroño, Spain, *p.* 2,500.
- Ez Zumeih Jebel**, mtn. in Palestine, alt. 1,804 ft.

F

- Faaborg**, *spt.* on Fünen Isl., Denmark, *p.* 3,800.
- Fabrizio**, mfg. *t.* prov. Ancona, Central Italy; fine cathedral, *p.* 22,000.
- Fabrizia**, *t.* nr. Eunteleone, Italy, *p.* 5,500.
- Fachan**, or Fatchan, large industr. *t.* nr. Canton, S. China, *p.* 400,000. [Tokio, 94 m. long.
- Facone**, sacred L. in Isl. Nippon, Japan, 57 m. from
- Faezla**, *prov.* Ravenna, Cent. Italy; falence industr., *p.* 18,500. [copper mine, *p.* 9,000.]
- Falun**, or Falun, *t.* in Kopparberg, Sweden; famous
- Fal-lee**, *t.* in Annam, Indo-Chinese penins., *p.* 14,700.
- Falloworth**, cotton mfg. *t.* Lancs., Eng.; suburban to Manchester, *p.* 16,000. [Illinois, U.S.A., *p.* 2,750.]
- Fairbury**, *t.* in Nebraska, U.S.A., *p.* 3,000; also *t.* in
- Fairfield**, *t.* in Derbysh., Eng., *p.* 4,114; also *t.* on Big Cedar R., Iowa, U.S.A., *p.* 4,500; also *t.* on Long Isl. Sound, in Fairfield co., Connecticut, *p.* 5,000.
- Fair Isl.**, midway between Shetland and Orkney. Scotl.; flagship of Spanish Armada wrecked here, 1588. [timber trade, *p.* 5,000.]
- Fairhaven**, *t.* on Puget Sound, Washington, U.S.A.;
- Fairhead**, *prov.* N. coast Ireland, co. Antrim.
- Fairmont**, *t.* cap. of Marion co., W. Virginia, *p.* 6,000.
- Fairoaks**, *str.* nr. Richmond, Virginia, U.S.A.; great battle in Civil War, 1862.
- Fairweather**, mtn. Alaska, N. America, alt. 14,872 ft.
- Falabad**, *t.* dist., *drv.*, and military *str.* in Oudh, India; *p.* of *t.* on Gogra R. 75,000; one of the centres of the Muthy.
- Falpur**, *t.* in Khandesh div., Bombay, India, *p.* 10,000.
- Falrado**, sml. *spt.* of Porto Rico, prov. Humacao, *p.* 3,300.
- Fakenham**, *t.* Norfolk, Eng., on R. Wensum, *p.* 3,000.
- Fal**, R. Cornwall, Eng., flows (23 m.) into English Channel at Falmouth Harbour.
- Falaise**, *t.* dep. Calvados, France; castle, birthpl. of William the Conqueror, *p.* 9,000.
- Falcon**, state Venezuela, along the coast of the Caribbean Sea; area 6,222 sq. m., *p.* 188,000; cap. Coro.
- Faleme**, R. in Senegambia, Africa (100 m.), trib. of R. Senegal.
- Falkenstein**, *t.* nr. Plauen, Saxony, *p.* 6,500.
- Falkirk**, *t.* in co. Stirlingsh., Scotl.; foundries; battles 1708 and 1746, *p.* 33,559.
- Falkland**, *t.* Fife, Scotl.; F. Palace, an anc. royal residence, now seat of Lord Bute, *p.* 830.

Falkland Isls., Brit. possession S. Atlantic, area 6,500 sq. m., p. 2,000; cap. Stanley on Port William; wool and cattle rearing industry. [p. 200,000.]

Fall River, c. of Bristol co., Mass., U.S.A.; cotton mills.

Falmouth, *port*, on S. coast of Cornwall, Eng., p. 13,130.

False Bay, *inlet*, on E. side of C. of Good Hope pen., leading into Simon's Bay, the prin. sta. of Brit. S. African squadron.

False Point, C. on delta of Mahandri R., Cuttack dist., Bengal, India. [cap. Nykjobbing.]

Falster, *isl.*, (30 m.) in the Baltic, Denmark, p. 35,000; *Falstener*, *isl.* in Suciava dist., Roumania; unport. cattle fairs, p. 10,000.

Falun.—(See *Fahlun*.)

Famagusta, *port*, on E. coast of Cyprus, no harbour, 24 m. S. of the ruins of ant. Salamis, p. 1,000 (Moslems in the fortress).

Fannich, *loch* in Ross co., Scotl., (6½ m. long), drains to Cromarty F.

Fanning, Brit. *isl.* in N. Pacific Oc.; annexed in 1893.

Fano, c. on Adriatic est. Italy; silk industries, p. 11,500.

Fano, *isl.* of Denmark, off W. coast of Jutland; area 20 sq. m., p. 3,500. [p. 9,674.]

Fareham, *port*, *port*, on R. Portsmouth, Hants, Eng.

Farewell, Cape, *point*, on isl. of ext. S. pt. Greenland.

Fargo, c. on Red R., N. Dakota, U.S.A.; in rich wheat region; p. 10,000. [four factories, p. 8,500.]

Faribault, *cap.* of Rice co., Minnesota, on Cannon R., Faribault, *Sikh state* and c. in Punjab, N.W. India; area of S. 646 sq. m.; p. 120,000, of t. 10,500.

Faridpur, c. Ganges delta, Dacca div., Bengal, India; p. 10,000; cap. of Faridpur (or Furreedpoor) dist.; area 3,207 sq. m.; p. nity, 2,000,000.

Farlington, c. Berks, Eng., (properly Great F.); ant. t. hall; p. 2,500.

Farmington, c. in New Hampsh., U.S.A., p. 3,500; also t. in Maine, U.S.A., p. 3,750; also t. in Connecticut, U.S.A.; p. 3,500.

Farmville, c. in Virginia, U.S.A., p. 3,000.

Farnborough, *port*, E. Hants, Eng.; Kingston div., nr. Aldershot; p. 14,000, nearly half military.

Ferne Isls., group off Northernland est., Eng., opp. Bambarough; sometimes called the Fern Isls., or Staples.

Farnham, mkt. c. on R. Wey, Surrey, Eng.; p. 7,365.

Farnworth, mfg. c. on R. Irwell, nr. Bolton, Lancs., Eng.; p. 28,142.

Faro, *port*, cap. of Algarve prov., Portugal; p. 8,100.

Faro, an *isl.* in Baltic S., N. of Gotthland, belonging to Sweden, p. 1,100.

Faroe Isls. (50 sq. m., p. 13,000), 200 m. N.W. of the Shetlands, Scotl.; cap. Thorshavn (Strómi Is.); Danish possessions.

Far Rockaway, c. in New York, U.S.A., p. 2,500.

Fars, or Faristan, a S.W. *prov.* of Persia, on the Ph. Gulf, cap. Shiraz; p. 1,750,000. [5,996.]

Farsley, c. of W. R. Yorks, Eng., nr. Bradford, p. 11,400.

Fartash, or Salf, *port*, on W. est. of Arabia, p. 11,400.

Farukhabad, c. N.W.P. India, Agra div., p. 63,000; in F. dist., area 1,700 sq. m., p. 95,000. [p. 19,000.]

Fasano, industrial, E. Italy, nr. Monopoli, prov. Bari.

Fasher, El, *cap.* of Darfur, E. Soudan.

Fashoda, Anglo-Egyptian *port*, on White Nile, 450 m. S. of Khartoum. *Evac.* by the French after Khalifa's defeat at Omdurman by Kitchener, p. 300,000.

Fastnet, *light-house* in Atlantic, 44 m. S.W. Cape Clear, on rocks nr. the Irish coast.

Fastov, t. in gov. of Kiev, Russia, p. 8,000.

Fatehgarh, milit. *port*, N.W. Provs. India, Agra div., cap. of Farukhabad dist., p. 13,000.

Fatehpur, c. N.W. Provs., India, Allahabad div., p. 21,500; also t. in Burd Banki dist., Oudh, India, p. 12,000; also t. in the State of Jaipur, Rajpootana, India, p. 15,000; also dist. of Allahabad div., area 1,630 sq. m., p. 685,000.

Fatwa, c. on Ganges, in India, nr. Patna, p. 11,000.

Faucilles, Les Monts, a range of *hills* connecting Vosges and Lauges plateau, E. France, highest pt. alt. 1,500 ft.

Faulhorn, t. Orange River Colony, S. Africa, p. 4,000.

Favara, t. Sicily, nr. Gergenti; sulphur mines, p. 16,000.

Faversham, old mkt. c. Kent, Eng.; 10 m. W. Canterbury, p. 10,619.

Favignana, *isl.* Mediterranean off W. coast of Sicily, p. 6,000. [Horta.]

Fayal, *isl.* Azores, orange growing, p. 26,000; cap. Fayetteville, c. on Cape Fear R., N. Carolina, U.S.A., p. 5,000; also vil. Tennessee, U.S.A., p. 2,500.

Fayoum, *prov.* of Middle Egypt, on White Nile; cap. Medinet-el-Fayoum. [p. 200.]

Fazeley, c. in Stafford co., Eng., suburb of Tamworth.

Fazoki, or Fozogi, *dist.* on both banks of Blue Nile, E. Soudan; cap. Adassé.

Feale, or Cashen R., Irel. (30 m.) *trib.* of R. Shannon.

Fear Cape, *Southernmost pt.* of N. Carolina at mouth of Cape Fear R.

Fearn, *par.* in co. Ross, Scotl., nr. Tain, p. 1,785.

Feather R., Cal., U.S.A., *trib.* of R. Sacramento, flowing 250 m. from the Sierra Nevada.

Featherstone, colliery t. W. R. Yorks, Eng., nr. Barnsley, p. 14,377; also t. in New Zealand, nr. Wellington, (dist.) 3,400. [and trade; p. 15,000.]

Fécamp, *port*, dep. Seine-inférieure, France; fisheries, Fehmern, or Fernern, Pruss. *isl.* in Baltic, area 71 sq. m.; cap. Burg.

Feilding, t. in co. Manawatu, New Zealand, p. 1,500.

Felaniche, t. on E. coast Majorca, Spain, p. 12,000; ruined Moorish castle, wine trade.

Felbach, t. in Württemberg, nr. Stuttgart, p. 4,000.

Feldberg, *mt.*, peak in Black Forest, Baden, alt. 4,675 ft.

Félegyhaza, industrial t. Hungary, in vineyard dist. 60 m. S.E. Budapest, p. 35,000.

Felixstowe, *port*, E. Suffolk, Eng., 12 m. S.E. Ipswich, p. (with Walton) 8,667.

Felling, t. suburban to Gateshead, Durham, Eng.; a Tyneside mfg. and colliery dist., p. 25,000.

Fellingsbo, t. in ironworks dist. of Sweden, Örebro prov., p. 10,000.

Feltre, industrial t. in prov. Belluno, Italy, p. 13,000.

Fern.—(See *Fehmern*.)

Fenny Stratford, mkt. c. Bucks, Eng., p. 5,171.

Fenus, The, a low-lying level *dist.* round the Wash, including parts of six eastern Eng. counties.

Fenton, c. Staffs, Eng., nr. Stoke-on-Trent; earthenware works, p. 25,631.

Fentonville, *vil.* Mich., U.S.A., p. 3,000. [1,060.]

Fenwick, *vil.* of co. Ayr, Scotl., nr. Kilmarnock.

Ferentino, c. nr. Frosinone, prov. Rome, Cent. Italy, the anc. Ferentinum; cathedral, old walls, Etruscan theatre; p. 11,000.

Ferghana, or Fergana, *prov.* Turkestan, Asiatic Russia, area 57,000 sq. m.; fertile valley, surrounded by high mts.; cap. Khokan (77).

Fergus, R. co. Clare (25 m.), *trib.* of Shannon, Irel.; also vil. on Grand R., Ontario, p. 3,000.

Fergus Falls, c. Minn., U.S.A., on Red R., p. 6,500.

Fermanagh, co. (inland) Ulster, Ireland, area 714 sq. m., p. 61,811; R. Erne and great lakes; co. t. Enniskillen (77).

Fermo, c. Cent. Italy, in the Marches, prov. Ascoli; an *anc. Roman*, Roman wall; p. 18,000. [p. 5,000.]

Fernselle, c. Spain, nr. Zamora and the R. Duero.

Ferns, c. co. Cork, Ireland, on R. Blackwater.

Fern Isls.—(See *Farne*.)

Fernandez, t. in State of Potosi, Mexico, p. 3,500.

Fernandina, c. Florida, U.S.A., on Amelia Is., Nassau co.; cotton industry, p. 4,000. [station.]

Fernando de Noronha, *isl.* off E. coast Brazil, penal Fernando Po, mountainous Spanish *isl.* off Cameroon coast of W. Africa, area 760 sq. m., p. (about) 30,000; cap. Santa Isabel, p. 1,300, mainly negroes.

Ferozabad, c. N.W.P. India, E. of Agra, p. 17,000.

Ferozapore, or Ferozpur, *dist.* of Brit. India, in Tulundur div. of Punjab, area 4,322 sq. m., nearly 1,000,000; cap. c. of F. nr. the R. Sutlej, p. 54,000.

Ferozeshah, t. in Punjab, India, nr. Ferozapore; Brit. victory over Sikhs, 1845.

Ferrara, fortified c. in delta of R. Po, Italy; clothing manuf. p. 68,000; cap. of prov. of same name, area 1,012 sq. m., p. 272,500. [p. 6,000; cap. Valverde.]

Ferro, most S.W. *isl.* in Canaries, area 100 sq. m., Ferro, *port*, and naval arsenal on N.W. coast of Coruña, nr. Coruña, p. 56,000. [Demfront; p. 10,000.]

Ferte-Macé, La, industrial t. in dep. Orne, France, nr. Ferte, large shallow L. in Hungary (the Roman Teiso), adjoining the Hanság marsh.

Festiniog, *t.* Merioneth, N. Wales, nr. large slate quarries, p. 9,682. [24 wide.]

Fedar, one of the Shetland *661.*, Scott., 61 m. long by *Fez*, a Mahom. "holy city," an imp. commercial centre, and one of the three capitals of Morocco, situate 150 m. S. of Tangier, p. 150,000.

Fezzan, Turk. *Fezzan*, (area 150,000 sq. m., p. 50,000) S. of Tripoli; cap. Murzuk.

Fichtelgebirge, *mt. ra.* in Upper Franconia, N.E. Bavaria, highest peak, the Schneekoppe, alt. 3,454 ft., p. 100,000.

Fidra, or *Hida*, *prov.* Japan, centre of Nippon Isl., p. 100,000.

Fiesole, *anc. c.* nr. Florence, Italy; straw plaiting; Etruscan and Roman antiquities.

Fife, *gen. and co.* E. Scotland, between the F. of Tay and Forth, area 492 sq. m., p. 207,734; co. t. Cupar.

Fife Ness, *ext. pt.* Fife. [(g.v.)]

Figueras, *fort t.* nr. French frontier of Spain, prov. Gerona; p. 12,000.

Figueras, or *Figueras Da Foz*, *wat. pl.* at mouth of R. Mondego, Portugal; corn, wine, etc.; p. 6,000.

Fiji (8,045 sq. m., p. 120,000) *archip.* of 320 (mainly coral) isls. on Pacific; 1,250 m. N. of Auckland, 1,880 m. N.E. Sydney; Brit. Crown Colony; cap. Suva, on Viti Levu isl.; fine harbor, for former cap. Levuka, sugar, bananas, etc. [p. 3,218.]

Filly, *wat. pl.* on Fife Bay, E. coast Yorksh., Eng.

Finale, or *Finale Nell' Emilia*, *t.* in N. Italy, nr. Modena and the R. Po; p. 14,700. [p. 39,425.]

Finchley, *anc. dist. (N.)* to London, Eng.

Findhorn, *wd.* Coast of Elgin, Scott.; also *vil.* on riv. F., which flows 60 m. into Moray Firth.

Findlay, *mtg. t.* on Blanchard R., Hancock co., Ohio, U.S.A.; p. 18,500. [Norway; p. 1,450.]

Findoe, *isl.* in Bukke Fjord, 15 m. N.E. Stavanger.

Findon, or *Finian*, *fishg. vil.* on coast Kincardine, Scotland. [Inner Hebrides; basaltic cols.]

Fingal's Cave, on Staffa Isl., W. Scott., one of the *Fingoland*, *dist.* in Transkei, Cape Colony, S. Africa; p. 45,000.

Finistère, *dep.* in N.W. France, area 2,730 sq. m., p. 765,000; cap. Quimper; Capo Finistère at most W. point. [Galicia.]

Finistère, *c.* extr. N.W. pt. of Spain, on the coast of Finistère, Grand Duchy of the Russian Empire, N.W. of Russia proper, N. of the G. of Finland, and bordering on Norway and Sweden, area 144,253 sq. m., p. 2,700,000.

Finland, *G.* of the E. arm of Baltic Sea, extending about 250 m. between Finland on the N. and the govt. of St. Petersburg and Esthonia on the S.

Finmark, *prov.* N. Norway, inhabited by the Laps; cap. Hammerfest, N. most t. in Europe.

Finbary, industrial and commercial *bc.* of London, Eng., N. of the c. proper, p. 87,976.

Finster-Aarhorn, *mt.* in Switz. (14,020 ft.), highest pk. Bernese Alps.

Finsterwalde, *t.* on the Schakelach R., Prussia; iron foundries; p. 11,500.

Florenzuela, *t.* in N. Italy, nr. Parma, p. 7,500.

Firmay, *mtg. t.* Loure dep., France, nr. St. Etienne, p. 16,500.

Firozabad, *t.* dist. of Agra. (See Ferozabad.)

Firozpur, *t.* Punjab, India. (See Ferozepore.)

Firuzkah, *sm. prov.* of Persia, with cap. F., 50 m. E. of Teheran, p. 2,500.

Fishguard, *t.* N. Penbroskesh, Wales, p. 2,897; one of the Penbroskesh boroughs. [R. Hwlson; p. 4,500.]

Fishkill, *t.* in Dutchess co., New York, U.S.A., on the Fitchburg, textile and iron mtg. c. on Nashua R., Mass., U.S.A., p. 37,866. [pt. of Southampton H.]

Fitzful Head, *prov.* of S. Shetland, Scott., 6 m. N.W.

Fitzroy, *R.* of Queensland, falls into Keppel Bay, also suburb of Melbourne, Victoria, p. 35,000.

Flume, *spt.* of Hungary on the Adriatic, p. 40,000.

Fluminio, *spt.* Cent. Italy, at mouth of Tiber, 15 m. from Rome.

Flivizzano, *t.* of Tuscany, prov. Massa and Carrara, on the W. slope of the Apennines; minrl. springs; p. 12,500. [500 ft., lighthouse.]

Fliamborough Head, *c.* on Yorksh. coast, Eng.; *t.*

Flanders, *dist.* of Belgium, divided into two provs. of E. (1,158 sq. m.) and W. (1,210 sq. m.) Flanders; cap. Bruges and Ghent, (both of which see).

Flannan Isls., or *Seven Hunters*, group of *islets* (uninhabited) 20 m. W. of Lewis, W. Scott.

Flattery Cape, on Pacific coast, U.S.A. (State of Washington). [starch factories; p. 11,500.]

Flèche, La, *t.* in dep. Sarthe, France, nr. Le Mans.

Fleet, *loch* and *R.*, Sutherland, Scotland; also Fleet, Water of, Kirkcudbrightsh., Scott.; also par. co. Hautes, Eng., p. 3,281; also par. nr. Weymouth, co. Dorset, Eng. [p. 15,876.]

Fleetwood, *wat. pl.* Lancs, Eng., at mouth of Wyre.

Flemington, or *Kensington*, *bar.* of Victoria, suburban to Melbourne, p. 11,400.

Flensburg, *spt.* of Prussia, on Baltic coast, Schleswig-Holstein; large coal and other trade; p. 50,000.

Fliers, *t.* dep. Orne, nr. Alençon, France, brick and telegraphs; p. 14,500. [Namur, p. 2,700.]

Fleurus, *t.* Belg., prov. Hamau, nr. Charleroi and Flinders, *R.* Queen-hunt, flowing to G. of Carpentaria.

Flinders Range, *mt.* S. Australia, N. of Spencer G., alt. 3,300 ft.

Flint, *t.* (p. 5,474) co. N. Wales (p. 92,700); also *t.* on Flint R., U.S.A., timber trade, p. 38,550; also *t.* in Alabama, on R. Tennessee (p. 7,500), U.S.A.; also t. Hampshire co., Mass. (p. 3,000) on Mill R.; also t. in Burlington co., S. Carolina, U.S.A., p. 4,250.

Florensac, *t.* nr. Montpellier, Hérault, France, p. 3,840.

Florentin, *fort.* *t.* in Bulgaria, Widdin dist., nr. R. Danube.

Flores, *isl.* Malay Arch., p. 300,000; also westernmost of Azores group, p. 10,000; also smil. isl. off Vancouver, 15 m. long; also t. in Guatemala on isl. in L. Peten, p. 6,000, also the sea between the Celebes and Flores, part of the S. Pacific.

Floresopolis, *spt.* of Brazil, in agr. centre, formerly called Deserto, p. 28,000.

Florida, *state* in S.E. of U.S.A., between Atlantic and G. of Mexico, area 52,080 sq. m., p. 760,000; cap. Tallahassee.

Florida Channel, between Florida and Bahama Isls., course of "Gulf Stream" from Mexico.

Floridsdorf, or *Florisdorf*, *chl t.* in govt. dist. of same name in Lower Austria, nr. Vienna, p. 37,000; liqueur manufact. [New Hampshire, U.S.A.]

Flume, The picturesque gorge in the Francosa Mts., Piedmont, *R.* of Cagliari, Sardinia, Italy.

Flushing, *spt. wat. pl.*, and commercial centre on Walcheren Isl., Holland, p. 20,000; also smil. pt. Falmouth Harb., Cornwall, Eng.; also *vat. pl.* on Flushing Bay, New York, U.S.A., p. 12,500.

Fly, large and unexploited *R.* in New Guinea, southern pt. emptying in G. of Papua [1,300.]

Fochabers, *wd.* in mouth of Spey, Elgin, Scotland.

Focsani, or *Foktschany*, *t.* on the R. Nilka, Patna dist., Roumania, fortified and industrial, p. 25,500.

Foggia, busy industrial *t.* (p. 77,000) and prov. (p. 407,000) S. Italy, in Apulia, area 2,953 sq. m.

Fogo, *par.* nr. Dumfries, Scotland; also name of a volcanic isl. of Cape Verde grp., Atlantic Ocean; also smil. pt. on Fogo Isl., Newfoundland, [p. 5,000.]

Fohr, *isl.* on W. coast of Schleswig, Prussia, in N. Sea.

Fossano, *t.* nr. Arezzo, Tuscany, Italy, p. 8,746.

Foit, *t.* French Pyrenees, nr. Argeges, p. 7,000.

Fo-Kien, *prov.* in S.E. thus on Pacific (48,000 sq. m., p. over 20,000,000); cap. and ch. port Foochow. Produces much tea, camphor, etc.

Fokshani, or *Foktschany*. (See Focsani.) [15,000.]

Foldvar, industrial *t.* in Hungary, nr. R. Danube.

Foligno, or *Fuligno*, *t.* in Umbria, Italy; remarkable grotto; numerous factories; p. 12,000.

Folkestone, *wat. pl.* and steam-packet stn., Kent, 70 m. from London, and 29 m. from Boulogne, p. 33,497. [U.S.A., p. 25,000.]

Fond du Lac, *mtg. t.* on Winnebago Lake, Wisconsin.

Fonsagrada, industrial *t.* in the E. of the mtns, prov. Lugo, Spain, on R. Navia, p. 17,000.

Ponseca, G. of, *inlet* on Pacific cst. of C. America, bordering on San Salvador.

Fontainebleau, *t.* on R. Seine, 35 m. S.E. of Paris. Magnif. forest (area 42,500 acres) and palace, resid. of Pres. in summer; (including military) 14,500.

Fontarabia, *port*, at mouth of R. Bidasoa, on French frontier of Spain, p. 2,750. [on R. Vendee, p. 10,000.

Fontenay-le-Comte, *industrial t.* in Vendee, W. France.

Fontenay-Sous-Bois, *t.* in dep. Seine, France, suburban to Paris E., p. 10,600.

Fontenoy, *t.* nr. Tournay, Belgium. Battle, 1745. Saxe defeated the Allies. [Port. E. Africa.

Fontesville, *port*, at head of navig. Pungwe R., Mozambique, *t.* in France, dep. Maine-et-Loire, p. 3,300.

Footchow, or **Fuchau**, treaty *port* and cap. of Tibetan prov., China; great tea-exporting centre; p. (nearly) 1,000,000. [p. 8,500.

Forbach, *t.* nr. Saarbrück and Metz, German Lorraine.

Forchheim, fort. *t.* in Bavaria on the Ludwigs Canal, p. 5,600. [p. 3,700.

Fordingbridge, mkt. *t.* on R. Avon, S. Hants. Eng., [p. 5,600.

Foreland, N. and S., two *headlands* on E. coast of Kent, Eng.; light-houses.

Forest, *t.* in Pennsylvania, U.S.A., p. 3,200; also vil. nr. Liège, Belgium, p. 4,500.

Forfar, co. *t.*, 30 m. S.W. of Forfarsh., E. Scot., p. 10,800; area of co. (excluding foreshore) 878 sq. m., p. 287,419.

Forio, *p.* on west coast of Ischia, Italy, p. 7,000.

Forlì, anc. *t.* in Emilia, Italy, silk factories, iron works; p. 44,000.

Forlmy, *t.* nr. Launceston, Tasmania, p. (dist.) 5,950.

Formentera, one of the Balearic Isles, S. of Ibiza, 13 m. long.

Formia, *t.* in prov. Caserta, Italy, on G. of Gaeta; the anc. Formiae, p. 8,000.

Formosa, 13,429 sq. m., over 3,000,000, *isl.* off est. of China, ceded to Japan in 1897; cap. Taiwan.

Formosa contains some alluvial plains, but is mainly mountainous and afforested, and under Japanese influences something is being done to develop the resources of the island. Formosa is also the name of a territory in the Argentine Republic, bordering on Bolivia and Paraguay, area 41,400 sq. m., p. 5,000.

Forres, *t.* in Inverness, Scot., one of the Burghs of the Inverness group, cattle trade, p. 4,421.

Forst, *industrial t.* Prussia, on an isl. of R. Neisse; cloth and hucklin factories, p. 40,700.

Fortaleza, *port*, prov. Ceará, Brazil, p. 18,000.

Fort Augustus, *vil.* nr. Glencore, on Loch Ness, Scot., but now an Abbey.

Fort Benton, sm. *t.* in Chouteau co. on the Missouri R., N. Montana, U.S.A.; fur trade.

Fort Bodo, *port*, Hudson Bay.

Fort Churchill, *port*, Hudson Bay.

Fort Collins, *t.* in Colorado, U.S.A., p. 3,700.

Fort de France, formerly Fort Royal, cap. of Martinique, Fr., W. Indies, p. 10,500.

Fort Dodge, *t.* in Des Moines co., Iowa, U.S.A., in rich agr. country, p. 13,500. Taken by Grant in the Civil War of 1862.

Fort Fisher, at entr. to Cape Fear R., N. Carolina, U.S.A. Great battle, 1865.

Fort Garry, old name of Winnipeg, Manitoba. [Firth.

Fort George, N.E. Inverness-shire, Scot., on Moray Firth.

Fort Gratiot, *t.* in Michigan, U.S.A., p. 3,700.

Fort Howard, *t.* on Fox R., Wisconsin, U.S.A., p. 5,000. [p. 10,000.

Fort Madison, cap. of Lee co., Iowa, U.S.A.; near Fort Monroe, Virginia, at the mouth of the James R., the largest military work in the U.S.A.

Fort Rose, *t.* co. Ross, Scot., on N. coast Moray F.; one of the Inverness Burghs.

Fort Salisbury, Mashonaland, African railway centre.

Fort Scott, cap. Bourbon co., Kansas, U.S.A., on the Marmaton R.; p. 10,000; good trade.

Fort Smith, co. of Sebastian, co., Arkansas, U.S.A., on Arkansas R.; railway centre; p. 23,075.

Fort Sumter, mil. post in Charleston Harbour, S. Carolina, U.S.A.; captured by Confederates, 1861.

Fort Wayne, cap. Allen co., Indiana, U.S.A.; railway carriage bldg. and machine shops; p. 64,000.

Fort William, *port*, Inverness-shire, Scot., at base of

Ben Nevis, p. 2,000; also t. of Thunder Bay dist., Ontario, Canada; large grain export; p. 17,000.

Fort Worth, co. Tarrant co., Texas, U.S.A.; a great ry. and comm. centre on Trinity R., p. 73,312.

Fort Yukon, Alaska, trading sm. on R. Yukon, just on the Arctic Circle.

Fortescue, R. W. Australia, rising in the Haemslery Range.

Porteviot, *vil.* 7 m. from Perth, Scot., the old capital of the Picts.

Forth, R. (65 m.) and Firth, Scot.; extending from Alloa E. for 50 m. The R. rises on Ben Lomond, and empties into the estuary of Firth at Alloa.

The Firth Bridge, over 8,000 ft. long, crosses the Firth at North and Clyde Canal, Scot. [Queensferry.

Forth, Carse of, the dist. on the bank of the Firth from Inverness to Gartmore. [of Newfoundland.

Fortune Bay, an inlet of the Atlantic, on the S. cat. Fossano, *t.* prov. Cuneo, nr. Turin, N. Italy, p. 8,000;

Austrians here defeated the French, 1799.

Fossombrone, *t.* Italy, in the Marches, 10 m. from Urbino, p. 8,000. [mills; p. 8,000.

Fostoria, *t.* of Seneca co., Ohio, U.S.A.; large flour Fotheringay, *vil.* on R. Nen, Northampton, Eng.; Mary Queen of Scots beleaguered in F. Castle, 1587.

Fougères, *t.* in dep. Ille-et-Vilaine, W. France, one of the strongest places in Brittany; ruined feudal castle; p. 25,000; shoe manuf.

Fougeolles, *t.* in France, prov. Haute Saône, p. 6,000.

Foula Isl., one of the smaller Shetlands, Scot., westward of main group.

Foulness Island, at mouth of R. Crouch, S. Essex, Foulwind Cape, S. *isl.* of New Zealand.

Fountains Abbey, fine ruins, Cistercian, W.R. Yorks, Eng., nr. Ripon. [Nevers; ironworks; p. 6,500.

Fourchambault, *vil.* in France, on the Loire, nr. Fourmies, *t.* in France, dep. Nord, nr. Valenciennes; wool-combing and glass works; p. 14,500.

Foveaux Strait, New Zealand, separates south island from Stewart Island.

Fowey, sm. *port* in Cornwall, Eng., nr. mth. of R. Fowey, p. 2,750.

Fox Channel, to N. of Hudson Bay, between Baffin Land and Melville Pn.

Fox Isl., one of the Aleutian groups.

Foxton, *sm. t.* in New Zealand (north isl.) on Manawatu R. [R. Foyers, nr. Fort Augustus.

Foyers, falls, Inverness, Scot., east of Loch Ness on Foyle, Lough, inlet of the Atlantic, the estuary of K. Foyle, between Donegal and Londonderry co.s, Ireland. [p. 7,500.

Fraga, *t.* on the Cinca, nr. Huesca, Spain; fruit trade.

Fraisons, *vil.* on R. Doubs, dep. Jura, France; iron-works; p. 3,120.

Framingham, *industrial t.* nr. Boston, Mass., U.S.A., p. 12,500. [p. 2,740.

Framlingham, mkt. *t.* in E. Suffolk, Eng., nr. Ipswich.

Francavilla, *industrial t.* prov. Lecce, W. Italy, nr. Brindisi, p. 20,000.

France, power of the Republic (former monarchy and Empire), W. Europe, bounded N. by Belgium and English Channel, W. by the Bay of Biscay, S. by the Pyrenees and the Mediterranean, E. by Italy, Switzerland, and Germany. Greatest length about 600 m., greatest breadth 540 m. Area 207,146 sq. m., or 31 times size of Eng. and Wales. F. is divided into 87 depts.; ch. t.s. are Paris (the cap., next to London the largest c. in Europe), Bordeaux, Marseilles, Toulon, Brest, and Havre, all of which see Her colonies include Algeria, Cochin China, Senegambia, Reunion, Pondicherry, Martinique, and Guadeloupe, besides three protectorates—Tunis, Annam, and Tonquin. P. of the Republic 39,500,000, one-third of whom live in towns.

Francistown, gold min. *t.* in Rhodesia, 125 m. S. of Bulawayo, S. Africa.

Francoforte, *t.* nr. Syracuse Sicily, p. 6,500.

Franconia, N. part of Bavaria, formerly a sep. European country.

Franeke, *t.* in Friesland, prov. of Holland, 10 m. W. of Leeuwarden; agr. prod., pottery and shipbldg., p. 7,500.

Frankenberg, *industrial t.* Saxony, nr. Chemnitz, on R. Zschopau, p. 12,000; also t. in Hesse-Nassau, nr. Cassel, p. 2,750.

Frankenhausen, *t.* in Schwartzburg-Rudolstadt, Germany; salt works, pearl button making, *p.* 7,000.

Frankenstein, *industri.* *t.* Pruss. Silesia, nr. Breslau, *p.* 8,500. [Heim; nurseries, *p.* 15,500.]

Frankenthal, *mfg.* *t.* Bavaria, Palatinate, nr. Mannheim.

Frankenwald, *mfg.* region on borders of N. Bavaria, nr. the Thuringian Forest.

Frankfort, state *cap.* of Kentucky, U.S.A., on the Kentucky R., *p.* 10,000; also *c.* in Clinton co., Indiana, U.S.A., *p.* 7,500; also *smir.* *t.*'s in New York, Kansas, Maine, and Michigan.

Frankfort-on-the-Main, *c.* on R. Main, a trib. of the Rhine. A "Free City" until 1866, when it was annexed to Prussia, prov. Hesse-Nassau; *hdqrs.* of 18th German Army Corps; restored cathedral, thriving trade, *p.* 46,000.

Frankfort-on-the-Oder, *t.* in Brandenburg, Prussia, 50 m. from Berlin, a great railway centre, *p.* 68,000. The three famous annual commercial fairs of this old Hanseatic *t.* have declined.

Franklin, *industri.* *t.* on Allegheny R., Pennsylvania, U.S.A., in the oil region, *p.* 7,500; also *t.* of Norfolk co., Mass., U.S.A., *p.* 5,100; also *c.* of Merrimack co., New Hampsh., U.S.A., *p.* 6,000; also *smir.* places in Ind., Ohio, Kentucky, Tenn., Louisiana, Maine, and Vermont.

Franzenbad, *resort.* Kaiser-Franzensbad, *wat. pl.* nr. Eger, N.W. Bohemia; saline springs, *p.* 2,300.

Franzensfeste, Austrian fortress, in govt. dist. Brixen, Tyrol.

Frans Josef Fjord, *inlet* on E. coast, Greenland.

Franz Josef Land, *archip.* in Arctic Ocean, N. of Nova Zembla; disc. by Austrian exped. in 1873; extending W. to a dist. as yet undetermined.

Frascati, *t.* Italy, 12 m. S.E. of Rome, famous villas and archaeological remains, *p.* 7,000.

Fraser, R. Brn., Columbia, flowing S.W. to Georgia (450 m.) with famous salmon fisheries.

Fraserburg, *t.* agr. centre of C. Colony, S. Africa, supply stn. for the stock raisers between Calvinia and Carnarvon, *p.* 2,500.

Fraserburgh, coast *t.* N.E. Aberdeensh., Scot., one of the chf. stns. of herring fishery, *p.* 10,574.

Frazerville, *wat. pl.* in Temiscouata co., Quebec, Canada, on St. Lawrence R., *p.* 5,500.

Fratta Maggiore, *t.* 6 m. from Naples, Italy, *p.* 12,000.

Frauenburg, *sm. t.* on the Frisches Haff, nr. Königsberg, E. Prussia, *p.* 3,500.

Frauenfeld, *t.* Switz., cap. of canton Thurgau; castle, cotton factory; *p.* 6,500. [its mouth, *p.* 4,750.]

Fray Bentos, *t.* on Uruguay R., Uruguay, 50 m. from Fréchen, *t.* nr. Düsseldorf, Rhinish Prussia, *p.* 3,640.

Fredensborg, *vil.* in Zealand, Denmark, with palace built in 1750, in commem. of the peace with Sweden.

Fredericia, *sp.* on E. coast Jutland, Denmark, at entr. to Little Belt; brewing, shipbldg., *p.* 12,000.

Frederick, *industri.* *c.* of Maryland, U.S.A., cap. of F. co., *p.* 11,500.

Fredericksburg, *t.* on Rappahannock R., Virginia, U.S.A., scene of severe Federal rebuf. Civil War, *p.* 5,500; also *t.* C. Colony, S. Africa, on Gotala R.

Fredericksshaab, *sm. sp.* on W. coast of Greenland.

Frederickton, *cap.* of New Brunswick, Canada, on R. St. John, *p.* 7,500.

Fredriksborg, or Hilleröd, *vil.* in Denmark, 21 m. N.W. of Copenhagen, with royal palace, built by Christian IV., 1602.

Fredriksbald, *sp.* prov. Christiana, Norway, *p.* 12,000. Charles II. of Sweden killed here 1718.

Fredrikshavn, *sp.* and fishing centre on N. coast of Jutland, *p.* 6,500.

Fredrikstad, *t.* (ftd.) at m. of R. Glommen, Norway, nr. the famous wat. pl. Hanko; *p.* 15,500; also *t.* on the Duna, in Courland, Russia, *p.* 6,400.

Fredriksværk, *sp.* Denmark (fort.), on Ise Fjord, 30 m. from Copenhagen, *p.* 5,740.

Fredonia, *t.* in New York State, U.S.A., *p.* 4,200.

Freehold, *t.* in Monmouth co., New Jersey, U.S.A., *p.* 3,000. [colliery dist., *p.* 6,000.]

Freehold, *bor.* Luzerne co., Pennsylvania, U.S.A., in Freeport, *mfg.* *t.* Ill., U.S.A., on the Peconic R., *p.* 14,500.

Freeport, or St. George, *cap.* of Sierra Leone, W. Fregenal de la Sierra, *t.* in Spain, nr. Badajoz, *p.* 8,000.

Freiburg, busy *t.* in Baden, Black Forest, Germany, with many fine bldgs. and fountains, *p.* 25,000; also *t.* in the Dresden circle of Saxony, library, and public instans., *p.* 35,000; also canton of Switzerl., area 644 sq. m., much forest and unproductive land, *p.* 150,000; also the cap. of canton, between Berne and Lausanne, fine viaduct and bridges, *p.* 16,000.

Freiburg an der Unstrut, *t.* nr. Leipsic, Saxony, on R. Unstrut, castle of Neuenburg, *p.* 5,000.

Freiburg unterm Fürstenstein, *t.* in prov. Silesia, Prussia, nr. Breslau and the famous castle of Fürstenstein, *p.* 10,000. [springs, summer resort; *p.* 8,500.]

Freienwalde, *t.* prov. Brandenburg, Prussia; medic. Freising, *t.* in Upper Bavaria, Germany, on R. Isar; old monastery, royal model farm; *p.* 10,500.

Freistadt, *t.* in Lower Silesia, *p.* 4,250; also *t.* in W. Prussia, nr. Marienwerder, *p.* 2,400. [18,450.]

Freistadt, *t.* in R. Waag, nr. Komorn, Hungary, *p.* 6,500.

Freiwaldau, *t.* in Silesia, Hungary, nr. Olmutz, *p.* 6,500.

Fréjus, coast *t.* dep. var. France, the anc. Forum Julii; here Napoleon embarked for Elba, 1814, *p.* 3,500. [Cenis tunnel runs.]

Fréjus Col, de, the Alpine pass under which the Mont Fremantle, *sp.* at mouth of Swan R., W. Australia, 12 m. S.W., from Perth, *p.* 24,000.

Fremont, *t.* on Plate R., Nebraska, U.S.A., cap. of Dodge co., *p.* 8,000; also *c.* on Sandusky R., Ohio, U.S.A., in petrol. region, *p.* 9,100.

Fremont's Peak, highest peak of Wind River range, in Wyoming terr., U.S.A., *p.* 13,570 ft.

French Broad, R. (250 m.) in E. Tennessee and N. Carolina, U.S.A.; *pvc.* scenery.

French Congo (250,000 sq. m., *p.* 8,000,000) region on W. coast of Equat. Africa; extends inward to the Congo and L. Chad; cap. Libreville (*pvc.*).

French Guiana. (See Cayenne.)

French R., Ont., Canada, the outlet of L. Nipissing into Georgian B. (L. Huron), U.S.A., *p.* 2,400.

Frenchtown, *t.* on L. Erie, Michigan, nr. Detroit.

Frensham, *p.* nr. Farnham, W. Surrey, Eng., *p.* 2,500.

Frensville, *industri.* *t.* Maine, U.S.A., *p.* 3,000.

Frere, station on Natal main line between Estcourt and Colenso, S. Africa.

Freshford, *par.* nr. Bath, Somerset, Eng., *p.* 1,000.

Freshwater, *vil.* and *wat. pl.* W. end of Isle of Wight, Eng., *p.* 3,400. [16,500.]

Fresnes, *t.* in France, dep. Nord, nr. Valenciennes.

Fresnillo, *t.* Zacatecas State, Mexico, silver mns., *p.* 13,000.

Fresno, *t.* in farming and fruit dist. California, U.S.A.,

Friedberg, *t.* in Upper Hesse, on R. Usa, nr. Frankfort-on-the-Main, *p.* 5,500; also *t.* on R. Ach, Upper Bavaria, nr. Augsburg, *p.* 2,750.

Friedek, *t.* on R. Ostrawitz, Austr. Silesia; textile industry, Archduke's chateau, *p.* 10,000.

Friedland, *t.* on R. Wittlich, N. Bohemia, with castle, *p.* 5,300; also *t.* E. Prussia (battle, Napoleon defeated the Allies, 1807); also *c.* in N.E. Mecklenburg-Streitz, nr. Stehlin, *p.* 5,700.

Friedrichroda, a Thuringian forest resort, 9 m. from Gotha, Germany, *p.* 4,500. [Wurtemberg, *p.* 4,750.]

Friedrichschafen, *sm. t.* on the L. of Constance.

Friedrichsruh, Prince Bismarck's chateau, 17 m. N.E. of Hamburg.

Friendly Isls. (See Tonga.) [of Hamburg.]

Frirn Barnet. (See Barnet.)

Friesland, *prov.* N. Holland; area 1,122 sq. m., *p.* 393,000; cap. Leeuwarden.

Frigidus, *sm. R.* trib. of the R. Isongo, Austria; the modern Wipbach, called "I ngidus" for its coldness.

Frische Haaf, shallow freshwater lagoon in Baltic sea, of Prussia, 53 m. long, 4 to 11 m. broad, and 39 sq. m. in area.

Frisian Isls., *chain* stretching from the Zuyder Zee E. and N. to Jutland, along the coasts of Holland, Hanover, Oldenburg, Schleswig and Holstein.

Frobisher Bay, *inlet* in S. Baffin Land, Arctic America, extending 200 m. between Cumberland Sound and Hudson Strait. [16,200.]

Frodham, *mkt.* *t.* Cheshire, Eng., 10 m. N.E. Chester.

Froedham, castle, *vat.* 30 m. S. of Jenu; many years the retreat of the French Legitimist leaders.

Frome, *mkt.* *t.* Somerset co., Eng., nr. Bath, *p.* 10,000.

Frosinone, *industri.* *t.* on R. Cosa, Italy, 32 m. N.N.W. Gaeta, *p.* 10,500.

Frostburg, industr. *t.* in Maryland, U.S.A., p. 4,200.
Fucino, *L.* (now drained), prov. Aquila, Central Italy, formerly 37 m. round. [p. 8,000.]
Fuente-Alamo, industr. *t.* 18 m. from Murcia, Spain.
Fuente-Cantos, industr. *t.* nr. Badajoz, Spain, p. 7,240.
Fuente-Ovejuna, *t.* in lead-mining distr. of Cordoba prov., Spain, p. 10,000.
Fuenterabia, anc. Spanish *t.* on French frontier, nr. Bay of Biscay, p. 6,500.
Fuentes de Onoro, *vil.* Salamanca, Spain; battle 1811, Wellington victorious over Massena. [m., p. 11,500.]
Fuerteventura, *isl.* of the Canary group; area 663 sq. fuji-yama (alt. 12,370 ft.), extinct *vol.* Japan, 60 m. S.W. of Tokio, pilgrim resort.
Fu-Kien (Chinese *prov.*). (See Fo-Kien.)
Fukui, *t.* in prov. Echizen, Nippon, Japan; stricken severely from earthquake in 1891-1892; flourishing industries, p. 51,000. [p. 66,000.]
Fukuoka, *t.* in *isl.* of Kinshiu, Japan; silk-weaving; *Fukuda*, *t.* (industr.) nr. Cassel, Hesse-Nassau, Prussia, cathedral; p. 17,500. [Thames; p. 153,325.]
Fulham, S.W. suburban *bor.* of London, Eng., on R. Fulham, *cap.* of Caloway co., Missouri, U.S.A.; p. 5,000. [6,578.]
Fulwood, industr. *t.* in Lancs. Eng., nr. Preston; p. Fumay, *t.* in the Ardennes, France, on R. Meuse; slate quarries; p. 6,200.
Funchal, *cap.* of Madeira; wine; p. 31,000.
Fundy, Bay of, *del.* between Nova Scotia and New Brunswick.
Funen, second largest *isl.* Denmark, in the Baltic S., area 1,320 sq. m., p. 250,000; *cap.* Odense.
Fünfhäus, *distr.* of Vienna, Austria, p. 46,000.
Fünfkirchen, *c.* Hungary, 10 m. W. of Maria Theresiopel; fine Romanesque cathedral; p. 42,000.
Furueaux, *isl.* group in Bass Strait, belonging to Tasmania. [and linen factories; p. 6,000.]
Furnes, industr. *t.* in Belgium, nr. Bruges; tanneries.
Furness, *distr.* N.W. Lancs. Eng., between Morecambe Bay and the Irish Sea.
Fürstfeld, *t.* nr. Gatz, in Styria, p. 3,950.
Fürstenwalde, industr. *t.* on K. Spree, Prussia, prov. Brandenburg, p. 15,000.
Furth, *t.* nr. Nuremberg, in middle Franconia, Germany; brewing, chromo-lithography, p. 55,000.
Furtwangen, *t.* nr. Freiburg, Baden, p. 4,000.
Fury and Mecla Strait, between Fox Chan. and G. of Bothnia, Arctic America. [Japanese traders.]
Fusan, open *port* S.E. *ast.* Corea; dominated by Fusanano, *vil.* in Eniua, Italy, on R. Senio; p. 5,000. [cap. Timbo.]
Futa Jalon, upland *distr.* in Senegambia, Fr. W. Africa.
Futtak, *t.* nr. Peterwarden, on R. Danube, Hungary, p. 6,000. [E. of Clyde.]
Fyfe, *loch* on Argyll *cat.* W. Scotl., an arm (40 m.) of Fyvie, *par.* on R. Ythan, Aberdeen co., Scotl., p. 3,547.
Fyzabad.—(See Faizabad.)

G

Gablonez, *t.* N. Bohemia, on R. Neisse, chief seat of Austrian imitation pearl and jewellery industry, p. 24,000.
Gaboon, or Gabun, French Colonial *distr.* W. Africa, on E. coast of Gulf of Guinea; products, ivory, ebony, palm oil, etc. [p. 8,500.]
Gabrova, *t.* in Bulgaria, on R. Jantra; cloth industry.
Gadag, or Garag, *t.* in Dharwar dist., Bombay, Brit. India; cotton and silk weaving; p. 24,500.
Gadara, the mot. Unm. Kev, a *c.* of the Syrian Decapolis, fortified, extensive ruins, hot sulphur springs. [p. 8,500.]
Gadawara, *t.* in Narsinghpur dist., Cent. Prov., India.
Gadsden, industr. *t.* on the Coosa R., Alabama, U.S.A., p. 4,700.
Gadshill, *vil.* Kent, Eng., between Gravesend and Rochester; immortalised by Shakespeare; here also Dickens died in 1870.
Gaeta, *fort.* fort. prov. Caserta, nr. Naples, the *anc.* Portus Caieta; cathedral, p. 28,000. [p. 2,000.]
Gagetown, *t.* on R. St. John, New Brunswick, Canada.
Gagliano, *t.* in prov. Catania Sicily Italy, p. 5,100.
Gahmar, *t.* in Ghazipur dist., N.W. Prov., India, nr. R. Ganges, p. 10,500. [p. 9,000.]
Galliac, *t.* dep. Tarn, France; noted for wines.
Gallifon, *vil.* dep. Eure, nr. Rouen, France; royal château; p. 4,200. [U.S.A., p. 8,500.]
Gainesville, *t.* nr. the Red R. in Cooke co., Texas.
Gainford, industr. *t.* in co. Durham, Eng., on R. Tees, p. 7,500. [p. 20,500.]
Gaimsbrough, mkt. and mfg. *t.* on R. Trent, Lincoln.
Gairdner Lake, S. Australia, 13,010 m. long, 23 m. broad.
Gairloch, *par.* and *inlet* on Ross coast, N.W. Scotl., p. of *par.*, 3,317.
Gairn, R., of Scotl., co. Aberdeen (20 m.), affl. of R. Dee, nr. Ballater. [p. 11,415.]
Gajasin, or Hajassin, *t.* in Podolia, Russia, on R. Sob.
Gala, R. (20 m.), *trib.* of R. Tweed, rises in Midlothian, Scotl.
Galapagos, grp. of volcanic *isles* in Pacific O., 600 m. W. Ecuador, and belonging to that State; peculiar fauna and flora.
Galeshills, *t.* Selkirksh., Scotl., on R. Gals; tweeds and woollen mfg.; p. 14,531. [foreign trade.]
Galata, populous *suburb* of Constantinople, seat of Galatia, *anc.* *dev.* of Asia Minor, occupied by the Gauls in the 3rd cent., included in the mod. prov. of Angora. [June] 25,000.
Galatina, *t.* in Apulia, prov. Lecce, S. Italy, p. (com. Galatone, *t.* in Italy, 9 m. from Gallipoli, p. 6,500.)
Galtz, large *port* and *t.* in Roumania, on R. Danube; grain trade, *govt.* docks; p. 63,000.
Gala Water.—(See Gala R.)
Galena, *c.* on the Fevre River, Ill., U.S.A., formerly lead mfg. centre, p. 5,000; also *c.* of Cherokee co., Kansas, zinc mining, p. 14,500.
Galesburg, *c.* in agr. regn. of Knox co., Ill., U.S.A., p. 13,000.
Galicia, old *prov.* N.W. Spain (area 10,875 sq. m.) now forming provs. of Coruna, Ugo, Orense, and Pontevedra; also *prov.* of Austrian Poland; area 30,308 sq. m., p. 7,500,000; *cap.* Lemberg.
Gallilee, N. *distr.* of Palestine, in Roman period, S. of G. on Lake of Genesareth (otherwise Sea of Tiberias), the mod. Bahr Tabaryeh; 73 m. long, greatest width 62 m., traversed by R. Jordan.
Gallon, *c.* of Crawford co., Ohio, U.S.A., ry. and iron-wks., p. 7,500.
Gallaland, *distr.* E. Africa, S. of Shoa, partly Brit. and partly Ital.; native p. (about) 3,000,000; related to the Somalis and Massais.
Galle, or Point de Galle, *spt.* on S.W. coast of Ceylon, extensive trade, p. 98,000.
Gallinas, R. and *distr.* of the Grain coast, British W. Africa; formerly a slave-trade centre.
Gallinas, Punta, Colombia, N.-most pt. of S. America.
Gallipoli, *spt.* in prov. Lecce, S. Italy, p. 11,000; also *spt.* in European Turkey on the Dardanelles, in *sanjak* of same name, vines and sericulture, the *anc.* Callipolis, p. 30,000.
Gallipolis, *c.* of Gallia co., Ohio, U.S.A., p. 5,500.
Gallitzin, *t.* in Pennsylvania, U.S.A., p. 2,500.
Galloway, *distr.* in S.W. Scotl., including the *co.* of Wigton and Kirkcudbright; Mull of Galloway, extreme S.W. pt. of Scotland.
Galluzzo, *t.* nr. Florence, in Central Italy, p. 6,500.
Galofaro (the *anc.* Charybdis), *whirlpool* in Strait of Messina, on the Italian coast, opp. the rock of Scylla. [noct. p. 7,507.]
Galston, *c.* co. Ayr, Scotl., on R. Irvine, nr. Kilmarnock, mfg. *t.* prov. of Ontario, Canada, on Grand R., p. 10,200. [and Limerick; alt. 3,000 ft.]
Galee Mtns., *range* in W. Ireland, between Tipperary and Wick.
Galesburg, industr. *t.* Illinois, U.S.A., p. 4,000.
Galveston, *spt.* Texas, U.S.A., on G. Isl., Gulf of Mexico; great cotton port; p. 38,500.
Galway, *co.* (area 2,452 sq. m., p. 181,000), on Galway Bay, Connaught, W. Ireland; seat of Queen's College fishery; *cap.* of same name, p. 31,249.
Gambia, R. (1,400 m.) and Brit. Protectorate (area 8,550 sq. m.), W. Africa; *cap.* Bathurst (p.v.).
Gambie Isls., French grp. in the Pacific O.
Gambolo, *t.* nr. Novara, Italy, p. 7,500. [Africa.]
Gambos, *R.* on the Gr. Kynio plateau, Cape Col., S. Gannaque, *c.* prov. Ontario, Canada, on the St. Lawrence, p. 3,500.

or Salagrami, R. of Nepaul and Brit. India (400 m.), trib. of Ganges, which it joins nr. Patna.

Gandia, *t. nr.* the Mediterranean in Valencia, Spain, p. 20,000.

Gando, *t.* and African native State, now included in Brit. Northern Nigeria; area of old State 78,457 sq. m., estimated p. 5,500,000.

Gandya, industr. *t.* in govt. Tiflis, Russia, p. 12,000.

Ganges (1,500 m.), the gt. sacred R. of India, rises in an ice-cave in Himalayas and flows through the plain of N. India into B. of Bengal, which it enters by several delta mouths, on one of which stands Calcutta. Navigable from Hardwar, for large ships from Allahabad. Also the name of a t. in dep. Hérault, France, near Montpellier; p. 5,000.

Gangi, *t.* in Palermo, Sicily, the anc. Engium; Cretan antiquities, p. 12,000.

Gangpur, *trib.* state in India, Chota Nagpur, Bengal frontier; area 2,484 sq. m., p. 108,500.

Ganjam, *dist.* Madras Pres. India; area 6,037 sq. m., p. over 2,000,000; prin. product rice; cap. Berhanipur; also G. t. in Co. dist., on B. of Bengal, p. 5,800.

Gap, industr. (silk and other textiles) *c.* Hautes Alpes dep. S.E. France, on R. Luye, the anc. Vapincum; p. (communal) 10,500.

Gapan, *t.* in prov. Nueva Ecija, Luzon, Philippine Isls., tobacco-growing dist., p. 20,000.

Gard, *Medit. dep.* France, area 2,370 sq. m., p. 418,500; cap. Nîmes. [greatest depth, 1,135 ft.]

Garda, *L.* on Alpine border of Italy, area 143 sq. m., Gardiner, *c.* of Kennebec co., Maine, U.S.A.; timber and rice industries, p. 5,500. [manuf.; p. 12,000.]

Gardner, *t.* in Worcester co., Mass., U.S.A.; chair Garoloch and Garolochhead, *trib.* and *val.* Dumbarton, S.W. Scot., Firth of Clyde.

Garhwal, Himalayan *dist.* N.W. India, contains sources of Ganges; area 5,500 sq. m., p. 430,000; also native Indian State, N.W. provs., adjoining foregoing; area 4,164 sq. m., p. 268,000.

Garnett, industr. *t.* in Kansas, U.S.A., impt. ry. centre, p. 4,750.

Garonne (350 m.), R. S.W. France, rises at foot of Mt. Maladetta (Pyrenées), and 20 m. below Bordeaux enters the Gironde [p. 430,500.]

Garonne, Haute, *dep.* of S. France, area 2,458 sq. m., Garrett, *t.* in Indiana, U.S.A., nr. Auburn c., p. 3,500.

Garrow, or Garo Hills, hill *dist.* in N.W. Assam, India; area 3,970 sq. m., p. 130,000.

Garrucha, *spt.* prov. Almería, Spain; old castle, barracks, p. 5,000. [and Kurdistan, p. 80,000.]

Garrus, *prov.* Persia, between Khamsheh, Azerbaijan

Garry, *R.* in Scotl., Inverness co., flowing into Caledonian Canal; also R. in Scotl., co. Perth, flowing through Glenarry to R. Tummel.

Garston, *spt.* on R. Mersey, $\frac{1}{2}$ m. S. of Liverpool, Eng., p. 17,500.

Gartokh, trading *t.* in Western Tibet, p. 13,400.

Garwa, *t.* on Douro R., Lohardaga *dist.*, Bengal, India, p. 6,000.

Gasconade, R. (200 m.), in Missouri, U.S.A.

Gascony, anc. *dist.* and Duchy of S.W. France; comprises the pres. depts. of Landes, Gers, and Hautes-Pyrénées, with parts of Haute-Garonne, Lot-et-Garonne, and Tarn-et-Garonne.

Gaspe, *pen.* Quebec, on S. side of St. Lawrence, p. (of dist.) 35,000.

Gastein, *valley* in duchy of Salzburg, Austria, famous for mineral springs; Kurhaus, etc., p. 4,500.

Gatchina, *t.* 40 m. S. of St. Petersburg, p. 12,000. Near it is the Czar of Russia's palace.

Gateshead, mfg. and mining *t.* on R. Tyne, opposite Newcastle, co. Durham, Eng., p. 116,928.

Gatineau, R. of Canada, trib. (400 m.) Ottawa R., which it joins nr. Ottawa c.

Gauhati, *t.* on R. Brahmaputra, Assam, India, Kamrup *dist.*; suffered from earthquake in 1897, p. 8,500.

Gaurites, R. Cape Colony, S. Africa, flowing into sea near Alwal South. [p. 3,500.]

Gawler, *t.* in mining dist. nr. Adelaide, S. Australia.

Gaya, *t.* Bengal, India, Patna div. (p. 71,000), cap. of Gaya *dist.*, area 4,712 sq. m., p. over 2,000,000. Suffered severely from plague in 1901.

Gaza (mo. Iern Ghazze), anc. Philistine city of Syria, nr. the Mediterranean, p. 40,000.

Gazaland, *dist.* partly in Portuguese E. Africa and partly in S. Rhodesia, lying between Mashonaland and the sea, and between the Limpopo and Zambezi Rs.

Geba, *R.* and port of Portuguese Guinea, W. Africa.

Gebel, anc. Phoenician c. on a hill N. of Beirut, nr. the Mediterranean, formerly called Byblus (Arabic, "Jebel"); many archaeological reliques.

Gebweiler, *t.* S. Alsace, Germany, nr. Kolmar; cotton manuf., p. 13,000.

Geelong, *spt.* on Corio B. (Port Philip) Victoria; fine harbour, flourishing trade; p. (including Geelong West) 30,000.

Geelvink Bay, *inlet* on N.W. coast of New Guinea.

Geelvink Channel, between West Australian mainland and Abrolhos Isls.

Geestemunde, *t.* on Weser, Hanover, Prussia, centre of North Sea fishery, p. 22,000.

Gefle, *spt.* at mouth of Gefle R., in mining co. of Kopparberg, Sweden, p. 22,000. [cap. Gefle.]

Gefleborg, maritime *prov.* Sweden, on G. of Bothnia, Gelsingborg, mfg. *t.* nr. Stuttgart, Wurttemberg, ruined castle, p. 7,500.

Gelderland, *prov.* E. Holland, between Zuyder Zee and Westphalia, area 1,962 sq. m., p. 550,000; cap. Arnhem. [p. 6,000.]

Geldern, *t.* Rhénish Prussia, nr. Wesel, on K. Niers, Gellivara, mining and mfg. *t.* N. Sweden, in Norbotten, p. 13,000.

Gelnhausen, *t.* on R. Kinzig, nr. Frankfurt-on-the-Main, Hesse-Nassau, Prussia, p. 5,000.

Gelsenkirchen, *t.* Westphalia, Prussia, nr. Dortmund; collieries, ironworks, p. 40,000. [alt. 7,600 ft.]

Gemmi, mtn. *pass* across Swiss Alps, Valais to Bern, Gemona, industr. *t.* Italy, nr. Udine, p. 8,000.

Genazzano, *t.* nr. Rome, Italy, p. 4,500.

Genesee, R. Pennsylvania, U.S.A., flows 200 m. into L. Ontario, nr. Rochester.

Genesco, *t.* nr. Rock Island, Henry co., Illinois, U.S.A., p. 5,400.

Geneva, *cant.* and *c.* (p. 126,000) in S.W. Switzerland; the Rhône flows through the c., which is situated at W. end of L. of Geneva (area 225 sq. m.). Wealthy city, flourishing watch-making industry. Area of cant. 107 sq. m., p. 140,000. Also name of t. Ontario co., New York, U.S.A., on Lake Seneca, iron and steel industry, p. 12,000; also ts. in Ohio, Nebraska, and Illinois, U.S.A.

Gennaro, *mt.* of the Apennines, nr. Tivoli, Italy, alt. Genesareth. (See Gallilee, Sea of.) [4,289 ft.]

Genoa, maritime *prov.* of N. Italy (area 1,518 sq. m.); p. nearly 1,000,000; also comm. c. and *spt.* situated on Gulf of Genoa, p. 273,000; fine palaces, flourishing velvet and silk factories. [fortifications; p. 8,500.]

Gentilly, a southern *suburb* of Paris, just outside the Genzaro, *t.* nr. Potenza, Italy; p. (with environs) 9,200.

Geographie Bay, on S.W. coast of Australia, 35 m. wide.

Georgetown, *cap.* of Brit. Guiana, S. America, on Demerara R. 25,000; also t. on Potomac R. nr. Washington, U.S.A., p. 15,000; also *spt.* S. Carolina, U.S.A., p. 4,700; also t. in prov. of Ontario, Canada, and various other sim. ts. in United States and the Brit. Colonies.

Georgia, *state* (area 59,475 sq. m., p. 2,700,000), on Atlantic coast, U.S.A., large percentage of pop. is coloured; produce, cotton, tobacco, maize, etc.; chief ts. Atlanta (cap.) and Savannah; also mounts. region of the Caucasus, W. Asia, in the Russian govt. dist. of Tiflis.

Georgia, *Gulf of*, *inlet* (250 m. long), between Vancouver Isl. and mainland of Brit. Columbia.

Georgian Bay, N.E. side of L. Huron, Canada, length abt. 120 m. [Terek; p. 12,000.]

Georgievsk, *dist.* of Russia, North Caucasus, prov. Georgievsk, Austrian *t.* on the Saxon border of Bohemia, linen industry; p. 8,500.

Gera, mfg. *t.* Cent. Germany, on the White Elster; cap. of Reuss-Schleitz; weaving, printing, etc.; p. 48,000.

Geraldton, *spt.* W. Australia, Champion B. R., p. 3,000.

Gerasa, *c.* of Decapolis, Syria (the modern Jerash), supposed to be the Ramoth Gilead of the Bible, now occupied by Curassau.

German East Africa, *terr.* covering area of 380,000 sq. m.; with estimated p. of 8,000,000; cap. Bagamoyo.
 German South West Africa, *terr.* (326,000 sq. m., p. 250,000) N. of the Orange R., comprising Damaraland and Namaqualand; cap. Gt. Windhoek.

Germanstown, resident. *dist.* in N. pt. of the c. of Philadelphia, U.S.A.

Germany, *gt. empire* of cent. Europe, area 208,780 sq. m., p. about 65,000,000; composed of 4 kingdoms, 6 grand-duchies, 7 principalities, 3 Free Towns, besides the conquered *terr.* of Alsace Lorraine; politically and commercially G. is one of the leading powers of the world; among the chief cities are Berlin (cap.), Munich, Breslau, Hamburg, Leipzig, Cologne, and Dresden; main R.'s Rhine, Danube, Elbe, Weser and Vistula (all of which see).

Germerahelm, *t.* (fort.) Bavaria, on R. Rhine, nr. Speyer; p. 7,000.

Gertrach, *t.* nr. Carlsruhe in Baden, on R. Murg, p. 2,890.

Gerona, *t.* (p. 17,000) and maritime prov. in Catalonia.

Gers, wine-producing *dep.* S.W. France, area 2,429 sq. m., p. 238,000; cap. Auch; also name of small R., which rises in the Pyrenees, and flows (75 m.) to the Garonne.

Geschenen, *vill.* Switz. at end of St. Gothard Tunnel.

Gescke, *t.* nr. Amberg, Westphalia, Prussia, p. 3,740.

Gettsburg, *t.* Penns., U.S.A., great Federal victory, 1863, p. 4,000.

Gex, *t.* in Ain, France, nr. Geneva, p. 3,000.

Geyer, *t.* Saxony, nr. Zwickau, p. 5,400.

Geyers, hot-water *spring*, Iceland, chiefly in vicinity of Mt. Hecla, also in "Terrace" region of Auckland, New Zealand, and in the Yellowstone National Park of the U.S.A., and elsewhere.

Geyser Springs, summer *resort*, California, U.S.A., Sonoma co., 90 m. N.W. of San Francisco.

Ghaats, or Ghauts, Eastern and Western, two mtn. *ranges* supporting the triangular upland of Southern India, alt. of chf. summits, 4,700 to 7,000 ft.

Ghazipur, *dist.* (area 1,462 sq. m.) and *t.* on the bank of the Ganges (p. 30,000), Benares div. N.W. Provs., India; p. (of *dist.*) a little over 900,000, showing a decrease of about 12 per cent. since 1891.

Ghazni, fort. mtn. *t.* Afghanistan, 78 m. S.W. of Cabul; great trade centre, cap. of the Empire of Mahmud, circa A.D. 1000; p. 10,000.

Gheel, *t.* nr. Antwerp, Belgium, with famous anc. asylum for the insane, p. (communal) 14,000.

Ghent, large commercial and cathedral *c.*, cap. of E. Flanders, Belgium, on R. Scheldt; extensive cotton and other manuf.; splendid town hall; p. 165,000. Also *t.* nr. Hudson, Columbia co., New York, U.S.A., p. 3,500.

Ghennigap, *t.* in co. Grant, Victoria, 55 m. from Melbourne, *prov.* N. Persia, on S.W. shore of Caspian Sea, area 4,673 sq. m., p. (about) 150,000; cap. Resht.

Ghiatendil, *t.* Kuestendil, Egypt, *c.* on R. Struma.

Ghizeh, *t.* 3 m. S.W. Cairo, Egypt, on the Nile, cap. of *prov.* same name; up to the pyramids of Khafra, Khufu, and Men-kau-ra; also the Sphinx; contains Museum of Egyptian antiq.; p. (abt.) 22,000.

Giant's Causeway, famous basaltic *columns*, on prom. of N. coast, Ireland, co. Antrim. This tourist resort is now connected by elec. tram with Portrush.

Giarre, industri. *t.* of Catania, Sicily, in the vicinity of Mt. Etna, p. 28,000.

Gibara, old fort. *c.* of E. coast of Cuba; banana exp.

Gibraltar, *fortress* and *t.* (civilian p. 19,120) sit. on rock (1,467 ft.) extreme S. of Spain; capt. by British in 1704; Strait of G. connects Atlantic and Meditern., its narrowest breadth is 9 m.; p. (including military) 28,000.

Giesen, mfg., arsl. and Univ. *t.* Hesse-Darmstadt, Germany, on R. Lahn, p. 26,000.

Giffhorn, ind. *t.* Prussia, at junctn. of Alder and Ise R.'s, Hanover, p. 3,000.

Gifu, or Imasaka, industri. *c.* of Cent. Japan; suffered severely from earthquake, 1892, p. 25,000.

Giggleswick, *vill.* W.R. Yorks., Eng., nr. Settle, on R. Ribbles, p. 2,000; famous ebbing and flowing well.

Gigha, *isl.* off W. coast Argyllsh., Scotl., 6 m. long 2 m. wide.

Gijón, thriving *pt.* in prov. Oviedo, Spain, on Bay of Biscay; fine harbour, p. 45,000.

Gila, R. (650 m.) New Mexico and Arizona, U.S.A., trib. of Rio Colorado.

Gilbert Is., archipel. of Micronesia, in Pacific Ocean

Gilberton, *t.* in Penn., U.S.A., nr. Shenandoah, p. 4,600.

Gildersome, industri. *t.* nr. Leeds, W.R. Yorks., Eng., p. 2,981.

Gilford, *t.* co. Down, Ireland, on R. Bann, p. 2,400.

Gilgit, or Gilgit, extreme N.W. prov. of India, under the rule of Kashmir; also R. of the Punjab, rising in Chitral, afflt. of the Indus, flowing along the Gilgit valley into Kashmir state.

Gillingham, *t.* Kent, Eng., suburban to Chatham, p. 25,252; also mkt. t. Dorsetsh., Eng., nr. Shaftesbury, p. 6,516.

Gilly, *t.* nr. Charleroi, Hannaut prov., Belgium, in coll. Gilmerton, *vill.* nr. Edinburgh, Scotl., p. 1,100.

Gilolo, or Jilolo, *isl.* of the Moluccas, Malay Arch., under Dutch suprem.; area 6,500 sq. m., on the Equator.

Gilp, Loch, Argyll, Scotl., inlet of Loch Fyne, at hd. Gilsland, *vill.* and *wat. pt.* E. Cumberland, Eng., nr. Brampton medcl. springs.

Gimli, *t.* Manitoba, Canada, an Icelandic colony on L. Gimont, *t.* on R. Gironne, nr. Auch, dep. Gers, France, p. 3,200.

Gioia, or Gioia del Colle, *c.* prov. Bari, S. Italy; manuf., p. 19,400.

Giovinazzo, *pt.* S. Italy, on the Adriatic, nr. Bari; Gippeland, rich minrl. *dist.* S.E. Victoria, Australia, 250 m. long W. to E., and 80 m. wide.

Girdleness, *promont.* at mth. of R. Dee, Kincardine *ct.*, Scotl.; end of the Grampian Hills.

Girgeh, or Jurgeh, *t.* on R. Nile, U. Egypt, in *prov.* same name; suffered from encroachment of the stream, p. 17,000.

Girgenti, *pt.* Sicily, cap. of Italian *prov.* same name; the Roman Agrigentum, once a Saracenic possessn.; many Doric temple remains, thriving modern trade, p. 26,000.

Gironde, *est.* in S.W. France, formed by junc. of R.'s Garonne and Dordogne; also *dep.* of French Repub. on Atlantic; area 4,121 sq. m., p. 825,000; productive vineyard and agr. *dist.*

Girton, *par.* nr. Cambridge, Eng.; Univ. college for Girvan, *pt.* and fishy. *t.* co. Argy. Scotl., p. 5,325.

Gisborne, *port* on Poverty B., E. coast of New Zealand (N. Isl.), p. 3,000; also *t.* in co. Bourke, Victoria, p. 3,000.

Glaburn, *t.* on R. Ribble, nr. Clitheroe, W.R. Yorks.

Glaors, *t.* nr. Beauvais, Eure dep., France, p. 4,000.

Gitschin, *ch. t.* of govt. dist., Bohemia, Austria; garnison, corn trade, p. 10,000.

Giugliano, mfg. *t.* nr. Naples, Italy, p. 14,000.

Giulia, *t.* in prov. Teramo, nr. Pescara, Italy, p. 5,000.

Giuvego, Roumanian *port* on R. Danube; good trade, p. 20,000.

Givry, *t.* in dep. Ardennes, formerly strongly fortified.

Givros, *t.* in France, on R. Rhone, nr. Lyons; manuf., p. 3,000.

Glac Bay, *t.* Nova Sc., Can., p. 17,000.

Glacier House, *stm.* on C.P. Ry., nr. Donald, Canada.

Gladbach, two mfg. *t.s.* in Rhine Prov. of Prussia, one W. (Munich-Gladbach), cotton, paper, etc., p. 60,000; the other (Bergisch-Gladbach), E. of the R., nr. Cologne, p. 12,000.

Gladstone, *pt.* off Queensland, fine harbour, p. 4,500; also *t.* nr. Adelaide, S. Australia; also county in Victoria.

Glamis, *par.* with anc. castle (associated with Shakespeare's "Macbeth"), nr. Forfar, Scotl.

Glamorgan, *co.* in S. Wales, with immense coal and iron deposits; area 855 sq. m., p. 1,130,828; co. t. Cardiff (q.v.).

Glarus, *cant.* Switz., E. of Schwytz; area 267 sq. m., p. 35,000; also *c.*, cap. of cant., on R. Linth, nr. Wesen, p. 6,000.

Glasgow, *c.* Lanarksh., Scotl., on R. Clyde, second largest city in Gt. Britain; many thriving manufs.; university and famous cathedral; p. 784,455; also small *t.s.* in Michigan and Kentucky, U.S.A.

Glasnevin, *sub.* of city of Dublin, Ireland, famous botanic gdn. and cemetery.

Glastonbury, *t.* nr. Wells, Somerset, Eng.; noted old abbey, with legend of thorn planted by Joseph of Arimathea, also adjacent to Avalon, burial isl. of King Arthur, p. 4,251. [manufactures: p. 15,600.]

Glatz, *t.* (f.d.) Prussian Silesia, on R. Niesse; many Glauchau, *t.* Saxony, on R. Mulde, p. 28,000.

Glebe, a suburb of Sydney, p. 22,940.

Gleichen, two groups of *castles* in Germany; one between Erfurt and Gotha, in Thuringia, the second nr. Göttingen. [Hungary, nr. Gratz.]

Gleichenberg, *Bad, wat. pl.* in Styria, Austria.

Gleiwitz, *t.* Prussian Silesia, on R. Kłodnitz; many manufactures; p. 25,000. [Welland.]

Glen, R. of co. Lincolnsh., Eng. (36 m.), trib. of R. Glen, The beautiful *valley* and *tourist resort* in White Mountain dist. of New Hampshire, U.S.A.

Glenalmond, *valley* on R. Almond (trib. of R. Tay), Perthsh., Scotl.; Episcopal college.

Glencoe, *t.* Natal, South Africa, nr. Dundee, Brit. vict. Oct. 26th, 1899; also *valley* in N. Argyllsh., Scotl., scene of famous massacre, 1692.

Glendalough, and "Seven Churches," *vill. co.* Wicklow, Ireld., nr. Rathdrum; interesting ruins.

Glenelg, *R.*, 200 m. in S.W. Victoria, Australia; also R. of N.W. Australia (70 m.) flowing to Doubtful Bay; also *t.* and *wat. pl.* on Holdfast Bay, nr. Adelaide, S. Australia, p. 4,500.

Glen Innes, hill, *t.* of N.S.W., 406 m. N.N.W. of Melbourne, alt. 3,518 ft.; p. (dist.) 9,500.

Glen More, *Scottish valley* traversed by Caledonian Canal, from Fort William to Inverness.

Glen Roy, *valley* of co. Inverness, Scotl., famous "Parallel roads."

Glen's Falls, *t.* on Hudson R., N.Y., U.S.A.; line-kilns and many manufs.; p. 14,000.

Glogau, *t.* fort. on R. Oder, Silesia, Prussia; former cap. of extinct principality; p. 25,500.

Glommen, *R.*, longest in Norway (350 m.), flows in Skager Rack at Fredrikstad.

Glossop, cotton manuf. *t.* Derbyshire, Eng.; p. 21,638.

Gloucester, *anc. cathedral c.* on R. Severn (h. 50,000), cap. of Gloucester co. W. of Engl., area 1,243 sq. m., p. 674,581; also port and city of Essex co., Mass., U.S.A., on C. Ann, fishy, and quarrying industries, p. 28,000; also *c.* on Delaware R., New Jersey, U.S.A., opp. Philadelphia, p. 7,000.

Gloversville, *c.* in Fulton co., New York, U.S.A., seat of American glove industry, p. 23,000.

Gluchow, or Glukoff, industrial *t.* in Russia, govt. Tchernigov, on R. Jesmen, p. 18,700.

Glückstadt, *port* on R. Elbe, Schleswig-Holstein, nr. Hamburg, p. 6,850.

Gmünd, *t.* Wurtemberg, Germany, on R. Enz, nr. Stuttgart; jewellery and silver work, wood-carving, etc.; p. 20,000.

Gmünden, *t.* and hydro. health resort, Un. Austria; princpl. depôt of State salt monopoly, on Traun R., p. 7,500. [weaving, p. 23,000.]

Gnesen, mfgt. *t.* Posen, prov. Prussia; cathedral, linen.

Goa, Portuguese *terr.* on W. of M. diabar coast India, area about 1,400 sq. m., p. 500,000; cap. Nova Goa, p. 8,500.

Goajira, *pen.* on G. of Maracaiibo, N. coast S. America, crossed by bndy. of Venezuela and Colombia; area 5,800 sq. m., p. 30,000, mainly Indians of the Goajira and Cosina tribes.

Goaia, *mt.* at Junc. of Ganges and Brahmaputra, Faridpur dist., Bengal, India; great trade centre; p. 8,750.

Goalpara, *t.* on Brahmaputra R., Assam, India (p. 5,500); formerly headqrs. of dist. same name, area 3,500 sq. m., p. 402,500. [Scotl.]

Goatstall, *mt.*, alt. 2,865 ft., on coast of Arran, W.

Gobi, old name of the steppes and stony or sandy desert in Central Asia, divided into two prin. divs.; Shamo in Central Mongolia, and the basins of the Tarim, E. Turkestan; length about 1,500 m. (E. to W.), breadth 500 to 700 m. [manuf.: p. 9,500.]

Goch, *t.* in Prussia, Rhine prov., nr. Cleves, brush

Godalming, *t.* Surrey, Eng., 4 m. S.W. of Guildford, p. 8,847.

Godavari, R. (500 m.), S. India; drains the Deccan and forms large delta; also dist. of the Madras Pres., area 7,857 sq. m., p. 1,350,000; produce, rice,

tobacco, sugar, cotton. Admin. hdqrs., Cocanada; old cap. Rajahmundry.

Goderich, *port* on L. Huron, Ontario, Canada, p. 5,500.

Godesberg, *t.* nr. Bonn, in Rhine prov. of Prussia; famous hydro., chalybeate springs; p. 9,000.

Godhra, *t.* in Panch Mahals dist. of Bombay, India; hdqrs. of polit. agency; p. 1,400.

Goding, *t.* on R. March, South Moravia, at frontier Austria-Hungary, p. 11,000.

Godollo, *mkt. t.* nr. Budapest, Hungary; King's summer palace, p. 6,000.

Godstone, *par.* in Surrey, Eng., nr. Reigate, p. 3,000.

Godwin-Austen (alt. 28,250 ft.), *mt.* Himalaya, next to Mt. Everest, highest in the world. [Eng.]

Gogmagog Hills, *spur* of chalk range, nr. Cambridge, Gogmagog, in Ahmedabad dist., India, on G. of Cambay, p. 10,000.

Gogra (500 m.) sacred R., trib. of Ganges, India.

Gojam, *dist.* Abyssinia, S. of L. Isana, Amhara.

Gokcha, large L. in Russian govt. Erivan, Transcaucasia; triangular in shape (greatest length N.W. to S.E., 45 m., greatest width, 27 m.), alt. 6,340 ft., never freezes, surrounded by high barren mtns.

Golar, *t.* on R. Colne valley, W.R. Yorks, Eng.; fancy wool manuf.; p. 10,100.

Golconda, *port* and ruined *c.* nr. Hyderabad, S. India, famous for its diamonds in former days and for the mausoleums of the anc. kings.

Goldberg, *t.* Silesia, Prussia, 50 m. W. of Breslau on the Katabach R., p. 7,000.

Gold Coast, B. W. African *col.* on G. of Guinea; area of *col.* and dep. about 80,000 sq. m., p. 1,500,000, cap. Accra.

Golden, *c.* nr. Denver, Colorado, U.S.A., p. 3,500.

1,500,000, of whom 1,000 are Europeans; cap. Accra.

Golden Gate, entrance to B. of San Francisco, U.S.A.

Golden Horn, *pen.* on the Bosphorus, forming the harbour of Constantinople.

Goldingen, *t.* Courland, Russia, on Windau R.; woolen mills, etc.; p. 12,000.

Goldshorn, *c.* N. Carol., U.S.A., on Neuse R., p. 6,500.

Goldstein, *mt.*, 7,500 ft. high, on Tianshan, p. 3,000.

Gulfo Dulce, *inlet* of the Pacific, S.E. of Costa Rica, Central America, p. 9,000.

Gollnow, *t.* on R. Ihna, Pomerania, Prussia, nr. Stettin.

Golspie, *mt.* on North S. coast, Sutherlandsh., Scotl., p. 1,200.

Gomar, *t.* in Sahara dis. of Algiers, p. 4,000.

Gombrun, or Bunder Abbasi, *port*, Persia, on Strait of Ormuz, great trade; p. 9,000.

Gomel, *dis. t.* on R. Siret, formerly Polish, annexed to Russia, 1772; p. 38,000, half Jews; grain and timber trade.

Gomera, *vill.* of the Canaries, 13 m. S.W. Tenerife, 23 m. long, 6 m. wide; cap. San Sebastian.

Gometray Isl., one of the Hebrides, included in co. Argyll, Scotl.; fish. sm. and harb.; p. 10,400.

Gonaves, *Les.*, 750 ft. on W. coast of Hayti, p. 10,400.

Gonda, *dist.* Oudh, India, Fyzabad div.; area 2,880 sq. m., p. 1,400,000; cap. Goudi, p. 17,500.

Gondal, native *state* of the Gujarat div. of Bombay, area 1,024 sq. m., p. 161,500; cap. Gondal, nr. Rajkot, p. 15,500. [kingdom], Abyssinia, p. 5,000.

Gondar, *t.* cap. of Amhara dist. (formerly cap. of Gondar, wild gorge in the Simpla Pass of the Alps).

Gondokoro, the junction of the river, formerly station on White Nile, 200 m. N. of the Albert Nyanza; now in ruins. [17,500.]

Gonzaga, *sm. t.* Mantua N. Italy, p. (communal).

Good Hope, Cape of, promontory forming extreme S.W. of C. Colony, S. Africa.

Goodenough Bay, *inlet* N. coast of New Guinea, E. Indies; Goodenough Isl. just above the bay.

Goodwin Sands, dangerous sandbanks off E. coast of Kent, Eng., shielding the Downs roadstead.

Goodwood, racecourse and dual seat, Sussex, Eng., nr. Chichester.

Goole, *port* Osgoldcross div., Yorks, Eng., at confluence of Don and Ouse R.'s, p. 20,334.

Goolwa, *port* at mouth of R. Murray, S. Australia, p. 3,100.

Goomal, *valled t.* of E. Turkestan, nr. Khelen.

Goomib-Khanah, *t.* 200 m. W. of Erzerum, Asiatic Turkey, p. 10,000. [Melbourne, p. 1,600.]

Goornong, *t.* in Victoria, Australia, 117 m. N. of

Gooty, *t.* (fld.), Anantapur dist., Madras Pres., India, p. 9,000.

Gopalpur, *97*, Madras, India, Garjam dist.; p. 3,000.

Gopingen, *manuf.* t. Wurtemberg, Germany, between Ulm and Stuttgart; p. 23,000.

Gorakhpur, *c.* (p. 63,500), *dist.* (area 4,576 sq. m.), and *div.* (area 9,491 sq. m., p. 6,500,000), N.W. Provs. S. of Nepaul, India.

Gorcum, or **Gorkum**, *t.* in Holland, nr. Rotterdam, on the Merwede canal; gold and silver working, p. 12,000. (Melbourne, *p.* (of dist.) 5,400.

Gordon, *t.* in mining and agr. dist., Victoria, 95 m. W. Gordon Bennett, *min.* in Ruwenzori range, Cent. Africa, nr. L. Albert Nyanza, discovered by Stanley, alt. 16,000 ft.

Gore, *t.* 100 m. S.W. of Dunedin, N. Zealand; p. 1,850.

Gorebridge, *vil.* in co. Edinburgh, Scotl.; p. 1,400.

Goree, *sm.* French *isl.* and *station* nr. Cape Verde, W. Africa; p. 5,000.

Gorey, *mkt.* t. co. Wexford, Irel.; p. 3,000.

Gorham, *t.* (mfgt.) in Maine, U.S.A.; p. 3,750.

Gorgonzola, *t.* N. Italy, 12 m. from Milan, famous for its cheese, p. 5,000.

Gori, *dist.* t. nr. Tiflis, in Russian Transcaucasia, nr. the Gori'skhe fortress of the Byzantine Emperors; p. 12,500.

Goritz, beautiful Thames-side *vil.* Oxfordsh., Eng.

Goritz, Brandenburg, Prussia, nr. Frankfurt, p. 2,750. also dist. (Goritz or Gorz), and Gradiska, of Austria, in Kustenland (area 1,127 sq. m., p. 250,000); cap. G., nr. Trieste, with cathedral and anc. castle; p. 22,000.

Gorkum,—(See **Gorcum**) p. 10,000.

Gorleston, *wat. pt.* Suffolk, Eng., nr. Great Yarmouth; p. 12,500.

Gorlice, *t.* on the Roper R., S.W. Galicia, Austria; corn, wine, linen, etc.; p. 7,500.

Gorlitz, busy *comm.* and *mfgt.* t. Prussian Silesia, on R. Weisse, lib. educe, *mun.* t. p. 90,000.

Gort, *t.* Galway, Ireland; p. 1,700.

Gorz,—(See **Goritz**).

Gosford, *t.* N.S. Wales, 50 m. N. Sydney; p. 1,200.

Gosforth, *colly.* t. subn. to Newcastle-on-Tyne, Eng.; p. 15,491.

Goshen, *co.* Indiana, U.S.A., on Elkhart R., p. 8,400; also *vil.* of Orange co., New York, U.S.A.; p. 6,200.

Goslar, old *comm.* t. Hanover, Prussia, at foot of Harz Mts.; copper and lead mining dist., p. 17,500.

Gosport, *97*, (fld.) and naval dep., Hants, Eng., W. side of Portsmouth Harbour, p. 33,301.

Gota, *R.*, of Sweden flows (47 m.) from L. Wener to the Cattagat; also canal (125 m. long), connecting L. Wener with the Baltic.

Gotha, *c.* Centl. Germany, cap. of Duchy of Saxe-Coburg-Gotha, p. 35,000.

Gotham, *vil.* nr. Nottingham, Eng., where lived the traditional "wise" men of Gotham; also a name given to New York City.

Göteborg, *97*, Sweden, on coast of the Cattagat; also cap. of Göta, same name, at mouth of Göta R., second city in the kingdom for commerce, industry, and p. which (including subn.) now reaches 168,000.

Göteborg, *97*, of S. Sweden, including 12 govts., area, 35,788 sq. m., p. 2,750,000.

Göteborg *Isl.*, fertile *Swed.* *Isl.*; area, 1,215 sq. m., and govt. in the Baltic, part of foregoing prov.; cap. Visby.

Goto *Isls.*, group belonging to Japan, W. of Hizen prov., in the sea track between Nagasaki and Shanghai. They lie 50 m. from the mainland, and the two princ. are Nakatsu-jima (23 m. by 7½) and Fukue-jima (7 m. by 7½). All are highly cultivated.

Göttingen, *t.* Hanover, Germany, on the Leine; famous University; p. 31,500.

Gottshew, *govt. dist.*, on S. border of Austrian crownland of Carolina; area (of duchy) 270 sq. m., p. 25,000. Ice-cave at Friedrichestein, glass and pottery industries.

Gouda (or Ter-gouw), *t.* S. Holland, on R. Yssel, 11 m. from Rotterdam. Famous for its cheese, p. 20,000.

Goulburn, *mfgt.* t. (boots, etc.), N.S.W., in agr. dist. 124 m. S.W. of Sydney, p. 11,500; also name of R. in Victoria, flowing (230 m.) to the Murray R. nr. Echuca. [Scotl., p. 5,500.

Gourcock, *wat. pt.* on F. of Clyde, nr. Greenock,

Gouverneur, *t.* in New York, U.S.A., p. 4,200.

Govan, busy shipbuilding *t.* on the Clyde, adjoining Glasgow, Scotl., p. 89,725.

Governor's Isl., *fort* in Boston Harbour, also fort islet in harbour of New York, U.S.A.

Gower, *gen.* W. Glamorgansh., Wales.

Gowrie, *Garre*, of, lies along the N. bank of R. Tay, Dundee to Kinnoull, Perthsh., Scotl.

Goyanna, commercial *t.* Brazil, 40 m. N. Pernambuco, on R. Goyanna, p. 15,000.

Goyaz, *prov.* in Cent. Brazil, area 288,546 sq. m.; p. 250,000; cap. Goyaz, on R. Vermelho, p. 3,500.

Gozo, or Gozzo, *Brit. isl.* Malta group in Medit., theanc. Gaios, area 20 sq. m., p. 18,500.

Gräf Reinet, *t.* in agr. dist. on Sunday R., Cape Colony, S. Africa, p. 8,000. [Older, p. 17,000.

Grabow, industrial *t.* in Pomerania, Prussia, on R. Graciosa, *isl.* of the Azores group, N.W. of Terceira (20 m. long), p. 8,000.

Gradisca, part of Garitz (*p. 2*).

Grafton, *t.* on both R. of Clarence R., N.S.W., 348 m. N. of Sydney, p. 5,500; also industr. t. on Tygart Valley R., W. Virginia, U.S.A., p. 6,500.

Graham Isl., the largest of the Queen Charlotte group in the Pacific W. of Brit. Columbia; also disappearing vol. islet in the Mediterranean.

Graham's Land, in Antarctic Ocean, disc. 1832.

Grahamstown, *cap.* of S.E. Prov., Cape Colony, S. Africa, p. 12,000; also name of naming *t.* N. Zealand (N. Isl.), p. (dist.) 6,400.

Graian Alps, *mtis.* range between Savoy and Piedmont, highest pt. Grand Paradiso, alt. 13,320 ft.

Grain, *Comm.* of Africa.—(See Liberia).

Grammont, or Geertsbergen, *t.* F. Flanders, Belgium, nr. Ghent, on R. Dender, *mun.* t. p. 12,000.

Gramians, or Cent. Highlands, highest *mtis.* of Scotl.; Ben Nevis (alt. 4,400 ft.), also into range in Victoria, Australia, Mt. William (alt. 3,825 ft.).

Grampound, *sm. t.* in Cornwall, Eng., on R. Fal, once a parly. bor., p. 480. [with Gray R.; p. 10,000.

Gran, industr. t. Hungary, on Danube, at junction

Granada, *anc. t.* at foot of Sierra Nevada, S. Spain, p. 77,000. Formerly cap. of the Moorish Kingdom of G., now a fertile maritime prov., area 4,957 sq. m., p. 503,000; also *c.* of Nicaragua, Cent. America, gold wire-drawing industry, p. 25,000.

Grand, *mkt.* t. co. Longford, Ireland, p. 1,800.

Grand Bassan, *t.* Gold Coast, W. Africa.

Grand Calumet, *21*, Canada, on the Ottawa R., above Portage du Port.

Grand Canary, *isl.* Canaries, cap. Las Palmas (*p. 2*).

Grand Chartreuse, *La, monastery*, 15 m. N. of Grenoble, France; famous for its liqueur.

Grand Combin, *mtis.* of the Alps, north of Aosta, Italy, alt. 13,141 ft. [west region, p. 8,500.

Grand Forks, *t.* N. Dakota, U.S.A., on Red R., in Grand Haven, t. on Lake Mich., U.S.A., cap. of Ontario, *co.* p. 5,400. [and grain trade, p. 7,500.

Grand Island, *t.* in Hall co., Nebraska, U.S.A.; a cattle

Grand Junction, *t.* in Mesa co., Colorado, U.S.A., p. 1,500.

Grand Lahou, *t.* Gold Coast, W. Africa. [4,500.

Grand Lake, New Brunswick (25 m. long), draining into R. St. John.

Grand Manan, *isl.* of Charlotte co., New Brunswick (22 m. long), at entrance to B. of Fundy.

Grand Rapids, *t.* Mich., U.S.A., on Grand R.; many mfgs. and thriving *tc.*; p. 112,571.

Grand R., Mich., U.S.A. (190 m.) enters L. Mich., at Grand Haven, navigable to Grand Rapids; also R. of Western Colorado and Eastern Utah, U.S.A. (350 m.), trib. of the Colorado R. [Forth, p. 9,989.

Grangemouth, *97*, of Stirlingsh., Scotl., on F. of Granley, *t.* on Yamaski R., Quebec, Canada, p. 3,000.

Grantham, *t.* Lincolnsh., Eng., on R. Witham; iron mfg.; p. 20,074. [Grunnell Land.

Grant Land, region in Arctic Ocean, north of Granton, *97*, Middleton, Scotl., on F. of Forth, p. 1,200.

Grantown, *mkt.* t. Elginsh., Scotl., p. 1,451.

Gravelle, *97*, (fld.) and *wat. pt.* Manche, France, at mouth of the Bosq, p. 12,000.

Grão Para, State of Brazil—(See Para).

Grao de Valencia, *97*, of Spain, at mouth of the Guadalquivir, p. 4,500.

- Grassitz**, *t.* Bohemia, nr. Eger and the Saxon frontier; musical inst. mfg.; p. 12,000.
- Grasmere**, picturesque *val.* Westmorland, Eng.; at head of Grasmere Lake; Wordsworth lived here.
- Grassano**, *t.* nr. Potenza, Italy, p. 6,500.
- Grasse**, *t.* and *health resort*, dep. Alpes-Maritimes, S.E. France; rose and orange flowers production; p. 14,500.
- Gratz**, *t.* cap. of Styria, Austria-Hungary, on the Mur; bicycle and machy. mfg., wood trade; p. 140,000.
- Gratzen**, *t.* in W. Prussia, on the R. Vistula; carriage and carpet factories; p., including military, 33,500. [Silvery centre; p. 6,500.]
- Gravelines**, *spa*. (fld.) dep. Nord, N.E., France; p. 12,000.
- Gravelotte**, *vil.* 7 m. W. of Metz, Germany; great French defeat, 1870. [p. 12,177.]
- Gravesend**, *spa*, Kent, Eng., at mouth of Thames, p. 14,500.
- Gravina**, industri. *t.* Italy, Apulia, S.W. Bari, p. 16,000.
- Gray**, *t.* dep. Haute-Saône, France, on R. Saône, p. 6,000. [14,341 ft.]
- Gray's Peak**, Rocky Mtns., Colorado, U.S.A.; alt. 14,341 ft.
- Gray's Thurrock**, *t.* Essex, Eng., on the Thames, nr. Tilbury Fort; cement manuf.; p. 14,500.
- Grazelma**, *t.* Spain, 60 m. N.E. Cadix, p. 8,500.
- Greasbrough**, *t.* nr. Rotherham, W. Yorks., Eng., p. 3,156.
- Greasley**, *par.* nr. Nottingham, Eng., p. 9,000.
- Great Australian Bight**, coast line (800 m.) S. Australia.
- Great Barrier Reef**, off N.E. coast of Australia, 250 m. long. [Resort, p. 6,500.]
- Great Barrington**, *t.* in Berks co., Mass., summer resort.
- Great Bear Lake**, on the Arctic Circle, in N.W. Terr., Canada, over 150 m. long, area 14,000 sq. m., outlet through Great Bear R. to Mackenzie R.
- Great Britain**.—[See Eng., Scotland, Ireland, Wales, Britain, etc.]
- Great Driffield**.—[See Driffield.]
- Great Falls**, in Cascade co., Montana, U.S.A., on Missouri R.; lead and copper smelting, p. 16,000.
- Great Fish R.**, C. Colony, S. Africa, rising in Sneeuwbergen Mtns., and flowing to Indian O.; also R. in extreme N. of Brit. N. America, running from the Great Slave R. to the Arctic O.
- Great Grimsby**.—[See Grimsby.] [13,817.]
- Great Harwood**, mfg. *t.* in Lancashire, Eng., p. 12,000.
- Great Kanawha R.** (150 m.), trib. of R. Ohio, U.S.A.
- Great Malvern**.—[See Malvern.] [p. 17,500.]
- Great Marston**, Thames-side *t.* in Bucks, Eng., p. 12,000.
- Great Ormes Hd.**, promontory nr. Llandudno, N. Wales.
- Great St. Bernard**.—[See Bernard.] [land.]
- Great St. Lawrence**, *in* on Placentia Bay, Newfoundland.
- Great Salt Lake**, N. Utah, in the Gt. Basin plateau of N. America, 91 m. long, area 2,300 sq. m.; receives Bear, Jordan, and Beaver R's, no outlet.
- Great Sandy Isl., on coast of Queensland.**
- Great Slave Lake**, in N.W.T. of Canada, length 370 m., greatest breadth 50 m., outlet the Mackenzie R.
- Great Slave R., running between Lake Athabasca, Brit. N. America, and the Great Slave Lake. [In 3,200.]**
- Grebenstein**, *t.* in Hesse-Nassau, Germany, nr. Cassel.
- Greece**, a kingdom on the S. part of Balkan Pen., bounded on N. by Turkey, on W. and S. by the Mediterranean, and on the E. by the Egean Sea, and including islands in the Mediterranean, Aegean, and Ionian Seas. Up to the Balkan War comprised 14,677 sq. m., p. 2,700,000; after the war recd. additional territory, extending her area to abt. 43,500 sq. m., and increasing its pop. to nearly 5,000,000; cap. Athens (p. v.).
- Greeley**, *t.* nr. Denver, Colorado, U.S.A., p. 3,450.
- Green Bay City**, Wisconsin, U.S.A.; trade in timber, flour, etc.; p. 26,000. [York, U.S.A., p. 8,800.]
- Green Bush**, *t.* on R. Hudson, opposite Albany, New York.
- Greencastle**, *t.* nr. Indianapolis, U.S.A., p. 6,840.
- Greenfield**, *t.* Franklin co., Mass., U.S.A., p. 8,500.
- Greenhithe**, Thames-side *vil.* nr. Dartford, Kent, Eng.
- Green Island**, *t.* on Hudson R., New York, p. 4,800.
- Greenland**, extensive Danish Arctic isl., N.E. of N. America; inhabited mainly by Eskimos; icy region of which little is known. Estimated area 850,000 sq. m., ice-free area 14,000 sq. m., p. (about) 12,000.
- Greenlaw**, *par.* Berwickshire, Scotland, on the Black Adder, p. 541.
- Green Mtns.**, Vermont section of Appalachian or Alleghany system; highest pk. Mt. Mansfield, alt. 4,430 ft.
- Greenock**, imp. port on F. of Clyde, Renfrew, Scotland; shipbuilding and sugar-refining, p. 25,160.
- Greenough**, *t.* 251 m. N. of Perth, W. Australia, p. 12,000.
- Green, R. trib. (750 m.) Grand R., Utah, U.S.A.; also R. trib. (350 m.) Ohio R., Kentucky, U.S.A.; also *val.* Victoria co., New Brunswick, on R. St. John, p. 1,200.**
- Greensborough**, mfg. *t.*, Guildford co., N. Carolina, U.S.A., p. 11,000.
- Greensburg**, *t.* cap. of Westmorland co., Penn., U.S.A.; iron and glass factories, p. 8,500.
- Greenville**, *t.* S. Carolina, U.S.A., cap. of Greenville co., in the cotton belt, p. 12,000; also *t.* in Washington co., Mississippi, U.S.A., good cotton trade, p. 8,000; also *t.* in Hunt co., Texas, U.S.A., cotton, shipping, p. 8,500.
- Greenwich**, *t.* on Thames, Kent, 5 m. S.E. London, Eng. Famous for its Hospital and Observatory; p. of hor. 95,997; also *t.* of Connecticut, U.S.A., summer resort, p. 13,000. [p. 4,490.]
- Greetland**, mfg. *t.* nr. Halifax, W.R. Yorks., Eng.
- Greifenberg**, walled *t.* on R. Rega, Prussia, nr. Stettin, p. 6,000.
- Greifenhagen**, industri. *t.* on R. Oder, Pomerania, Prussia, p. 7,100.
- Greifswald**, univ. *t.* Pomerania, Prussia, p. 23,000.
- Grein**, *t.* in Hardamont, nr. Kakallah, Arabia, p. 12,000.
- Greiz**, *t.* cap. of Reuss-Greiz, Germany, on the White Elster R.; woollen manuf.; old castles, modn. pal.; p. 22,500.
- Grenada**, Brit. isl. in W. Indies, area 133 sq. m., p. 67,000 cap. St. George; seat of govt. of the Windward Isls.
- Grenadines**, Brit. group of anal. isls. between Grenada and St. Vincent; like Grenada, in the Windward Isls. jurisdiction. [Mining and agr. dist.; p. 9,000.]
- Grenfell**, *t.* 215 m. W.S.W. of Sydney, N.S.W., p. 12,000.
- Grenoble**, port. *t.* on R. Isère, S.E. France, 60 m. from Lyons, glove, button and machy. mfg.; p. 70,000.
- Gretina Green**, *vil.* at head of Solway Firth, on border of Scotl., Eng.; formerly noted for clandestine marriages; also *t.* Louisiana, U.S.A., on the Mississippi R., opp. New Orleans, p. 5,800.
- Greymouth**, *spa*, on Grey R., W. cat. of New Zealand (so. isl.), p. 1,000. [p. 2,550.]
- Greystock**, *par.* nr. Penrith, Cumberland, Eng.
- Greytown**, *t.* New Zealand, nr. Dunedin, p. 2,100; also *t.* Natal, in Umvoti Valley; also *t.* Cent. America, at mouth of San Juan R., Nicaragua, p. 1,850.
- Griffin**, *t.* Georgia, U.S.A., Spalding co.; cotton factories, and trade; p. 7,500. [Russia; p. 9,000.]
- Grigoropol**, fort. *t.* in Kherson govt., on R. Dniester.
- Grimma**, industri. *t.* Saxony, on R. Mulde, nr. Leipzig; electoral castle and famous schil.; p. 9,500.
- Grimmen**, *t.* on R. Trebel, nr. Stralsund, Prussia; p. 12,000.
- Grimsby**, Gt. *spa*, Lincolnshire, Eng., on S. bank of R. Humber; centre of fishery industry; p. 74,663.
- Grimmel Pass**, in Switzerland, between *par.* and Rhône valleys; alt. 7,150 ft.
- Grimner**, *t.* nr. Christiania, Norway; p. 3,400.
- Grindelwald**, *vil.* in cant. Bern, Switz.; picturesque scenery, great tourist resort, res. p. 3,500.
- Grindstone Isl., in Magdalen grp., G. of St. Lawrence; p. 1,200.**
- Grinnel Land**, in Arctic America; lies W. of Robeson and Kennedy Channels.
- Grinstead**, *t.* mkt. *t.* in Sussex, Eng., p. 7,000.
- Grigauland**, *par.*, dist. E. of C. Colony, adjoining Natal, area 7,480 sq. m., p. 100,000.
- Grigauland W.**, territory in the N. of C. Colony, W. of Orange River Colony, contains the S. African diamond field dist., area 17,801 sq. m., p. 200,000; ch. t. Kimberley. [to Dover.]
- Gris Nez**, C. N.E. France, nearest pt. on French coast
- Grisons**, largest canton in Switz., area 2,774 sq. m., one half only productive, many glaciers, contains the famous alpine health resorts of Davos Platz (alt. 6,115 ft.), St. Moritz (alt. 6,089 ft.), and Arosa (alt. 6,108 ft.); p. 110,500.
- Grivagnée**, *t.* (ironworks) nr. Liège, Belgium, p. 12,000.

Grodke, *t.* nr. Lemberg, Galicia, Austria, flax trade, p. 12,500.

Grodno, *t.* (p. 30,000) and *prov.* of Lithuania, N.W. Russia, area 15,000 sq. m., p. (nearly) 2,000,000; agr., stock raising, wool, and tobacco factories.

Groden, *t.* highest mtn. (alt. 13,110 ft.) in Noric Alps, Austria. [5,400.]

Grotzsch, *t.* in Saxony, nr. Pegau, shoe factories, p. 10,000.

Gröningen, commercial, and university *t.* (p. 70,000) and agr. *prov.*, N.E. Holland; area 904 sq. m., p. 300,000.

Groote Eylandt, *isl.* in Gulf of Carpentaria, Australia, 40 m. sq.

Grosmont, *par.* Monmouthsh., Eng., p. 1,000.

Grossenhain, industri. *t.* Saxony, on R. Roder; 20 m. N.W. Dresden, p. 13,000. [Order.]

Grosses Haß, bay on coast of Prussia, at mth. of R. Grosseto, fort. *t.* (p. 7,500) and *prov.* Cent. Italy, area 1,707 sq. m., p. 120,000. [Linen indust., p. 5,500.]

Gross-Meseritsch, *t.* on R. Oslawa, N.E. Moravia; 10 m. from Olomouc, cap. of co. Bihor, on Koros R.; Roman and Greek cathedrals, one of the most anc. Hungarian towns; p. 50,000.

Groton, industri. *t.* on R. Thames, New London co., Connecticut, p. 6,500; also name of several small *t.*'s in U.S.A.

Grottaglie, *t.* in prov. Lecce, Apulia, Italy, nr. Brindisi; white glass pottery, p. 20,000.

Grottkau, *t.* nr. Capeln, Prussian Silesia, p. 4,500.

Grotzingen, *t.* Baden, Germany, nr. Karlsruhe, p. 3,140.

Grozny, *t.* (fort.) N. Caucasus, Russia, on R. Terek; naphtha works, p. 17,000.

Grubeschow, *t.* of Russian Poland, nr. Lublin, p. 8,500.

Grulich, *t.* in Bohemia, nr. Königgrätz, p. 3,100.

Grumo, industri. *t.* nr. Bari, in S. Italy, p. 10,000; also smaller Italian *t.* nr. Naples, p. 5,000.

Grunberg, *t.* Prussian Silesia, nr. Glogau; straw hat, tobacco, leather manuf.; p. 22,500.

Gruyère, *dist.* in canton Fribourg, Switz., noted for its cheese; p. 1,375.

Guadalajara, mfg. *t.* (p. 12,000) and *prov.* (area 4,860 sq. m., p. 208,000) Spain; agr. and salt mines; also c. in Mexico, cap. of Jalisco State; cotton and wool manuf., cathedral; p. 95,000. [nr. Valencia.]

Guadalquivir, *R.* (130 m.) E. Spain, flows into Medterr.

Guadalcanal, *isl.* of the Solomon group in the Pacific Ocean. [Andalusia to Atlantic.]

Guadalupe, *t.* in Cap. R. (375 m.) Spain, flows through Guadalupe, *t.* in Cap. R. prov. Spain, p. 3,000.

Guadeloupe, *isl.* (French) W. Indies, in Leeward grp.; area 619 sq. m., p. 167,000; sugar produce; ch. port, Pointe-à-Pitre. [Into B. of Cadiz.]

Guadiana, *R.* (380 m.) Spain, and Portug. frontier, flows into B. of Cadiz.

Guam, largest *isl.* of the Ladrone grp. in the N. Pacific, area 224 sq. m.; naval station of the U.S.A.; native p. 9,000; ch. *t.* Agaña.

Guantanamo, industri. *t.* nr. Havana, Cuba, p. 24,000.

Guantanamo, *t.* in Cuba, 22 m. S.W. of Havana, Cuba, in fertile dist., p. 7,000.

Guayaquato, state Central Mexico, area 11,274 sq. m., p. over 1,000,000; very fertile, productive and prosperous. Chief *t.* Guayaquato, 250 m. from Mexico city, p. 40,000, many fine bldgs.

Guayana, industri. *t.* in Venezuela, nr. Trujillo; cap. of Zamora State; p. 12,000.

Guantanamo, *t.* on S. coast of Cuba; shipg. port of coffee and sugar growing dist., p. 7,500. [Mamora.]

Guapore, *R.* of Brazil, S. America (900 m.). Joins the Guayana, wine-growing dist. of Portugal, between R.'s Tagus and Douro; area 2,688 sq. m., p. 206,500.

Guayana, *t.* E. coast of Africa.

Guaymas, *t.* nr. Toledo, Spain, p. 6,200.

Guatemala (area 45,360 sq. m., p. abt. 2,000,000), Republic state in Cent. America, adjoins Mexico, Honduras, San Salvador, and the Pacific. Coffee and sugar produce; cap. New Guatemala city, seated on a broad and high plain, mountain surrounded, p. 72,000; old Guatemala is a small pl. 25 m. W.S.W. of the cap., p. 6,000. [20 m. from the S. coast; p. 5,500.]

Guayama, *t.* of Porto Rico, in prov. of same name.

Guayana, *E. state* of Brazil; area 149,053 sq. m., p. 35,000; cap. Angostura (p. 7,000).

Guayaquil, ch. *port* of Ecuador, S. America, on R. Guayas, 30 m. above its est. into the B. of Guayaquil. Devastated by fire in 1856 and 1899; p. 80,000.

Guaymas, Mexican *port* on G. of California, p. 6,500.

Guayra, *La*, or *La Guaira*, *t.* in Venezuela, *prov.* Caracas; impt. *tr.* p. 15,000. [ware; p. 5,500.]

Gubbio, *t.* in Perugia, Umbria, Italy, nr. Ancona; lustre glass, *t.* (walled) Brandenburg, Germany, on R. Neisse; impt. trade, p. 28,000.

Gudbrandsdal, longest valley in Norway. [Cattegat.]

Guden-Aa, *R.* in Jutland, Denmark, flows (80 m.) to the Guelderland, *prov.* Holland. — (See Guelderland.)

Guelma, *t.* nr. Bona, in dep. Constantine, Algeria, p. 6,500. [fine bldgs.; p. 12,000.]

Guelph, mfg. *t.* in Ont., Canada; agr. college and Guérét, *t.* in dep. Creuse, nr. Limoges, France, p. 8,000.

Guernsey (28 sq. m., p. 41,500) next to Jersey, largest of Channel Isls. between *co.* of France and Eng. Only L. St. Peter's Port.

Guerrero, a Pacific state, Mexico, area 25,000 sq. m., p. 605,000; agr. and mineral; cap. Chilpancingo; ch. port, Acapulco.

Guiana, country in N.E. part of S. America; pol. divided into Brit., French, and Dutch G. (p. 7,000).

Guienne, old French *prov.* separated by R. Garonne from Gascony. [p. 32,823.]

Gulldford, *co.* of Surrey, Eng., 30 m. S.W. London, divided into Brit., French, and Dutch G. (p. 7,000).

Gulldford, *bar.* New Haven co., Long Island Sound, Connecticut, U.S.A., p. 3,120.

Guinaraes, *t.* Portugal, Braya dist., surrounded by vineyards; cutlery and linen manuf., fruit-preserving; p. 9,000.

Guinea, general name for W. African coastlands round the greatest bend of Gulf of G. (See Liberia, etc.)

Guinegate, *vill.* in dep. Pas-de-Calais, nr. St. Omer. Battles 1479 and 1573.

Guines, *t.* in France, 7 m. S. of Calais; an Eng. poss. 14th to 20th cent.; p. 4,740; also *t.* in Havana prov., Cuba, in sugar dist.; p. 8,500.

Guingamp, *t.* on R. Trieux, nr. St. Breuc, Brittany; p. 10,000; ch. *port* of Vieux, name, pilgrim resort; (p. 10,000) 10,000.

Guionia, *mun.* in N. Greece; alt. 8,240 ft.

Gulpuzcoa, one of Spain, Basque Prov.; area 728 sq. m., p. 225,271. Mfg., minerals, agr.; cap. San Sebastian. [Eng.; p. 7,062.]

Gulbsborough, *t.* in Cleveland Iron dist., N.R. Yorks, p. 8,250.

Guise, *t.* Aisne dep., France, on R. Oise; gave name to Dukes of Guise; p. 8,250. [p. 4,985.]

Guseley, mfg. *t.* nr. Olley, W.R. Yorks, Eng.

Gujarat or Guzerat, maritime *prov.* in Bombay, India; area 70,038 sq. m., p. (nearly) 10,000,000. Includes Kathiawar penn., Brit. dists. of Ahmadabad, Panch Mahals, Kaira, Surat and Broach, besides the territories of Baroda, Cutch and Cambay, all of which see.

Gujranwala, *c.* cap. of dist. same name, Punjab, India, p. 27,000; area of dist. (in Rawalpindi div.) 3,017 sq. m., p. 757,000.

Gujrat, *t.* Punjab, India, Rawalpindi div., S. of Kashmir, nr. the Chenab R.; inland work and various manuf., p. 18,000; cap. dist. same name, m. *t.* p. 2,000.

Gulf Stream, current of the Atlantic, issuing from Gulf of Mexico by Florida Strait.

Gulgong, *t.* in co. Philip, N.S.W., 198 m. W. of Sydney; p. 2,400.

Gulpaigan, *c.* of Cent. Persia, between Irak and Ispahan, in fertile opium and grain-growing dist.; p. 5,000. [over Sulaiman mtns.]

Gumal Pass, from Afghanistan to the Punjab, India.

Gumbinnen, industri. *t.* in prov. of E. Prussia, Germany, on R. Pissa; p. 14,500. [7,500.]

Gummersbach, *t.* nr. Cologne, Rhenish Prussia; p. 10,000.

Gumti, *R.* (500 m.) trib. of Ganges, India, runs past Lucknow. [M-sulipattam; p. 25,000.]

Guntur or Guntoor, *t.* Madras Pres., India, nr. Gumuljina, *t.* on R. Karaga, Adrianople, Europa. Turkey; wine, silk, and wheat, p. 30,000.

Gumbah-Khane, *t.* in Trebizond vilayet, Asiatic Turkey; silver mines, p. 8,000.

Gurgaon, *t.* (p. 20,000) and *dist.*, Delhi div., Punjab, India, area 1,948 sq. m., p. 745,000.

Gurter or Gurler Gurdook, dist. *t.* of Russian govt. Uralok, on R. Ural, trade with the Kirghiz, and str. commun. with Astrachan, p. 10,000.

Güstrow, industri. *t.* Mecklenburg-Schwerin, N. Germany, p. 17,000.

Götterloh, *t.* in Westphalia, Prussia, nr. Bielefeld; silk and cotton industry; famous for its pumpernickel (rye-bread), *p.* 7,500.

Guthrie, *cap.* of Oklahoma, U.S.A., *p.* 11,500.

Guzerat.—(See Gujarat.)

Gwallior, native *state*, Cent. India, S.W. of N.W. Provs., area 20,000 sq. m., *p.* 3,500,000; cap. same name, *p.* 105,000, situate 76 m. S. of Agra. [Ireland.]

Gweedore Bay, *inlet* of the coast of co. Donegal.

Gwenmap, *par.* nr. Redruth, Cornwall, Eng., *p.* 6,300.

Gympie, *t.* Queensland on Mary R.; gold, silver, copper, and antimony mines, and collieries; *p.* 13,500. [Hungary, *p.* 10,000.]

Gyoma, industri. *t.* on the Körös R., co. Bekes.

Gyöngyös, *t.* Cent. Hungary, 44 m. N.E. Pesth, flourishing trade, *p.* 17,000.

Gyula, commercial *t.* Hungary, on the White Körös, cap. of Bekes co., *p.* 19,000.

Gzhatk, *t.* in govt. Smolensk, Russia, *p.* 8,261.

H

Haag, *viz.* on R. Rhine, Switzerland, *p.* 2,400.

Haaksbergen, *t.* in Overijssel, Holland, nr. Deventer, *p.* 5,000.

Haan, industri. *t.* nr. Düsseldorf, Prussia, *p.* 6,320.

Haarlem, *t.* N. Holland, 14 m. from Amsterdam, centre of Dutch bulla industry, *p.* 70,000.

Haase, *R.* of Hanover, Germany, trib. of R. Ems.

Habab, *dist.* on W. coast of Red S. in N.E. Abyssinia.

Habassin, old name of Abyssinia.

Hacha, *spt.* Magdalena State, Columbia, at mouth of

Hacha R., *p.* 73,500. [drawing to Fraser R.]

Hache, *lac*, *t.* in Brit. Columbia, Lillooet dist.,

Hackensack, *t.* in Bergen co., New Jersey, U.S.A.,

p. 10,000; also vil. nr. Wappinger's Falls, and the

R. Hudson, Dutchess co., New York, U.S.A.,

p. 2,650. [p. 3,500.]

Hackettstown, *t.* Warren co., New Jersey, U.S.A.,

Hackland, *par.* on Mainland isl., one of the Orkney

group, N.E. Scotl. [p. 222,587.]

Hackney, *bor.* of N. London, Eng.; commercial,

Hacos Ness, *promontory*, Shapinsay, one of the

Orkneys, Scotl. [p. 3,840.]

Haddam, *t.* in Middlesex co., Connecticut, U.S.A.,

Haddenham, *par.* nr. Thame, co. Bucks, Eng.; *p.*

1,560; also *par.* nr. Fly, co. Cambridge, Eng.,

p. 3,323.

Haddington, *t.* cap. co. same name on R. Tyne,

Scotl.; woollen manuf., *p.* 4,740; area of H. co.

(otherwise E. Lothian), 267 sq. m., *p.* 43,253.

Haddon, *t.* Grenville co., Victoria, *p.* (of dist.) 5,400.

Hadersleben, industri. *t.* on ford in N. Schleswig,

Prussia, *p.* 9,400.

Hadhaz, mfgt. *t.* nr. Debreczn, Hungary, *p.* 7,500.

Hadleigh, mkt. *t.* on R. Brod, Suffolk, Eng., *p.* 3,201.

Hadramaut, maritime *prov.* of Arabia, part of an,

Arabia Felix, *p.* 450,000. [3,890.]

Haertert, *t.* nr. Audenarde, F. Flanders, Belgium,

Haerlebeke, indust. *t.* ou R. Lys, W. Flanders,

Belgium, *p.* 7,464.

Hagen, *t.* on R. Volme, Westphalia, Prussia; iron and

cotton indust., *p.* (municipal) 88,655.

Hagerstown, *c.* of Washington co., Maryland, U.S.A.;

college for women, *p.* 14,500. [20,000.]

Hagonoy, *t.* in agr. dist., Luzon, Philippine Isls.,

Hague, The, cap. *c.* of S. Holland, and seat of the

Dutch govt.; palaces, art galleries, etc., *p.* 280,515.

Haguenau, *t.* (fort.) of Alsace, Germany, nr. Stras-

burg, *p.* 14,500.

Haidarabad, or Hyderabad, native *state* of South

India, sometimes styled the Deccan, and sometimes

the Nizam's Dominions; area 8,698 sq. m., *p.* over

13,000,000; chief *c.* H. or R. Mus. (p. with Secunder-

abad) 445,500. Also prov. Brit. Cent. India, other-

wise called Berar, or (officially) the Haidarabad

Assigned Districts, adjoining Nizam's Dom.; area

7,771 sq. m., *p.* 2,500,000; largest *c.* Arrah. Also

dist. in Sindh, Bombay Pres., Brit. India, area 9,090

sq. m., *p.* 755,000; cap. H., *c.* nr. Indus, *p.* 70,000.

Haidhausen, *t.* on R. Isar, Upper Bavaria, opp.

Munch, *p.* 3,840.

Hai-Duong, *t.* (fort.) of Anam, Tonquin, *p.* 30,000.

Haifa, *t.* on B. of Acre, at foot of Mt. Carmel,

Palestine, Syria, *p.* 12,000.

Haileham, mkt. *t.* in Sussex, Eng., *p.* 4,000.

Hainan, *ist.* off S. coast China, area 13,974 sq. m., *p.*

2,500,000, chief *t.* Kiangchow; large trade with

Hong Kong.

Hainault, or Hainaut, *prov.* (industri. and agr.) Bel-

gium, adjoining N.E. border of France, area 1,499

sq. m., *p.* 1,343,000. [160 m. of R. Scheldt.]

Haine, *t.* in Belgium and dep. Nord, French trib.

Haiphong, or Hal-Pong, *t.* in Tonquin, French Indo-

China; thriving tr., *p.* 17,000.

Haiti, *ist.* West Indies, area 28,593 sq. m.; also H.

(the "Black Republic"), part of isl., area 11,072 sq. m.

Hajipur, *t.* in Muzaffarpur dist., Bengal, India, on R.

Gondak, *p.* 22,000. [55,000.]

Hakodate, *spt.* of Yezo isl., Japan; flourishing tr., *p.*

Hal, *t.* in Brabant prov., Belgium; beetroot sugar

manuf., *p.* 12,500. [p. 19,500.]

Halas, industri. *t.* in Hungary on L. Halastó, nr. Pesth,

Halberstadt, *t.* in Saxony nr. Halle; agr. and sugar

factories, ry. works; *p.* 45,000. [Eng., *p.* 4,050.]

Halesowen, industri. *t.* nr. Birmingham, Worcestersh.,

Halesworth, *t.* on R. Blyth, Suffolk, Eng., *p.* 2,958.

Halaya, *t.* in the Anglo-Egyptian Sudan, nr. Khar-

toum, 7 m. above the confluence of the Blue and

White Nile, formerly the res. of the Sheikh of the

Jalin Arabs. [wells, *p.* 5,000.]

Halicz, *t.* in Stanislav dist., Galicia, Austria; brine

Halidon Hill, nr. Berwick, Northumberland, Eng.;

here in 1333 Edward III. defeated Scots under the

Regent Douglas.

Halifax, *t.* in W. R. Yorks, Eng., on the R. Hebble;

carpet and woollen manuf., *p.* 101,556; also spt., cap.

of Nova Scotia, great trade, *p.* 46,500.

Hall, *t.* on R. Tyrol, Austria; brine baths, bone,

button, and felt hat factories, *p.* 2,440; also wat. pl.

in Steyr dist., Upper Austria, saline spring, res. *p.*

1,100.

Hallamshire, S. dist. of W. R. Yorks, Eng., including

busy mfgt. centres of Sheffield and Ecclesfield.

Halle, *t.* on R. Saale, Saxony, Prussia; university and

many public instns.; sugar, starch, and other factories,

p. 160,000. [p. 4,420.]

Hallein, *t.* nr. Salzburg, Upper Austria, on R. Salza,

Hall Isls., Frobiisher Bay, Canada; also sml. group of

Germ islets of the Caroline system in Oceania.

Haliwell, cotton mfgt. *t.* nr. Bolton, Lancs., Eng.,

p. 31,500.

Hallowell, industri. *t.* on Kennebec R., Maine, U.S.A.,

p. 5,000. Isalt mines with many Roman antiquities.

Hallstatt, mkt. *pl.* in Gmünden, Upper Austria; anc.

Halluin, frontier industri. *t.* in France, dep. Nord, on

R. Lys, *p.* 16,500.

Malahera, *ist.* of the Dutch East Indies; area

6,648 sq. m.; mountainous, grows sago and rice,

p. 30,000. [and paper factories, *p.* 18,400.]

Halmsåter, *spt.* on Cattegat, Sweden; cloth, jute,

Halstead, *par.* on R. Colne, Essex, Eng., *p.* 6,265.

Halwisle, *t.* in Northumberl., Eng., on R. Tyne,

p. 4,735.

Ham, *t.* on R. Somme, nr. Amiens, France; old castle

Napoleon III. escaped from prison here in 1846,

p. 3,425.

Ham, *par.* in Surrey, Eng., *p.* 1,435.

Ham, *R.* of E. London, Eng., 133,504. [p. 30,000.]

Hamadan, *c.* of Irak-Ajemi, Persia, the anc. Ecbatana.

Hamah, *c.* on R. Orontes, in Upper Syria; the anc.

Hamath, cap. of a kingdom in times of King David

and King Solomon. [p. 14,802.]

Hamamatsu, *t.* on the cst. of Hondo Island, Japan.

Hambach, *t.* in Neustadt circle, Bavaria, *p.* 2,467.

Hambantotte, *t.* on S. cst. of Ceylon, *p.* 2,300.

Hamburg, mpt. commercial *c.* of Germany, on the

Elbe; gt. transit port, *p.* 1,030,000; also the Free

State of H., comprising the *c.* and its surrounding

dist. (including Bergedorf and Cuxhaven), with an

outside *p.* of 65,000; also name of *t.s.* in N. Carolina,

Iowa, Penn., and New York, U.S.A.

Hamelin, or Hameln, old industri. *t.* on R. Weser,

in Hanover; legend of "The Red Piper", *p.* 29,840.

Hamilton, *burgh* of the Falkirk grp., Lanark co. Scotl.;

cotton and lace factories, *p.* 38,034; also *c.* of Ontario,

Can., at W. end of L. O., many manuf., *p.* 82,000;

also c. in Butler co., Ohio, U.S.A., on the Gt. Maine R., thriving ind. and tr., p. 35,279; also mining t. in Nevada, U.S.A., p. 3,430; also t. in N.S.W., nr. Sydney, p. 2,427; also sub. of Newcastle, N.S.W., p. 2,370; also t. in Western Victoria, p. 3,574; also t. on R. Light, S. Australia, (dist.) 1,270; also cap. of the Bermudas (on largest is.), p. 2,000.

Hamirpur, *dist.* in Allahabad div. on N.W. Prov., Brit. India; area 2,289 sq. m., p. 458,750 (decreased 11 per cent. by famine of 1895-7); cap. H., at confluence of R.'s Jumna and Betwa, p. 9,000.

Hamm, t. on R. Lippe, nr. Dortmund, Westphalia, Pruss.; iron industries, etc., p. 32,430. [p. 7,140.]

Hammett, *spl.* on G. of H., 42 m. S.E. of Tunis.

Hamme, t. nr. Termonde, E. Flanders, Belgium; rope, linen, and lace factories, p. 14,560.

Hammelburg, t. on the Franconian Saale, nr. Würzburg, Bavaria, p. 3,725.

Hammerfest, *spl.* c. Finnmark, Norway; the most northerly t. of Europe, p. 2,200.

Hammermith, Thames-side *bor.* of London, Eng.; industr. and residt., p. 121,603.

Hammond, c. of Lake co., Indiana, U.S.A.; iron works, pork packing, p. 20,925.

Hamoaze, the *est.* of the R. Tamar, Plymouth, Eng.

Hampshire, S. co. of Eng., bounded by Dorset, Wilts., Berks, Surrey, and Essex; the English Channel, and embracing the Isle of Wight; area 1,622 sq. m., p. 950,678. [residnt., t. p. 85,570.]

Hamptstead, hilly N. *bor.* of London, Eng.; mainly

Hampton, Thames-side t. W. of London, Eng.; Hampton Court Pal. in the par., p. 9,221; Hampton Wick is an urb. dist. a mile E. of H. Court, p. 2,417.

Hanau, t. in Hesse-Nassau, prov. Pruss.; technical art acad., impt. industries; p. 30,000.

Handsworth, mfg. t. in Staffs., Eng., p. 68,618.

Hangchow, c. Chekiang prov., China, hd. of H. Bay; treaty port, extensive trade, cent. of silk-weaving ind.; p. (est.) 500,000.

Hankow, treaty port, 700 m. from mth. of Yangtse R., China; great tea mart, also large trade in opium, raw silk, cotton, etc.; p. (abt.) 800,000.

Hanley, industr. t. (now included in co. *bor.* of Stoke-on-Trent), Staffs., Eng., p. (of Hanley) 66,264.

Hannibal, c. on the Mississippi R., Missouri, U.S.A.; timber and wagon bldg., p. 13,000.

Hanoi, c. cap. of French Tonquin, Indo-China, the anc. "Ke-Sho" or "great market," on the Red R.; transformed from an old Annamese fort. to a modn. comm. centre; p. 135,000.

Hanover, *prov.* of Prussia (formerly an indept. kingdom); area 14,869 sq. m., p. 2,950,000; gt. mineral wealth; cap. H., industr., comm., and garrison t. on R. Leine, p. 278,000; also t. in Grafton co., New Hampshire, U.S.A., on the Connecticut R., seat of Dartmouth coll., p. 2,300; also t. York co., Penn., U.S.A., p. 6,400.

Hanse Towns, free cities of Germany. (See *Hanse Towns* in "Gen. Inform." sectn., *Pears' Cyclopaedia*.)

Hansi, old walled t. in Hisar dist., Punjab, Brit. India, on the Western Jumna canal. Scene of a murderous outbreak in the Mutiny; cotton factories, horsehair; p. 17,400.

Hanthawaddy, *dist.* Pegu div., Lower Burma, detached from Rangoon; area 3,023 sq. m., p. nearly 500,000; rice-growing.

Hanwell, resid. *par.* Middlesex co., Eng., on R. Brent, 10 m. W. of London; insane asylum; p. 19,733.

Han-Yang, industr. c. of China, opp. Hankow, on R. Hapara, t. Sweden, on R. Tornea, nr. G. of Bothnia; meteorolog. stn.; p. 1,640. [p. 9,314.]

Harborne, mfg. t. Staffs., Eng., nr. Birmingham; p. 14,560.

Harbour Grace, t. and port on Conception B., Newfoundland, p. 7,754.

Harburg, *spl.* nr. Hamburg, Hanover, Pruss.; lñseed-crushing, india-rubber industry, etc.; p. 30,000.

Hardanger Fiord, W. coast Norway (length 75 m.), noted for its grandeur.

Harderwyk, *spl.* Holland, on the Zuyder Zee, p. 7,500.

Hardingstone, *par.* subn. to Northampton, Eng.; Eleanor cross; p. 7,568.

Hardol, *dist.* Lucknow, div. Oudh, Brit. India; ared 2,324 sq. m., p. 1,093,500; cap. Hardol, t., p. 12,000.

Hardwar, t. in Saharanpur dist., N.W. Prov., Brit. India, on R. Ganges; great annual fair and pilgrimage; p. (of municipality) 30,400.

Harlebury, t. and *spl.* nr. Havre, France; iron-foundries, engineering; p. 2,330.

Harima, old *prov.* and B. (Harima Naga), Japan.

Hari-Rud, or Heri-Rud, R. of N. Afghanistan and Persia (650 m.); the anc. "Arius."

Harlech, t. nr. Barmouth, co. Merioneth, Wales; famous castle; p. 719. [Long Island Sound.]

Harlem, R. New York, U.S.A. (7 m. long), outlet of Harlem, trading t. in Friesland prov., Holland; margarine manuf.; p. 11,430.

Harlow, *vill.* Essex, Eng., p. 2,693.

Harney's Peak, *mtn.* of the Black Hills range, S. Dakota, U.S.A., alt. 7,251 ft. [p. 8,170.]

Haro, t. Logrono, prov. N. Spain, in wine-growing dist.

Harpenden, *vill.* and residt. urban *dist.* Herts, Eng.; Lawes' agr. experiments were here conducted; p. 6,173.

Harper, t. in Liberia, W. Africa, nr. Cape Palmas.

Harper's Ferry, *vill.* Jefferson co., West Virginia, U.S.A., at junct. of Potomac and Shenandoah R.'s, seized by John Brown, 1859; Genl. Miles surrendered to the Confederates in 1862, p. 1,450.

Harriett, t. and *vill.* *June*, Tennessee, U.S.A., in coalfield dist. nr. the Cumberland escarpmt., p. 4,240.

Harringay, *res. sub.* of London, Middlesex, Eng., p. 7,845. [Eng. p. 4,340.]

Harrington, *est.* t. nr. Whitehaven, Cumberland.

Harris, *par.* of Lewis Isl. in the Outer Hebrides, Scotl., including sev. sm. islets; famous for manuf. of tweed cloth, p. 5,448.

Harrisburg, c. of Dauphin co., cap. of Pennsylvania State, U.S.A.; iron and steel factories, p. 64,126.

Harrison, or East Newark, industr. t. on the Passaic R., New Jersey, U.S.A., p. 11,434.

Harrisonburg, *vill.* of New Jersey, U.S.A., cap. Rockingham co., p. 3,746. [p. 5,684.]

Harrodsburg, t. in Mercer co., Kentucky, U.S.A., Harrogate, *vill.* W. R. Yorks, Eng.; numerous chalybeate springs, p. 32,706.

Harrow-on-the-Hill, residt. and scholastic *par.*, N.W. of London, Eng., p. (civil par.) 17,076.

Harryhar, or Haribar, t. on R. Tungabhadra, Mysore, S. India, p. 4,573.

Hart, *vill.* *mtn.* between Peebles and Dumfries, Scotl., alt. 2,661 ft. [p. 1,540.]

Hartfield, *vill.* Sussex, Eng., nr. East Grinstead.

Hartford, cap. of Hartford co. and Connecticut State, U.S.A.; large comm. centre, and seat of Trinity College, p. 58,015; also Hartford City, cap. of Blackford co., Indiana, U.S.A., p. 7,400; also *vill.* on Rough Creek, Kentucky, U.S.A., p. 3,266; also *vill.* on White R., Vermont, U.S.A., p. 3,374; also *par.* nr. Northwich, Cheshire, Eng., p. 2,800.

Hartland Point, on Barnstaple B., N. Devon, Eng.

Hartlepool, *spl.* on the Durham coast, Eng., sometimes called E. Hartlepool; with adjoining ind. W. Hartlepool officially considered one port. Good trade, flourishing iron shipbldg. and other industries; p. E. Hartlepool, 20,618; p. W. H., 63,932. [1,804.]

Hartley, *vill.* Northumberland, Eng., nr. Blyth, p. Hart's Island, Long Island Sound, New York, U.S.A.

Harvard, *vill.* Worcester co., Mass., U.S.A., seat of largest and oldest University in America.

Harvey, c. of Cook co., Illinois, U.S.A., close to Chicago, p. 6,400. [Istour, p. 13,723.]

Harwich, *vill.* and *vill.* *pl.* Essex, Eng., on R. Harz *mtns.* range in Hanover and Brunswick, highest pk. the Brocken (9,711).

Hartzburg, *sm. t.* in Brantwick, summer *mtn.* resort.

Haslemere, t. in Surrey, Eng., on hills of Hindhead and Blackdown, p. 2,746.

Haslingden, *bor.* nr. Accrington, Lancash., Eng.; cotton and engineering wks., p. 18,723.

Haspe, t. in Westphalia, Pruss.; iron and chemical wks., p. 17,520.

Hassan, *dist.* Mysore State, Ashtagram, div., India, p. 6,400. [Hassan, cap. of Mysore, p. 8,000.]

Hassan Kaleh, t. in Asia Minor, p. 8,000.

Hasselt, t. in prov. Limbourg, Belgium; gin distilleries, p. 16,420.

Hastings, *spl.* and *vill.* *pl.* Sussex, Eng., one of the

Cinque Ports, p. 61, 146; also t., cap. of Adams co., Nebraska, U.S.A., p. 7,800; also t.'s in Michigan and Minnesota.

Hatfield, or **Bishop's Hatfield**, t. in Herts, Eng.; Hatfield House here, seat of the Marquis of Salisbury, p. 8,322. Agr. p. 49,000; sugar trade.

Hatlaras, t. in Aligarh dist. of N.W. Prov., India, nr. Hatteras, C. North Carolina, U.S.A.; stormy region.

Hatvan, mkt. t. of Hungary; sugar works, p. 10,000.

Haubourdin, t. nr. Lille, dep. Nord, France; starch factories, p. 9,420. [centre, p. 8,420.]

Haugesund, spt. t. of Stavanger, Norway; fishy.

Hauraki, G. E. coast N. isl., New Zealand.

Hausa, or **Hausa**, ter. in W. Soudan; formerly an empire, now under Brit. protec. [cap. Toulouse.

Haute-Garonne, dep. France, area 2,429 sq. m., p. 445,000; Haute-Loire, dep. France, area 1,916 sq. m., p. 308,600; cap. Le Puy. [225,870; cap. Chaumont.

Haute-Marne, dep. France, area 2,402 sq. m., p. 108,400; cap. Gap.

Haute-Saône, dep. France, area 2,060 sq. m., p. 268,747; cap. Vesoul. [270,132; cap. Annecy.

Haute-Savoie, dep. France, area 1,667 sq. m., p. 108,400; cap. Gasp.

Hautes-Pyrénées.—(See Pyrénées.)

Haute-Vienne, dep. France, area 2,130 sq. m., p. 378,541; cap. Limoges. [12,500.]

Hautmont, t. France, nr. Maubeuge; ironworks; p. Haut Rhin, dep. France, in Upper Alsace; ceded in g. part to Germany; pres. area 232 sq. m., p. 74,500; cap. Belfort.

Havana, cap. of Cuba, and largest c. in W. Indies, spt. on N. cst. of isl., extens. expts., p. 319,884; also vil. of Mason co., Illinois, p. 2,400; also vil. on Catherine Creek, New York, p. 2,807.

Havant, t. in S. Hants, nr. Portsmouth, Eng., p. 3,950.

Havel, R. Prussia, flowing (est. m.) to R. Elbe.

Havelock, pt. co. Sounds, N. Zealand, p. 4,200.

Haverfordwest, mkt. t. Pembrokeshire, Wales, p. 5,920.

Haverhill, t. in Suffolk, Eng., p. 4,749; also t. in Essex co., Mass., U.S.A., boot factories, p. 44,400.

Haverstraw, t. on H. Bay, New York, U.S.A., brick-making, p. 2,230.

Havre, Le, spt. of France on Eng. Chan. at mouth of R. Seine; immense trade and thriving indust.; fine boulevards, p. 135,000.

Havre de Grace, t. Maryland, Hartford co., U.S.A., on R. Susquehanna, p. 4,120.

Hawaii, *Archipelago* consisting of the Hawaiian Arch., or Sandwich Isls., in N. Pacific; area 6,543 sq. m., p. 102,000; cap. Honolulu. Hawaii, largest of the group, area 4,385 sq. m., p. 25,000; mt. Mauna Kea, alt. 13,953 ft.

Hawarden, t. in Flintshire, N. Wales, castle; p. 7,000.

Hawash, R. Abyssinia, flows (500 m.) E. of Shea frontier. [p. 1,600.]

Hawera, t. in New Zealand (N. isl.) nr. New Plymouth.

Hawes, mkt. t. in N. Ridg., Yorks, Eng., nr. Leyburn, p. 1,976.

Hawes Water, L. Westmorland, Eng. (24 m. long).

Hawick, t. in Roxburghshire, Scotl.; woollen manuf., p. 16,877. [p. 35,000; cap. Napier.

Hawkes Bay, dist. New Zealand, on E. cst. (N. isl.).

Hawkesbury, R. (330 m.) N.S.W., flows to sea 14 m. N. of Port Jackson; also t. in Ontario, Can., on Ottawa R. [Cranbrook, p. 2,465.]

Hawthurst, par. in Sussex and Kent, Eng., nr. Hawkshead, t. in Lancs, Eng., nr. Ambleside, p. 3,065.

Haworth, t. W. R. Yorks, Eng., nr. Keighley; here the Brontës lived and wrote; p. 6,592.

Hawthornden, valley in Scotl., 8 m. S. of Edinburgh.

Hawthorn, t. on R. Wye, Brecknocksh., Wales, p. 1,603; also t. in Griqualand West, S. Africa; also t. on Murrumbidgee R., N.S.W., p. 3,840. [ironworks, p. 6,746.]

Hayange, t. in Germ. Lorraine, nr. Diedendorf.

Hayden Mt., or **Grand Teeton**, pk. of the Rockies, Wyoming, U.S.A., alt. 13,600 ft.

Haydon Bridge, vil. Northumberland, Eng., p. 2,000.

Haydock, t. Lancs., colliery dist. nr. Warrington, p. 9,649.

Hayes Peninsula, N.W. Greenland.

Hayes, par. Middlesex, Eng., 10 m. W. of London; residit., p. 4,261.

Hayle, vil. Cornwall, Eng., p. 1,008; ironworks.

Hayling Island, wat. pl. Hampshire, Eng., p. (res.) 1,500.

Haynau, industr. t. Prussia, nr. Liegnitz, p. 10,130.

Haystack, summit of the Adirondacks, Vermont, U.S.A., alt. 4,919 ft.

Hayd, t. [See Haid.]

Hayward, vil. S. Dakota, Custer co., U.S.A., p. 3,474.

Hayward's Heath, mkt. t. Sussex, Eng., p. 4,851.

Haywood, mining vil. co. Lanark, Scotl., p. 1,740.

Hazara, dist. in Peshawar div. of Punjab, Brit. India; area 2,907 sq. m., p. 750,000.

Hazaribagh, dist. Chota Nagpur div., Bengal, India; area 7,021 sq. m., p. 1,728,500; cap. H., p. 15,740.

Hazebrouck, t. France, dep. Nord, nr. Lille, p. 13,300; busy r. centre.

Hazleton, hor. in Luzerne co., Penn., U.S.A., in anthracite coal region, p. 25,422. [p. 20,000.]

Headingley, sub. Leeds, Yorks, Eng. mainly residit., p. 3,240. [S. Africa, p. 3,100.]

Healdtown, miss. stn. nr. Fort Beaufort, Cape Col., p. 3,240.

Heanor, t. Derbysh., Eng., in colliery dist., p. 19,851.

Heard's Isl., in S. Indian Oc., 280 m. S.E. of Kerguelen Isl. [land, Trinity Bay, p. 900.]

Heart's Content, spt. and cable terminus, Newfoundland.

Heathfield, vil. Sussex, Eng., p. 2,614.

Heathcote, industr. dist. nr. Wolverhampton, Staffs, Eng., p. 10,000. [Mersey, p. 11,240.]

Heaton Norris, industr. t. Lancs, Eng., on R. Hebburn, t. Durham, Eng., on R. Tyne; shipbldg., engineering and colliery ind., p. 21,766.

Hebden Bridge, t. nr. Halifax, W. Riding, Yorks, Eng.; cotton factories, dye-works, p. 7,170.

Hebrides, or **Western Isls. of Scotl.**; p. 84,000; grouped as Outer and Inner Hebrides; ch. t. Stornaway, in Lewis.

Hebron, alt. t. in Palestine, 16 m. S.W. of Jerusalem, p. 6,000; also vil. and tship, Nelyraska, Thavler co., U.S.A., p. 3,420; also t. in New York State, U.S.A., p. 2,547. [manuf., p. 9,017.]

Heckmondwike, t. W. Riding, Yorks, Eng.; woollen.

Hecla, volcano, S.W. Iceland, alt. 5,110 ft.

Hedon, t. Yorks, E. Riding, nr. Hull, p. 1,171.

Hedemarken, dist. of Norway, prov. Hamar, p. 135,000.

Heeley, ind. township adjoining Sheffield, W. R. Yorks, Eng., p. 9,400. [5,540.]

Heerde, t. Holland, nr. Arnhem, in Gelderland, p. Heidelberg, famous university c. on R. Neckar, nr. Mannheim, Grand duchy of Baden, p. 57,000; also t. in S. Transvaal Colony, S. Africa.

Heidenheim, t. in Wurtemberg, nr. Ulm; cotton, tobacco, and woollen factories; p. 11,437.

Heilbronn, mfg. t. Wurtemberg, 26 m. N. Stuttgart, p. 42,688.

Heiligenstadt, t. on R. Leine, Saxony, nr. Cassel, cap. of old principality of Eichsfeld, p. 6,842.

Heilsberg, t. Prussia, on R. Alle, nr. Königsberg, p. 5,878.

Heilsbrunn, or **Kloster-Heilsbrunn**, t. nr. Nuremberg, p. 1,740.

Helder, t. on cst. of Holland, 50 m. distant from Amsterdam, with which it is connected by the Heider Canal, arsenal and garrison; p. 26,420.

Heldersberg Hills, New York, U.S.A., a spur of the Catskills, W. of Albany.

Helena, t. in Arkansas, Phillips co., U.S.A., on the Mississippi R., shipping centre for cotton, p. 5,840; also t. in Montana, Lewis and Clarke co.'s, in mining dist. at base of the Rockies, p. 11,000.

Helensburgh, resident. dist. nr. Glasgow, Scotl., Dumbartonsh., on Firth of Clyde, p. 8,520.

Helicon, mtn. Greece, between Gulf of Corinth and L. Copais, alt. 5,736 ft.

Heligoland, isl. North Sea, off mouth of Elbe; now a base for German navy, formerly British.

Helipolis, anc. name of Baalbec, Syria.

Hellespont.—(See Dardanelles.) [Root R. Hell Gate River, Montana, U.S.A., trib. of Bitter.

Heila, t. Spain, Albacete, prov., sulphur mines, p. 16,820. [Bosile-dac canal, p. 12,400.]

Helmond, mfg. t. of N. Brabant, Holland, on the Helmsdale, t. Sutherlandsh., Scotl., 17 m. N.E. Golspie, p. 1,546.

Helmsdale, par. N. Riding, Yorks, Eng., p. 1,642.

Helmstedt, *t.* in colliery dist., Brunswick, nr. Magdeburg, Germany, p. 15,473.
 Helmund, *R.*, Afghanistan (650 m.) falls into L. Hamun.
 Helsingborg, *spt.* Sweden, on the Sound, oppo. Elsinore, Denmark; p. 25,420. [Sveaborg] 137,346.
 Helsingfors, *c.*, cap. of Finland, fine harbr. p. (with Helsinki, *t.* on R. Hel, nr. Falmouth, Cornwall, Eng.; p. 2,578. [Keswick; alt. 3,171 ft.]
 Helvellyn, *mtm.* Cumberland, Eng., 2 m. S.E. Helvellyn, *t.* in S. Holland, nr. Rotterdam (fort.); p. 4,300.
 Hemel Hempstead, *t.* Herts, Eng., p. 12,888.
 Hempstead, *vil.* New York, U.S.A., in Queen's co.; p. 3,120. [Emsa; p. 60,000.]
 Hema, or Hums, *t.* on R. Orontes, Syria, the anc. Hama, *spt.* Syria, Eng., nr. Doncaster, p. 2,876.
 Henderson, *c.* Kentucky, Henderson co., tobacco and cotton, p. 25,000; also bor. Minnesota, Sibley co., p. 5,200; also vil. N. Carolina, Vance co., p. 4,305; also vil. Texas, Rusk co.; all in U.S.A.
 Hendon, *t.* Middlesex, Eng., suburban to London, site of Brent reservoir; p. 38,806.
 Henfield, *par.* nr. Steyning, Sussex, Eng., p. 2,475.
 Heng-chu-fu, *c.* China, prov. Hu-Nan, on the Heng-Kiang R.; p. 34,200.
 Henley-on-Thames, *bor.* Oxfordsh., Eng., p. 6,456.
 Henlopen, *c.* on Delaware Bay, Delaware co., U.S.A.
 Hennebont, *t.* on R. Blavet in Morbihan, France, p. 8,216.
 Hennesdorf-in-Seifen, *t.* in Saxony; manuf.; p. 6,789.
 Henrietta, *t.* Texas, U.S.A.; good local trade, p. 2,780.
 Henry, *c.* Virginia, U.S.A., at S. ent. to Chesapeake B.
 Henry, *t.* Ill., Marshall co., Illinois R., U.S.A., p. 3,673.
 Henzada, *t.* in Burma, on Irawadi R., p. 20,000; ch. t. of Henzada prov. (formly. Pegu), area 2,885 sq. m., p. 485,000. [Istasse, p. 7,134.]
 Heppenheim, old *t.* Hesse-Darmstadt, on K. Berg-Heppenheim, *t.* W. Riding Yorks, Eng., nr. Huddersfield, p. 2,171.
 Herat, *cap.* of prov. same name, Afghanistan on Har Kund; strongly fortified, and has been called "the key of India"; p. (abt.) 40,000.
 Hérault, *dep.* S. France, area 2,393 sq. m., p. about 500,000; cap. Montpellier. [p. 4,126.]
 Herborn, *t.* in Hesse-Nassau, nr. Coblenz, Prussia.
 Herculanum, buried *c.* Italy, 7 m. E.S.E. Naples; unearthed in 1709.
 Hereford, *co.* of Herefordsh., Eng., on R. Wye; cathedral; p. 22,568; also co. on borders of Wales, area 840 sq. m., fruit growing and agr. t. p. 114,069.
 Herent, industri. *t.* nr. Louvain, Belgium, p. 5,163.
 Herentals, mfg. *t.* Belgium, prov. Antwerp, p. 6,230.
 Herford, *t.* on the Werra R., Westphalia, Prussia; textile industries, p. 27,420.
 Heringsdorf, *vast.* *pt.* Pomerania, Prussia, on isl. of Usedom in the Baltic, p. 2,630. [manuf.; p. 14,300.]
 Herisau, *t.* Switzerland, cant. Appenzel; muslin Herkimer, *vil.* Herkimer co., New York, U.S.A.; dairy centre; p. 5,896. [N.E. of Geneva.]
 Hermsdorf, *in* in Engl. Channel, 4 m. N.W. Sark, and Hermsdorf, *t.* R. Zibin, Transylvania, nr. Roumanian frontier of Hungary, p. 30,000.
 Hermitage, *t.* Jamaica; also chalet in Montmorency, France; also fashionable resort in Moscow, Russia.
 Hermon, *mtm.*, Palestine (9,385 ft.), in chain of Anti-Libanus. [p. 2,463.]
 Hermosa, *t.* S. Dakota, 20 m. S. Rapid City, U.S.A.
 Hermosillo, *t.* Mexico, on Sonora R., imp. tr., p. 12,500.
 Hermspolis, *spt.* and *cap.* of Syria Isl., Greece; arsenal, large tr. p. 22,400.
 Herne, *t.* nr. Dortmund, Westphalia; collieries, gun-Herne Bay, *vast.* *pt.* on coast of Kent, 62 m. from London, Eng., p. 7,781.
 Herne, *and*, or Westernorland, *dist.* Sweden on Gulf of Bothnia, area 9,670 sq. m.; cap. H., p. 7,569.
 Hersfeld, *t.* in Hesse-Nassau, Prus., on R. Fulda, p. 8,000. [rife factories, p. 18,500.]
 Herstal, *t.* near Liège, Belgium, renowned repeating Herstal, *t.* on R. Les, Eng., p. 10,384; cap. of H. co., area 633 sq. m., a S. Midland shire, p. 11,532.
 Hervey Archipelago, (See Cook Islands).
 Herzegovina, *prov.* Bosnia (p.w.). (p. (dist.) 4,260.)
 Hesketh, *t.* Victoria, co. Bourke, 57 m. N.W. Melbourne.
 Hesse, or Hesse, formerly Hesse-Darmstadt, *state*

and *grand duchy*, Germany, area 2,666 sq. m., p.

electorate, now included in Prussia, area 5,953 sq. m. Hesse-Homburg, former *sm. state* of Germany, now part of Wiesbaden, *govt. dist.* Hesse-Nassau.
 Hesse-Nassau, or Hesse-Nassau, *prov.* Prussia, area 6,000 sq. m., between R. Rhine and Werra, p. nearly 24 millions; cap. Cassel (p.w.).
 Heston, *par.* Middlesex co., Eng., suburban (S.W.) to London, p. (with Isleworth) 43,316.
 Hexham, mkt. *t.* Northumberland, Eng., p. 8,477.
 Heysham, *spt.* Lancs, Eng., steamers for Belfast, on Morecambe B.; p. 3,350.
 Heytesbury, *par.* Wilts, Eng., on R. Wile, nr. Warminster, formerly a partly bor., p. 2,637. [26,698.]
 Heywood, mfg. *t.* Lancs, Eng., 3 m. E. Bury, p. Hilaessee, *R.*, Tennessee, U.S.A., trib. of the Tennessee R.
 Hiawatha, *vil.* Kansas, Brown co., U.S.A., p. 2,260.
 Hibernia, *vil.* New Jersey, Morris co., U.S.A., p. 3,463.
 Hickory, *t.* North Carolina, U.S.A., p. 2,960.
 Hicksville, *vil.* Ohio, U.S.A., p. 3,245.
 Hidalgo, *state*, Mexico, area 8,900 sq. m.; mining and agr., p. 920,000; cap. Pachuca. [Laodicea.]
 Hierapolis, or Pambuk, ruined anc. Phrygian *c.*, nr. Higham, *vil.* Kent, nr. Gravesend, Eng., p. 1,653; also vil. in Suffolk, nr. Hadleigh. [p. 2,726.]
 High Bridge, New York, on Harlem R., U.S.A.; also t. in Somerset, Eng., p. 2,357.
 Highgate, resid. *par.* in Middlesex (and London), Eng., on Hill N. of S. Pancras bor.
 Highland Falls, *vil.* New York, Orange co., U.S.A., on Hudson R., p. 3,400. [R., U.S.A., p. 5,161.]
 Highlands, *t.* (now part of Denver city) on South Platte Highlands of Scotland, mountainous *dist.*, N. of the High Wycombe. (See Wycombe.) [Grampians.]
 Hilar, *t.* in E. Spain on R. Martin, prov. Teruel; silk, linen, etc., p. 3,450.
 Hikone, *t.* Kioto, Japan, p. 20,711. [Heim, p. 2,076.]
 Hilchenbach, *t.* Prussia, in Kolthar *mtm.* dist., Arn-Hildburghausen, *t.* on R. Werra, Saxa-Meinigen, Germany, p. 6,200. [velvet; p. 12,500.]
 Hilden, *t.* Rhine prov., Prussia, nr. Düsseldorf; silk, Hildesheim, old industri. *t.* at foot of Harz Mtns., Hanover; fine 14th cent. town hall, p. 45,000.
 Hille, or Hillah, in Asiatic Turkey, nr. the anc. Babylon, p. 12,100.
 Hillsborough, *t.* in Hill co., Texas, U.S.A., in cotton region, p. 6,400; also t. in Ohio and Missouri, U.S.A., and port on Pettedicad R., New Brunswick.
 Hillsdale, *c.* (cap. of H. co.) in Michigan, U.S.A., p. 4,015. [factories, p. 22,315.]
 Hilversum, *t.* nr. Utrecht, N. Holland; floor-cloth Himalayas, vast clun. (1,500 m. long) of snow-capped mtns. along N. border of India; highest pt. Mt. Everest (p.w.). [p. 2,420.]
 Himel, *t.* in Harnia, prov., Japan; flourishing trade, Himeji, *mtm.*, off E. co. Rockingham B., Queensland. [Warwicksh., Eng., p. 12,838.]
 Hincley, mkt. *t.* on border of Leicestersh. and Hinderwell, *dist.* *par.* nr. Whitby, N.R. Yorks, Eng., p. 2,491.
 Hindley, mfg. *t.* nr. Wigan, Lancs, Eng., p. 24,106.
 Hindmarsh, *sub.* of Adelaide, S. Australia, p. 7,347.
 Hindu Kush, or Indian Caucasus, *mtm. range* containing W. of Himalayas; highest pt. 30,000 ft.
 Hindustan, part of N. India between the Himalayas and the Vindhya ranges. [p. 9,225.]
 Hingringhat, *t.* in Wardha dist., Cent. Prov., India.
 Hingham, *t.* on Massachusetts B., Plymouth co., Mass., U.S.A., p. 5,230; also t. in S. Norfolk, Eng., nr. Wymondham, p. 1,623.
 Hinsdale, *t.* in New Hampshire, U.S.A., p. 3,260.
 Hlog, or Flog, *t.* in Settsu prov., Japan, on Bay of Osaka; silk and cotton industry, p. (with Kobe) 236,000. [p. 4,438.]
 Hipperholme, *t.* nr. Halifax, W.R. Yorks, Eng., Hired, *dist.* off W. coast, nr. Hizen, Japan; famous for blue and white porcelain.
 Hiroaki, *t.* N. Nippon, Japan; picturesque houses, green lacquer ware, great commercial centre, p. 43,760.
 Hiroshima, *spt. c.* of Central Nippon, Japan, close to

the "Island of Light," with its famous temples, p. 130,000. [Benedictine monastery, p. 3,240.

Hirau, t. in Black Forest, Württemberg; noted for its Hirschberg, mfg. t. in Silesia, Pruss., nr. Gorlitz, p. 18,937. [work, p. 7,850.

Hirson, t. in dep. Aisne, France, on R. Oise, basket Hissar, dist. Delhi div., Punjab, Brit. India; area 5.56 sq. m., p. 782,000; cap. H., on the Western Jumna Canal, p. 77,560. [p. 1,064.

Histon, vlt., Cambridgesh., Eng., nr. Cambridge c. Hitchin, mkt. t. Hertfordsh., Eng.; lavender and peppermint cult., p. 11,905. [p. 4,630.

Hitteren lal., off. cst. of Norway, nr. Trondhjem, Hjelmar Lake, Sweden, area 185 sq. m., S.W. of L. Hjørung, t. in Jutland, Denmark, p. 4,607. [Mälär.

Hkamti Long, Shan State of Burma, the Kamngyi of the Burmese.

Hialing (Rangoon), R. Burma, flows to G. of Martaban.

Hoang Hai, Chinese name of Yellow Sea.

Hoang Ho (Yellow R.) China, falls into G. of Pe-chi-li; length 2,670 m.

Hoang-Yan, t. China, Che-kiang prov., p. 150,000.

Hobart, t. cap. of Tasmania, on R. Derwent; great fruit exports, p. 35,000.

Hoboken, c. Hudson co., New Jersey, U.S.A.; large ocean commerce, p. 72,000; also t. in prov. Antwerp, Belgium, shipbldg., p. 10,000.

Hochst, t. on R. Main, Hesse-Nassau, Pruss.; dye-works, tobacco factories, p. 15,393.

Hochstadt, t. in Swabia, Bavaria; battles, 1081, 1793, and 1704 (b. of Blenheim), p. 2,346.

Hochstetter, mtn., New Zealand, alt. 11,200 ft.

Hockenheim, t. Baden, nr. Heidelberg, p. 4,730.

Hodal, t. in Gurgaon dist., Punjab, India, p. 6,504.

Hodeida, sp. of Red S., Arabia, 20,000

Hof, t. on R. Saale, in, Bayreuth, Bavaria; woollen manuf., p. 42,330.

Hoffman, mtn., pk. of the Sierra Nevada, California; alt. 8,098 ft.; also mtn. in Nova Zembla.

Hoflauf, t. in Arabia, cap. of El-Hasa, on the Persian G., p. 25,000. [Elbe; textiles; p. 6,000.

Hohenelbe, t. in Bohemia, Austria; at source of R. Hohenelbe, or Hohenelms, mkt. pt. of Dornbirn, Vorarlberg, Austria; cotton spinning, p. 5,743.

Hohenheim, vlt. nr. Stuttgart, Württemberg, agr. college. [indust. t. p. 8,400.

Hohenlimburg, t. nr. Dortmund, Westphalia, metal Hohenlinden, vlt. nr. Munich, Bavaria; gr. battle 1800; p. 4,043.

Hohenlohe, anc. Franconian principality; musical inst. manuf.; p. (with garrison) 9,000

Hohenzollern, Kingdom of Prussia, on R. Danube, area 441 sq. m., p. 72,500; agr.; cap. Sigmaringen.

Hokkanga, pt. of New Zealand, in Hokianga co. (N. isl.), p. 2,760.

Hokitika, t. in co. Westland, New Zealand, on H. R. (S. isl.), p. 2,943.

Hokkaido, Japanese name for N. div. of Mikado's Empire.

Holbeck, mkt. t. in Fen dist. of S. Lincolnsh., Eng., p. 5,259.

Holbeck, par. (industr.) of Leeds, W. R. Yorks., Eng., p. 39,779. [p. 40,336.

Holborn, mkt. bor. of London, unmdy N. of ...

Holbrook, t. nr. Boston, Mass., U.S.A., p. 3,516.

Holcombe, industr. par. nr. Bury, Lancs., Eng. p. 5,741.

Holden, t. Worcester co., Mass., U.S.A., p. 2,743.

Holderness, div. of L. R. Yorks., Eng., between R. Humber and N. Sea, agr. and pastoral. [3,467.

Holidaysburg, bor. nr. Altoona, Penn., U.S.A., p. Holkham, vlt. in Norfolk, Eng. (dist.), p. 1,240.

Holland, the kingdom of the Netherlands, N. Europe, including the provs. of N. and S. H.; area 12,588 sq. m., p. 5,950,000; agr., manuf., fisheries; cap. Amsterdam (p. 77).

Holland, Parts of, the Ien co. of Lincolnsh., Eng., adjoining R. Wash. [p. 1,157.

Hollinbourn, par. in mid-Kent, nr. Maidstone, Eng., Hollingworth, t. nr. Staleybridge, in E. Cheshire, Eng., p. 2,581. [p. 8,374.

Hollinwood, industr. par. nr. Oldham, Lancs., Eng., Hollister, t. San Benito co., California, U.S.A., p. 2,740.

Holliston, t. in Middlesex co., Mass., U.S.A., p. 3,546.

Holloway, N. dist. of Islington, bor. London, Eng., Upper H., 37,127; Lower H., 39,354.

Holly Springs, t. Marshall co., Mississippi, U.S.A., educat. centre, p. 2,646.

Holme Cultrum (or Abbey Holme), t. in Cumberland, Eng., nr. Wigtown, p. 4,300. [York, Eng., p. 8,888.

Holmfrith, industr. dist. nr. Huddersfield, W. R. Holmwood, vlt. at foot of Surrey Hills, nr. Dorking, Eng., p. 1,316.

Holguin, t. Santiago prov., Cuba, p. 6,127.

Holstein, former Danish duchy, now prov. of Pruss.

Holston R., head of Tennessee R., runs 300 m. through Virginia and Tennessee, U.S.A.

Holt, bor. Denbighsh., Wales, on R. Dee, p. 1,144; also mkt. t. nr. Aylsham, N. Norfolk, Eng., p. 1,543.

Holton, c. Kansas, nr. the Indian Reservation, p. 3,417.

Holyhead, sp. and naval stn. Anglesey, Wales, on Holyhead Isl. (7½ m. long, width ½ m. to 4 m.), p. 10,628.

Holy Isl., Scotl., in F. of Clyde, nr. Isl. of Arran; also isl. (called sometimes Lindsfarne) off coast of Northumberland, Eng.

Holyoke, c. Hampden co., Mass., U.S.A.; hmt. manuf., centre on Connecticut R.; p. 58,000.

Holyrood Palace, anc. royal pal., Edinburgh, Scotl.

Holytown, snl. t. nr. Glasgow, Lanarksh., Scotl., p. 2,050. [Bors., p. 2,549.

Holywell, mkt. t. Flintsh., N. Wales, one of the Flint Holyrood, sp. on Belfast Lough, co. Down, Ireland, p. 2,300; also par. Dumfriessh., Scotl., p. 1,121.

Holzwinden, t. on R. Weser, Brunswick; school of engineering; p. 8,541.

Homburg, t. nr. Düsseldorf, Prussia, on R. Rhine, p. 4,500; also t. on R. Elbe, nr. Cassel, Pruss., p. 3,673.

Homburg vor der Höhe, famous wat. pt. of Hesse-Nassau, Pruss., at foot of Taunus Mts.; res. p. 10,000.

Homel, t. Russia, gov. Mohilev; manuf.; p. 22,416.

Homert, c. Corland, gov., New York, U.S.A.; p. 4,768.

Homerville, vlt. Clinch co., Georgia, U.S.A.; p. 1,546.

Homestead, bor. Allegheny co. Penn., U.S.A.; site of the great Carnegie ironworks; p. 14,500.

Ho-Nan, fertile inland prov. China, traversed by Yellow R.; area 66,930 sq. m., p. 22,000,000; cap. Ho-Nang, on afflt. of Hoang-Ho [p. 4,240.

Hondeklip, sp. of Namaqualand, Cape Colony, S.A.; Hondo, or Nipho, largest riv. Japan; area 87,428 sq. m., p. (est.) 28,000,000.

Honduras, Repub. Centrl. Amer.; area 46,250 sq. m., p. 74,000; cap. Tegucigalpa.

Honduras, British. (See Brit. Honduras.) [4,000.

Honesdale, t. on Lakawaxen R., Penn., U.S.A., p. Honey Lake, Lassen co., California, U.S.A., nr. Pyramid L.; no outlet.

Honfleur, sp. of Caen, France, fine harbour, p. 9,850.

Hong Kong, Brit. isl. off S. E. Coast China; area of whole colony, 390 sq. m., p. 456,730, mostly Chinese; veg. growing, sugar-refining; cap. Victoria.

Honiton, mkt. t. nr. Exeter, Devon, Eng.; lace industry, p. 1,291. [Eng., p. 1,291.

Honley, industr. t. nr. Huddersfield, W. R. Yorks., Honolulu, cap. of the Hawaii Isls.; good harb., p. 54,000. [U.S.A.; alt. 17,225 ft.

Hood, Mt., highest peak Cascade range, Oregon Hookh, or Huhgh, t. Western Branch of K. Ganges, falls into B. of Bengal; Calcutta on its banks; also name of dist. of Bengal, India, Bardhaman div.; area 1,223 sq. m., p. 1,000,000, cap. Houghl.

Hoogeveen, t. in ten prov. of Drenthe, Holland; peat cutting; p. 12,000. [Harwich, Eng.

Hook of Holland, Dutch port, in direct com. with Hooker, Mt., one of the Rockies Brit. Columbia, alt. Hoole, mfg. t. in Cheshire, Eng., p. 5,099. [15,705 ft.

Hoopstad, t. on R. Vet, Orange Free State, S. Africa, p. 4,627.

Hoorn, old fishing t. in inlet of Zuider Zee, N. Holland; Tasman, discoverer of Tasmania, and Koen, found. of Batavia, born here; p. 11,300 [U.S.A.

Hoosack Mtns., part of Green Mountain range, Mass., Hoosick Falls, vlt. on R. H., New York, U.S.A.; agr. ind., manuf.; p. 6,000. [lake dist. 9½ m. long.

Hotopatcong L., Morris co., New Jersey, U.S.A.; lovely Hope, t. Steel co., N. Dakota, U.S.A.; p. 3,263.

Hopedale, Moravian Miss. stn. Labrador.

Hope Point, *cape* on the Arctic cst. of Alaska.
Hopetown, *t.* on Orange R., Cape Col. S. Africa, p. (dist.) 7,000; also *t.* Brit. Guiana; p. 2,000.
Hopkinsville, *c.* cap. Christian co., Kentucky, U.S.A.; college, also insane asylum; p. 8,600.
Hopkinton, *t.* Middlesex co., Mass., U.S.A.; p. 4,740.
Hor, *mt.* in Arabia Petrea, between Dead S. and G. of Akaba; alt. 4,360 ft. [p. 7,509].
Horbury, *mtg.* *t.* in W.R. Yorks, Eng., nr. Wakefield;
Horby, *mtg.* *t.* Westphalia, nr. Dortmund; p. 17,420.
Horsham, *Mt.*, Arabia, *vide* Sinai.
Horfield, *t.* nr. Bristol, Gloucestersh., Eng.; p. 7,114.
Horgen, *t.* on L. of Zurich, Switzerland; p. 5,600.
Horitz, commune in Kruman div., Bohemian Forest, Austria, noted for periodical pice. of Passion plays, res. p. 1,240; also textile and sugar refg. *t.* in Kéniggrätz govt. of Bohemia, Austria; p. 8,000.
Horley, *vil.* Surrey, Eng., on R. Mole; p. 3,100.
Horn Cape, S.-most pt. of S. America. [castle].
Hornby, *vil.* on R. Lune, nr. Lancaster, Eng.; old
Horncastle, *mkt.* *t.* Lincolnsh., Eng.; inpt. cattle fairs; p. 3,900.
Hornchurch, *t.* nr. Romford, Essex, Eng., p. 6,427.
Hornellsville, *c.* Steuben co., New York, U.S.A.; ry. car works; p. 12,500. [p. 3,020].
Hornsea, *wat. pt.* on cst. of E.R. Yorks, Eng.;
Hornsey, residential, *dist.* of N. London, Eng.; p. 84,602.
Horodenka, *t.* on trib. of R. Dneister, E. Galicia; com tr., candle factories, etc.; p. 12,000.
Horowitz, *mtg.* *t.* between Prague and Pilsen, W. Bohemia, Austria, p. 3,680.
Horsens, Danish *spt.* on coast of Jutland, p. 13,561.
Horsforth, *mtg.* *t.* in W.R. Yorks, nr. Leeds, Eng., p. 9,745.
Horsham, *t.* on R. Arun, Sussex, Eng., p. 11,314; also bor. of Co. Hove, Victoria, p. 3,140.
Horta, *cap.* of Fayal I., Azores, p. 8,200.
Horten, *spt.* Norway, nr. Christiania, p. 8,500.
Horwich, *t.* nr. Manchester, Eng.; bleaching and cotton-spg.; p. 16,286.
Hoshangabad, *dist.* Nerbudda div., Centl. Prov. Brit. India, area 4,954 sq. m., p. 449,800; suffered heavily by famine; cap. H., *t.* on Nerbudda R., p. 14,000.
Hosharpur, *dist.* Jullundur div., Punjab, Brit. India; area 2,244 sq. m., p. 990,500; no ry. or nav. R. in dist.; cap. H., p. 22,500; lacquer works, inland goods manuf.
Hot Springs, *c.* cap. Garland co., Arkansas, U.S.A., health resort; p. 10,000; also vil., Custer co., S. Dakota, U.S.A., p. 2,780. [p. 4,263].
Houghton, *vil.* Michigan, U.S.A., Houghton co., Houghton-le-Spring, *t.* in coaly. dist. co. Durham, Eng., p. 9,754. [London, p. 12,000].
Hounslow, *t.* in Middlesex, Eng., subn. to W.
Housatonic R., Connecticut and Mass., U.S.A. (150 m. long), empties into Long Is. Sound.
Houston, *t.* on Buffalo Bayou, Harris co., Texas, U.S.A.; large cotton trade, p. 78,800.
Hove, *sub.* of Brighton, Sussex, Eng., p. 42,173.
Howard, *vil.* Turner co., S. Dakota, U.S.A., p. 3,781.
Howden, *mkt.* *t.* E.R. Yorks, nr. Hull, Eng., p. 2,804.
Howell, *t.* Livingstone co., Michigan, U.S.A., p. 2,541.
Howrah, *dist.* Burdwan div., Bengal, Brit. India, area 476 sq. m., p. 855,000; cap. H., c. on R. Hooghly, p. 152,000; hilups of jute manuf.
Howth, *par.* nr. Dublin, Ireland, fishg., p. 1,112, Hill of Howth, alt. 563 ft.
Hoxter, *t.* on R. Weser, Westphalia, Prus., mint, famous Benedictine abbey (Corvei), p. 7,320.
Hoxton, *dist.* of London, p. 57,206.
Hoy, *isl.* and *add.* of the Orkneys, Scott., nr. Stromness. [p. 54,029].
Hoylake, *cst.* *t.* nr. Birkenhead, Cheshire, Eng.,
Hoyleland, *Nether*, *t.* (industri.) W.R. Yorks, Eng., nr. Barnsley, p. 14,630. [p. 225,000; cap. H., p. 8,120].
Huancavelica, *dep.* of Centl. Peru, area 10,814 sq. m.,
Huancayo, *dep.* Centl. Peru, area 14,028 sq. m., p. 150,000; cap. H., p. 5,220.
Huarez, *t.* in dep. Anachis, Peru, p. 5,120.
Hubli, *t.* in Dharwar div., Bombay, Brit. India, cotton and silk wvg. tr., p. 66,000. [p. 15,879].
Hucknall Torkard, industri. *t.* nr. Nottingham, Eng.,

Hucknall-under-Hutthwaite, industri. *par.* nr. Mansfield, Notts, Eng., p. 4,230.
Huddersfield, *mtg.* *t.* W.R. Yorks, Eng., woollen and coat textiles, p. 107,325. [p. 4,553].
Huddersvall, *spt.* Sweden, on inlet of G. of Bohus,
Hudson, *t.* Middlesex co., Mass., U.S.A., p. 5,600; also *t.* cap. Columbia co., New York, U.S.A., p. 10,000; also *t.* St. Croix co., Wisconsin, U.S.A., p. 3,400.
Hudson R., New York, U.S.A., flows (350 m.) from the Adirondack Mtns. to New York Harbour.
Hudson's Bay, inland sea, Canada, area 540,000 sq. m., communicating by Hudson's Strait (400 m. long) with Davis Strait.
Huê, *cap.* of Annam, nr. mth. of Huê R., Cochinchina, royal pal., glass factories, inpt. tr., p. 50,000.
Huehuetenango, *c.* Guatemala, remns. of anc. Indian capital, p. 12,000.
Huelva, maritime prov. S.W. Spain, area 4,122 sq. m., mining, vine and olive growing, stock-raising, fisheries, brandy distillery, etc., p. 310,000; cap. H., *spt.* on Adriatic, p. 27,000. [mining dist., p. 17,000].
Huerca-Overa, *t.* S.E. Spain, Almería prov., in
Huesca, frontier prov. N.E. Spain, area 7,530 sq. m., great wine and timber tr. with France, p. 249,363; cap. H., *t.* on R. Isuela, p. 11,230.
Hughenden, *vil.* in Bucks, Eng., nr. Wycombe, p. 1,850; II manor, seat of Earl of Beauchamp.
Hugh Town, *cap.* St. Mary's Isl., Scilly Isl.
Hull, or Kingston-upon-Hull, *spt.* *c.* E.R. Yorks, Eng., at influx of R. Hull in est. of the Humber; inpt. manuf., and grt. shipping tr.; p. 278,024; also c. of Quebec, Canada, on R. opp. Ottawa; saw mills, paper factories, p. 18,000.
Huamaçao, *c.* of isl. of Porto Rica, cap. prov. same name, p. 4,500. [Africa, p. 3,827].
Humberdorp, *t.* nr. Port Elizabeth, Cape Col.
Humber, *cly.* of R.'s Ouse and Trent (38 1/2 m. long), separating co's Yorks. and Lincoln, Eng.; fine waterway, 1 to 7 m. wide.
Humboldt Bay, inlet of cst. of California, U.S.A.
Humboldt City, Humboldt co., Nevada, U.S.A., p. 2,790.
Humboldt Lake, Nevada, receives Humboldt R. (350 m. long). [Humboldt L.,
Humboldt Mtns., range in E. Nevada, U.S.A., nr. Humpoer, *t.* nr. Czarina, Bohemia, p. 6,400.
Humuya, or Ulma, R. of Honduras, flowing into G.
Hu-Nan, inland prov. of China, area 83,226 sq. m., p. 21,000,000; cap. Chang-Sha.
Hun-Chun, trading *t.* Manchuria, on Korean frontier; p. 10,000.
Hungary, kingdom of Cent. Europe, part of Austria-Hungarian Empire, area 124,382 sq. m., p. 21,000,000; cap. Buda-Pesth, on R. Danube (q. v.).
Hungerford, *mkt.* *t.* Berks, Eng., on Wilts border and R. Kennet, p. 9,009. [nr. Basel; p. 2,120].
Huningen, *t.* in Upper Alsace, Germany, on R. Rhine,
Hunmanby, *t.* in N.R. Yorks, Eng., nr. Scarborough; p. 3,600.
Hunstanton, *wat. pt.* on E. shore of the Wash, nr.
Hunsforth, *vil.* nr. Bradford, W.R. Yorks, Eng., p. 1,323.
Huntingdon, inland co. W. of Cambridgeshire, Eng.; area 359 sq. m.; mkt. garlyc., fruit-growing, agr.; p. 55,593. Also co. *t.* same name, on R. Ouse, birch-mkg., p. 4,003; also *t.* in Penn. State, U.S.A., car works, p. 6,400; also *t.* nr. Canguinawaga, Quebec, Canada, p. 4,233.
Huntington, *t.* on Little R., Huntington co., Indiana, U.S.A., ry. and wood works, p. 10,940; also *t.* Ohio R. Cabell co., W. Virginia, U.S.A., machine works, p. 31,161.
Huntly, *mkt.* *t.* at confluence of R.'s Bogue and Dameron, Aberdeensh., Scotl., p. 4,220.
Huntsville, *t.* in Madison co., Alabama, U.S.A.; cotton-mills, p. 8,100.
Hu-Pe, prov. China, N. of the Yang-tse-Kiang, area 69,477 sq. m., p. 33,500,000; cap. Han-Kau.
Hurdwar, (See Haridwar.)
Hurley, nr. Wisconsin, U.S.A., also par E. Berks, Eng., on R. Thames, p. 1,700. [p. 5,300].
Hurlford and Crookedholm, mining *t.* of Ayr, Scotl.
Huron, L. (area 23,610 sq. m.) between Canada and

U.S.A., one of the 5 g. L.'s of the St. Lawrence basin; 280 m. long; also vil. in S. Dakota, U.S.A., p. 3,120.

Hurrur, or Harar, walled t. p. 35,000, in state same name, Galla country, E. Africa; p. (of dist.) 2,000,000.

Hurst, mfg. t. in Launce, Eng., pt. of bor. of Ashton-under-Lyne, p. 7,850. [castle; p. 1,623.]

Hurstpierpoint, vil. nr. Hastings, Sussex, Eng.

Husch, mfg. t. in Moldavia, Roumania, nr. R. Pruth; p. 13,462; cathedral.

Husiatyn, t. in Galicia, Austria, nr. Czortkow; p. 5,643.

Husum, *spt.* Schleswig-Holstein, Pruss.; cattle mart, p. 8,500. [rock salt mining dist., p. 10,134.]

Hutchinson, c. cap. Reno co., Arkansas, U.S.A., p. 3,000.

Hu-Tchu, fort t. in China prov. Che-Kiang, p. 30,000.

Hutt, t. in Wellington dist., New Zealand, p. 3,231.

Huyt, t. (fort.) nr. Liège, Belgium, in vine-growing dist., p. 15,430.

Huyton, t. in Lancash., Eng., nr. Liverpool, p. 4,559.

Huzth, or **Khuast**, t. on R. Theiss, Hungary, p. 6,751.

Hwang Ho R. (the Yellow R.).—(See **Hoang Ho**.)

Hyannis, *spt.* on C. Cod, Mass., U.S.A., p. 1,540.

Hyde, industr. mkt. t. nr. Cheshire, Eng., on R. Tame; p. 31,444.

Hyde Park, t. in Norfolk co., Mass., p. 14,500, and Dutchess co., N.Y., U.S.A., p. 7,840; also subn. dist. Chicago, Illinois, U.S.A., p. 17,500.

Hyderabad.—(See **Hydrabad**.) [p. 17,840.]

Hydra or **Idra**, *spt.* of Greece, on Morea; area 26 sq. m., Hyères, winter health resort nr. Toulon, dep. Var, France, in fruit and flower-growing dist., p. 18,500.

Hyères ls. in the Mediterranean off II.

Hythe, bor. Kent est. Eng., nr. Folkestone; Royal school of musketry, p. 6,337.

I

Ibadan, t. in Yoruba country, nr. Lagos, W. Africa, p. 130,000. [Amer. p. 13,000.]

Ibaqué, or **Ibaqué**, t. dep. Tolima, Colombia, S. America, p. 13,000.

Ibarrá, t. in Ecuador, nr. Quito, p. 12,000; terrible earthquake, 1868. [ranan.]

Ibiza, sm. isl. of the Balearic group in the Mediterranean, the name given to Spain by the Greeks, and t. N. of Spain and Portugal.

Ibi Gamin, or **Kimet**, *mtns.* of the Himalayas, alt. 25,373 ft. [p. 8,400.]

Ibo, t. at head of Niger Delta, Guinea, W. Africa, Ica, est. dep. Peru; area 6,995 sq. m., p. 94,000; cap. Ica, p. 12,000.

Iceland, Danish rel. in N. Atlantic O., 130 m. E. Greenland; area 40,347 sq. m., barren and intinous, with volcanoes, highest pt. Oreauf Jokull, alt. 6,409 ft., p. 77,000; cap. Reykjavik. [S W. Africa.]

Ichaboe Isl., British pos. off est. Namaqualand, German

Ichak, t. in Hazaragh dist., Bengal, India, p. 7,540

Ichang, large port, in Hupeh prov., China, on R. Yangtze, large tr., p. 70,000.

Ico, in Brazil, on R. Jayaribe, prov. Ceara, p. 7,800.

Icy Cape, prom. on N. est. Alaska, Arctic Oc.

Ida, *mtn.* range Asia Minor, highest pt. Gargarion (mod. Kas Daghi), alt. 5,749 ft.; also t. in Igara, Nigeria; also t. in Tuzando, Cent. Japan, p. 14,000.

Idaho, a N.W. state of U.S.A. Rocky Mtns. and rich mineral region, area 84,290 sq. m., p. 325,000; cap. Boise; also ld ho c. in Bonse co., p. 4,120, and Idaho Springs, t. in Clear Creek co., Colorado, U.S.A., p. 3,240.

Idar, or **Edar**, native state India, Gujarat div. Bombay; area, 1,900 sq. m., p. 204,000; cap. Idar, nr. Ahmedabad, p. 7,420. [also R. Notts., Eng. trib. to R. Trent.]

Idle, mfg. t. nr. Bradford, W.R. Yorks, Eng., p. 7,560;

Idria, t. in Carniola, Austria; quicksilver mining, p. 5,800.

Iesi, or **Jesi**, walled t. nr. Ancona, Italy, p. 20,000.

Igara, native terr. of the Niger delta, W. Africa, now under Brit. protectn. [&c., p. 25,000.]

Iglau, t. in Moravia, Austria; cigar factories, textiles,

Iglesias, t. in Sardinia, Italy, Cagliari prov.; cathedral, p. 8,900.

Igló, t. on R. Hernad, nr. Leutschau, Hungary, p. 7,860.

Ik, R. prov. Orenburg, Russia, trib. (200 m.) of R. Kama.

Ike-Aral-Nor, J. Mongolia, Khalhas Terr., 40 m. long.

Ikelemba, B., trib. of R. Congo, Equatorial Africa.

Iki, t. off N.W. est. of Kiushiu, Japan; area 51 sq. m., p. 36,350. [Bangweolo, S. Cent. Africa.]

Ikala, vil. where Dr. Livingstone died, nr. S. shore L. Bangweolo, S. Cent. Africa.

Ilanz, t. on the Vorder Rhein, cant. Grisons, Switz., p. 3,150.

Ilchester, par. on R. Ye, Somerset, Eng., p. 1,024.

Ilkatz, formerly Fort Ilkatskaya, Zashch. t. in prov. Orenburg, Russ.; rock-salt, brine-baths, p. 12,200.

Ilford, gt. t. on R. Rodmng, Essex, Eng., bordering on Hainault Forest; paper mills, photo-plate works, p. 78,200; Ilford (Little) on opp. side of R. Rodmng, p. 18,500.

Ilhacombe, coast wald. pt. nr. Barnstable, N. Devon, Eng., p. 8,935. [p. 12,864.]

Ilhava, t. Aveiro dist., Portugal; fishery, vine culture; ill. pt., Asiatic Russ., flowing (850 m.) to L. Balkash.

Ilhon, vil. on R. Mohawk, Herkimer co., New York, U.S.A., sewing machine mfg., p. 5,680.

Ilkeston, mkt. t. Derbyshire, Eng., manuf., p. 31,673.

Ilkley, health resort on R. Wharfe, W. R. Yorks, Eng., p. 7,992. [N. of Strassburg.]

Ilk, Alsace, Germany, flows (100 m.) to the Rhine.

Ilapel, t. in Chili, Coquimbo dist., p. 7,430.

Ilawarra, fertile dist. N.S.W., S. of Sydney.

Ille-et-Vilaine, dep. N.W. France, on Eng. Chan.; area 2,690 sq. m. agr., p. 611,500; cap. Rennes.

Iller, R. of Bavaria, rising in Algaue Alps, trib. of R. Danube.

Illinois, state S. of Wisconsin, U.S.A., named after its prin. R., a large trib. (360 m.) of R. Mississippi; area of state, 56,650 sq. m.; sometimes called 'The Prairie State'; p. (nearly) 6,000,000; cap. Spring field; most pop. c. Chicago (27.1).

Illyria, former *mtns.* div. of Austria, now Carinthia, Carniola, and the Kustenland.

Ilmen, L. govt. Novgorod, Russ., area 335 sq. m.

Ilmenau, summer resort, Thuringian forest, Saxe-Weymar, Germany; toy manuf., p. 12,000.

Ilminster, mkt. t. on R. Isle, Somerset, Eng., p. 2,467.

Iloilo, cap. of prov. of same name, Pandi, Philippine Is.; cocoa-nut oil, p. 12,500.

Isley, t. nr. Newbury, Berks, Eng., p. 1,236.

Imaharu, t. in Japan, nr. Matsuyama, p. 21,577.

Imbros, Turkish isl. in the Ægean Sea, S. end of Phracian Chersonese penin.; fertile fruit-growing dist.; p. 92,500.

Imperial, vil. Chase co., Nebraska, U.S.A., p. 3,420.

Inca, t. nr. Palmas, isl. of Majorca, Spain, p. 7,430.

Incoo-in-Makerfield, mfg. t. adjoining Wigan, Lancs., Eng., p. 23,140.

Inchcape.—(See **Bell Rock**.) [Bridge crosses.]

Inchgarvie, isl. in F. of Forth, Scotl., where Forth

Inchkeith, fort. t. F. of Forth, co. Fife, Scotl., in F. of Forth.

Indals-Elf, R. of Sweden, flows (60 m.) to G. of Inde, t. in Mexico, Durango prov., p. 6,096.

Independence, t. on prairie, S. of Missouri R., Jackson co., Missouri, U.S.A., p. 7,200; also t. Buchanan co., Mo., U.S.A., p. 4,860; also t. in Montgomery co., Kansas, U.S.A., p. 3,622.

India, the great Asiatic country, forming an Imperial appanage to the British Crown, with an area of over 1,700,000 sq. m., and a p. numbering over 300,000,000. The various divisions and native States are all given in alphabetical order.

India, French possessions or establishments of the French Republic on the Coromandel coast, Pondicherry, Karikal, Yanam, in Orissa, Mahe on the Malabar coast, and Chandernagor in Bengal; total area 200 sq. m., p. 273,000. Seat of Colonial govt., Pondicherry.

Indiana, state between Kentucky and Michigan, Illinois and Ohio, U.S.A., area 36,350 sq. m., p. 2,750,000. Industries, agr., mml., and mfg.; cap. Indianapolis on White R., p. 235,000; west-packing.

Indian Archipelago.—(See **Malay Archipelago**.)

Indian Lake, connected with Hudson R., New York, U.S.A.

Indian Ocean, extends from S. of Asia and E. of Africa to the C. of Good Hope and C. Leeuwin in Australia, separated from the Pacific by the Malay Arch. and Australia.

Indianola, t. in Warren co., Iowa, U.S.A., p. 2,785; also port of Calhoun co., Texas, p. 3,172.

Indian Orchard, *t.* nr. Springfield, Mass., p. 2,980.
Indian River, *channel*, co.'s Valusia and Biavard, Florida, U.S.A.
Indian Territory, since 1907 part of the State of Oklahoma, formerly *reservation* in U.S.A. of tribal Indians, between Texas and Kansas, area 31,440 sq. m., p. over 200,000; chf. t. Tahlequah (cap. of the Cherokee nation).
Indigo, *t.* in co. Gogang, Victoria, p. 1,454.
Indore, *nat. state*, Central India Agency, area 8,402 sq. m., p. over 1,000,000; cap. c. Indore, on R. Katki, p. 98,740.
Indre, *dep.* Central France, area 2,666 sq. m., p. 286,000; agr. and industri.; cap. Chateauroux.
Indre-et-Loire, *dep.* Central France, to the N.W. of Indre, area 2,377 sq. m., p. 334,000; agr., vine, silk factories; cap. Tours.
Indus, *r.* N.W. India, rises in Tibet, and flows (1,800 m.) through Kashmir, the Punjab, and Sindh to the Arabian Sea.
Ineboli, *t.* nr. Kastomuni, on the N. coast of Black S., Asia Minor; open port, good trade in mohair and wool; p. 9,224. [Eng. p. 1,147.]
Ingatesstone, *sm. t.* in Chelmsford Hundred, Essex.
Ingenbohl, *t.* in Switzerland, p. 3,104.
Ingersoll, *t.* in Oxford co., Ontario, Canada, on R. Thames; *manuf.* p. 4,420. [2,378 f.]
Inglesborough, *vil.* near Settle, Yorks, Eng., alt.
Ingletton, *t.* nr. Sedburgh, W.R. Yorks, Eng., p. 1,743.
Ingila, *mtg. t.* nr. Bologna, Italy, p. 14,500.
Ingleswood, *post t.'s* in E. Australia, nr. Adelaide, co. Clive, Queensland, and New Plymouth, New Zealand; also mining *t.* in Victoria, 130 m. N.W. of Melbourne, p. 1,640.
Ingolstadt, *fort.* Bavarian c. on R. Danube, nr. Munich; ammunition factories, p. 24,246. [K. 9,891.]
Ingrow and **H. A. North**, *mtg. dist.* W.R. Yorks, nr. Inhambe, or Inhambe, Portuguese t. in East Africa, 200 m. N.W. of Delagoa Bay, p. 7,260.
Inhambe, *t.* Brazil, industri., p. 4,954.
Iniasta, *t.* Spain, *manuf.* p. 4,031.
Inishbofin, *vil.* co. Galway, Ireland, p. 1,106.
Inistioge, *mkt. t.* co. Kilkenny, Ireland, p. 2,430.
Inje-Su, *t.* in Asia Minor, Turkey, nr. Katsareh, p. 5,100. [Russ. battle, 1854.]
Inkerman, ruined *t.* nr. Sebastopol, in the Crimea.
Inn, *r.* traversing Switzerland, the Tyrol, and Bavaria, trib. (320 m.) of R. Danube, the c. Ennus.
Innenkirchen, *t.* in Switzerland, p. 1,871.
Innerleithen, *t.* and *health resort* on the Leithen Water, Föeblsh., Scotland, p. 2,547.
Innerwick, *t.* on coast E. Haddingtonsh., Scotl., nr. Dunbar, p. 1,124.
Innlakeen, *vil.* co. Monaghan, Ireland, p. 1,871.
Innsbruck, or **Innspruck**, cap. of the Tyrol, Austria; university and military stronghold, p. 27,500.
Inowrazla, or **Inowrazlaw**, *t.* of Posen prov., Pruss.; rock, salt, and iron pyrites; tr. in agr. prod., p. 28,460.
Isenburger, *t.* in Pruss., nr. Königsberg; iron foundries, p. 20,200. [3,200.]
Isenlaken, *vil.* on R. Aar, cant. Bern, Switzerland.
Isola, industri. *t.* Piedmont, Italy, on L. Maggiore, p. 5,700. [p. 6,427.]
Isodracqua, *t.* nr. Sulmona, prov. Aquila, Italy.
Isorallachy, fishing *vil.* nr. Fraserburgh, Aberdeenshire, Scotl., p. 1,046.
Inveraray, *burgh* on Loch Fyne, Argyllsh., Scotl., one of the Ayr burghs, p. 533.
Inverberrie, *burgh*, co. Kincardine, Scotl., one of the Montrose burghs, p. 1,173.
Invercargill, *t.* in Southland co., New Zealand (so. Isl.); fine bldgs., p. 10,300. [dist.] 7,430.
Inverell, *t.* N.S.W., 383 m. N. of Sydney, p. (of Invergordon), 2,051.
Invergordon, *sp.* on Cromarty Firth, Scotl., p. 2,051.
Inverkeithing, *vil.* nr. Arbroath, Scotl., p. 1,731.
Inverkeithing, *vil.* nr. Turiff, Banffsh., Scotl., p. 1,024; also burgh on Firth of Forth nr. Dunfermline, one of the Stirling Burghs, p. 3,291.
Inverness, *burgh* and co. *t.* (p. 22,216; tweed and cloth industry) of Inverness-shire, Scotl.; area (of shire) 4,351 sq. m., p. 87,000; fisheries and agr.
Inverness, *pic. hamlet* on Loch Lomond, Strlingsh., Scotl. [of the Elgin group, p. 3,960.]
Inverurie, *burgh* on R. Don, Aberdeensh., Scotl., one

Investigator Strait, N. of Kangaroo Isl., S. Australia.
Iona, *isl.* off est. of Mull, Argyllsh., anc. burial pl. of Scottish kings; also isl., pleasure rest., on Hudson R., New York, U.S.A. [in farming regn., p. 3,860.]
Ionia, *t.* of Ionia co., Michigan, U.S.A., on Grand R.
Ionian Is., *grp.* in Mediterranean, belonging to Greece, total area 905 sq. m., p. 250,000; 7 islands in all; Corfu, Cephalonia, Zante, Santa Maura, Ithaca, Paxo, and Cerigo; formerly under Brit. protection.
Ionian Sea, that part of the Mediterr. between Greece on E. and Italy (and Sicily) on the W.
Iowa, *state* between the R.'s Mississippi and Missouri, U.S.A.; area 56,025 sq. m., p. 2,500,000; cap. Des Moines, in centre of coal region. Iowa c. (university, p. 8,006) stands on the Iowa R. (375 m. long, trib. of the Mississippi) in Johnson co. Iowa Falls is the name of a town in Hardin co., I., also on the I. River.
Ipek, *t.* in Turkey, Kosseveh vilayet, the anc. seat of the Serbian patriarch, p. 10,000.
Ipswich, *mkt. t.* and *mtg.* Suffolk, Eng., on R. Orwell, p. 73,939; also name of *manuf. t.* in Essex co., Mass., U.S.A.
Iqualada, *t.* in prov. Barcelona, Spain; cotton, ribbons, chocolate, p. 10,560.
Iquape, *sp.* São Paulo prov., Brazil, p. 6,427.
Iquique, or **Puerto de Iquique**, *t.* in Chili, cap. of *dep.* same prov. name; iodine and nitrate of soda trade; p. 42,460.
Irak, or **Irak Ajemi**, *prov.* of Centrl. Persia; soda growing and carpet weaving; area 138,224 sq. m.; the anc. Media, p. 1,000,000; cap. Sultabad.
Irak Arabi, *prov.* of Asiatic Turkey, the anc. Chaldaea, watered by R.'s Tigris and Euphrates.
Iran, *gt. Asiatic plateau*, embracing Persia, Baluchistan, and Afghanistan.
Irapuato, industri. *t.* in Central Mexico, p. 33,000.
Irawadi, *r.*, princ. R. of Burma, floweth (900 m.) to B. of Bengal. [thriving tr. p. 23,000.]
Irbid, *t.* in govt. Perm, Siberia, Russ.; ironworks and Irchester, *t.* in Northants, Eng., p. 1,860.
Ireland, the more westerly of the two princ. Brit. Isls., area 34,393 sq. m., p. 4,458,000; cap. Dublin (p.v.). Divided into provs. of Leinster, Munster, Ulster, and Connaught. Industries agr. (many sml. holdings), fisheries, mining, *manuf.* [Irish Sea.]
Ireland's Eye, *sm. rocky isl.* nr. Howth Harb. in the Ireland Isl., one of the Bermudas.
Irige, *t.* in Luzon, Philippine Is.; in dist. producing rice, sugar, tobacco, etc.; p. 17,000.
Irish Sea, that part of the Atlantic Ocean lying between Eng. and Wales and Ireland and S. of Scotl.
Irkutsk, great commercial c. of Asiatic Russ., on the Angara R., styled "the Paris of Siberia," cap. of prov. same name; p. 70,500.
Iron Acton, *par. nr.* Thornbury, Gloucestersh., Eng., p. 1,200. [3,204.]
Ironbridge, *dist.* of Madeley, Shropshire, Eng.
Iron Mountain, *t.* in S. France co. Missouri, U.S.A., p. 1,510; also *mtg. t.* in Dickinson co., Michigan, U.S.A., on the Menominee R., p. 10,340.
Ironton, *cap.* of Lawrence co., Ohio, U.S.A.; blast furnaces; p. 12,200.
Ironwood, *c.* Gogebic co., Michigan, U.S.A.; iron-mining; p. 10,153. [1,240.]
Iroquois, *vil.* in Dundas co., Montreal, Canada, p. 1,173.
Irish R., Siberia (1,900 m.), trib. of R. Obi.
Iruia, *t.* on N.E. frontier, Spain, nr. San Sebastian; tanning and brandy distillery; p. 10,000.
Irvine, *burgh* (of the Ayr group), Scotl., nr. mth. of R. Irvine; shipbldg., p. 10,180.
Irwell R., flows (30 m.) past Manchester to the Mersey.
Irwin, *bor.* of Westmoreland co., Penn., U.S.A., p. 4,673. [the Danube.]
Isar R., of Bavaria flows (166 m.) from the Tyrol to Isbarta, ch. *t.* of sanjak in Konia vilayet, Asia Minor; the anc. Baris; p. 20,000; suffered severely from earthquake in 1860.
Isabou, *L. nr.* Pyrenees, N. Italy.
Ischia, *isl.* in G. of Naples, Italy, area 26 sq. m., p. 27,000; fam. min. baths; Ischia t. has 7,000 inhab. Casamicciola (p. 3,500) was ruined by earthquake in 1883.

Ischl, *was. gl.* in Gmünden dist., Upper Austria, nr. the Schatberg mtn.; salt works; res. p. 20,000 (20,000 visitors annually). [Denmark.]

Ise, *ford* (30 m. by 20 m.), N. side of Zealand isl., *Isseghem*, mfg. t. nr. Bruges, Belgium, p. 10,065.

Isern, *dep.* in S. E. France, watered by R. Isère and Rhône; area 2,880 sq. m., p. 553,500; cap. Grenoble.

Iserlohn, t. in Westphalia, Pruss.; metal industries, pins, needles, etc. p. 28,500.

Isernia, mfg. t. in prov. Campobasso, Italy, p. (of dist.) 10,200.

Isfahan, or **Isfahān**, *prov.* Persia (anc. Aspadana), cap. Isfahan c., former cap. of Persia, on Zendarud R., p. 82,000, exclusive of Armenian col. of Gulfa on opp. bank of R., with 4,000 inhab.

Ishim, t. on R. same name (1,000 m. long) in Russian govt. Tobolsk; famous fair, one of the most imp. for agr. prod. in Siberia; p. 8,400.

Ishinomaki, t. in Japan, on Ishinomaki B., p. 20,129.

Ishpeming, c. in the Marquette iron dist. of Michigan, U.S.A., p. 13,500.

Isis, R., principal trib. of R. Thames, Eng., so named until its confluence with Thames at Dorchester

Ismum, industri. t. in Russia, p. 23,000. [Syria.]

Iskanderun, o. Alexandretta, *sp.* nr. Antioch, Iskardio, t. on upper Indus, Kashmir, India, p. 9,400.

Isle, R., of Perth and Forfar co.'s, Scot., trib. (40 m.) of R. Tay; also R. of Banffish, Scot., trib. (18 m.) of R. Deveron.

Islamabad, t. on R. Jhelum, Kashmir, India, p. 8,340.

Islampore, t. in Bombay Pres., India, p. 8,564.

Islay, *isl.* of Argyll co., Scot., 13 m. W. Kintyre, one of the Inner Hebrides, area 235 sq. m., p. 7,600.

Isle Jesus (area 85 sq. m.), in Jesus and Prairie R.'s, Quebec, Canada. [U.S.A.]

Isle Royal (40 m. long), in Lake Superior, Michigan, Isle Verte, *zst.* in R. St. Lawrence, Quebec, Canada; also t. on same; cap. of Temiscouata co., p. 3,470.

Isle, of Shoals, off Portsmouth, Maine, and New Hampshire, U.S.A. [of London, p. 43,316.]

Isleworth, *par.* on R. Thames, Middlesex, Eng., W. Islington, *bor.* and *dist.* of London, Eng., N. of City, p. 37,423; industri. and residential.

Islip, summer resort, New York, U.S.A., p. 7,200; also pars. in Oxford and Northants, Eng.

Ismail, t. on R. Danube, Bessarabia; fortified, p. 31,500.

Ismaïlia, t. on R. Timsah (Suez Canal centr. str.), Lower Egypt, p. 4,400; also name given to Gondokoro, on R. Nile. [Niene Creed was promulgated.]

Ismid, t. in Asia Minor, the anc. Nicæa, where the *Isola del Liri*, t. in Caserta prov., Campania, Italy; paper, cloth, and woollen mills; p. 7,100. [6,130.]

Isola della Scala, ironwks. t. nr. Verona, Italy, p. 10,400.

Isola Grossa, *isl.* in Adriatic, off Dalmatian coast (27 m. by 3 m.), p. 13,100.

Isfahan.—(See Isfahan.) [p. 6,540.]

Issoire, industri. t. on R. Couze, Puy-de-Dôme, France.

Isoudun, t. on the Thiéls dep. Indre, France; old keep, often besieged; p. 15,000.

Issy, *zst.* on R. Seine, subn. to Paris, France, p. 12,240.

Issyk-Kul, t. in Russ. Centr. Asia; alt. 4,476 ft., area 2,465 sq. m., drained by R. Chu

Istria, *crown land*, of the Cisleithan part of Austria-Hungary; area 2,913 sq. m., p. 350,000; includes several isls. in the Adriatic

Italy, *kingdom* of S. Europe, an extensive pen., Continental portn. and numerous isls. (largest Sardinia and Sicily). Total area 114,400 sq. m., p. 34,700,000; cap. Rome (*zst.*). Exports, silk, velvet, olive oil, sulphur, fruit, wines, olives, etc.

Itasca, L. a source of Mississippi R., Minnesota, U.S.A., alt. 2,575 ft. [Water.]

Itchen R., Hants, Eng., flows (25 m.) to Southampton

Itchaca, or **Thiaka**, one of the Ionian Isls., Greece, area 37 sq. m., p. 13,410; chf. t. Vathi; also t. on Cayuga L., New York, U.S.A., p. 10,000.

Itzehoe, t. on R. Stör, Holstein, Pruss., oldest t. in the prov.; good trade; p. 13,124.

Ivanovo-Voznesensk, cotton manuf. t. of Middle Russia, govt. Vladimir, p. 55,000.

Ivica, **Iviza**, o. **Iliaba**, one of the Balearic Isls. in the Mediterranean, Spain, p. 23,445; cap. Ivica, or La Ciudad (fort.), p. 7,480.

Ivinghoe, mkt. t. Bucks, Eng., p. 2,374.

Ivory Coast, French W. Africa, *colony* between Liberia and the Gold Coast; area 119,500 sq. m., p. 1,500,000.

Ivrea, t. on the Dora Baltea, Italy, nr. Turin, p. 6,000.

Ivry-sur-Seine, *vill.* on R. Seine, subn. to Paris, p. 30,240. [Plymouth, p. 1,730.]

Ivybridge, *par.* in Devon, Eng., on R. Tavy, nr. Ixelles, t. in prov. Brabant, Belgium, subn. to Brussels, p. 60,000. [12,000.]

Ixmiquilpan, t. in Hidalgo State, Mexico, p. (dist.) 12,400.

Ixtlahuaca, industri. t. of Mexico, 60 m. N.W. of the cap., p. 14,200. [Industrial; p. 27,215.]

Ixtlan, t. in Oajaca State, Mexico; commercial and lxworth, *par.* nr. Bury St. Edmunds, Suffolk, Eng., p. 1,107.

Izhevsky Zarod, or **Izhevskoi**, t. in Ural Mtns., Russn. govt. Vyatka; gunmkg. and steel works; p. 22,400.

Izieux, t. nr. St. Etienne, dep. Loire, France, p. 6,242.

Izium, fort. t. on R. Donetz, govt. Kharkov, Russ., p. 19,540.

Izmail.—(See Ismail.) [12,700.]

Izucar, t. nr. Popocatepetl, Puebla State, Mexico, p. 12,000.

Izu-No-Schichi-To, seven *isls.* nr. Tokio Bay, Japan, used as convict stations from 12th century.

Izyum.—(See Isium.)

J

Jabalpur, or **Jubbulpore**, *div.* in Centl. Prov., India, area 18,688 sq. m., p. 2,250,000; also dist. in same div., area 3,918 sq. m., p. 600,000; cap. J., p. 76,400.

Jabary, R. on Brazilian and Peruvian frontier (450 m.), trib. of R. Marañon.

Jabea, cst. t. nr. Alicante, Spain, p. 6,480.

Jabok, R. Syria, affluent of R. Jordan (45 m.).

Jaca, t. in Huesca prov., Spain, on Pyrenean high-rd. to France, p. 5,460.

Jackson, *com. tr.* t. Hinds co., Mississippi, U.S.A., p. 21,262; also c. on Grand R., Jackson co., Michigan, U.S.A. wagon-mkg., p. 31,443; also iron-wkg. t. in Jackson co., Ohio, U.S.A., p. 4,850; also university t. in Madison co., Tennessee, U.S.A., p. 16,200; also vil. in Amador co., California, U.S.A., p. 4,846.

Jacksonville, t. in Duval co., Florida, U.S.A., on St. John's R.; large timber, cotton, and cigar output, p. 57,000 (more than half cold.); also t. in Morgan co., Illinois, U.S.A., collegiate, p. 17,240.

Jacmel, *zst.* on S. cst., Haiti, p. 6,246.

Jacobabad, t. in Upper Sind, dist., Bombay, India; mlt. and admin. hqtrs. p. 13,700.

Jacobina, t. on Itapicura R., Bahia, Brazil, p. 10,470.

Jacobsdaal, t. on Riet R., Orange K. Col., S. Africa, p. (dist.) 3,865.

Jacobstadt, t. on R. Ilma, Courland, Russ., p. 4,867.

Jacques-Cartier, R., Quebec, Canada (50 m.), trib. of St. Lawrence.

Jade, or **Jahde**, *struary* of N. sea, Oldenburg, Germany; fine harbor, and entrance to Pruss. naval pt. of Wilhelmshaven.

Jaen, *prov.* S. Spain, area 5,184 sq. m.; mines, agr., p. 515,000; cap. J., c. nr. Granada, p. 26,804.

Jafarabad, *cap.* State of J., Kathiawar, India, p. 4,827.

Jaffa, or **Jappa** (the anc. Joppa), t. nr. Jerusalem, Palestine, orange-growing dist., p. 45,000.

Jaffna, or **Jaffnapatanam**, t. on W. cst. of J. isl., N. Ceylon, p. 34,500. [Jaffna, p. 12,500.]

Jagadhri, t. in Amballa dist., Punjab, India, nr. R. Jagadri, t. in S. S. nr. Morara, R. p. 4,540.

Jagerdorf, or **Karnow**, t. in govt. dist. same name, Austrian Silesia; textile, p. 15,564.

Jagganath.—(See Juggernaut.)

Jagisipur, t. Shahabad dist., Bengal, India, p. 13,263.

Jahanabad, t. nr. Gaya, Bengal, India, p. 5,470.

Jahangerabad, t. in Bulandshar dist., N.W. Prov., India, p. 70,848.

Jahde.—(See Jade.)

Jaicea, or **Jaitze**, anc. royal t. Bosnia on R. Verbas; old fort and pal., p. 5,000.

Jaipur, or **Jeypore**, native State Rajputana, India; area 14,465 sq. m., p. 2,500,000; cap. J. a great commerc. centre, p. 150,000; also t. same name in Vizagapatnam dist., Madras Pres., India, p. 4,870.

* **Jalalabad**, t. S. Cabul R., Afghanistan, p. 7,400; also two t.'s in N.W. Prov., India, one of the Shahjahanpur dist., p. 8,216; and one in Muzaffarnagar dist., p. 7,260.

- Jalapur**, *t.* in Gujarat dist., Punjab, India, p. 13,300.
- Jalaun**, *dist.* Alkhabad div., N.W. Prov., India, area 1,480 sq. m., p. 400,750; also *t.* in same dist. (of wh. Urai is hdqrs.), p. 10,000. [p. 16,000: good tr.]
- Jalesar**, *t.* Etah dist., N.W. Prov., India, nr. Muttra.
- Jalisco**, *state* of Mexico; well timbl., agr., mining; area 31,855 sq. m., p. 1,250,000; cap. Guadalajara.
- Jalandhar**, *div.* of Punjab, India, area 12,571 sq. m., p. 2,500,000; also dist. in the same div., N. of R. Sutlej, area 1,322 sq. m., p. 790,000; cap. J., c. p. 52,500.
- Jalon**, *t.* in Spain (180 m.), trib. of R. Ebro.
- Jalpaiguri**, *dist.* Kuch Behar div., Bengal, India; area 2,884 sq. m., p. 581,750; cap. J., c. p. 8,230.
- Jamaica**, princ. *isl.* of Brit. W. Indies, divided into three counties, Middlesex, Surrey and Cornwall; area 4,209 sq. m., p. 831,383. Exports sugar, rum, spices, coffee. Cap. Kingston, fine harb.; suffered severely by earthquake and fire January 1907, nearly 2,000 lives lost. Also name of *t.* on Long Island, N. York, U.S.A.; p. 12,000. [Africa.]
- James**, Brit. *str.* (fortif.) at mth. of R. Gambia, N.W.
- James Bay**, S. part of Hudson Bay (length abt. 250 m.).
- James**, *R.* (or Powhattan) Virginia, U.S.A., flows (450 m.) from Blue Ridge to Chesapeake B. [U.S.A.]
- James Fork**, *R.* affl. of White R. (60 m.), Missouri.
- Jamesstown**, *t.* nr. Balloch, Dunbartonsh., Scotl., p. 2,250; also cap. of *isl.* of St. Helena, p. 1,050; also *t.* in S. Australia, p. 1,120; also dist. in James City co., Virginia, U.S.A., nr. mth. of J. R., where first Eng. perm. settlement was founded in 1607; also *c.* in Chautauque co., New York, U.S.A., summer resort and mfg.; p. 3,297.
- Jameson**, *t.* in Wonnangatta dist., Victoria, p. 1,240.
- Jammu**, or **Jummoo**, cap. of nat. State of J. in Kashmir, N. India, on R. Tavi, p. 34,260. Burnt down 1808, but since rebuilt. Jammu State (apart from Kashmir) has a p. of 1,500,000. [p. 14,877.]
- Janesville**, *t.* in ag. reg., Rock co., Wisconsin, U.S.A.,
- Janagpur**, *t.* on Bhagratpur, Murshidabad dist., Bengal, India, p. 10,465.
- Janina**, or **Vanina**, cap. *vilayet* same name, on L. Janina, Europ. Turkey, famous for embroidery wk., p. 20,000.
- Janluay**, *t.* in Panay, Philippine Isls., fine woven fabrics, p. 28,000.
- Jan Jira**, native *str.* Konkani div., Bombay, India, among the W. Ghats, area 324 sq. m., 86,400, ch. *t.* (fortif.) Janjira. [the Arctic Oc.]
- Jan-Meyen**, *ist.* betw. Spitzbergen and Iceland, in
- Jaora**, nat. *st.* Malwa Agency, India, area 581 sq. m., p. 130,000, cap. J. t., p. 22,400.
- Japan**, insular *emp.* of E. Asia, S. of Corea, China and As. Russia; consists of Hondu, Kiu-siu, Shikoku, Yesso, and numerous smlr. isls.; tot. area 177,661 sq. m. Produces rice, silk, cotton, tobacco, tea, hemp; much mineral wealth, many thriving industries, great commercial and political enterprise, mountainous (volcanic), p. 52 mil., cap. Tokio. [p. 2.]
- Japan**, Sea of, portion of Pacific Oc. running between Corea, As. Russia, and Japan. [p. 6,840.]
- Japara**, fort. *t.*, cap. prov. same name, N. cst. Java.
- Japura**, *R.* rising in the Andes, of Colombia, S. America, and flowing (1,500 m.) through Ecuador and Brazil to R. Amazon. [Carpentaria]
- Jardine**, *R.* of N. Queensland, flowing (23 m.) to G. of Jarkent, dist. *t.* of Russ., Cen. Asia, prov. Semiretchenck, tr. with China, p. 28,500.
- Jarlsberg**, *dist.* Norway, S.W. Christiania, area (with Larvik) 911 sq. m., p. 86,246.
- Jaramira**, *t.* in Bohemia, dist. Königinhof; textile, jute, and sugar factories, p. 6,967.
- Jaroslaw**, or **Jaroslaw**, mfg. *t.* in Galicia, Austria, on R. San; garrison, p. 24,100.
- Jarrow**, *bor.* on R. Tyne, co. Durham, Eng., shipbldg. Venerable Bede born here; p. 33,732.
- Jassy**, *t.* in Roumania, former cap. Moldavia, in vineyd. dist., active tr. and manuf., p. 80,500; area of J. dist. 1,202 sq. m., p. 195,060.
- Jász Berezn**, manuf. *t.* nr. Pesth, Hungary, p. 23,400.
- Jath**, nat. *dist.* Decan div., Bombay, India; area (with Khanapur) 979 sq. m., p. 72,500, cap. J., t., p. 92 in a [p. 12,000.]
- Jativa**, *t.* prov. Valencia, Spain, mart. *f.* agr. prod.,
- Jauer**, *t.* on the Roaring Niesse, Silesia prov., Pruss. famous for sausages, p. 13,500.
- Jauja**, *t.* in Junin dep., Central Peru, p. 15,000.
- Jaunpur**, *dist.* Benares div., N.W. Prov., India; area 1,550 sq. m., p. 1,202,750, cap. J., on R. Gumbi, p. 42,500.
- Java**, *isl.* (Dutch poss.) of the Malay Arch.; area 50,530 sq. m., p. 30,250,000, mtns. (many volcanic); prod. rice, sugar, cotton, spices, coffee, cap. Batavia (p. 97,000).
- Javana**, *t.* on N. cst., Java, p. 20,540.
- Java Sea**, part of the Pacific Oc. between N. cst. Java, Borneo, and Sumatra. [p. 7,784.]
- Jawad**, *t.* in Gwalior, Centl. India, nr. Neemuch, p. 17,564.
- Jawalpur**, *t.* on R. Ganges, Saharanpur dist., N.W. Prov. India, p. 15,564.
- Jawhar**, nat. *str.* Konkani div., Bombay, India, area 534 sq. m., p. 47,500, cap. J., t. 50 m. N.E. of Thana, p. 3,100.
- Jaworow**, trdg. and mfg. *t.* in Galicia, Austria, p. 12,000.
- Jaworzno**, mkt. *pl.* in mining dist. of Galicia, nr. Cracow, p. 9,854.
- Jaxartes**, or **Syr Daria**, *R.* of Asiatic Russ., flowing 1,450 m. from Tian Shan mtns. to Sea of Aral.
- Jaxt**, or **Jagst** *R.* of Wurtemberg (80 m.), trib. of R. Neckar. [Penn., U.S.A., p. 6,121.]
- Jeanette**, *bor.* in nat. gas. regn., Westmorland co.,
- Jebel-Akdar**, *mt.* S.W. of Muscat, Arabia, alt. 6,017 ft.
- Jebel-Basran**, high table land of Syria (alt. 6,000 ft.), nr. S. of Galilee. [p. 16,500 ft.]
- Jebel-Serbal**, *mt.* nr. Horeb, Sinai penin., Syria, alt. 7,611 ft.
- Jehrahl**, *t.* in Russk. Transcaucasia, gt. tr. with Persia, p. 11,370. [woollen mills, p. 2,752.]
- Jedburgh**, *c.* of Roxburgh, Scotl., on R. Jed.
- Jedo**, or **Yeddo**, old name of Tokio, the Japanese cap.
- Jeddore**, fishery *t.* on cst. Nova Scotia, nr. Halifax, p. 2,337. [p. 2,565.]
- Jedlersdorf**, industri. *t.* Flonsdorf dist., Lower Austria.
- Jefferson**, *c.* of Jefferson co., Wisconsin, U.S.A., p. 4,100, 1,510 *t.* on big Cypress River, Texas, U.S.A., p. 3,874. [U.S.A., good tr., p. 12,000.]
- Jefferson City**, on the Missouri R., Cole co., Missouri.
- Jeffersonville**, mfg. *t.* in Clark co., Indiana, U.S.A., on R. Ohio, at the hd. of the falls, p. 11,010.
- Jehlam**, *dist.* in Rawalpindi div. of the Punjab, India; area 3,910 sq. m., p. 500,500; cap. J., c. (p. 21,500) on J. R., most W. of the five R's of the Punjab, flowing (450 m.) from Kashmir to Join the Chenab. [fine.]
- Jehoshaphat**, famous valley nr. Mt. of Olives, Palest.
- Jelisk**, *t.* in N. Caucasus, Russ., in Jeksk B., Sea of Azof; exports corn, linseed, &c., p. 21,692.
- Jekyl Isl.**, off S. cst. Georgia, U.S.A., nr. Brunswick; separated from the mainland by Jekyl Sound.
- Jelalabad**. [See Jalalabad.] [Belgium, p. 12,272.]
- Jemappes**, industri. *t.* on the R. Rhine, prov. Hannaut.
- Jemtland**, or **Ostersund**, Swedish prov. on Norwegian bdr., area 20,123 sq. m., p. 94,670; cap. Ostersund.
- Jena**, *t.* on R. Saale, Saxo-Weimar, Germany; famous university, p. 13,625. [Thuringen, p. abt. 10,000.]
- Jenneh**, *t.* on R. Niger, Soudan, Africa, 285 m. S.W. of
- Jerba**, or **Gerba**, *isl.* (22 m. long) in G. of Caba, Tunis, p. 5,124.
- Jeremie**, *str.* of S.W. Haiti, good tr., p. 10,473.
- Jeréz de la Frontera**, or **Xerez**, *t.* nr. Cadiz, Andalusia, Spain, noted for sherry, (p. decreasing) 54,000.
- Jeréz de los Caballeros**, *t.* nr. Bajados, Spain, p. 8,546. [Roman and Byzantine remains.]
- Jericho**, now **Richa**, *vil.* in Jordan Valley, Palestine, Jerilderie, *t.* in N.S.W., on the Edward R., nr. the Victorian border, p. 1,240.
- Jermyn**, *bor.*, Penn., U.S.A., nr. Bald Mtn, Lackawanna, p. 7,600. [p. (dist.) 1,420.]
- Jerry's Plains**, post *t.* in N.S.W., 144 m. N. Sydney.
- Jersey**, largest of Channel Isls. belonging to Britain, 23 m. W. of French cst., area 45 sq. m., p. 53,540. Prod. potatoes, fruit, cattle, &c.; cap. St. Heliers.
- Jersey City**, sptr. *t.* cap. Hudson co., New Jersey, U.S.A., opp. New York on Hudson R., p. 267,799. Imp. commerce and manuf.
- Jessville**, *t.* in Jersey co., Illinois, U.S.A., p. 3,145.
- Jerusalem**, *c.* of Palestine, 33 m. S.E. of Jaffa, 2,660 ft. above sea-level, among ruins between Dead S. and Mediterr. The "Holy City" or "City of Peace"

- of the Jews; anciently called "Jebus," many times besieged and captured. Now chf. t. of a Turkish sanja, p. (nearly) 50,000. [7,840]
- Jessmond, *N. suburb* of Newcastle-on-Tyne, Eng., p. 1,500,000. Cap. Jessor t. (or Kasoar) on R. Bhairab; p. 8,754.
- Jesus Isl. (See Isle Jesus.)
- Jever or Jauer, t. nr. Oldenburg, Germany, p. 5,255.
- Jewar, t. in Bulandshar dist. N.W. Prov., India, p. 6,372.
- Jhagore. (See Jalpur.) [p. 345,600: cap. Patan.]
- Jhalawar, nat. st. Rajputana, India, area 2,694 sq. m., Jhang, dist. Mooltan div. Punjab, area 5,702 sq. m., p. 306,500. Cap. J., c. p. (with Maghiana) 22,115.
- Jhansi, div. of N.W. Prov., India; area 4,984 sq. m., p. 1,000,000; also dist. same name, area 1,567 sq. m., p. 333,500; Cap. Jhansi-Naohad, v. nr. Gwalior.
- Jiddah, or Djiddah, spt. t. of Arabia, on El-Hejaz, nr. Mecca, p. 18,000.
- Jimena de la Frontera, t. nr. Cadiz, Spain, p. 8,560.
- Jind, nat. st. of the Punjab, India, E. of R. Sutlej, p. 250,000, area 1,232 sq. m.; cap. J., t. p. 7,248.
- Jizak, t. in Russ. Cent. Asia, prov. Samarkand, good tr., p. 16,560.
- Joachimsthal, t. nr. Carlsbad, Bohemia, mining centre, Jodhpur, nat. st. Rajputana, India, N. of Cutch, area 37,000 sq. m., p. 2,500,000. Cap. J., c. with many fine bldgs., p. 60,500.
- Jogogaria, Dutch resid. in Java; area 2,200 sq. m., cap. J., c. connected with Batavia by train; citadel, with palace; p. 60,000.
- Johanna, isl. of the Comoro grp. in Mozambique Channel (26 m. by 18 m.), p. 12,762.
- Johannesburg, t. in the Transvaal Col., Brit. S. Africa, — Witwatersdorp goldflds.; p. 165,000.
- John of Groat's House, place nr. the most N.E., extremity of Gr. Britain, in co. Caithness, Scotl.
- Johnshaven, fishing v. nr. Kincardine, Scotl. nr. Montrose, p. 1,100.
- Johnson C. in Washington co., Tennessee, U.S.A., p. 4,860; also name of several ts. in various parts of the U.S.A. [5,963]
- Johnston, t. in co. Providence, Rhode Isl., U.S.A., p. 1,000.
- Johnstone, mfgt. t. Renfrewsh., Scotl., on Black Cart R., nr. Paisley, p. 12,045.
- Johnstown, glove mfgt. t. Fulton co., New York, U.S.A., p. 12,437; also bor. on Conemaugh R., Cambria co., Penn., U.S.A., immense steel wks., p. 55,482.
- Johore, or Johor, mfgt. Malayian state at S. end of peninsula; area 8,000 sq. m., p. 300,000, two thirds Chinese; cap. Johor Bharu, opp. Singapore, p. 20,000.
- Joigny, t. on R. Yonne, France, noted for wine, p. 6,748. [barony and later Principality, p. 4,500.]
- Joinville, t. in Haute Marne dep., France, seat of anc. Jojo, t. on S. est. of Culia, nr. Santiago, p. 14,260.
- Joliet, t. in Will co., Illinois, U.S.A., ry. and mfgt. centre, p. 34,670. [Quebec, Canada, p. 3,504.]
- Joliet, or Industry Vil., t. on R. L'Assomption, Joaze, or Eltich, t. nr. Kaschau, Hungary, p. 3,747.
- Jonkoping, match mfgt. t. on L. Wetter, Sweden, p. 27,000. [p. 3,734.]
- Jonzac, t. on R. Seugne, Charente-Inferieure, France, p. 1,000.
- Joplin City, in lead mining regn. of Jasper co., Missouri, U.S.A., p. 32,073.
- Joppa. See Jaffa.
- Jordan R., famous in Bible histy and one of the most remarkable streams in the world. Flowing S. from Anti-Lebanon (200 m.) along a sinuous course mostly below sea-level to the Dead Sea; its rapidity and variant depth render it un navigable, and no t. of any importance has ever been built on its banks.
- Jorullo, volcano in Michoacan st., Mexico; alt. 4,265 ft.
- Josephstadt (formerly Pless), t. and artilly. depôt in Königshof govt., N.E. Bohemia, Austria, p. 6,500.
- Josfakan, prov. Persia, area 7,000 sq. m., ch. t. Mamlich, in famous carpet mkg. ilas.
- Joubert, v. in Transvaal col., Brit. S. Africa, p. 1,740.
- Joux, t., nr. the Joux, canton, Vaud, Switzerl. (length 5 m.), drained by R. Orde.
- Joyce's Country, mts. dist. co. Galway, Ireland.
- Juan de Fuca Strait, betw. Vancouver Isl. and Washington Terr., U.S.A.
- Juan Fernandez, rocky isl. belonging to Chili, in S. Pacific O.; area 38 sq. m. Famous as solitary res. Alex. Selkirk (Robinson Crusoe), 1704-9.
- Juba, or Roques R., East Africa, flows to Indian O., nr. the Equator.
- Jubbulpore. [See Jabalpur.] [nr. Valencia.]
- Jucar R., of E. Spain, flowing 250 m. to Mediterranean.
- Juchipila, t. in Mexico, nr. Guadalupe, p. 7,054.
- Judea, S. div. of Palestine in the Roman Period, W. of the Jordan and Dead S. and S. of Samaria.
- Judenberg, t. on K. Mur. Styria, Austria, p. 4,263.
- Juggernaut, or Jagannath (also called Puri), v. of Orissa, Bengal, India, famous for its temple, and festival of the heathen god Vishnu and his monster car; p. 89,000.
- Jujuy, prov. in the Argentine Repub., area 18,077 sq. m. p. 98,750; cap. Jujuy, c. on the Rio Grande, p. 5,120.
- Julian Alps, the easternmost range in Venetia, Carniola, and Görz-Gradska; highest pk. Terglou, 9,394 ft. [Farewell, p. 2,600.]
- Julianshaab, t. in Greenland, 110 m. N.W. of C. Julich, t. on R. Ruhr, Renish Pruss., nr. Aachen.
- Jullundur. (See Jalandhar.) [p. 5,540.]
- Jumetz, industr. and mining t. in Belgium, nr. Charleroi, p. 24,306.
- Jumilla, mfgt. t. in Spain, nr. Murcia, p. 14,682.
- Junma R. (860 m.), chf. trib. of R. Ganges, rises in the Himalayas and flows past Delhi and Agra to Allahabad.
- Junagadh, native state Gujarat div. Bombay, India; area 3,281 sq. m., p. 500,000, cap. J., p. 35,000.
- Junction City, on Kansas R., Davis Co., Kansas, p. 4,564. [ment in Alaska, p. 2,800.]
- Juneau City (formerly Harrisburg), mining settlement, township N.S.W., nr. Cootanundra, p. (dist.) 2,327.
- Jung Buntzlau, mfgt. t. on R. Iser, Bohemia, p. 14,140. [13,071 ft.]
- Jungau Mtn. of the Bernese Alps, Switz., alt. 11,000 ft.
- Junata, R., Pennsylvania, U.S.A., flows 140 m. to the Susquehanna at Petersburg; picturesque scenery.
- Junin, interior dep. Peru, traversed by the Andes; area 37,745 sq. m., p. 400,500; chf. t. Jauija, p. 15,000.
- Jura, mtn. chn. Switzerland and France (180 m. by 30 m.), highest pk., Mt. Mollelon, alt. 6,588 ft.; also dep. E. France, named from the mtns, area 1,028 sq. m., p. 282,000. Many vineys. Cap. Lons-le-Saulnier; also isl. off W. coast. Argyll, Scotl., area 120 sq. m., p. 785. Sound of J. separates the isls. of J. and Islay.
- Jurjura, mtn. chn. in Algeria, N. Africa.
- Jurua. (See Amazon.)
- Jussay, t. in prov. Haute Saône, France, p. 3,723.
- Juticalpa, t. in Olanchin dep., Honduras Repub., p. 14,651.
- Jüterbock (or Jüterbogk), industr. t. nr. Potsdam, Pruss.; Swedish victory, 1654; p. 7,546.
- Jutland, *penins.* of Denmark, washed by N. Sea, Skagerrack, and Kattegat; area 9,976 sq. m.; flat, low-lying and infertile, but now being reclaimed and irrigated, p. 2,200,000.
- Jyhoon, R. Asia Minor, rising in Mt. Taurus, and flowing to G. of Iskanderun.

Kadi, *t.* in Baroda state, India; industr. and commrl.; p. 17,540.

Kadiak Isl., the largest *isl.* (90 m. long) of Western Alaska in the N. Pacific; fr. trdg. and extensive salmon fishg. and canning. Chf. settlement, St. Paul, on Chiniak B.; p. 1,800 (one-third Eskimos).

Kadina, *t.* nr. Wallaroo, S. Australia, p. 1,786.

Kaffa, fort. Russian *t.* in the Crimea, p. 12,000; also E. African state (sometimes called Gomaraland) S. of Abyssinia, cap. Bonga.

Kaffraria, extensive *dist.* of Cape Colony, S. Africa, comprising Griqualand East, Tempoland, Transkei, and Pondoland; area 18,310 sq. m.; p. 700,000 (12,000 whites).

Kafristan, tract of country between Chitral and Afghan terr., S. of the Hindu Kush, peopled by (abt. 600,000) Kaffirs, mainly of the Sial Posh (or black-robed) tribe.

Kagalnik, *t.* in prov. of the Don Cossacks, S.E. Russia, nr. Rostov; imp't. fairs, and trade in horses, cattle, and fish; p. 15,000. [tr.; p. 52,400.]

Kagoshima, *cap.* at S. end of Kiu-siu isl., Japan; *gt.* **Kahlur**, or Bilaspur, native state India, in the Punjab, on the lower slopes of the Himalayas; area 451 sq. m., p. 95,840; cap. Bilaspur, on R. Sutlej. [1,897.]

Kaiapoi, coast *t.* nr. Christchurch, New Zealand, p. 1,400.

Kai-fong, *c.* on Hoang Hok, Ho-nan, China, one of the most anc. cities in the empire; p. 100,000.

Kailiora, *t.* on coast of New Zealand (S. isl.), 106 m. N.E. of Christchurch; p. (dist.) 1,740.

Kaira, or Kheda, *dist.* of the Gujarat div., India, area 1,609 sq. m., p. (greatly decreased by famine) 715,500; cap. Kheda, 120 m. N.W. of Ahmedabad, p. 10,540.

Kairwan, holy *c.* of the Mohammedans, 80 m. S.E. of Tunis, N. Africa; founded circa 670; magnificent mosque; p. (est.) 25,000.

Kaiserlautern, *mtg.* *t.* nr. Mannheim, Bavaria; *gt.* industr. activity; p. 54,480. [of R. Elbe, opened 1805.]

Kaiser Wilhelm Canal, connecting Kiel with the mth. Kaiser Wilhelm Isl., sm. group in the Antarctic, belonging to Graham Land.

Kaiser Wilhelm's Land, German *protect.* New Guinea, area 72,000 sq. m., p. 120,000.

Kaitangata, *t.* nr. Dunedin, N. Zealand, p. (dist.) 1,645.

Kalach, Cossack *t.* on R. Don, S.E. Russia; *gt.* tr. res.; p. (much increased by visitors in summer) 9,680.

Kalafat, *t.* on R. Danube, opp. Widin, Roumania, p. 4,702.

Kalahandi, or Karond, feudal state Cent. Prov., India; area 3,745 sq. m., p. 338,400.

Kalahari, Desert, *gt.* infertile tract (alt. 3,700 ft.) of S. Cent. Africa, between the Orange R. and the Zambezi, area 200,000 sq. m.; inhabited chiefly by Bushmen and mainly comprised in Bechuanaland Protectorate.

Kalahasti, *t.* in N. Arcot dist., Madras Pres., India, p. 10,120. [industry, olive oil export; p. 15,400.]

Kalamata, *t.* in the Morea, Greece, nr. Sparta, silk Kalamazoo, *cap.* K. co. on K. R. (200 m. long), Michigan, U.S.A.; manuf., collge; p. 39,437.

Kalamito Bay, Black Sea, W. of the Crimea.

Kalat, *cap.* Baluchistan, fortifd.; alt. 6,780 ft.; p. 8,250.

Kalbe, *t.* on R. Saale, Prussia, Saxony, p. 9,460.

Kaldenkirchen, *t.* nr. Kempen, Rhensh Prov., p. 3,760.

Kale Water, R. co. Roxburgh, Scotl. (20 m.) trib. of R. Teviot. [large tr. in tea; p. 71,800.]

Kalgan, fort. *t.* in Pechili, China, nr. the Great Wall; **Kalgoorlie**, *t.* nr. Coolgardie, in gold-field dist., W. Australia; p. (dist.) 15,000.

Kaluga, *prov.* Middle Russ.; minl. and industr., area 11,042 sq. m., p. 2,000,000; ch. t., K., on R. Oka, p. 60,430. [salt wks.; p. 8,460.]

Kaluzz, *t.* on R. Lomnice, Galicia, Austria; large Kalyan, *cap.* Thana dist., Bombay Pres., India; *gt.* tr.; p. 13,574.

Kama, *t.* Kuryia (1,400 m.) trib. of R. Volga, which it joins S. of Kazan.

Kamabul, *t.* of Centl. Africa, trib. of the Congo; also native *t.* on banks of same, p. 6,000.

Kaman, *t.* in Bhartpur state, Rajputana, India, nr. Muttra, p. 12,460.

Kambar, *t.* in Upper Sindh, India, p. 6,540.

Kamchatka, (See **Kamtschatka**).

Kamenakaya, *t.* on N. Donets R., Don Prov., Russia, in colliery dist.; p. 25,600. [cloth manuf.; p. 8,247.]

Kamenz, *t.* on Black Elster R., nr. Dresden, Saxony, Kamerun. (See **Cameroon**.)

Kameniec, or Kamenets Podolsk, *t.* in Podolia gov't. of Russ., nr. Austn. frontier; thriving indust.; p. 38,070. [Russ.; p. 37,845.]

Kamishin, *mtg.* *t.* on R. Volga, Saratov gov't.

Kamloops, *tr.* *port* Brit. Columbia, on Penny's R., p. (dist.) 2,860.

Kamnitz, *t.* nr. Leitmeritz, Bohemia, p. 4,942.

Kamouraska, *t.* cap. K. co., Quebec, Canada, on R. St. Lawrence, p. 2,104. [prov.; p. 19,265.]

Kampen, *mtg.* *t.* on R. Yssel, Holland, Overysel

Kamrup, *dist.* in Brahmaputra vall. div., Assam, Brit. India; area 2,600 sq. m., p. 589,500 (decreased by fever); cap. Gauhati.

Kamschatka, *penin.* on N.E. Asia, pt. of Russ. gov't. Primorsk, area 465,637 sq. m.; mtns. with volcanoes (Kluchevskaya, alt. 16,512 ft.); much mineral wealth, fisheries on coast, climate cold, wet and foggy; cap. Petropaulovski, on E. est., good roadstead; p. 6,243.

Kamthi, or Kampti, *t.* in Nagpur dist., Centl. Prov. India, on R. Kanhan, nr. Nagpur *c.*, hdqrs. of mil. dist. and busy tr. *c.*, p. 45,400.

Kanyahin, *dist.* tr. *c.* on K. Volga, Saratov gov't., Russia, p. 10,408. [nr. Yokolama, p. 4,327.]

Kanagania, treaty pt. of Japan on Tokio Bay, Japan.

Kanara, or Canara, N. and S. *dist.* of Brit. India. N. K. is in Bomlay (Konkan div.), area 3,390 sq. m., p. 455,000, dist. hdqrs. Karwar. S. K. is attached to Madras, and has its hdqrs. at Mangalore, area 3,902 sq. m., p. (increasing) 1,200,000.

Kanauj, anc. *c.* nr. R. Ganges, Farukhabad dist., India, N.W. Prov.; shrine of Rajah Janpal and mag. mosque, p. 17,400.

Kanzawa, *t.*, *prov.* Kaga, Nippon isl., Japan; thriving ind. and *gt.* tr., p. 112,000.

Kandahar, *prov.* S. Afghanistan, mtns. p. over 14 mil.; cap. K. (largest in A. and former st. of gov't.), alt. 3,400 ft., 370 m. from Herat on N.W., p. 30,000.

Kandalaksha, *vil.* on G. of K., Finland, N. Russ., p. 4,644.

Kandy, *t.* nr. centre of Ceylon, very beautiful, historical, and prosperous; many fine temples and tombs, R. K. kings, formerly the cap., p. 27,400. Infertile *dist.*, p. 378,544, Brit. auth. established 1815.

Kane, *bor.* McKean co., Penn., U.S.A., nat. gas regn., p. 8,640.

Kaneff, or Kanief, *t.* on the R. Dnieper, Kiell gov't., **Kanem**, *dist.* of Soudan, bordng. on L. Chad.

Kangaroo Isl., off east. of S. Australia, area 1,970 sq. m., p. 4,600.

Kangovar, sm. *dist.* Persia, between Kermanshah and Hamadan, chf. t. K., p. 3,200.

Kangra, *dist.*, Jullundur div., Punjab, Brit. India, area 9,274 sq. m., p. 770,408; tea cultivn.; cap. K. (or Nagarkot), p. 5,340.

Kanisa, industr. *t.* on R. Theiss, co. Bacs, Hungary, p. 14,360; also Nagy (or Great) Kanisa, mkt. t. in the Trans-Danub. co. of Zala, Hungary, p. 21,200.

Kankakee R., Indiana and Illinois, U.S.A., trib. (230 m.) of Des Plaines R.; also t. on same in Illinois, Kanji. (See **Kanauj**). [p. 15,400.]

Kano, *t.* of Sokoto, Soudan; cloth-dyeing; p. 30,000.

Kansas, state W. of Missouri R., U.S.A., area 82,000 sq. m., called the "Sunflower State", cattle-raising and fattening, p. 1,700,000; cap. Topeka.

Kansas City, Jackson co., Missouri, U.S.A.; great live-stock mart, p. 250,000; adjoins Kansas City,

- Wyandotte co., Kansas, meat-packing centre, p. 82,321. [p. 8,646.]
- Yanalek**, Russ. *t.* Yeniseisk, E. Siberia, on the Kan R., Kan-Su, most N.W. prov. China, area 260,588 sq. m., p. 4,500,000; cap. Lan-Tchou.
- Yanurk**, mkt. *t.* in co. Cork, Ireland, p. 1,890.
- Yanum**, *t.* of Little Tibet, on the Upper Sutlej R., p. (est.) 80,000. [p. 15,230.]
- Yapadwanj**, fort, *t.* Kalra dist., Bombay Pres., India.
- Yapowar**, industr. *t.* in wheat-growing dist., Light co., nr. Adelaide, S. Australia, p. 3,453.
- Yapurthala**, nat. state in the Punjab, India, area 598 sq. m., p. 316,142 [cap. K.; t. nr. K. Bena, p. 18,400. Karachev, old *t.* in govt. Orel, Russ.; hemp factories and oilworks, p. 18,400.]
- Yarachi**, or **Kurachi**, *sst.* c. Sindh prov., Bombay, Brit. India, on the Indus delta; thriving trade, p. 120,000; cap. K. dist., area 14,182 sq. m., p. 614,000.
- Yarak**, *islet* (15 m. round) in Persian G., free haven.
- Yarakor Mtns.**, separating E. Turkistan from Kashmir, highest pt. Dapsang (28,278 ft.); also name of two anc. cities in Mongolia.
- Yara Sea**, E. of Nova Zembla in Arctic Ocean.
- Yarabegir**, *convent* in Timur plateau, Asia, area 8,500 sq. m., p. (about) 100,000; also R. Central Asia, trib. of Upper Amu Daria.
- Yarauli**, or **Kerowee**, nat. state Rajputana agency, India, area 1,229 sq. m., p. 157,049; cap. K., t., p. 24,000. [Burma, area (approx.) 2,500 sq. m.]
- Yaren-Ni**, country of the Red Karen, feudatory to Karistadt, *t.* on R. K., Croatia, nr. Egypt, the anc. Thebes, ruined Temples.
- Yarnal**, *dist.* in Delhi div., Punjab, India; area 2,440 sq. m., p. 895,400; cap. K. t. nr. Juuna R., cotton manuf., horse fairs, p. 22,500.
- Yarnul**, or **Karnool**, *dist.* in Madras Pres., India, area 7,514 sq. m., p. 875,680; cap. K., t. at confluence of Tungabhadra and Hundri R.'s, p. 26,745.
- Yarolnenthal**, *t.* suburban to Prague, Bohemia, Austria; manuf., p. 3,208. [Colony, S. Africa.]
- Yarook**, extensive *plains* between mtn. ranges, Cape Kara, fort, *c.* on the Arpa-Tchal, Asiatic Russia, taken from the Turks, p. 20,540.
- Yasaulik**, *t.* nr. Adrianople, E. Roumelia, captured, at the surrender of the Shipka Pass in 1878, from the Turks; famous for attar of roses; p. (about) 20,000.
- Yaschau**, or **Kositz**, *c.* Hungary, on the Hornad R.; commercial centre, Gothic cathedral; p. 28,657.
- Yashan**, *prov.* Persia, between Isfahan and Kuni; cap. *c.* in the plains, exporting silk and rosewater, p. 30,000.
- Yashgar**, commercial *c.* of Chinese Turkistan, p. 80,000; also R. flowing 500 m. in F. Turkistan to the Yarkand.
- Yashmir**, Indian nat. state. (See Cashmere.)
- Yasia**, famous *vil.* nr. Garakhpur, India; Buddhist remains.
- Yasimov**, *t.* in govt. Kazan, Russia, p. 16,432.
- Yasala**, *t.* nr. Athara R., Soudan, p. 7,200.
- Yastamuni**, or **Costombone**, *t.* on Kara-Su, Asia Minor, cap. of Turkish vilayet same name; great commercial centre, p. 40,000. [5,385 ft.]
- Yatahdia**, *min.* nr. Augusta, Maine, U.S.A., alt. 1,400 ft., mining *dist.* S. Centr. Africa, betwn. Kamalombo and Lupala R.'s.
- Yatha**, *dist.* Upper Burma, rich in minerals; area 7,000 sq. m., p. 180,000; hdqrs. of *dist.*; cap. Katha; p. 18,000.
- Yublawar**, or **Kattywar**, *penin.* within the Gujarat div. of Bombay, India; area 23,300 sq. m., p. 3,000,000; suffered in famine of 1899-1900.
- Yuthlamba**, or **Quathlamba**, *min.* range in Cape Col., S. Africa, called also the Drakensburg (p. 21) [2,760. Katoomba, mining *t.* in Sydney, N.S.W., p. (of *dist.*)]
- Yatrine**, Loch, S.W. Perthsh., Scotl. on R. Teith, 8 m. long; principal source of Glasgow water supply; beautiful scenery.
- Yatowitz**, *t.* in Prussia, prov. Silesia; ironwks. and colly. *dist.*; p. 35,500.
- Yaukansa**, industr. *t.* nr. Lake Winnebago, Wisconsin, U.S.A., p. 7,694. [5,685.]
- Yawal**, one of the Sandwich Isls., area 543 sq. m., p. 3,400.
- Yawal**, or **Cavalla**, *t.* in Turkey, on B. of Kavala; great tobacco preparing and exporting centre; p. 16,000.
- Yawakawa**, mining *t.* New Zealand, (nth. isl.) on Hokianga R., p. 2,780. [18,560.]
- Yayalpattanam**, *t.* nr. Tuticorin, Madras Pres., India.
- Yazan**, *govt.* Middle Russia, at conf. of Volga and Kama; area 24,607 sq. m., p. 2,790,000; mainly agr., cap. K. (p. 120,000), impt. tr. centre for E. Russ., Turkestan, Bokhara, and Persia; soap and candle factories. [30,000.]
- Yazvin**, *t.* in Irak-Ajemi, Persia; good transit tr.; p. Keady, *t.* nr. Armagh, Ireland, p. 1,540. [p. 5,896.]
- Yearney**, industr. *vil.* Buffalo co., Nebraska, U.S.A., p. 9,500.
- Yearse**, mfg. *t.* nr. Bolton, Lancs., Eng., p. 9,500.
- Yekskemet**, thriving industr. *t.* nr. Budapesth, Hungary, p. 62,000.
- Yeczel**, *vil.* W. of Pesth, Hungary, p. 6,426.
- Yedatnath**, place of pilgrimage, Garwal dist., India; famous temple. [cap. K., t., p. 6,080.]
- Yediri**, *prov.* in Java on S. coast, p. nearly 1,000,000.
- Yedoo**, or **Kedu**, Dutch settlement nr. centre of Java, cap. Megalung. [p. 1,249.]
- Yeele**, *par.* nr. Newcastle-under-Lyne, Staffs., Eng., Keeling Isla., called also Cocos and Cocos K. Isls., coral grp. in Indian Oc., included in Straits Settlements, p. 1,249.
- Yeen**, mtn., nr. Ballater, in co.'s Forfar and Aberdeen, Scotl., alt. 3,077 ft. [U.S.A., p. 10,484.]
- Yeeke**, mfg. *c.* in Chester co., New Hampshire, Keeper, *min.* in co. Tipperary, nr. Newport, Ireland, alt. 2,265 ft. [York, U.S.A., p. 3,843.]
- Yeevesville**, *vil.* on Au Sable R., Clinton co., New Keewatin, *dist.* Canada, N. of Manitoba, area 445,000 sq. m., chiefly "barren lands."
- Yegworth**, *t.* on R. Soar, nr. Loughborough, Leicestersh., Eng., p. 2,764.
- Yehi**, *t.* on R. Rhine, Baden, opp. Strasburg, p. 3,500.
- Yeghley**, mfg. *t.* nr. Bradford, W.R. Yorks., Eng., p. 43,490. [agr. *dist.*, p. 4,499.]
- Yelth**, *t.* on R. Isla, Banff, Scotl., mfg. industr. in Kelat, or **Khelat**, *cap.* of Brit. Baluchistan, p. 14,300.
- Yella**, mkt. *t.* on R. Blackwater, co. Meath, Ireland, Kelly's Isle, in L. Erne, Ohio, U.S.A. [p. 2,822.]
- Yello**, *t.* on R. Tweed, co. Roxburgh, Scotl.; fishing t. cap. making; p. 3,982. [barred by French, 1884.]
- Yelung**, treat. *port.* on N. coast of Formosa, Long.
- Yelvin**, R. of Scotl., flows (21 m.) S.W. to the Clyde at Partick. [(*dist.*) 1,260.]
- Yemle**, *par.* in Wilts, Eng., nr. Malmesbury, p. (dist.) 3,000.
- Yempen**, industr. *t.* nr. Halisz, Posen, Prussia, p. 6,320, also mfg. *t.* in Rhénish Pruss., nr. Dusseldorf, p. 5,470. [export; p. 3,489.]
- Yempaley**, *st.* N.S.W., on R. Macleay; grain Kempton, *t.* Tasmania, 29 in. N. Hobart, p. (dist.) 3,000.
- Yemsing**, *vil.* Kent, Eng., nr. Sevenoaks, p. (dist.) 1,845.
- Yen**, or **Kayan**, R. of India, N.W. prov., flows (230 m.) to the Junna; also R. of Scotl., co. Kirkcudbright; trib. (28 m.) of R. Dee.
- Yendal**, [or **Kirkby Kendal**, mkt. *t.* on L. Windermere, co. Westmorland, Eng., p. 14,023.]
- Yendallville**, *c.* Noble co., Indiana, U.S.A., p. 4,260.
- Yenderes**, *t.* nr. St. Miklos, Török, Hungary, p. 5,092.
- Yendrapara**, *t.* in Cuttack dist., Orissa, India, p. 15,400.
- Yeneh**, *c.* tr. centre, Upper Egypt, on R. Nile, p. 170,000; cap. K., p. 10,000.
- Yenia**, or **Kenya**, *min.* in Brit. E. Africa, alt. 18,200 ft.
- Yenilworth**, mkt. *t.* nr. Leamington, Warwicksh., Eng.; ruined castle; p. 5,776.
- Yenley**, *par.* and res. *dist.* Surrey, Eng., p. 1,307.
- Yennmare**, *t.* nr. Blackwater, co. Kerry, Ireland, p. 2,280; Yennmare R., or B. (28 m.), mlet. of Kerry coast, Ireland. [From Loch Tay.]
- Yennmore**, *vil.* Perthsh., Scotl., at efflux of R. Tay
- Yennebec**, R. Maine, U.S.A., flows (200 m.) from Moosehead L. to the Atlantic.
- Yennett R.**, Wilts and Bucks, Eng., trib. (44 m.) of R. Thames. [Lambeth, p. 48,619.]
- Yennington**, S. *suburb*, London, Eng., pt. of bor. of Kenosha, mfg. *t.* cap. of K. co., Wisconsin, U.S.A., on W. shore of L. Michigan, p. 21,371.
- Yennal Green**, eccl. *dist.* Middlesex, subn. to London, Eng., p. 11,460.
- Yennal Rise**, res. *sub.* of London, Eng., p. 5,800.

Kensal Town, eccl. dist. W. London, Eng.; resid., p. 10,665.

Kensington, pari. bor. of W. London, Eng.; mainly resid., contns. K. Palace and Gardens, p. 172,402.

Kent, R. Westmorland, Eng., flows 20 m. past Kendal, to Morecambe B.; also maritime co. of S. E. Eng.; area 1,535 sq. m., p. 1,045,661; agr., stock raising; hop and cherry growing. [Eng., p. 52,400.]

Kentish Town, resid. industr. dist. N.W. London, Kenton, vil. on Scioto R., Hardin co., Ohio, U.S.A. p. 7,800. 1650 ft. long.

Kent's Cavern, bone cave nr. Torquay, Devon, Eng.

Kentucky, E. Cent. st. in the Mississippi basin, U.S.A.; area 40,400 sq. m., p. 2,200,000; agr., mining and manuf.; cap. Frankfort; large c. Louisville, at falls of Ohio. Kentucky R. flows (350 m.) from the Cumberland Mts. to the Ohio. [Mississippi R., p. 15,000.]

Keokuk, industr. c. cap. Lee co., Iowa, U.S.A., on the Keokuk (the anc. Kir-Harseth) / in fertile dist. Syrian vilayet, Asiatic Turkey; castle of the Crusaders, p. 7,800.

Kerang, t. on London R., Victoria, p. (dist.) 1,864

Kerasund, t. in Trebizond vilayet, Asia Minor (the anc. Pharnacia); Byzantine fortress, p. 9,500.

Kerbela, t. in Baghdad vilayet, Asiatic Turkey, a place of pilgrimage, the sacred c. of the Shiites, p. 65,000

Kerguelen Land, or Desolation Isl. (50 m. long), an uninhabited isl. in the Southern Ocn., claimed by France.

Kerkenna Isls., grp. in G. of Cales, E. of Tunis

Kerkuk, t. in Mosul vilayet, Asiatic Turkey, mart for Arab horses, p. 10,000

Kermadec Isls., grp. (Brit.) in S. Pacific Oc.

Kerman, prov. of Persia, on P. G.; area 9,652 sq. m., p. 600,000; cap. Kerman Ghirdjan, p. 30,000.

Kermanshah, prov. of Persia, S. of Kurdistan, p. 400,000; cap. K. p. 35,000.

Kermuk, t. on L. Chad, Cent. Africa; tr. centre.

Kerry, maritime co. Ireland, prov. Munster; area 1,816 sq. m., p. (decreasing) 130,298; cap. Tralee.

Kertsch, spt. on K. Strait, gov. Taurida, Russ.; mineral baths, wheat export, p. 30,634

Kesteven, div. of Lincoln co., Eng., embracing Stamford and Sleaford (q.v.).

Keewick, mkt. t. nr. L. Derwentwater, Penrith div., Cumberland, Eng., on R. Great, p. 4,401

Ketcho, or Kesho, also called Hauloi, commerc. c. on R. Sang Roi, Tonkin; gt. mart for lacquered ware, silks, etc., occupied by the French in 1824, p. 50,000.

Ketchum, t. Idaho, U.S.A., p. 4,847.

Kettering, t. (mkt. and mfg.) co. Northants, Eng., p. 20,976.

Kew, par. on R. Thames, Surrey, Eng., opp. Brentford; contains Kew Gardens and Royal Observatory, p. (dist.) 4,864; also township near Melbourne, Victoria, p. 6,243.

Kewanee, t. in Henry co., Illinois, U.S.A., p. 3,406.

Keweenaw Bay, Michigan, U.S.A., inlet of L. Superior; K. Point, promontory on same, copper mining dist.

Key, or Ke Isls., group W. of Ayu Isls., in Malay Arch., total p. 18,000. [Jersey, U.S.A., p. 4,877.]

Keyport, t. on Raritan Bay, Monmouth co., New Jersey, vil. on New Creek, Mineral co., W. Virginia, U.S.A., p. 2,468. [dist.] 3,863.

Keystone, stn. N.W. Indian territory, U.S.A., p. 17,000.

Key West, cap. Munro co., Florida, U.S.A., on sm. Isl. same name; naval stn. and cigar factories; p. 17,000.

Khabarovsk, cap. c. Amur regn. Asiatic Russ., and of Khabarovsk div., of same; imp. mil. centre; cathedral; p. 21,000.

Khalibar, or Khyber, difficult mtn. pass betw. on the Punjab and Afghanistan, commanding route from Peshawar to Kabul, traversed by Alexander the Great and by two Brit. expeditions.

Khairagarh, nat. st. Chatisgarh div., Cent. Prov., India, area 940 sq. m., p. (decreasing by famine) 137,500; Res. of Rajah, K., L., p. 5,89.

Kharipur, nat. st. Sindh prov., Bombay, India, area 6,100 sq. m., p. 200,000; cap. K., t., on canal nr. R. Indus; p. 6,230.

Khamgaon, t. in Akola dist., Berar, India, p. 15,866.

Khamoesh, prov. Persia, between Kazvin and Tabris.

Khandesh, dist. Deccan div., Bombay, India; area 10,907 sq. m., p. 1,500,000; cap. Dhulga.

Khandiva, t. in Nimar dist., Cent. Prov., India; Jain and other temples; gd. tr.; p. 16,000. [10,000.]

Khar, sm. fertile prov. Persia; the anc. Choura; p. Kharkoff, a gov. of Little Russia, in basin of R. s. Don and Dnieper; area 21,041 sq. m.; mainly agr.; cap. K., gt. c. on R. Donets; university, cathedral, imp. com. and ind.; p. 200,000.

Kharput, in Memuret-el-Aziz vilayet, Asia Minor; old castle, Armenian atrocities, 1895; p. 20,000.

Khartoum, cap. of Anglo-Egyptian Sudan, at union of White and Blue Nile; p. 20,000; the Sirdar's palace and the Gordon College are about a mile N.E. of this, and the latter stands where Gordon fell in 1885. City taken from the Mahdists by Lord Kitchener in 1898.

Khasi and Jaintia Hills, div. in Assam, Brit. India; area 6,041 sq. m.; p. 190,420. Hqrs. Shillong.

Khatmandu, cap. of Nepal kingdom, on R. Vishnumati; picturesque architecture; of anc. carved wood-work; great trade; p. (est.) 50,000.

Khelat. (See Kelat.)

Kheri, dist. in Lucknow div., Oudh, Brit. India, area 2,966 sq. m., p. 905,864. Admin. hqrs., Lucknow, nr. Kheri, t. p. 8,073.

Kherson, gov., S. W. Russia, Black Sea coast, area 27,523 sq. m., p. 3,500,000. Prolific grain-growing dist., cap. K., c. p. 75,000. Ch. t., Odessa (q.v.).

Khingan, Gt. and Little, mtn. ranges, Mongolia and Manchuria, separating the plateau from the plains.

Khiva, formerly a kingdom of Cent. Asia, now a Khanate under Russian vassalage, occupying the delta of the Amu Daria. Area 23,316 sq. m., p. 800,000; cap. K., c. (fortified), 235 m. W. of Ioklari, p. 12,000. [centre; p. 30,000.]

Khojend, t. on Sir Daria, Russ., Turkestan, imp. tr. Khokand, dist. t. prov. Ferghana, Russ. Cent. Asia; contains palace of the old Khans; exports silk and cotton; p. 15,000. [20,000.]

Kholm, t. in Russ. Poland, nr. Lublin, good tr., p. Khorassan, great prov. Persia, S. of Khiva, and W. of Afghanistan; area 105,236 sq. m., p. 1,000,000; cap. Meshed (q.v.).

Khulna, dist. Presidency div., Bengal, Brit. India; area 2,077 sq. m., p. 1,25,000; cap. Khulna, on R. Bhairab; good tr., p. 9,400.

Khurpa, t. in Bulandshahr dist. N.W. Prov., India; fine tr. cent., new Jain temple, p. 30,290.

Khuzistan, or Ar-Rabistan, fertile prov. of Persia, at head of P. Gulf, area 39,000 sq. m., the anc. Susiana; chf. t. Shuster.

Ko-khta, t. on Chinese frontier of S. Siberia, p. 6,427

Kiang-Si, inland prov. China, S. of the Yang-tse Kiang, area 45,903 sq. m., p. 26,500,000, cap. Kain-chang.

Kiang-Su, maritime prov. China, exports much silk, area 44,500 sq. m., p. (est.) 22,000,000, cap. Nan-King.

Kiana, t. in Bornu kingdom, W. Africa, p. (est.) 20,000; also spt. N.S.W., 92 m. S. of Sydenh. p. (dist.) 8,747. [Chad.]

Kiao-chow, spt. on S. side of Shantung Peninsula, Kicking Horse Pass, over the Rocky Mtns., Brit. Columbia. [p. 24,333.]

Kidderminster, carpet mfg. t. in Worcestersh., Eng., Kildgrove, mfg. t. in Staffordsh., Eng., p. 9,012.

Kiel, spt. Schleswig-Holstein, Pruss., Germany's chf. naval port on the Baltic, shipbldg. and allied industries, p. 215,000.

Kiele, gov. in S.W. Russian Poland, min. and agr., area 3,896 sq. m., p. 650,000; cap. K., t., factories, p. 30,000.

Kiev, gov. of Little Russia, rich in minerals, area 19,600 sq. m., p. 4,500,000, agr. and mfg. industries; cap. K., c. on the Dnieper, sugar tr., p. 250,000.

Kilbarchan, t. nr. Glasgow, Renfrewsh., Scotl., industr. p. 3,000.

Kilbride, E., F. Lanark, Scotl., p. 1,342.

Kilbride, W., t. nr. Ardrossan, Ayrshire, Scotl., p. 1,631.

Kilburn, N.W. suburb of London, Eng., retail, and Kildare, ind. co. Leinster prov., Ireland, area 654 sq. m., p. (increasing) 66,498; also mkt. t., cap. of foregoing co., p. 1,174. Close by is the famous race-course, the Curragh of Kildare (q.v.).

Kilimanjaro, *mt.*, volcanic E. Africa, highest pk. in the cont., alt. 19,700 ft.

Kilindria, *sul. t.* on S. cst. Asia Minor. the anc.

Kilendero, *p.* 3,465. *Co. Clare*, Ireland, *p.* 1,600.

Kilkee, *sul. t.* *Co. Clare*, Ireland, *p.* 1,456.

Kilkenny, inland co. Loinster prov., Ireland area

795 sq. m., *p.* (decreasing) 74,821; *cap. K.*, *t.* on R.

Nore, *p.* 20,513. [*Co. Ireland.*]

Kilkieran Bay, large and intricate *indent.*, on Galway

Killala, *sul. t.* on K. Bay, *Co. Mayo*, Ireland, *p.* 780.

Killarloe, on K. Shannon, *Co. Clare*, Ireland, *p.* 1,100.

Killarney, industr. *t.* in *Co. Kerry*, Ireland, *p.* 6,430.

Killarney, Lakes of, Lower, Middle, and Upper, all

celebrated for their beauty; attractive tourist resorts.

Killary Harbour, inlet between *Co.'s* Galway and Mayo,

Ireland. [*Co. Blair Athole.*]

Killicrankle Pass of, Perthish, *Co. Scot.*, on R. Garry.

Killing, picturesque *val.* at head of Loch Tay, Perthish,

Co. Scot. [*Co. Vermont, U.S.A.*, alt. 4,222 ft.]

Killington Peak, one of the Great *mt.s.*, Rutland

Kilmainham, *W. suburb* of Dublin, Ireland.

Kilmacolm, hydrographic resort on Gryfe Water,

Renfrewsh, *Co. Scot.*, *p.* 1,170.

Kilmarnock, *ty. centre* and burgh of the Kilmarnock

grps. on K. *Co. Ayrsh.*, *Co. Scot.*, carpet factories,

textile and ironworks, *p.* 24,720.

Kilmore, *t.* on Melbourne, Victoria, *p.* (dist.), 3,473.

Kilpatrick, Old, or West, *val.* on K. Clyde, Dumbar-

tonsh, *Co. Scot.*, *p.* 1,236.

Kilrush, *sul. t.* S.W. *Co. Clare*, on R. Shannon, Ireland,

p. 3,800. [*Quarries*, *p.* 8,106.]

Kilsey, burgh of Stirlingsh, *Co. Scot.*, whinstone

qilwa, or *qilwa*, *harbr.*, Germ. E. Africa. [*p.* 4,945.]

Kilwinning, *t.* on R. Garnock, N. Ayrsh, *Co. Scot.*

Kilberley, *t.* on Vaal R., Cape Colony, S. Africa,

centre of Graveland West, diamond mining dist.,

p. 25,000; also industr. suburb of Nottingham, Eng.,

p. 5,460; also gold-field dist. in West Australia; and

sm. t.s. in S. Australia and Queensland.

Kincardine, or the Mearns, I. maritime *co. Scot.*, between

Forfar and Aberd. *alt.* 383 sq. m.;

agr. and fishing; *p.* 41,007, *co. t.* St. John's.

Kinder Scout, or The Peak, *mt.* in N. Derbysh.

Eng., alt., 2,080 ft. [*on Avon*, *p.* 1,226.]

Kineton, mkt. *t.* in Warwicksh, Eng., nr Stratford-

George's Sound, West Australia; fine harbr. and

bay, nr Albany. [*Co. t.* *grp.*, *p.* 1,549.]

Kinghorn, burgh, Fife co., *Co. Scot.*, one of the Kirk-

ing Is., Behring Sea, U.S.A. possession; also

is. at ent. Bass's Straits, Tasmania; also one of *sm.*

French grps. in Low Arch., S. Pacific.

Kingman, industr. *t.* in Kingman co., Kar-as, U.S.A.,

p. 4,973. [*p.* 3,049.]

Kingsbridge, mkt. *t.* on Devon cst., nr Exeter, Eng.,

p. 821. [*Co. Warwicksh, Eng.,*

p. 3,204.]

Kingsclere, mkt. *t.* on Basingstoke, Hants, Eng.

King's County, prov. Leinster, Ireland; area,

772 sq. m.; much marshy and including Bog of

Allen, also barren uplands (Sueve Bloom and other

mt.s.); *p.* 56,700 (decreasing); *co. t.* Tallamore.

King's Langley, *t.* nr Berkhamstead, Herts, Eng.,

p. 1,580. [*Over*, *p.* 20,205.]

King's Lynn, bor. and *sul. t.* Norfolk, Eng., on R.

King's Mt., ridge in N. and S. Carol. U.S.A.,

spur of the Blue Ridge, highest pk. Mt. Crowder;

alt. 5,000 ft. (t. *Eng.*, nr Birmingham *p.* 81,163.)

King's Norton (with Northfield), industr. *t.* Worces-

ter's River, California, U.S.A., flows from Sierra

Nevada to L. Tulare.

Kingston, *t.* Frontenac co. Ontario, Canada, on L.

O., old fort and thriving port, *p.* 18,500; also cap.

Ulster co., New York, U.S.A., on R. Hudson,

tobacco manuf.; *p.* 25,000; also cap. Jamaica,

p. 40,000, disastrous earthquake, Jan. 1907, nearly

2,000 lives lost; also *t.* in St. Vincent, Brit. W. Indies,

p. 6,200; also smaller *t.s.* in Victoria S. Australia,

Tasmania, New Zealand, New Brunswick, and many

of the U.S.A.

Kingston-on-Thames, resident. and mkt. *t.* of Surrey,

Eng., on R. Thames, 12 m. W. of London Bridge,

with Royal Park, and fine scenery; *p.* 37,977.

Kingston-upon-Hull.—(See Hull.)

Kingstown, *sul. t.* in *Co. Dublin*, Ireland; packet and

fishy station, and wat. pl.; *p.* 17,227. [*p.* 12,705.]

Kingswood, dist. nr Bristol, *Co. Gloucester*, Eng.,

p. 1,819. [*Co. Cheng*, *t.* of Klangse prov., China; porce-

lain manuf.; *p.* (est.) 500,000. [*p.* 1,819.]

Kington, mkt. *t.* *Co. Hereford*, Eng. on R. Arrow,

p. 1,819. [*Co. Spey*, *Co. Inverness*, *Co. Scot.*]

King William Land, *isl.* of Franklin terr., Canada.

King William's Town, *t.* on Buffalo R., Cape Colony,

S. Africa, nr E. London; busy *t.* centre; *p.* 7,560.

Kini Bahu, *mt.*, alt. 3,684 ft., and L. of Brit. N. Borneo.

Kinnaird Head, prom. with lighthouse, nr Fraser-

burgh, on N.E. Aberdeensh. coast, *Co. Scot.*, 179 ft.

Kinnoull Hill, nr R. Tay, E. of Perth, *Co. Scot.*, alt.

Kinnoull, *sul. mtd. co. Scot.*, between Fife and Perth;

area 87 sq. m.; *p.* 7,528; contains Loch Leven, on

which stands *co. t.*, *K.*, *p.* 2,618. [*land*, *p.* 4,220.]

Kinsale, fishery *t.* on ext. on R. Bandon, *Co. Cork*, Ire-

land, *p.* 1,819. [*Co. Don*, nr Aberdeen, *Co. Scot.*; one

of the Elgin Burghs, *p.* 818.]

Kintyre, *pen. S.* Argyllsh, *Co. Scot.*, between Firth of

Clyde and Atlantic, 40 m. long by 11 m. wide at

greatest; southern pt., the Mull of Kintyre. [3,371.]

Kintyre, industr. *t.* on R. Stour, *Co. Stafford*, Eng.,

p. 1,819. [*Co. Stour*, *Co. Stafford*, Eng.,

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area 874 sq. m., p. 88,000 (decreased nearly one-third by famine); cap. K., flourishing tr., p. 15,200.

Kishenev, *t.* in Bessarabia, Russia, nr. the Roumanian frontier; gt. annual fair; vineyards, distilleries, etc.; p. 150,000.

Kishni, or **Kishnia**, *isl.* nr. entree to Persian G., Kishenev, R., Florida, flows (90 m.) to L. Okeechobee.

Kissingen, *vat. pl.* Bavaria, on the Franconian Saale; pop. spa (via. by 15,000 persons annually); res. p. 5,000.

Kistna, or **Krishna**, *dist.* N.E. Madras Pres., India; area 8,397 sq. m., p. 2,950,000. Admin. hdqrs. Masulipatam, first Brit. settlement on the Coromandel est. [Penn., U.S.A., p. 5,263.]

Kittanning, *bor.* on Allegany R., Armstrong co., Kittittany Mtns., or Blue Mtns., *range* in Penn. and New Jersey, U.S.A., a continuation of the Appalachian system.

Kittery, *t.* (with naval dockyard) on Piscataqua R., York co., Maine, U.S.A., p. 6,230. [p. 53,000.]

Kiu-Kiang, *c.* and treaty pt. on Yang-tse-Kiang, China; **Kiung Chow**.—(See **Kiong Tchou**.)

Kiu-Siu, or **Kimo**, most S. of the large *isl.* of Japan, area 16,840 sq. m.; p. 6,500,000; chf. t. Nagasaki.

Kivu, L. Central Africa, N. of L. Tanganyika, length 55 m., area 1,200 sq. m.; p. 10,000.

Kizil-Arval, *t.* in Russian Turkestan, E. of Caspian S., **Kizil-Irmak**, (or Red River), the largest A. of Asia Minor, rising in the Kizil Dagh and flowing past Zara to Sivas and (600 m.) to the Black Sea.

Kizliar, fort, *t.* in Stravropol govt., Russia, nr. the Caspian S., in vineyard dist., p. 9,740.

Kladno, mining *t.* nr. Prague, Bohemia, p. 19,100.

Klagenfurth, *t.* on R. Glan, cap. of Austrian Duchy of Carinthia; white-lead, tobacco and silk factories; p. 18,945. [by K. R. (275 m.) to Pacific.]

Klamath, L. California and Oregon, U. S., discharges Kiattaga, mfg. *t.* nr. Pilsen, Bohemia, Austria, p. 13,750.

Klausenburg, or **Kolozsar**, *cap.* of K. co., Transylvania, on R. Szamos; seat of learning and tr., gt. fairs, p. 35,000.

Klausthal, *dist.* in Hanover, Pruss., in the Upper Harz Mtns., p. 8,500.

Klondyke R., in N.W. Terr., Canada, trib. of Yukon, in gold-mine district, area 1,500 sq. m. [Canal.]

Knapdale, *dist.* of co. Argyll, Scotl., S. of Argyll, Knapenborough, mkt. t. W.R. Yorks., Eng., on R. Nidd; old castle, petrifying well, p. 5,375. [p. 1,880.]

Knighton, mkt. *t.* in Radnorsh., Wales, on R. Temes, **Knightbridge**, *dist.* between Hyde Park and Kensington, p. (with Mayfair) 26,183. [Comm.] 22,400.

Knin, mfg. *t.* in Dalmatia, Austria, on R. Kerka, p. 12,000.

Knockmellown Mtns., co.'s Waterford and Tipperary, Ireland, highest pt. 2,609 ft. [2,730.]

Knoviton, *t.* in Braine co., Quebec, Canada, p. (dist.) 12,000.

Knoxville, *c.* cap. of Knox co., Tennessee, U. S.A.; university and manuf., p. 37,400; also *t.* in Marion co., Iowa, U.S.A., p. 4,860; also smel. *t.* in Illinois, U.S.A. [leather factories, p. 5,760.]

Knuttsford, mkt. *t.* in Cheshire, Eng.; cotton, worsted, **Kobdo**, *t.* in W. Mongolia, China; impnt. cattle *t.* p. 6,000; in stock-raising dist. same name. [p. 148,500.]

Kobe, *t.* nr. Hingo, Japan, flourishing port; great tr., **Kodiak Isl.**, Alaska, separated from the peninsula by Shelikoff Strait. [p. 7,500.]

Koesfeld, *t.* nr. Dortmund, Westphalia, Prussia; castle, **Kohat**, *dist.*, Peshawar div., Punjab, India, area 2,771 sq. m., p. 220,000; cap. K. [military *t.*] p. 20,260.

Kob-i-Baba Mtns., Afghanistan, spur of the Hindu Kush, highest pt. 17,640 ft.

Kokomo, *c.* in agr. region on Wild Cat R., Howard co., Indiana, U.S.A., p. 12,240. [no outlet.]

Koko-Nor, salt L. Mongolia, China; area 2,040 $\frac{1}{2}$ m., **Kola**, *penin.* N. Europe (Russ. terr.), extension of Lapland; also fort. *t.* in same, Archangel govt.

Kolaba, *dist.* in nat. State Mysore, India, area 2,845 sq. m., p. 725,000; cap. K., t. 43 m. E. of Bangalore, p. 13,120.

Kolberg, *vat.* in Pomerania, Pruss., near the Baltic sea; *vat. pl.* with brine and mud baths, p. 22,400.

Kolding, mkt. *t.* Vejle co., Denmark; good harbour and tr., p. 13,428.

Kolhapur, nat. *stat.* in Deccan div., Bombay, India.

area 2,816 sq. m., p. 912,000; cap. Kolapur or Karvir, p. 50,000. [pottery works, p. 10,460.]

Kolo, *t.* in Russian Poland, on an *isl.* of the Warta;

Kolomea, mfg. *t.* in dist. same name on R. Pruth, Galicia, Austria, p. 42,000 (half Jew.).

Kolonna, *t.* on R. Moskva, Moscow govt., Russia; silk and other factories, p. 24,474.

Kolozsar.—(See **Klausenburg**.)

Kolpino, ironworks (crown), *t.* on R. Izhora, Russia, nr. St. Petersburg, p. 12,780. [tr. p. 13,464.]

Kolyvan, *t.* in Tomsk govt., W. Siberia, Russia; impnt. **Kolyvanskij-Zavod**, *t.* on Byelaya R., Tomsk govt., Russia; Jasper and marble works, p. 5,740.

Komarom, industr. *t.* cap. of Hungarian co. same name, on R. Danube, p. 21,562.

Komatsu, *t.* in govt. dist. same name, Bohemia, R. Aussig; ry. works, watch and toy-making, p. 16,520.

Kong Mtns., in nat. State same name, West Africa, between Soudan and Upper Guinea; alt. 2,500 ft.

Kongsberg, silver mining *t.* Norway, co. Buskerud, nr. Christiania, p. 5,679.

Konia, agr. and past. *vilayet*, Asia Minor, with carpet and silk industries, p. 1,000,000; chf. t. K. (the anc. Iconium), many fine mosques, and impnt. tr., p. 45,000.

Königsgratz, garrión *t.* in Bohemia nr. Prague; here was fought the battle of Sadova in 1866, p. 10,222. [weaving, etc., p. 17,220.]

Königinhof, *t.* nr. Gitchin, N.E. Bohemia, cotton.

Königsberg, *c.* Prussia, first-class fortress and army hdqrs.; cathedral, splendid bldgs., impnt. industr., p. 250,000. [dist. and ironworks, p. 65,480.]

Königsbütte, *t.* in prov. Silesia, Prussia; colliery

Königswinter, summer *resort* on R. Rhine, Prussia, at ft. of the Drachenfels, nr. Cologne, p. 3,200.

Konstantinovskaya, *Cossack vil.* on R. Don, nr. Novocherkassk; cattle fairs, p. 11,500. [p. 25,000.]

Konstantop, *dist.* *t.* in Chernivitz govt., Russia, grain tr.

Kooringa, or **Burra**, mining *t.* on Burra Creek, South Australia, in new wheat-growing area, p. (dist.) 4,260.

Kootenay R., or **Flat Bow R.**, *trib.* (450 m.) of the Columbia K., flowing in Montana, U.S.A., and Brit. Columbia.

Koprili, *t.* in Macedonia, Turkey, nr. Uskub; p. 5,873.

Korat, walled *t.* in Siamese prov. same name, busy tr. centre, p. 2,260.

Kordofan, *country* of the E. Soudan, Africa, area est. by Gordon at 100,000 sq. m., p. 300,000; cap. El-Obeid.

Korea.—(See **Corea**.)

Korets, old *t.* in Volhynia govt., S.W. Russia; often plundered by Cossacks, Poles, and Lithuanians; now a busy industr. centre, p. 10,000.

Korenburg, *t.* on K. Danube, Lower Austria; salt and corn tr., textile ind., p. 8,450.

Korostyshev, summer *resort*, in Kieff govt., S.W. Russia, mineral springs, p. 13,216.

Korsör, *sp.* on Zealand *isl.*, Denmark, E. shore of the Gt. Belt, fine harb., p. 6,547.

Kortrijk, *t.* on R. Ouder, Pruss. Silesia; good river tr., royal stud farm, p. 7,649.

Kosen, summer *resort* on R. Saale, Saxony, Pruss., p. 13,000.

Koskiusko, *t.* in Attala co., Mississippi, U.S.A., p. 4,764; also *p.* in the Australian Alps, alt. 7,308 ft.

Koslin, *t.* in Pomerania, Pruss., cadet acad., p. 21,260.

Koslov, industr. *t.* in Tambov govt., Russia, large tr., p. 38,564. [15,563.]

Kossler, or **Cossier**, *sp.* Egypt, on the Red Sea, p. 13,500.

Kostroma, *govt.* Middle Russia, area 32,702 sq. m., mainly woodland, p. 470,000; cap. K., *c.* at conflu. of Volga and K. R., p. 42,642.

Kotab, nat. *stat.* S. Rajputana Agency, India; area 5,700 sq. m., p. 545,000; cap. K., *c.* on Chatalul K.; p. 33,500 (decreasing).

Kotar, *sp.* Travancore stn., India, p. 7,562. [11,243.]

Kota Rajah, *t.* in Sumatra, cap. prov. Acheen, p. 10,000.

Kotelna, *t.* in Kharkov govt., Russia, on Poltava frontier; oil works, p. 14,210. [23,500.]

Köthen, industr. *t.* in Anhalt, Germany, nr. Halle, p. 10,000.

Kotka, *sp.* Finland, in Russ. govt., Viborg, p. 4,890.

Kotr, *port* on R. Indus, Karachi, dist., Bombay, India, p. 2,560.

Kotzebue Sound, *inlet* of Behring Sea, Alaska.

Kovel, *t.* in Volhynia govt., Russ., on banks of R. Turiya; good tr., p. 18,420.

Kovno, a Lithuanian *govt.* of N.W. Russ., on German frontier: area 15,691 sq. m., p. 1,800,000; cap. K., fort. c. on R. Niemen: great tr., p. 86,428.
Kovrov, *t.* in Vladimir *govt.*, Russ., on Njhu-Novgorod line: ry. wks. and cotton mills, p. 20,000.
Kozlov, *t.* on R. Eysenoi Voronezh, Tambov *govt.*, Russ.: imp. agr. export centre, p. 51,400.
Kragero, *t.* in Bratsberg co., Norway: exports ice, timber, wood-pulp, etc., p. 5,647.
Kraguyevatz, *t.* in Central Serbia: arsenal, garrison, cathedral, college, p. 15,000.
Krah, Isthmus of, betw. Malay penin. and Siam.
Krajova, industri. *t.* on R. Schyl, Roumania; p. 21,680.
Krakatoa, volcano on isl. same name, Strait of Sunda, destructive eruption, 1883.
Krasnoyarsk, *t.* on R. Yenesei, Siberia, p. 58,380.
Kremenets, *t.* in Volhynia *govt.*, Russ., nr. the Galician border of Austria: tobacco and grain tr., p. 18,500.
Kremenakaya, Cossack industri. and tr. *t.* nr. Tassitzy, S.E. Russ., p. 20,140.
Kremenchug, *t.* on R. Dnieper, Poltava *govt.*, Russ., big centre for timber, grain, tobacco, etc.; p. (with Kryukov sub.) 73,240.
Kremnitz, *t.* nr. Neusohl, Hungary, in mining dist. p. Kremna, industri. *t.* on R. Danube, Austria: vinegar, white lead etc., p. 17,760.
Kremster, mfg. *t.* in Moravia, Austria, p. (with garrison) 14,500.
Kreuzburg, *t.* nr. Oppeln, Silesia, Pruss.; mfg.; p. Kreuznach, *wat. pl.* on R. Nahe, Rhine prov., Pruss.; nr. Bingen, p. 21,164.
Krishnagar, *t.* in Nadia dist., Bengal, Brit. India, on R. Jalangi: coloured clay figures manuf.; p. 26,050.
Krivoi Rog, *t.* on Ingulats R., Kherson *govt.*, Russ.; rich min. dist., p. 10,850.
Kriwoie, barren and *min. dist.*, Dinaric, Alpine regn. of Austria: inhabited by Servians (who revolted in 1869 and 1881 agnst. mil. serv.); p. (including garrison) 30,500.
Kronstadt, *t.* in S.E. Transylvania, Hungary, gt. comm. and tr. centre; p. 38,560.
Kroonstad, *t.* on the Valasche K., Orange R. Col., S. Africa; p. 4,674.
Krumau, *t.* on R. Moldau, Bohemia; Prince Schwarzenberg's chateau; textile industr.; p. 8,947.
Krushevatz, *t.* in Servia, 95 m. E.S.E. of Belgrade; p. 6,473.
Kuba, Old, a dist. *t.* in Transcaucasia, in the Russn. *govt.* Baku; silkworm culture, p. 17,263.
Kuban, *prov.* N. Caucasus, Russ., on Black S. and S. of Azov; area 34,695 sq. m., p. 1,120,640; cap. Yekaterinoslav.
Kubinka, R., Russia, trib. (170 m.) of R. Kubinskoe.
Kuch Behar, nat. st. Rangpur dist., Bengal; area 1,307 sq. m., p. 605,000; cap. K.B., c. p. 10,000.
Kuchinserebujima, nat. (8 m. by 21) S. of Kiushiu: mtns., highest pk. 2,313 ft.
Kuen-Lun Mtns., in Cent. Asia, separating Tibet from China: Turkistan; highest pks., 22,000 ft.
Kufstein, fort. *t.* in Tyrol, on boundry betw. Austria and Bavaria, nr. Innsbruck, p. 7,320.
Kulja, *terr.* in Chinese N.W. Mongolia, area 19,000 sq. m., p. abt. 125,000 (50,000 nomads); agr., forest, and min. lands; ch. ts. Suidun (cap.) and Old Kulja, on the Ill R., p. 10,000.
Kulm, *t.* on R. Vistulas, W. Prussia; anc. wells, large Kulmees, *t.* nr. Thorn, W. Prussia: cathedral; sugar, butter, and cheese making, p. 9,140.
Kulp, *viz.* in Transcaucasia, Russ., Erivan *govt.*; rock Kum, *sm.* *prov.* Persia, S. of Teheran *prov.*, cap. Kum, a pl. of pilgrimage, p. 20,000.
Kumaon, *div.* N.W. Prov., India, in the Himalayas; area 13,743 sq. m., p. 1,250,000; annexed after Gurkha war of 1815; contains tea gardens.
Kumta, *t.* in S. Kanara dist., Bombay, India, on sea cst. 40 m. S. of Karwar; sandalwood carvg., gl. tr., p. 11,100.
Kun-Csant-Martony, industri. *t.* on Körös R., Hungary, p. 12,620.
Kun-Csant-Miklos, *t.* on R. Danube, Hungary, 15 tr., Kanese or Nourse R. (100 m.) S.W. Africa, forming boundry between Angola and German S.W. Africa, and mainly in Portuguese terr.
Kungrad, trading *t.* in Russ. Cent. Asia, *prov.* Amu

Daria; centre of caravan routes to the Caspian and Uralst prov.
Kungur, *t.* on Sylva R., *govt.* Perm, Russ., on the Siberian highway, tanneries, leather factories, over-st. mfg., etc., p. 21,470.
Kun Loog, *dist.* and ferry on R. Salween, Shan States, Burma, imp. tradg. centre.
Kuopio, *govt.* of Finland, Russia, area 16,000 sq. m., cap. K., t. on Lake Kalla-vesi, gd. tr., p. 10,400.
Kiliprolu, *t.* in Macedonia, European Turkey, on R. Vardar, coconut tr., p. 22,864.
Kur, R. of Transcaucasia, Russia, flows (320 m.) to Kurdistan (or country of the Kurds), *region* comprised in Irak-Ajeli prov. Persia, and Turkish vilayet Bagdad, area (abt.) 60,000 sq. m., p. nearly 3 mill., chf. ts. Arbil, Abtum-Kupri, and Keruk.
Kurgan, dist. *t.* on the Siberian Rly., *govt.* Tobolsk, in agr. dist. Asiatic Russ., flourishing trade in cattle and food stuffs, p. 14,860.
Kuria Muria Isla, (2nt. poss.), *gr.* in Arabian Sea. Kurile Isla., chn. of sn. *islands* in N. Pacific, extending from Kamschatka to *exo.* Japanese poss.; mainly mtns., total p. 4,840.
Kurak, *govt.* of Middle Russ., area 17,937 sq. m., p. 3,500,000; cap. K., t. in fruit-growing dist. with thriving manuf. and good tr., grt annual fair, p. 82,000.
Kurman, *t.* in Bechuanaland, S. Africa, on K. River, Kurunegala, *t.* in N.W. prov. Ceylon, in centre of rice and tea and coffee cultivation, p. 5,487; of prov. 350,000.
Kurudwad, nat. st. Deccan div. Bombay, India, area 308 sq. m. (divided into two branches), total p. 58,000, cap. R., t. on Panchanga R., p. 9,580.
Kushk, fort. on K. R., Afghanistan.
Kuskokwini, R., Alaska, flows (450 m.) to K. Bay.
Kustanaisk, *t.* on Tobol R., prov. Turgai, Asiatic Russ., in fertile prairie dist., cathedral, flourishing tr., p. 16,400.
Kustendil, chf. *t.* of mtns. dept., Bulgaria, on trib. of R. Strouma, hot min. springs, p. 12,500.
Kustenland, form. Crownld. of Austria, on the Adriatic (now Görz-with-Gradisca, Istria, and Trieste), area 2,976 sq. m., p. 760,000.
Kutaleh, *t.* of W. Asia Minor, on trib. of Sakaria R., imp. tr., p. 30,000.
Kutas, *govt.* of Transcaucasia, Russ., on Black S., area 1,682 sq. m., total p. over a mill.; cap. K. on R. Rion, thriving tr. and industries, p. 34,600.
Kutno, mfg. *t.* of Russn. Poland, 83 m. W. o Warsaw, p. 16,870.
Kuttenberg, mining *t.* in Bohemia, 40 m. from Prague, has anti-Semite troubles, p. 15,600.
Kuty, *t.* in Kosow dist., Galicia, Austria, morocco leather factories, pitch export, p. 7,000 (mostly Jews); adjng. vil. of Old Kuty has p. of 4,500.
Kuznetsk, *t.* in Saratov *govt.*, European Russ., hard-ware manuf.; p. 55,400; also, in Altai regn., Tomsk *govt.*, W. Siberia, Asiatic Russ., in mining dist., p. 11,460.
Kwangchow Bay, coaling *stn.* on S. cst. China. Kwantung *prov.*, opp. Isl. of Hamaui, held on lease by France, [30 mill].
Kwantung, *prov.* S. China, area 79,456 sq. m., p. (abt.) 7,000,000.
Kwanza, R., of W. Africa (700 m.), within the Portuguese terr. of Angola.
Kyauk-Pyu, ch. *t.* K.-p. dist. Lower Burma, Arakan div., p. (of it.) 3,860; (of dist.) 150,000.
Kyaukse, *dist.* Meiktila div., Upper Burma, area 1,273 sq. m., p. 144,000, cap. K. t. on Zawgyi R., notable pagodas, gd. tr., p. 7,400.
Kyffhäuser, range of *hills* in Thuringia, Germany, with ruined castles of Rothenburg and Kyffhäuser, and imposing monument to Emp. William I.
Kyles of Bute, *sound* between Argyllsh. coast and N. Bute, Scotl.
Kym R., of Bedfordsh., Eng., trib. (16 m.) of the Ouse.
Kyneton, *t.* in co. Dalhousie, Victoria, p. (dist.) 7,940.
Kyparissia, *t.* on G. of Arkadia, Morea, Greece, p. 3,860.
Kyrenia, *sm.* *t.* in Cyprus, 11 m. N. of Nicosia.
Kyritz, industri. *t.* Prussia, 53 m. N.W. of Berlin, p. 5,870.
Kyshtym, *t.* in *govt.* Perm (on Siberian railway),

Kythal, *t.* in Karnal dist., Punjab, Brit. India, p. 14,700. [aff. of R. Ganges.]
Kyul R., of Behar, Bengal India, trib. of the Son, an

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Laaland, Dan. *isl.* in the Baltic, Sea of Zealand, area 462 sq. m., p. 68,400.

La Basée, *t.* France, dep. Nord, nr. Lille, p. 3,867.
La Beauce, *vil.* Beauce co., Quebec, Can., on R. Chaudière, p. 1,864.

Labrador, *penins.* of Brit. N. America, area 530,000 sq. m., sterile, climate severe, impt. fisheries; politically divid. between govts. Canada, Newfoundland, and Quebec prov., p. 15,000.

Lahuan, Brit. *isl.* in Malay Arch.: area 30 sq. m., p. 3,500 (decreased).

Laccadive Isls., group of fourteen low coral isls off Malabar coast, Madras, in Arabian Sea, partly Brit., p. 14,500.

Lachine, *t.* and summer *resort*, and L., St. Louis, Jacques Cartier co., Quebec, Can., p. 10,699.

Lachlan R. (700 m.), N.S.W., trib. R. Murrumbidgee.

Lackawanna R., Penn., U.S.A., in anthracite coal region (length 55 m.), aff. of Susquehanna; on banks, L. t. p. 7,646.

Lacomie, *c.* New Hampshire, U.S.A., on L. Winnepesaukee; railway works, p. 9,470.

Lacroma, *isl.* Dalmatia, Austria, beautiful scenery, royal château, ruined monastery.

Lacrosse, *c.* L., co., on Mississippi R., Wisconsin, U.S.A.; timber industry; p. 29,000.

Lach, *prov.* of the Upper Indus, Kashmir, India; area 30,000 sq. m., p. 23,000; cap. Leh, gr. tr. centre for Lhasa and the Tibetan highlands. The most elevated inhab. country in the world.

Ladany Körös, *t.* in Hungary, nr. Gyula, p. 6,500.

Ladoga, *t.* N. St. Petersburg, Russia (largest in Europe), area 6,150 sq. m., drained to G. of Finland by R. Neva.

Ladrones, *arch.* in N. Pacific, sold by Spain to Germany, 1899; total area 420 sq. m., p. 12,000.

Ladybank, *t.* nr. Cupar, Fife, Scotl., p. 1,266.

Lady Smith, *t.* in Natal, S. Africa, besieged by Boers four months, 1899-1900; p. 3,300.

Lafayette, *c.* on Wabash R., Tippecanoe co., Indiana, U.S.A.; manu. and university; p. 26,000; also sm. t's in Alabama and Oregon, U.S.A.; also pk. in White Mountain range, New Hampshire, U.S.A., alt. 5,550 ft. [Lough.]

Lagan R., of Ulster, Ireland (55 m.), flows to Belfast.

Lagny, *t.* in dep. Seine-et-Marne, France, p. 5,000.

Lago Delo Patros, *t.* of Brazil (140 m. long), drained by Rio Grande do Sul. [1806; p. 4,540.]

Lagonegro, *t.* in Potenza prov., Italy; French v. city.

Lagosa, Brit. *Colony* on Bight of Benin, W. Africa; area (including the Protectorate) 77,300 sq. m. Lagos t. on coast has p. 23,000 (300 Europeans); populous native's inland are Abeokuta (150,000) and Ibadan (200,000). Also name of a t. in Mexico.

Jalisco sta., p. 20,000; and of a fort. t. and spt. in Algarve, Portugal, p. 8,140.

Laguna, *t.* of Tenerife, Canary Isls. (Spanish) in prosperous fruit-growing dist., p. 12,000.

Laguna del Madre, *lagoon* (120 m. by 14 m.) in S. Texas, U.S.A., coast of Rio Grande.

Laguna de Terminas, *inlet* of G. of Campeachy, Mexico (70 m. by 40 m.); also t. on bank of same, p. 1,840.

Lahadi, *t.* nr. Aden, Arabia, p. 5,000. [5,470.]

Lahagan, or **Lahjahan**, *t.* in prov. Ghilan, Persia, nr. the Caspian, p. 7,240. [11,248.]

Laharpur, *t.* nr. Sitapur, Oudh, India; gr. tr., p. 1,200.

La Have, R. Nova Scotia, flows (60 m.) to Atlantic at port of La Have Cross Roads.

La Haye.—[See Hague, The.]

Lahn, R. of Prussia, in Rhine prov. and Hesse-Nassau, flowing (235 m.) from its source in Westphalia to the Rhine.

Lahore, *adv.* Punjab, Brit. India, area 24,872 sq. m., p. 5,500,000; also centr. div. of same, 3,678 sq. m., p. 1,200,000; corn, maize, millet, etc., culture. Cap. Lahore c., on R. Ravi; silk, gold, and silver lace, and metal indust.; p. 124,600.

Lahr, *t.* (industri.) Baden, nr. Carlsruhe, p. 20,220.

Lahul, sub. *adv.* Kangra dist., Punjab, a valley of the Himalayas, p. 6,230.

Laibach, *cap.* Carinthia, Austria, garrison t. on R. Laibach, nr. Klagenfurt; match-making and pottery ind.: p. 42,000.

L'Aigle, *t.* in dep. Orne, France, nr. Montagne, p. 5,564.

Laishev, *t.* (industri.) in Kazan govt., Russ., p. 7,840.

Laisterdyke, mfg. *sub.* of Bradford, W.K. Yorks, Eng., p. 15,648.

Laitcheu, spt. *t.* on G. of Pechili, Shan Tung prov., China, p. 60,400.

Lai Yang, *t.* nr. Che-fu prov. Shan Tung, China, p. 50,000. [U.S.A.; timber tr.; p. 10,400.]

Lake Charles, *t.* on the Calcasieu R., Louisiana.

Lake City, on L. Pepin, Wabasha co., Minnesota, U.S.A., p. 4,630; also wint. rest. Columbia co., Florida, U.S.A., p. 2,474.

Lake District, mtns. *dist.* Cumberland and Westmorland, Eng.; tourist resort, beautiful scenery, incl. L.'s Windermere, Ullswater, Derwentwater, etc.

Lakewood, winter *resort* in the pine woods of Ocean co., New Jersey, U.S.A., p. 3,800.

Lakimpur, *dist.* Brahmputra div., Assam, Brit. India; tea-growing; area 3,784 sq. m., p. 375,000; cap. Dibrugarh; also t. in Khan dist., Oudh, India, p. 7,840.

Lalín, *t.* in Pontevedra prov., Spain; agr. dist., p. 6,500.

Lalitpur, form. *dist.* Allahabad div. of N.W. Provs., India, now incorporated with Jhansi, India; t. has a p. of 11,500.

La Mancha, old Castilian *prov.*, Spain, now part of Ciudad Real, the Don Quixote country.

Lamballe, *t.* in Côtes-du-Nord prov., nr. St. Briec, France, p. 4,848.

Lambayeque, *dep.* N. Peru; area 17,939 sq. m., p. 120,000; Lambayeque t. in same, p. 6,340.

Lambeth, *ber.* of S. London, Eng., industri. and resid. t., p. 298,126.

Lambézellec, *t.* in Finistère dep., France, nr. Brest, impt. tr., p. 13,127. [Eng., p. 1,640.]

Lambourn, *par.* on R.L., nr. Hungerford, Berks.

Lamego, *t.* in vine dist., nr. Oporto, Portugal, p. 9,580.

Lammermuir Hills, *co.* Haddington, Scotl., highest pk. Lammer Law, alt. 1,733 ft.

Lampedusa, *isl.* betw. Malta and African cst., impt. port to Girgenti prov., Italy, area 113 sq. m., p. 1,200. [Eng., p. 6,548.]

Lampertheim, *t.* on R. Rhine, Hesse, Germany.

Lampeter, mkt. *t.* Cardigansh., N. Wales, St. David's College, p. 1,800. [120,000.]

Lampoung, *dist.* (and *t.*) at S. extrem. Sumatra.

La nark, inland *co.* Scotl., S. of Dumbarton and Stirling, area 886 sq. m., p. 1,447,113, rich in collieries and iron co. t. La nark, on R. Clyde, one of the Falkirk Burghs, p. 5,900; also t. in Ontario, Can., nr. Perth, p. 2,847.

Lancashire, mfg. and industri. *co.* of N.W. Eng., adjoining Yorks. and extending W. to the Irish S. area 1,887 sq. m., p. 4,768,474; Liverpool, the most impt. spt., and Manchester the greatest city; cap. Lancaster, on R. Lune, p. 41,414.

Lancaster, *c.* of Lancaster co., Penn., U.S.A., on Conestoga R., cotton mfg., p. 46,700; also t. in nat. gas regn., Fairfield co., Ohio, U.S.A., p. 10,000; also t. on R. St. Lawrence, Gienegary co., Ontario, Can., p. 5,264. [With Baffin B. (p. v.).]

Lancaster Sound (30 m. wide) connects Barrow Strait, Lancashire, *t.* nr. Melbourne, Victoria, p. 2,460.

Lan-Chau, or **Lan Tchen**, *c.* of China, cap. of Kan-sou prov., on the Hoang Ho R., grt. tr. centre, p. 100,000.

Lanchester, industri. *t.* nr. Durham, Eng., p. 4,940.

Lanciano, *t.* in prov. Chieti, Italy, nr. side of the anc. Anxanum of the Frentani, p. 28,460.

Lancing, *par.* in Sussex, Eng., p. 1,784.

Laudau, *t.* in the Haardt Mtns., Bavaria; cigar mfg. tr. in wine and corn; here the carriages called after the name of the town were first made; p. 17,500.

Laudock, *sub.* of Silesia, Pruss., p. 3,873.

Laudon, *adv.* S.W. France, on Atlantic cst., area 3,615 sq. m., agr. vineyards, minis., p. 261,000 (decreasing); cap. Mont-de-Marsan.

Laudport, *sub.* of Portsmouth, Hants Eng., p. (with Portsea) 56,821.

- Landrecies**, *fortif. & dep.* Nord, France, on R. Sambe, p. 4,500. [way, agr. incl. mfg., p. 6,400.]
- Landenberg**, *t.* on R. Lech, Upper Bavaria, old gate-
Landenberg-an-der-Warthe, *t.* in Pruss., mfg. and technical schools, p. 35,684. [Cornish est.]
- Land's End**, prom. extreme S.W. pt. Eng., on
Landshut, old *t.* on R. Bober, at foot of the Risenberg, Silesia, Pruss., p. 8,540. [Bohemian, p. 6,240.]
- Landskron**, mfg. *t.* on Moravian frontier, N.E.
Landskrona, *spit* *t.* on E. side of the Sound Sweden, beetroot sugar mfg., p. 14,500.
- Lane End**, Eccles, *dist.* in Staffordsh., Potteries, Eng., p. 6,940.
- Langefeld**, *mtn. group* in Romsdal, Norway, highest pk. 8,100 ft.
- Langeland**, *isl.* in Gt. Belt, Denmark, area 111 sq. m., p. 20,000; cap. Rudkubing. [Erluf, p. 11,500.]
- Langensalz**, *industri.* *t.* in Prussian Saxony, nr. Langenschwalbach, *vat. pl.* nr. Wiesbaden, Hesse-Nassau, Prussia, p. 3,687.
- Langhirano**, *t.* in Italy, on R. Parma, p. 2,874.
- Langholm**, mkt. *t.* Dumfriessh., Scotl., on R. Esk; cloth mills, p. 2,930. [shire, Eng., p. 8,640.]
- Langley**, *industri.* *dist.* near Birmingham, Worcester-
Langnau, *t.* in Switzerl., cant. Bern; chf. *t.* of the Emmthal, p. 7,945.
- Langreo**, *t.* in Oviedo prov., Spain; hilly agr. and fruit-growing *dist.*, with colliery and iron industries; p. 16,470.
- Langres**, *fort.* *t.* in Haute Marne, France, the anc. Andemantunum; cathedral p. 12,000. [p. 7,480.]
- Landis**, *sub.* of Glasgow, Scotl.; battle, 1568.
- Languedoc**, old French *prov.*, now divided; Languedoc Canal unites the Mediterranean with the R. Garonne at Toulouse. [6,870.]
- Languidic**, *t.* nr. Lorient, Morbihan prov., France.
- Langjara**, mkt. *t.* nr. Granada, Spain, p. 4,350. [Eng.]
- Lansdown**, elevated *dist.* N.W. Bath City, Somerset.
- Lansdowne**, *t.* in Leeds co., Ontario, Canada, p. 3,328.
- Lansford**, *bor.* Carbon co., Penn., U.S.A., p. 4,247.
- Lansing**, *c.* on Grand R., Ingham co., Michigan, U.S.A.; agr., imp. manuf., p. 31,299.
- Lansingburg**, *c.* Rensselaer co., New York, U.S.A.; clothing mfg., p. 13,500. [15,000.]
- Lanzarote**, *isl.* of the Canaries grp.; area 311 sq. m., p. 16,470.
- La Paz**, *dep.* Bolivia, traversed by the Andes, area 171,130 sq. m., p. 600,000; cap. La Paz (also cap. of Republic) p. 66,000. Also L. P., on Bay of L. P., Lower California, Mexico; pearl fishery, p. 4,240.
- Lapeer**, *t.* on Flint R., Michigan, U.S.A., p. 3,497.
- Lapland**, *terr.* of N. Europe, in Norway, Sweden, and Russia; extending from the Norwegian coast, to the White S.; mainly mtn. and moorland, with many lakes; area 120,000 sq. m.
- La Plata**, *c.* and *spit* of the Argentine Repub., below Buenos Ayres, founded 1882; pres. p. over 100,000. Many fine bldgs. and gt. tr. [p. 7,200.]
- Laporte**, summer *res.* Laporte co., Indiana, U.S.A.
- Lapra**, Chinese *Customs* *sin.* on border of Portuguese co. of Macao. [2,400.]
- Lapraler**, *t.* on R. St. Lawrence, Quebec, Canada, p. 1,218.
- La Presentation**, *t.* nr. St. Hyacinthe, Quebec, Can., p. 2,138.
- Lar**, *t.* in Persia, cap. of Laristan; imp. tr., p. 12,860.
- Lara**, *t.* nr. Melbourne, Victoria, p. (dist.) 2,897.
- Larabie** (or El Arasah), *port* of N. Morocco; fortif.; imp. trade centre for Fez.
- Laramie**, *c.* cap. Albany co., Wyoming, U.S.A., on L. R., in cattle feeding regn., p. 9,500; University of Wyoming here.
- Larbert**, *bor.* Stirlingsh., Scotl., nr. Falkirk, p. 5,400.
- Laredo**, *c.* t. Santander prov., Spain; fortif., p. 5,008; also *c.* on the Rio Grande, Webb co., Texas, U.S.A., large tr. with Mexico, p. 15,000.
- Largo**, fish *vat.* Fife, Scotl., on Largo B., F. of Forth; Alex. Selkirk, "Robinson Crusoe," born here, 1676.
- Larga**, mkt. *t.* Ayrsh., on F. of Clyde; battle 1263; p. 3,724.
- Larissa**, *t.* in Thessaly, Greece, on the Penelos (Salenbria), formerly Turkish; p. 15,682.
- Laristan**, *prov.* S. Persia, bordering on the Persian G., area 20,000 sq. m., mainly mtns.; p. (abt.) 90,000.
- Larshall**, mining *t.* Lanarksh., Scotl., nr. Glasgow; high bridge over R. Avon; p. 14,800.
- Larkhana**, *t.* Shikapur dist. Sind, Bombay, India; centre of trade, with imp. manuf.; p. 12,000.
- Larne**, *sp.* nr. Belfast, Ireland, on Lough Larne, co. Antrim, p. 4,000.
- Larnica**, Larnaca, or Larnaca, *t.* in Cyprus; the anc. Citium, prin. port of the isl., p. 8,000.
- Lark R.**, Cambridgesh., Eng., *trib.* (66 m.) of R. Ouse.
- Lasalle**, c. Lasalle co., Illinois, U.S.A., in bituminous coal-field, p. 11,084. [harbour of refuge; p. 39,000.]
- Las Palmas**, *t.* on est. of Grand Canary; free port and *Lassa*, Tibet.—(See Lhasa.)
- L'Assomption**, *t.* nr. Montreal, Quebec, Can., p. 2,840.
- Laswade**, *t.* on R. Esk, nr. Edinburgh, Scotl., p. (dist.) 880. [11,460.]
- Lastra a Signa**, *vil.* nr. Florence, Italy, p. (dist.) 3,170.
- Latagunga**, *ch.* *t.* prov. Leon, Ecuador; good tr.; nr. ruined pal. of the Incas and the volcano Cotacachi; sevl. times destroyed by earthquakes, p. 10,000. [Laodicia; famous for tobacco; p. 22,420.]
- Latakia**, *spit* *t.* in Syria, Asiatic Turkey, the anc. Lathford, *township* *adjoining* Warrington, on R. Mersey, Cheshire, Eng., p. 5,840.
- Lathom**, mfg. *t.* nr. Ormskirk, Lancs., Eng., p. 7,235.
- La Trappe**, famous Benedictine *monastery*, dep. Orne, France, nr. Mortagne.
- Latrobe**, *nr.* Launceston, Tasmania, p. 2,350; also *t.* in Pennsylvania, U.S.A., p. 4,284.
- Latronico**, *t.* in prov. Potenza, Italy, p. 4,124. [p. 4,500.]
- Lattakoo**, or Lattakoo, *t.* in Bechuanaland, S. Africa.
- Lauban**, *t.* nr. Görlitz, Silesia, Pruss.; potteries, linen and cotton mills, etc.; p. 14,200. [669.]
- Lauder**, *burgh* Berwicksh., Scotl., nr. the Leader, p. 1,200.
- Lauderdale**, beautiful *valley* of the Leader, W. Berwicksh., Scotl.
- Laubenberg**, *schl.* Schleswig, Pruss., area 457 sq. m., p. 50,000; chf. *t.* L., on R. Elbe, p. 5,100.
- Lauburg**, mfg. *t.* in Pomerania, prov., nr. Cöslin, Pruss., p. 11,420. [p. 12,864.]
- Laun**, *t.* on R. Eger, N.W. Bohemia; metal indust.; Launceston, or Dunbevid, mkt. *t.* on R. Attery, N.E. Cornwall, Eng., p. 4,117; also *c.* in Tasmania, on R. Tamar, Cornwall co., in prolific fruit-growing region; p. 24,000.
- La Union**, *t.* in prov. Marica, Spain, nr. Cartagena and the Mediterranean; mineral dist.; p. 22,000.
- Laurel**, sm. industrial *t.* in Sussex co., Delaware, U.S., p. 3,847. [on Newton Creek, p. 4,493.]
- Laurel Hill**, *vil.* in Queen's co., New York, U.S.A.
- Laurencekirk**, mkt. *t.* in S. Kincardinesh., Scotl., p. 1,438. [to Lake Superior, Can., av. height, 1,600 ft.]
- Laurentide** *Mtns.*, *range* running from Labrador
Laurieston, *dist.* S. of Glasgow, Lanarksh., Scotl., p. 12,000. [Houghton co., Michigan, U.S.A., p. 7,500.]
- Laurium**, formerly Calumet, *vil.* in copper regn., Laurium, *hills* (with silver and lead mines), S. of Attica, Greece; worked anciently and lately revived.
- Laurvig**, Larvig, or Laurvig, *spit* Norway, on Skager Rack; gt. tr. and pop. hydro. res.; p. 11,000.
- Lausanne**, cap. Canton Vaud, Switzerl., nr. Lake of Geneva; cathedral and university; p. 56,000.
- Lauterbrunnen**, *vil.* Bern cant. Switzerl., highest waterfall (Straubach, 900 ft.) in country; p. 2,260. [Laurvig.]
- Laufen**, *R.* of Norway, flows (200 m.) to the fiord at Lavag, *t.* in North Illoos prov., Luzon, Philippine Isl.; cotton centre; p. 37,000.
- Lavagna**, *t.* on Liguria, Genoa prov., Italy, on the Mediterranean; natl. monumental ch. of San Salvatore; shipbldg. and marble quarries; p. 7,000.
- Laval**, chf. *t.* Mayenne, France; bed-ticking manuf., p. 32,000. [Brit. forces landed here in 1848, p. 8,042.]
- Lavos**, *t.* on R. Mondego, nr. Coimbra, Portugal.
- Lawrence**, *c.* on Kansas R., Douglas co., Kans., U.S.A., university, p. 11,000; also *c.* Essex co., Mass., U.S.A., on R. Merrimac; woollen and cotton gds.; p. 85,892. [co. Indiana, U.S.A., p. 4,330.]
- Lawrenceburg**, mfg. *c.* on the Ohio R., Dearborn
Laxey, lead-mining *vil.* with picturesque glen, nr. Leyland, co. Lancs., mfg. (g.v.v.) [Douglas, *gl.* of Man.]
- Leach**, *t.* on L. Garda, nr. Verona, Italy, p. 5,304.
- Lea**, R. (46 m.). Bedford to Middlesex, Eng.; falls into R. Thames.
- Leach**, R., Oxfordsh., Eng., trib. (15 m.) of Thames.

Lead, *c.* Lawrence co., S. Dakota, U.S.A., in Black Hills, mining dist., p. 7,840. [1,146.]
Leadham, *par.* in S. Lincolnsh., Eng., p. (dist.)
Leader Water, *r.* of Scott., *adm.* (21 m.) of R. Tweed, which it joins at Melrose. [p. 4,990.]
Leadgate, *industrial*, *t.* nr. Lancaster, Durham, Eng.
Leadhill, *t.* in Boone co., Arkansas, U.S.A., p. 2,746.
Leadhill, mining *vill.* S.W. Lanark, Scotl., p. 1,484.
Leading Creek, *r.* of W. Virginia, U.S.A.; also *sm.* t. on same; p. 3,469.
Leadville, mining *c.* Lake co., in the Arkansas Valley, U.S.A. (alt. 10,000 ft.), p. 14,900.
Leam, *r.* of Warwicksh., Eng., trib. (35 m.) of R. Avon.
Leamington, Leamington Priory, or Royal Leamington Spa, *t.* and health resort, Warwicksh., Eng.; iron foundries, brickworks, etc.; p. 86,717.
Leao-Tung, — (See Liao-Tung). [Eng.]
Leamouth, *hamlet* of Braxton par., co. Northumberl.,
Learned Plain, *township* Compton co., Quebec, Can., p. (dist.) 2,860.
Leatherhead, *t.* on R. Mole, Surrey, Eng., p. 5,497.
Leavenworth, *c.* L. co., Kansas, U.S.A., on R. Missouri; railway centre and military post; p. 21,000.
Lebanon, *mt.* *chs.* Syria and N. Palestine; highest pks. Dahr-el-Khadeb (10,059 ft.) and Timarum (10,339 ft.); also name of sanjak or prov., Turkey in Asia, 37 m. long, including min. range and valleys, p. (abt.) 400,000.
Lebanon, *c.* on Swatara Creek, L. co., Penn., U.S.A., iron mfg., p. 30,000; also name of fifty smlr. places in various parts of the U.S.A.
Lebedian, *t.* in Tambow govt., Russ., p. 6,500. Famous asc. monastery and gr. annual fair.
Lebedin, *t.* in Kharkov govt., Russ.; was hdqrs. of Peter the Great's operations against Mazeppa; tr. in grain and cattle; p. 18,460.
Lecco (formerly Terra di Otranto), *prov.* of Apulia, S. Italy, area 3,993 sq. m., p. 710,000; cap. L., *c.* (tobacco manuf.), p. 30,000.
Lecco, *t.* in Como prov., Lombardy, Italy, at S.E. of L. of C.; silk, cotton, and iron industr.; p. (decreasing) 6,700. [rising in Voralberg Alps.]
Lech, *r.* of Bavaria, trib. (777 m.) of the Danube.
Lechhausen, *industrial*, *t.* nr. Augsburg, Bavaria, on R. L., p. 10,500. [from Utrecht to Rotterdam.]
Leck, *r.* of Holland, an arm of the old Rhine, flowing
Leckhampton, *vill.* nr. Cheltenham, Gloucestersh., Eng., p. (dist.) 3,200. [cathedral, p. 5,840.]
Lectoure, *t.* in Gers, France; the anc. Lactora; old
Ledbury, mkt. *t.* in Herefordsh., Eng., p. 9,758.
Ledeberg, *industrial*, *t.* in E. Flanders, Belgium, nr. Ghent, p. 11,500.
Lee, *r.* Cork co., Ireland, flows (50 m.) past Cork *c.* to Cork harbour; also *r.* of Kent, Eng., trib. (10 m.) of Thames; also *par.* subn. of S.E. London, adjoining Greenwich, residt. and industr., p. 15,840.
Ledsa, *c.* chf. seat of Eng. woollen manuf., W.R. Yorks, on R. Aire, p. 445,968; also *par.* nr. Maldstone, Kent, Eng. (wh. dist.), p. 799.
Leek, mkt. and silk mfg. *t.* Staffs., Eng., p. 16,665; also *t.* in Holland, prov. Groningen, p. 5,480.
Leek Isl., nr. New Haven, on Long Isl. Sound, Connecticut, U.S.A., p. 3,640.
Leenane, fishing *hamlet*, Killary harbour, Galway, Ireland. [fgr. tr.; p. 13,400.]
Leer, *city* on R. Leda, nr. Ems, Hanover, Pruss.;
Leerdaam, *t.* in S. Holland, nr. Dort, p. 3,946.
Leeston, *t.* nr. Christchurch, N. Zealand, p. (dist.) 1,470.
Leetonia, *vill.* Ohio, U.S.A., nr. Alliance, Columbiana co., p. 3,879.
Leewards, *St. Pierre*, *t.* nr. Brussels, Belgium, nr. where the Battle of Waterloo was won, p. 3,794.
Leuwarden, *t.* on R. Ee, in Friesland prov., Holland, gold and silver ware, p. 34,308.
Leuwini, *c.*, S.E. pt. of Australia.
Leeward Isla, *grp.* of Brit. W. Indian *isls.*, total area 706 sq. m., p. 127,000; comprises also—besides the Brit. possessions of Antigua and Barbuda, Montserrat and Dominica, Virgin Is., St. Christopher, Nevis, and Redonda—the French Is. of Guadeloupe and Marie Galante, and various Dutch, Swedish, and Danish posses.; cap. of Brit. Leeward *grp.*, St. John's, Antigua.
Leiborn, Italian *prov.* on Mediterranean, area 136 sq. m.; also *c.* cap. same, p. (communal) nearly

200,000; straw hat manuf., hemp, marble, olive oil, etc.; exports, shipping, and glass-making industr.
Legnago, fort. *t.* in Verona prov., Lombardy, Italy, p. 3,500. [Lombardy, Italy, p. 5,400.]
Legnana, cotton and silk mfg. *t.* in Milan prov. *Legn.*, *cap.* Ladaah div., Kashmir st., Punjab, India, on R. Indus, elevatn. 11,368 ft., p. 4,000.
Leghanna, *t.* in the interior of N. Madagascar, p. 2,274.
Lehe, mfg. *t.* on R. Weser, Hanover, nr. Bremerhaven, p. 11,500. [Delaware.]
Lehigh, *r.*, Penn., U.S.A., trib. (200 m.) of R. Lehighton, *ber.* on Lehigh R., Penn., U.S.A., in anthracite coal regn. of Carbon co., p. 3,760.
Leilah, *t.* in Dera Ismail Khan dist., Punjab, India, *gd. tr.*, p. (with environs) 18,500.
Leicester, *industrial*, *inland* (Middle) *co.*, Eng., area 800 sq. m., mainly undulatg. agr. land, p. 475,603; cap. Leicester, *industrial*, *t.* (hosiery mfg.) on R. Soar, p. 187,422.
Leichhardt, *r.* of Queensland, flows to G. of Carpentaria; also name of W. sub. of Sydney, N.S.W., p. 27,000. [Wigan, p. 44,100.]
Leigh, mkt. and mfg. *t.* S.W. Lancash., Eng., nr. Leigh-on-Sea, *vill.* *pt.* on Essex est., Eng., at mth. of Thames, p. 7,716.
Leighlin Old, *par.* (with cathd.) co. Carlow, Ireland.
Leigh's Lake, communicating with Snake R., S. of the Yellowstone regn., Wyoming, U.S.A.
Leighton Buzzard, mkt. *t.* Bedfordsh., Eng., p. 6,784.
Leine, *r.*, N.W. Germany, trib. (130 m.) of R. Aller.
Leinster, S.E. *prov.* Ireland, area 7,620 sq. m., p. 1,150,000 (decreasing). [Iordsh., Eng., p. 1,600.]
Leintwardine, *vill.* on R. s. Teeme and Clun, Here-
Leipa, *industrial*, *t.* on R. Polzen, Bohemia, 12 m. N. of Prague, p. 11,340.
Leipzig, mfg. *t.* nr. Brunn, Moravia, p. 5,473.
Leipzig, or Leipzig, commercial and university *c.* of Saxony, on R. Elster, flourishing industr., p. (with incorporated suburbs) 588,000.
Leipzig, *sm.* *t.* in Besarabia, S. Russia, p. 3,479.
Leiria, *c.* Portugal, Estremadura dist., p. 3,944.
Leisnig, *t.* on R. Mulde, nr. Leipzig, Saxony, p. 7,475.
Leiston, *t.* nr. Saxmundham, Suffolk, Eng., p. 2,692.
Leith, *city* and commercial centre, co. Midlothian, Scotl., on F. of Forth, suburban to Edinburgh, chf. shipping port for whiskey, p. 80,489.
Leith Hill, Surrey, Eng., nr. Dorking, alt. 993 ft., fine views [on R. Ilbe, Bohemia, Austria, p. 15,000.]
Leitmeritz, mfg. and tr. *t.* (brewg., malt, hops, etc.)
Leitomischl, *t.* on R. Lauscha, nr. the Moravian frontier of Bohemia, piano factories, p. 8,500.
Leitrim, *co.* of Connaught prov., Ireland, area 613 sq. m. (decreasing) 63,557, agr.; cap. Carrick-on-Shannon. [Douro, Portugal, p. 7,725.]
Leixoes, *city*, and harb. nr. Oporto, at mouth of R. Le Maire, *strait* between Staten Island and Tierra del Fuego, S. America; also alternative name for Tasmania *is.* in Solomon *grp.*, S. Pacific.
Lema, *is.* S. of Hong Kong, in China Sea.
Leman, Lake — (See Geneva).
Leman Republic, name assumed by Central Vend., Switzd., 1798; entd. Helvetic Repub. as cant. L.
Le Mans, *cap.* of dep. Sarthe, France, hdqrs. of Army corps, the anc. Vindunum; linen manuf. and poultry tr., p. 70,000.
Le Mars, mfg. *t.* in Plymouth co., Iowa, U.S.A.,
Lembeck, *industrial*, *t.* in Brunsels, Belgium, p. 3,872.
Lemberg, mfg. and university *c.* Austria, cap. of the crownland of Galicia, flourishing tr., p. 307,000 (including garrison).
Lemgo, old *t.* (formerly of the Hanseatic League) in Lippe, Germany, meerschau pipe mkg., p. 9,120.
Lemnos, *is.* of Turkey, S. of the Dardanelles in the Aegean S. (50 m. long), fertile valleys, sheep and goat farming, p. 27,500, mainly Greeks.
Lemvig, *t.* on Lym Flord, Jutland, Denmark, p. 2,140.
Lena, *gt. r.* of Siberia, rising in mtns. W. of Lake Baikal, and flowing 2,800 m. to the Arctic Oc. [Ireland.]
Lenadoon Point, at entrance to Killala Bay, co. Sligo.
Lenzy, mfg. *t.* nr. Warsaw, Poland, p. 17,700.
Lennest, *industrial*, *t.* nr. Dusseldorf, Rhemish Pruss., p. 9,740.
Lennox, anc. Scottish *city*, comprising Dumbartonsh. parts of Stirling, Perth and Renfrew.

Lennox Hills, *range* betw. Dumbarton and Stirling, Scotl.

Lennoxtown, nr. Glasgow, co. Stirling, Scotl., p. 4,126.

Lennoxville, t. on St. Francis R., Sherbrooke co., Quebec, Can., p. (of dist.) 2,540.

Leopoldville, *city* and autumn *rest*, Berks co., Mass., France; iron foundries; p. 20,400.

Leontini, or **Leontini**, t. in Syracuse prov., Sicily, Italy (the anc. Leontini), on hill by Biviere L.; citadel destroyed by earthquake, 1693, p. 5,600.

Loeben, old mining t. in Styria, Austria; walls and towers; p. 11,230.

Loebnitz, industri. t. nr. Oppeln, Prus. Silesia, on R. Zula, formerly cap. of principality of Jägerndorf; divided between Austria and Prus. in 1742. Car.riage bldg., glass-mfg., p. 12,650.

Loonster, mkt. t. in Herefordsh., Eng., in hop-growing dist., p. 5,737; also mfg. t. in Worcester co., Mass., U.S.A.; p. 15,400.

Leon, old prov. (former kingdom), N.W. Spain; now div. into provs. of Salamanca, Zamora, and Leon; area of latter 6,166 sq. m.; rich in minerals; p. 394,000; cap. L., c., fine Gothic Cathedral, p. 15,981; also name of t. in Nicaragua, with large leather tr.; p. (with Indian sub. of Substaba) 45,000.

Leonforte, t. in prov. Catania, Sicily, sulphur mines; p. 15,300.

Leopoldstadt, *sub.* of Vienna, on isl. in R. Danube, Leopoldville, *sub.* above the catacombs on R. Congo, in C. Free State; founded by Stanley.

Lepanto, *city*, of Etolia, Greece, on G. of Lepanto; p. 6,120; the anc. Naupactus.

Lepo, industri. t. in prov. Huelva, Spain; p. 5,240.

Lepel, mfg. t. in govt. Vitebsk, Russ., p. 7,487.

Lepton, industri. *par.* nr. Huddersfield, W.R. Yorks, Eng., p. 9,999.

Lequeto, *city*, t. nr. Bilbao, prov. Biscay, Spain, Leucata, t. in Valeria prov., Sicily, macaroni manuf.; sulphur mines; p. 15,230.

Lerici, *city*, t. and summer *rest*, G. of Spezia, Genoa, Italy; old castle, macaroni factories; p. 6,212.

Lerida, *prov.* Catalonia, Spain, on French frontier area, 4,772 sq. m.; agr. and industri.; p. 285,000; cap. Lerida, *fortif.* c. on R. Segre, p. 22,000.

Lerina, *Isles*, de, *sub.* grp. of French *Isles*, in Mediterranean opp. Cannes, included in dep. Var; St. Honoré and St. Marguerite are fortified. [p. 4,51.]

Le Roy, *vill.* in Genesee co., New York, U.S.A.; p. 1,200.

Lervig, *Island*, *sub.* of the Faroe Is., Denmark.

Lerwick, *burgh* and co. t. of Shetland on isl. or Mainland of Pomona; fishy, woollen manuf. and tr. with Scottish ports; p. 4,654.

Lesbos or **Mitylene**, Turkish *Is.* in the Ægean Sea; mtns. (Olympus, alt. 3,080 ft.) area 618 sq. m.; prod. olives, figs, lemons, oranges, grapes; also antimony and marble; p. 130,000, mainly Greeks, ch. t. Mitylene.

Lesina, Austrian *Is.* in the Adriatic, off Dalmatian *Is.*, 43 m. long; grows grapes, dates, olives, rose-mary etc.; p. 28,000; chf. t., L., naval st., and arsenal, p. 15,600.

Leskovatz, t. in Servia, nr. R. Veterinatz; centre of hemp industry, dist. produces also flax and tobacco; p. 13,080.

Lesmahagow, or **Abbey Green**, *vill.* on R. Nethan, Leppar, t. in Gironde dep., France, nr. Bordeaux, p. 4,960.

Letichiev, t. nr. Kamieniec, Podolia, Russ., p. 6,398.

Letiere, t. nr. Castel-a-Mare, prov. Napoli, Italy, p. 6,545.

Letterkenny, t. on R. Swilly, co. Donegal, Ireland, Leucadia, or Santa Maura, one of the Ionian Is., area 110 sq. m.; mtns.; Sappho's Leap, steep cliff, on S.W.; produces grapes, currants, etc.; chf. t., Leucas (or Santa Maura) on N. *Is.*

Leutschau, industri. t. in Hungary, Zips co., p. 6,874.

Leuze, t. on R. Dender, Hainaut, Belgium, p. 6,565.

Levast, French and Italian name for the E. *Is.* of the Medit., including Greece and Egypt.

Leven, salt-water *loch*, or arm of the sea on boundary of co.'s Argyll and Inverness, Scotl., joins Loch Linnhe; also beautiful L. (Loch Leven) in Kinross co., Scotl. (93 m. long by 8 m. wide) with 7 isls. (largest St. Serf's, ruined priory; on Castle Is.).

Mary Queen of Scots was imprisoned in 1567; partly drained by R. Leven (14 m. long) to Largo Bay.

Also name of R. flowing from Loch Leven to R. Clyde (10 m.) at Dumbarton; of R., of Argyll and Inverness (11 m.), emptying into Loch Leven inlet first mentioned; and of R. of Lanca, Eng., flowing from L. Windermere to Mossburne Bay.

Also burgh of Fishach, Scotl., on Firth of Forth; linen-weaving industry, fine golf course; p. 6,559.

Levenshulme, industri. t. of Lanca, Eng., suburban to Manchester, p. 12,450.

Lévis, chf. t. Lévis co., Quebec, Canada, on the St. Lawrence R., opp. Quebec, landing pl. for Transatlantic passengers and ry. terminus, p. 8,000.

Lewis, mkt. t. co. Sussex, Eng., nr. Brighton, p. 20,972.

Lewis, or **Lewa**, forms (with Harris) the long *Is.* of the Outer Hebrides, Scotl., area 770 sq. m.; embarks St. Kilda and several smaller isls. in civil par.; p. (of Lewis alone), 99,400, nearly all Gaelic-speaking; chf. t. Stornoway. Industries: fishery, cattle-rearing, etc. [U.S.A., p. 4,840.]

Lewisburg, industri. *bor.* on Susquehanna R., Penn., Lewisburg, S.E. *bor.* of London, Eng., in Kent co., mainly residt., p. 160,843.

Lewiston, t. of Androscoggin co., Maine, U.S.A., on the A.R.; extensive cotton manuf., p. 26,247.

Lexington, t. Fayette co., Kentucky, U.S.A., seat of state university, in the Blue Mts. tobacco and horse-rearing ind., p. 32,099; also mfg. t. in Lafayette co., U.S.A., nr. Boston, scene of the first conflict between Brit. and American troops in the Revolution of 1775; p. 4,000.

Lexington, Courthouse, *vill.* of L. co., S. Carolina, Lexington, t. mining dist., Victoria, nr. Ballarat, p. 2,846.

Leyburn, mkt. t. N.R., Yorks, Eng., in Wensleydale, (p. dist.) 6,393.

Leyden, c. of S. Holland on the Old Rhine, 10 m. N.W. of The Hague; seat of famous university, woollen cloth and linen manuf.; resisted Spanish siege successfully 1573-74; birthplace of Rembrandt, good modern tr.; p. 55,000.

Leyland, mfg. t. nr. Preston, Lanca, Eng., p. 8,090.

Leyre, R. France, dep. Gironde and Landes, flowing (40 m.) to G. of Arcachon. [224,600.]

Leyte, one of the Philippine Is., area 3,590 sq. m., p. Leyte, or **Leitha**, R. flowing between Austria and Hungary to the Danube below Vienna.

Leyton, industri. and resident. *dist.* Essex co., Eng., suburban to E. London, p. 21,736.

Leytonstone, ecclesiastical *dist.*, N.E. of Leyton, Essex, Eng., p. 21,089.

Lhasa, **Lhasa**, or **Lassa**, the "Holy" or "Forbidden" c. of Tibet; contains the royal hill palace (Potala) of the Dalai Lama and the sacred shrine (Cho Kang or Kilhording) of the image of Buddha. A place of pilgrimage, standing on a trib. of the Brahmaputra R., 11,900 ft. above sea-level, p. (est.) 45,000 (exclusive of priests in the numerous outlying monasteries). Entered by British expedition in 1904, and entered treaty securing [the Arctic Oc.]

Liaohov Is., large *Is.* of the New Siberia group in Liau-tung, *prov.* of the Chinese Empire, mainly in Manchuria (also called Mukden and Shing-King), area 37,369 sq. m., p. 2,250,000. Scene of much fighting in the Russo-Japanese War, 1904-05.

Liau-tung, *arm* of the Yellow S., 120 m. long by 70 to 120 m. wide. [prov., p. 80,000.]

Liau-yang, c. Manchuria, China, in the Liau-tung *Is.*, *city*, of Russia, *prov.* Courland, on the Baltic S.; great tr. and many flourishing industries, p. 74,900.

Liberia, *Republic* of W. Africa on the Guinea coast, area 45,000 sq. m., p. over 2,000,000, including 30,000 civilised negroes; cap. Monrovia. Exports coffee, palm oil, ivory, sugar, etc.

Libertad, maritime *prov.* N.W. Peru; area 12,965 sq. m., p. 150,000; cap. Trujillo. (burgh, p. 6,500.)

Liberton, *par.* of Midlothian, Scotl., suburban to Edinburgh, industri. t. in Missouri, U.S.A., on White Fork R., *city*, t. p. 3,864.

Libourne, *par.* on R. Dordogne, Gironde dep., France; s. in vineyard dist.; p. 20,460.

Libya, anc. Greek name of Africa.

Libyan Desert, part of the Sahara, E. Wadai and Fezzan.

- Licata**, *sp.* at mth. of R. Salso, nr. Girgenti, Sicily; good harb., sulphur exports; p. 24,680. [2,863.]
- Lich**, *von* R. Wetter, nr. Giesen, Hesse, Germany, p. 6,860; also *von* R. Leine, in Westphalia, p. 6,124.
- Lichtfeld**, *z.* in Staffordsh., Eng., cathedral; p. 5,617.
- Lichtenstein**, mfg. *z.* nr. Chemnitz, Saxony, p. 5,640.
- Lick Observatory**, on Mt. Hamilton, nr. San Jose, California, U.S.A., nr. San Jose. [Ohio.]
- Licking**, R. Kentucky, U.S.A., trib. (220 m.) on R. Liddel, R. of Roxburgh and Dumfriessh., Scotl., trib. of R. Esk. [Marigny, Switzd.]
- Liddes**, Alpine *vill.* between the Great St. Bernard and Liddesdale, *valley* in Dumfriessh., Scotl., along English border and Liddell Water.
- Lidford**, *par.* Devon, Eng., on R. Lid, p. 2,750. [4,784.]
- Lidköping**, *z.* on L. Wener, nr. Mariestad, Sweden, p. 5,164.
- Liesbau**, *z.* in Moravia, nr. Prerau, p. 4,750; also *z.* in Prussia, mfg. *dist.* Karolinenthal, Bohemia, N.E. of Prague, p. (communal) 22,500.
- Liebenstein**, or Sauerbrunn, *vat. pl.* in Saxe Meiningen, Germany, p. 1,464.
- Liechtenstein**, *sm.* *principality* in the Tyrol, betw. Vorarlberg and the Upper Rhine; area 68 sq. m., p. 9,600; cap. Vaduz.
- Liège**, *prov.* of Belgium, partly hilly, pastoral, forest, and minrl., area 1,177 sq. m., p. 809,000; cap. Liège, c. at conflu. of R.'s Meuse and Ourthe; cathedral, university, many fine bldgs.; gt. tr. and pros. ind.; p. (nearly) 200,000.
- Liegnitz**, *z.* in prov. Silesia, Pruss.; vegetable-growing dist., piano and sewing-machine factories; p. 66,460.
- Lierre**, or Lier, boat-mfg. *z.*, prov. Antwerp, Belgium, p. 23,540. [p. 5,500.]
- Liestal**, *cap.* of the half cant. 'Basel-Stadt, Switzd., France, adjoining Lens, p. 12,500.
- Lievre**, *Rivière du*, R. of Quebec, Canada, trib. of St. Lawrence, flows past Ottawa.
- Liffey**, R., Ireland, flows (50 m.) from Wicklow through Kildare to Dublin Bay. [4,246 ft.]
- Lifeld Mtn.**, Norway, in Christiansand prov., alt. 11,000 ft., largest of the Loyalty gr. in the Pacific, French possessn. E. of New Caledonia.
- Ligas**, *z.* in Albay prov., Luzon, Philippine Is.; rice, sugar, etc., p. 17,500.
- Lignères**, *z.* in dep. Cher, France, nr. Bourges, p. 3,468.
- Ligny**, *z.* nr. Bar-le-duc, dep. Meuse, France, p. 4,642; also *sm.* t. nr. Namur, Belgium, p. 1,648. [p. 4,668.]
- Lignoul**, *z.* on Elkhart R., Noble co., Indiana, U.S.A., *Liguria*, *terr.* of N. Italy, betw. the Mediterranean and Alps and Apennines, and adjng. the E. frontier of France, embracing the provs. of Genoa and Maurizio (*g.v.*).
- Ligurian S., part of the Mediterranean, N. of Corsica.**
- Lika**, R., of Croatia, flows along Austrian military frontier (30 m.), and sinks undergd. at Mt. Tuliha.
- Li-Kiang**, *c.* Yun-Nan prov., China; great tr., p. 45,000.
- Lille**, or Lisle, *fort.* *z.* in France, cap. Nord dep., on R. Doule; seat of University, and chief cent. of French linen and cotton manuf.; ch. of Notre Dame de la Trielle, finest in French Flanders.
- Lillo**, *z.* in Toledo, prov. Spain, p. 2,940. [p. 230,800.]
- Lillydale**, *vill.* nr. Melbourne, in co. Evelyn, Victoria.
- Lily Fontain**, *stu.* on summit of Kamiesbergen, Namaqualand, Cape Colony, S. Africa.
- Lima**, *cit.* dep. Centra' Peru; area 14,760 sq. m., p. 300,000; also Lima c., cap. of Peru, in dep., and prov. same name on plain sloping from the Andes to the Pacific; university, great commercial and industr. activity, foreign tr. through pt. of Callao (7 m. W.), p. 118,000; also c. of Allen co., Ohio, on the Ottawa R., in petrol region, p. 30,508.
- Limari**, R. (100 m. long), Coquimbo prov., Chile.
- Limasol**, *sp.* Cyprus Isl., 38 m. S.W. Larnica; wine exports, p. 8,540. [Ireland] p. 2,976.
- Lima**, *vady*, mkt. *z.* on R. Roe, nr. Londonderry.
- Limbach**, industr. *z.* nr. Chemnitz, Saxony; hosiery manuf., p. 22,408.
- Limbourg**, frontier *prov.*, Belgium, agr., stock fdg., gin distillery, beet-root sugar manuf.; area 931 sq. m., p. 276,000; cap. Hasselt.
- Limburg**, *S. prov.* of Holland, bordering on Belgium and Rhenish Pruss.; arable forest, meadow, pastoral and mineral; area 821 sq. m.; p. 340,000; chf. t. Maestricht (*g.v.*).
- Limburg**, *z.* in Hesse-Nassau, Germany, on R. Lahn, p. 6,860; also *z.* on R. Leine, in Westphalia, p. 6,124.
- Limerick**, *co.* (maritime) of Ireland, prov. Munster, area 1,064 sq. m., p. 122,846. Industries: agr. (declining), fishery, etc.; cap. L., c. at head of Shannon est., most impt. port in W. of Ireland; good bacon tr., p. 98,400.
- Limmat**, R. of Switzd., trib., 80 m. of R. Aar, which it joins nr. Brugg.
- Limoeiro**, *z.* in Pernambuco prov., Brazil, p. 8,650.
- Limoges**, ch. t. of the Haute-Vienne dep., France; famous for its still flourishing porcelain factories, and Kaolin paste preparation, p. 95,000.
- Limons**, or Port Limon, *clif.* Atlantic port of Costa Rica; gt. coffee export, p. 4,860. [Haute-Vienne.]
- Limousin**, old *prov.* France (now Carrez) and part of Limous, *z.* dep. Aude, France; hat, cap, and white wine manuf., p. 9,140.
- Limpopo**, R. of the S.E. Africa, rising in S. Transvaal col. and sweeping round on its N. frontier into Portuguese terr. and the Indian Oc., length 900 m., often called the Crocodile R.
- Linares**, *z.* in lead-mining dist. prov. Jaen, Spain, p. (decreasing) 36,500; also prov. in S. Chili, area 3,959 sq. m., p. 155,000, cap. L., p. 8,000; also San Felipe de Linares, in Nuevo Leon, Mexico, p. 6,440.
- Lincoln**, maritime *co.* in E. of England; generally flat, and in gt. part fenny, area 2,761 sq. m., p. 564,013; cap. Lincoln, c. on Witham, with fine cathedral, p. 57,294; also c. cap. Logan co., Illinois, U.S.A., p. 10,000, university; also c. of Rhode Isl., U.S.A., p. 15,460; also t. Nebr. U.S.A., p. 45,973.
- Lindau**, *fortd.* *z.* on L. of Constance, Bavaria, p. 5,540.
- Linden**, *trib.* of Hanover, Pruss p. 26,840.
- Lindisfarne**, alternate name for Holy Isl. off east. coast of Ireland, Eng.
- Lindla**, *z.* on Penang R., good tr., p. 7,200.
- Lindsay**, *z.* in Ontario, Can., of Victoria co.; saw mills, carriage works, p. 8,100.
- Lindsey**, N. div. of co. Lincoln, Eng., p. 237,864.
- Linea**, *La*, or Linea de la Concepcion, *z.* in Cadiz prov. Spain; frontier post nr. Gibraltar, p. 23,500.
- Lingazén**, or Lingayén, *z.* on G. of L. W. est. Luzon, Philippine Is.; fertile agr. dist., p. 19,500.
- Lingen**, *z.* on Ens Canal, Hanover Pruss.; university, iron foundries, p. 8,246.
- Lindköping**, or Östergötland, *dist.* Sweden, on the Baltic; area 4,238 sq. m., p. 270,000; cap. L., mfg. t. nr. L. Roxen, p. 15,280.
- Lindlithgow**, *burgh* (Falkirk gr.), of L. co., Scotl.; shoemk. and leather inds., p. 4,000; area of L. co. 120 sq. m., p. 79,456.
- Linnhe**, Loch, arm of sea co. of Argyll and Inverness, Scotl., extending (30 m.) from Upper Loch Ell to Sound of Mull. [W.R. Yorks, Eng., p. 8,922.]
- Lintawalle**, industr. *tr.* *z.* S.W. of Huddersfield, Linton, *par.* on R. Granta, Cambridgeshire, Eng., p. 2,725.
- Linton**, mining t. Victoria, nr. the Happy Valley, Ballarat dist., p. 1,745. [p. 35,000.]
- Lin-Tsing**, *c.* on Yu Ho Canal, Shang-Tung, China.
- Lintz**, or Linz, *fortd.* *z.* on the Danube, nr. Steyr, cap. of Upper Austria, p. (including Urfahr on opp. bank of D.) 68,500; garrison, brewing, printing, and many manuf. [country, p. (est.) 30,000.]
- Linyanti**, *z.* in Centl. S. Africa, cap. of Makololo Prov., *z.* in Batangas prov., Luzon, Philippine Is., centre of fertile agr. region, p. 40,000.
- Lipari** Is., volcanic gr. N. of Sicily, attached to the Italian prov. of Messina, total area 45 sq. m., p. 17,500; Lipari is the largest Isl. of the gr., and its cap., also named L., has a p. 12,500; the anc. *Æolus*, etc., they were occupied in turn by Saracens and Normans.
- Lipetak**, industr. *z.* on the Veronezh R., gov. Tambov, Russ., p. 18,580. [Franciscan monastery, p. 7,500.]
- Lippe**, mkt. *z.* on R. Maros, Temes co., Hungary.
- Lippe**, R. of Germany, (120 m. long) joins the Rhine
- Lippe**, or Lippe Detmold, *principality* Gerny, encl. by Hanover and Westphalia; area 459 sq. m., p. 130,000, cap. Detmold.
- Lippe-Schaumburg**, *see* Schaumburg-Lippe.

- Lippstadt**, *t.* on R. Lippe, Westphalia, Gerny, dis-
tilling, tobacco mfg.; *p.* 13,140.
- Liria**, *Indust.* *t.* in Valencia prov., Spain, on R.
Gundakavir, *p.* 9,674.
- Liabon**, *c.* in prov. Estremadura, on N. bank of Tagus
est., cap. of Portugal, *p.* 357,000.
- Lisburn**, *t.* on R. Lagan, nr. Belfast, Ulster, Ireland;
linen mfg., cathedral, *p.* 12,172.
- Liscard**, a Cheshire *township*, incl. New Brighton (*q.v.*).
Lischau, *t.* nr. Burweis, Bohemia, *p.* 3,146.
- Lisieux**, *t.* in Calvados dep., France; fine Norman
cathedral, the anc. cap. of the Lexovii; flannel mfg.,
p. 17,940.
- Liskeard**, mkt. *t.* Cornwall, Eng.; woollen mill, foundry,
p. 2,867.
- Lismore**, mkt. *t.* on R. Blackwater, co.'s Cork and
Waterford, Ireland, *p.* 1,890.
- Liss**, *par.* nr. Peterhead, Hants, Eng., *p.* 1,701.
- Lissa**, Austrian isl., Dalmatia prov., in the Adriatic
(12 m. long) the anc. Issa; famous for its wine; ch.
t. Lissa (gd. harb., *p.* 5,340) and Comisa (*p.* 4,664).
- Lissa**, or **Lesano**, *Indust.* *t.* in prov. Rosen, Pruss.,
founded by the Moravians in the 16th cent., *p.* 14,660.
- Listowel**, *t.* on R. Feale, co. Kerry, Ireland, nr. Tralee,
p. 2,950.
- Litany**, *R.* of Palestine (200 m.) flows to Mediterranean,
Litchfield, *c.* in natural gas and petrol regn., Mont-
gomery co., Illinois, U.S.A., *p.* 6,100.
- Litang**, *t.* in Tibet, nr. the Chinese border, *p.* 9,400.
- Litherland**, or **Waterloo**, subm. *township*, Liverpool,
Lancs, Eng., *p.* 24,670.
- Lithgow**, *t.* in Cork co., N.S. Wales; mining, pottery,
Lithuania, anc. *town*, and *grand duchy*, Europe; for-
merly encl. by Poland, Pruss., Courland and Russ.
Passed to Poland in 1901 and finally became absorbed
by Russia and (to a small extent) Prussia.
- Litva**, *t.* on Bug R., Podolia govt., Russ., old industries;
p. 17,500.
- Littleborough**, *t.* nr. Rochdale, Lancs, Eng.; cotton,
woollen and dyeing industries; *p.* 11,705.
- Little Falls**, *c.* on Mississippi R., Minnesota, U.S.A.,
timber tr., *p.* 7,560; also mfg. in New Hawk R.,
Herkimer co., N.Y., U.S.A., *p.* 12,120.
- Littlehampton**, *st.* and *cht. rest.* at mth. of R. Arun,
Sussex, Eng.; *p.* 8,351.
- Little Hulton**, *Indust.* *t.* in Lancash., Eng., nr. Bolton,
Little Lever, *Indust.* and *resid.* *t.* nr. Bolton,
Lancash., Eng.; *p.* 5,197.
- Littleport**, *par.* Cambridge, Eng., nr. Ely, *p.* 6,434.
- Little Rock**, *c.* of Arkansas, U.S.A., cap. of Pulaski
co., on A.R.; oil and oil-cake manuf.; *p.* 46,480.
- Little Russia**, *par.* of Russ., comprising govts. of
Chernigov, Poltava, Kiev, and Kharkov; area 80,226
sq. m., *p.* 1,000,000.
- Little Sioux R.**, Iowa, U.S.A., flows (300 m.) to the
Littleton, mfg. *t.* in New Hampshire, U.S.A., on the
Ammonoosuc R., *p.* 5,460.
- Little Woolton**, *Indust.* *par.* nr. Prescott, Lancash.,
Lithyack, mfg. *t.* in Podolia govt., Russia, nr.
Kamieniec, *p.* 9,384.
- Livadia**, *t.* in Boeotia, Greece, *p.* 4,846.
- Liverpool**, *c.* and *st.* on R. Mersey, Lancash., Eng.;
immense shipping commerce and manuf.; cathedral,
splendid docks; *p.* 746,566.
- Liversedge**, *woollen mfg.* *t.* nr. Dewsbury, W.R.
Livingston, *Indust.* *t.* in Montana, U.S.A., on the
Yellowstone R., *p.* 4,846; also name of numerous
other places in various pts. of the U.S.A.
- Livingstone Falls**, *cateracts* on R. Congo, Africa.
- Livingstone Mtns.**, *range* and upland *plateaus* of
Germ. E. Africa, nr. L. Nyassa, highest pt., 9,600 ft.
- Livingstone**, mission *st.* W. shore of L. Nyassa,
E. Africa.
- Livry**, mfg. *t.* nr. Orel, Russ., on R. Sosna; *p.* 26,640.
- Livonia** or **Livland**, Baltic *prov.* of Russ., includes isl.
of Oesel, area 18,138 sq. m., *p.* 1,350,000; agr., dairying
and many manuf.; cap. Riga (*q.v.*).
- Livorno**, *t.* in Novara prov., Italy, nr. Vercelli, *p.* 6,960.
- Lixouri**, *st.* nr. Argostoli, Cephalonia, in the Ionian
Sea, *p.* 5,950.
- Lizard Point**, *c.* southernmost pt. Eng., S.W. Corn-
wall, *p.* 1,467.
- Llanberis**, *t.* in Carnarvonsh., Wales, nr. Bangor.
- tourist centre at base of Snowdon mtn., *p.*
3,160.
- Llanbister**, *par.* in N. Radnorsh., Wales, *p.* 2,668.
- Llandaff**, *sm.* *c.* nr. Cardiff, on R. Taff, Glamorgansh.,
Wales; cathedral, *p.* 1,800.
- Llandilo**, mkt. *t.* on R. Towy, E. Carmarthensh.,
Llandovery, *bor.* N.E. Carmarthensh., Wales; *p.* 1,099.
- Llanfardd Wells**, health *rest.* mid-Radnorsh.,
Wales, medicinal waters, *p.* 2,779.
- Llandudno**, seaside *rest.*, Carnarvonsh., Wales, *p.*
1,069.
- Llandysall**, *par.* on R. Teifi, Cardigansh., Wales,
p. 3,040.
- Llanelli**, *st.* Carmarthensh., Wales, collegiate
establishm., *p.* 32,077; one of the Carmarthen
Boroughs.
- Llanfair Caerinion**, mkt. *t.* on R. Elnon, Mont-
Llanfairfechan, *t.* nr. Conway, Carnarvonsh., N.
Wales; *p.* 2,973.
- Llanfarchia**, *Upr.* or *township*, nr. Caerleon, Mon-
Llanfyllin, *bor.* nr. Oswestry, Montgomerysh., Wales;
one of the Montgomery Boroughs; *p.* 1,633.
- Llangadock**, *par.* nr. Llandilo, Carmarthensh.,
Wales; *p.* 2,047.
- Llangefni**, mkt. *t.* Anglesey, Wales, nr. Amlwch, *p.*
1,752.
- Llangollen**, mkt. *t.* on R. Dee, Denbighsh., Wales;
p. 3,250.
- Llanidloes**, *bor.* on R. Severn, Montgomerysh.,
Wales; one of the Montgomery Boroughs; *p.* 2,594.
- Llano Estacado**, or **Staked Plain**, New Mexico and
N.W. Texas, U.S.A., area 40,000 sq. m.
- Llanstephan**, *vil.* at mouth of R. Towy, Carmar-
thensh., Wales; *p.* (dist.) 2,149.
- Llantrisant**, *t.* nr. Newport, Monmouthsh., Eng.,
in colliery dist.; *p.* 7,059.
- Llantrisant**, *bor.* Glamorgansh., Wales, nr. Cardiff;
p. 12,542; one of the Cardiff Boroughs.
- Llanwrst**, mkt. *t.* on R. Conway, Denbighsh., Wales;
Llerena, old walled *t.* Barcelona prov., Spain, nr.
Seville, frontier; *p.* 6,236.
- Loanda**, or **Sao Paulo de Loanda**, *c.* (p. 14,500) of
Angola, Portuguese W. Africa; cap. of dist. same
name; *p.* 105,664.
- Loango**, *prov.* on W. cst. Africa, divided between
France, Portugal, and Belgium; cap. Loango;
p. 12,000.
- Loanhead**, *burgh* *p.* S.E. Edinburgh, Scotl., *p.* 3,483.
- Loano**, *sm.* *t.* on G. of Geneva, Italy, *p.* 4,118.
- Lobau**, *t.* on the L. Water, nr. Bautzen, Saxony;
dye-works, piano factory; *p.* 10,260.
- Lob-Nor**, or **Lop-Nor**, L. system in Gobi desert, E.
Turkestan, Central Asia; alt. 2,300 ft., length 200 m.,
width 50 m.; receives Yarkand and Tarim R.'s from
W.; no outlet.
- Locarno**, *t.* on Lago Maggiore, Switz., *p.* 2,894.
- Lochaber**, *mt.* dist. Scotl., S. Inverness; 33 m. by
st. m.; contains Ben Nevis.
- Lochcarron**, fishing *vil.* Ross-sh. Scotl., *p.* 1,500.
- Lochee**, N.W. suburb of Dundee, *c.* Scotl., *p.* 13,460.
- Loches**, *t.* on R. Indre, dep. Indre-et-Loire, France,
nr. Tours; old chateau, once a royal dwelling, later a
State prison, *p.* 5,500.
- Lochgilphead**, *burgh* of Fishesh., Scotl., nr. Dunfermline;
ironworks, and colliery dist.; *p.* 2,095.
- Lochgilphead**, *t.* at head of L. Gilp, Argyllsh., Scotl.,
Lochmaben, *burgh* nr. R. Annan, Dumfriessh., Scotl.,
p. 1,056. One of the Dumfries burghs.
- Lochnagar**, *mt.* of the Scottish Highlands, nr.
Ballater, Aberdeensh., alt. 3,780 ft.
- Lochy**, *Loch*, L. Inverness-sh., Scotl. (to m. long),
part of the Caledonian Canal; R. Lochy flows to
Fort William (8 m.) from S. end of the loch.
- Lockertie**, *burgh* of Annandale, Dumfriessh., Scotl.;
impt. sheep mkt.; *p.* 2,455.
- Lockhaven**, *c.* of Clinton co., Penn., U.S.A., on
Susquehanna R.; timberyards; *p.* 7,790.
- Lock-Hol**, *st.* China, on E. coast of isl. Hainan;
gt. tr. centre; *p.* 91,400.
- Lockland**, *vil.* of Ohio, U.S.A., nr. Cincinnati, *p.* 3,268.
- Lockport**, *st.* centre, Des Plaines R., Will co.,
Illinois, U.S.A., *p.* 3,214. Also mkt. *c.* cap. Niagara
co., New York, U.S.A., on Erie Canal, *p.* 17,420.
- Lockwood**, mfg. *t.* nr. Huddersfield, W.R. Yorks.,
Eng.; *p.* 10,864.
- Loche**, *Lo*, *t.* cant. Neuchâtel, Switz.; watchmaking

- cattle rearing, nut-growg.; p. (greatly decreased) 222,500; cap. Cahors.
- Lota**, coast t. nr. Concepcion, Chili, p. 4,890.
- Lot-et-Garonne**, *dep.* S.W. France, area 2,079 sq. m., vineys, agr., stock-rearing; p. (declining) 276,210; cap. Agen.
- Louthians**, The Scottish *dist.* S. of Firth of Forth, embracing co.'s Haddington, Edinburgh, and Linlithgow.
- Lotzen**, t. nr. Gumbinnen, E. Pruss., p. 5,460.
- Loudeac**, t. in prov. Côtes-du-Nord, France, nr. St. Briec, p. 6,140. [22,992]
- Loughborough**, hosiery, mfg. t., Leicestersh., Eng., p. 2,560.
- Loughrea**, mkt. t. on Lough Rea, co. Galway, Ireland, p. 2,560. [Forest; p. 5,433]
- Loughton**, t. in Essex, Eng., on border of Epping
- Louisiana**, *st.* (s.) of U.S.A., area 48,720 sq. m., p. 1,700,000 (one-half coloured); agr., tobacco, cotton, sugar, timber, minis., and manuf.; cap. New Orleans (*q.v.*). Also c. of Pike co., Missouri, U.S.A., on R. Mississippi; p. 5,350.
- Louisville**, c. of Jefferson co., Kentucky, U.S.A., on Ohio R., at the Falls; many thrvg. manuf.; p. 225,000. Exports flour, pork, tobacco, etc.
- Loulé**, t. in Faro dist., Portugal; e. esparto grass tr., and porcelain manuf.; p. 24,600.
- Lourdes**, t. nr. Cambes, dep. Nord, France, p. 4,385.
- Loudes**, fortified t. nr. Tarbes, in dep. Hautes-Pyrénées, France; famous grotto and pilgrim shrine, with many convents and ch. of the Rosary; res. p. 9,400. Visited by 500,000 pilgrims annually.
- Louth**, mkt. t. on R. Lud, Lincolnsh., Eng., p. 9,883. Also maritime co., of Leinster prov., Ireland; area 316 sq. m., p. 63,402 (decreasing); much turf, bog, and barren land; salmon fishg. prosperous; cap. Dundalk (*q.v.*).
- Louvain**, imp. mfg. t. (breweries) Belgium, Brabant prov., 27 m. E. of Brussels; famous university; p. 45,468.
- Louven**, R. (100 m.) of Norway, flows to Skager Rack.
- Louviers**, t. on R. Eure, nr. Kouen, France; cloth manuf.; p. 10,486.
- Louza**, t. in Beira dist., nr. Coimbra, Portugal, p. 5,140.
- Lovell**, t. nr. Hobart, Tasmania; p. (dist.) 2,984.
- Lovers**, t. on L. Iseo, Italy; p. 3,237.
- Low Archipelago**, or Tuamotu, grp. of sm. *isls.* on the Pacific, S. of Marquesas; chiefly coral. French protectorate.
- Lowell**, c. at jun. of Merrimack and Concord R. Middlesex co., Mass., U.S.A.; many manufs.; p. 106,480.
- Lowenburg**, old t. in Silesia, Pruss., gypsum, textile factories, p. 5,540.
- Lower Austria**, *prov.* or Crownland of A., traversed by R. Danube, area 7,655 sq. m., p. 3,250,000, cap. Vienna (*q.v.*). [dred of Wieral, p. 11,412]
- Lower Bebbington**, industri. t. in Cheshire, Eng., humber Brixham, cst. t. S. Devon, Eng., nr. Torquay, p. (dist.) 3,480. [*q.v.*]
- Lower Mitcham**, S. suburb of Adelaide, S. Australia.
- Lowestoft**, *west. pt.* and spt. Suffolk, Eng., f. fishg. industry, p. 33,780. [W. R. Yorks, Eng.]
- Low Moor**, *dist.* (extensive ironwks.) S.E. of Bradford.
- Lowthers**, The, or Leadhills, *minis.* Dumfries and Lanark, Scotl., highest pt. 2,403 ft.
- Lowtherstown**, or Irvinestown, sm. t. nr. Enniskillen, co. Fermanagh, Ireland. [co., p. 4,246]
- Loville**, *vill.* New York, U.S.A., on Black R., Lewis Loyalty Is., *grp.* in S. Pacific, belonging to France, and included in the New Caledonia col., p. 15,000.
- Lozère**, *dep.* S.E. France, traversed by Cevennes mtns., area 1,996 sq. m., p. 124,000 (much declined), agr., silk-worm-rearing, stock-raising; cap. Mende.
- Lu**, t. in Piedmont, Italy, nr. Alessandria, p. 4,488.
- Lualaba**, name of the upper part of the Congo R., Congo Regl. Africa.
- Luang Prabang**, on the Me Kong R., *cap.* of the Laos state, same name, French Indo-China, many pagodas, p. 10,000.
- Lubao**, t. in Pangasinan, prov. Luzon, Philippine Is., sugar-growing and alcohol distilling, p. 21,000.
- Lubben**, t. on R. Spree, Brandenburg, Prussia, famous for gherkin growing, p. 7,000.
- Lubeck**, *vill.* Washington co., Maine, U.S.A., p. 3,240.
- Lübeck**, free *state* of the German Empire, area 115 sq. m., embracing Lübeck co., the t. of Travemünde, and various neighbouring villages. Lübeck co. stands on the R. Trave, 10 m. above its entrance to the B. of L., an arm of the Baltic betw. Holstein and Mecklenburg. A famous old Hanse t. with flourishing commerce, extensive industries, and many wealthy institutions; p. 98,460.
- Lublin**, *prov.* Russn. Poland, covered with forests, mainly a thinly pop'd. plain, area 4,499 sq. m., p. 1,250,000; cap. L. c. on R. Bistrizza, p. 51,240.
- Lubnaig**, Loch, Perthsh., Eng., drains to R. Teith by the Leny.
- Lubal**, old t. in Poltava govt., Russia, gardening and jam making, p. (with suburbs) 13,000.
- Lucca**, c. *cap.* of Lucca prov. Tuscany, Italy, nr. Pisa, cathedral, many churches, jute manuf., tobacco, silk, cotton, and oil refining industries, p. 80,460. [Scotl.]
- Luce Bay** (16 m. long) off Irish Sea, S. of Wigtownsh.,
- Lucena**, mfg. t., Cordoba prov., Spain, matches, brandy, wine, etc., p. 22,450 (also sink t., same name, nr. Castellon de la Plana, p. 3,600).
- Lucera**, t. in prov. Foggia, Italy, the anc. Luceria, castle, cathedral, p. 10,600.
- Lucerne**, *cant.* Switzld., area 579 sq. m., mainly arable and pasture, with a few vineys., loftiest pt., Pilatus (6,995 ft., mtn. ry.). Right ridge, opp. side of lake, 5,906 ft., p. of cant. 166,000; cap. L. c. at W. end of l., p. 30,000, length of L. 23 m., height above sea-level, 1,435 ft., beautiful scenery.
- Luckenwalde**, t. on River Nuthe, Brandenburg prov., Prussia, enamel factories, cloth works p. 22,108.
- Lucknow**, *div.* (area 12,040 sq. m., p. 6 mil.), dist. (area 667 sq. m., p. 795,000), and cap. c. (p. 264,500) of Oudh, Brit. India, on the winding bank of the R. Gumti, 42 m. from Cawnpore. Famous for its defence against the Sepoys in the Mutiny, 1857. Large garrison, many fine bldgs., flourishing native manuf.; muslin, embroidery, brocade, &c.
- Luceon**, t. in dep. Vendée, France, nr. La Rochelle and the sea; cathedral, p. 6,500.
- Luc-sur-Mer**, *vill. pt.* on Eng. Channel, 10 m. N. of Caen, dep. Calvados, France.
- Ludamar**, nat. *state*, E. of Senegambia, W. Africa.
- Ludborough**, *par.* and *wapentake* on Lincolnsh. wolds, nr. Louth, Eng. [W. R. Yorks, Eng., p. 2,904]
- Luddendenfoot**, industri. t. on R. Calder, nr. Halifax, Lude, t. on R. Loire, dep. Sarthe, France, p. 4,231.
- Ludenscheld**, hardware mfg. t. in Westphalia, Pruss., nr. Cologne, p. 4,410.
- Lüderitz Bay**, otherwise Angra Pequena, German S.W. Africa, on coast of Luderitzland, Great Namaqualand. [p. 2,650]
- Ludgvan**, or Ludjan, t. nr. Penzance, Cornwall, Eng.
- Ludhiana**, *dist.* Jullundur div., Punjab, Brit. India, area 1,433 sq. m., p. 675,000; cap. L., t. nr. the Sutlej R., p. 50,800. Shawi manuf., grain trade.
- Ludington**, c. Mason co., Michigan co., U.S.A., on shore of the lower peninsula of Lake M.; wood works; p. 7,180.
- Ludlinsk**, t. in Kaluga govt., Russ.; iron and glass works; p. 13,648.
- Ludlow**, *bor.* on R. Teme, Shropsh., Eng., p. 5,006.
- Ludwigsberg**, military *depot* and mfg. t. of Württemberg, Germany, nr. Stuttgart, p. 21,894.
- Ludwig's Canal**, in Bavaria (120 m.), uniting the R.'s Danube and Main.
- Ludwigshafen**, industri. t. of Bavaria, on R. Rhine factories and foundries, p. 64,000.
- Ludwigslust**, t. in Mecklenburg-Schwerin, Germany; grand ducal castle, p. 6,980.
- Lugano**, industri. t. in cant. Ticino, Switz. (p. 10,120) on Lake of Lugano (16 m. long) at the Italian frontier.
- Luganek**, t. in Ekaterinoslav govt., Russ.; observatory and many manufs., p. 20,560.
- Luganskaya**, Cossack t. on L. Stanichnoye, prov. of the Don, Russ., p. 21,474. [Scotl., p. 1,384]
- Lugar**, *vill.* on Lugar Water, nr. Cummock, Ayrsh.,
- Lugo**, maritime *prov.* N.E. Spain, area 3,767 sq. m., p. 450,000; fishery and leather indus.; cap. L., t. on the Minho R.; tanning and textiles, p. 25,400. Also t. in Ravenna prov., Emilia, Italy; rope, furniture, and hardware factories, p. 25,260.
- Lukuga**, intermittent outlet of Lake Tanganyika, Africa, on W. shore, communicating with Congo R.

Lulea, *sv.* Norbotten co., Sweden, on R. Lule nr. N.W. corner G. of Bothnia, p. 10,460.
Lumphannan, picturesque hamlet nr. Aboyne, Aberdeensh., Scotl., p. 9,250.
Lunawara, fort. *t.* cap. of L. State, Bombay Pres., India, p. 9,250.
Lund, university *t.* nr. Malmo, Sweden; ironworks, sugar refining, etc.; *p.* 17,483.
Lundenburg, *t.* on Thaya R., S. Moravia, on Lower Austrian border; fine chateau, good trade; *p.* 7,183.
Lundy Isl., in mouth of Bristol Channel, S.W. coast Eng., 24 m. long by 1 m. wide. [445 m.] to Irish Sea.
Lune, *r.* Lancash. and Westmorl., Eng., flows Luneberg, *t.* on the Ilmenau R., prov. Hanover, Pruss.; salt works, cement factories, wine tr.; *p.* 26,345.
Lunel, *t.* nr. Montpellier, dep. Hérault, France.
Lünenburg, *sv.* Nova Scotia, cap. of L. co., nr. Halifax, *p.* 4,873.
Lunéville, industri. *t.* in dep. Meurthe-et-Moselle, France; hosiery, watch-glasses, porcelain, motor cars; salt works in suburbs; *p.* 25,100.
Lungechow, *t.* in prov. Kwangsi, China, nr. Tonquin frontier; great tr. centre and military station; *p.* (exclusive of garrison) 22,000.
Lupata Mtns., African range N.W. of Sofala, betwn. Zanzibar and Mozambique.
Luque, *t.* nr. Cordova, Spain, *p.* 4,783.
Lurgan, *t.* nr. Belfast, co. Armagh, Ireland, thriving industries, *p.* 12,135.
Lushai Hills, *dist.* S. Assam, Brit. India; S. Lushai Hills is now included in the dist. instead of Bengal, area 3,500 sq. m., *p.* 82,500.
Lusit, *dist.* of the Quarnero grp., in the Austrian gov't, Istria, in the Adriatic; length 20 m., *p.* 12,000; trade centre and pop. summer resort. *p.* 50,000.
Luton, industri. *t.* (straw plat), Bedfordsh., Eng.
Lutsk, *t.* nr. Vladimir, in Volhynia, Russ.; industri. and commercl.; *p.* 15,480.
Lutterworth, *t.* in Leicestershire, on the Swift, 8 m. N.N.E. of Rugby; pop. of parish, 1,810.
Lützen, *t.* nr. Merseburg, Saxony; *p.* 3,689.
Luxemburg, *prov.* S.E. Belgium, on French border; wooded and hilly; area 1,706 sq. m., *p.* 235,000; cap. Arlon.
Luxemburg, grand-duchy, and independent European State adjoining the Belgian prov. just mentioned, and bounded by S. France, E. and N.; area 999 sq. m. Considerable mineral wealth; *p.* 240,600, cap. L., industri. *c.*, 43 m. N. of Metz, *p.* 22,000.
Luxeull-les-Bains, *t.* in dep. Haute-Saône, France; famous from Roman times for its minr. springs, *p.* 5,598.
Luxor, *sv.* adjoining Karnak, Upper Egypt, nr. site of anc. Thebes; magnif. ruined temple.
Luzech, *t.* nr. Cahors, Lot dep., France, *p.* 2,260.
Luzerne, *bor.* Penn., U.S.A., on the Susquehanna R., in Luzerne co., *p.* 3,840.
Luzon, largest of the Philippine Isls., area 42,243 sq. m.; mountainous, but very productive; *p.* 3,800,000; cap. Manila (*p.* 71). *p.* 3,472.
Luzzara, *sv.* on the R. Po, nr. Mantua, Italy.
Lycædonia, port of Calligadocia now forming part of the Turkish vilayet of Konia. *p.* 5,589.
Lychen, *t.* in prov. Brandenburg, Pruss., nr. Berlin.
Lydd, mkt. *t.* nr. Romney, Kent, Eng., *p.* 2,874.
Lydenberg, or Leydenberg, *t.* in Transvaal col., S. Africa; 180 m. N.E. of Pretoria. *p.* 3,540.
Lydney, *par.* in Forest of Dean, Gloucestersh., Eng.
Lyell, *mn.*, Stanley Range, N.S.W., alt. 2,000 ft.; also pk. nr. the Yosemite, California, U.S.A., of the Sierra Nevada system, alt. 12,100 ft.
Lyk, *t.* in E. Prussia, on the Polish frontier, beside a lake, same name; old castle prison, iron foundries, breweries, etc., *p.* 12,460.
Lykens, *t.* nr. Harrisburg, Penn., U.S.A., *p.* 3,170.
Lyme Regis, *sv.* Dorsetsh., Eng., on R. Lyme, nr. Dorchester, *p.* 2,778.
Lym Fjord, shallow street in Jutland, Denmark, betwn. Cattegat and North Sea, 200 m. long.
Lynton, *bor.* and *sv.* Hants, Eng., *p.* 4,339.
Lyman, *t.* nr. Warrington, Cheshire, Eng., *p.* 894.
Lynchburg, *c.* on the James R., Virginia, U.S.A.; gt. tobacco mfg. centre, *p.* 29,494. [Africa].
Lynden Glen, valley nr. Bulford, Cape Colony, S.

Lyndon, *sv.* on Passumpsic R., Caledonia co., Vermont, U.S.A., *p.* 3,349. [Hamoaze at Saltash].
Lydney, *r.* of Cornwall, Eng., flows 26 m. to the Lynn (King's Lynn, or Lynn Regis, see King's Lynn); also Lynn, *sv.* Essex co., Mass., U.S.A., on Mass. Bay; gt. boot mfg. centre, *p.* 89,330.
Lynn Canal, *ford* in Alaska (100 m. by 6 m.) forming a continuation of the Chatham Strait.
Lynton and Lymouth, picturesque seaside *svs.* of N. Devon, Eng.; on the Bristol Channel connected by a cliff *r.* (of Lynton only), 1,770.
Lyon, *r.* of Perthsh., Scotl., trib. (38 m.) of the R. Tay below Loch L.
Lyonsaie, *t.* in Kentucky, U.S.A., Ohio co., *p.* 2,860.
Lyonnaise, name of old French *prov.* divided into pres. dep. of Loire, Rhône, and Saône-et-Loire.
Lyonnaise, Montagnes du, range in the Rhône prov., France, nr. Villefranche.
Lyons, *c.* cap. of dep. Rhône, at the confl. of R.'s Saône and Rhône, France; centre of silk-weaving industry and tr., dyeing and other impt. enterprises, stained glass works, etc.; many splendid churches and other bldgs., strong fortifications, *p.* over 300,000.
Lyons, former *c.* Clinton co., Iowa, U.S.A., on Mississippi R., now part of Clinton co., also *c.* cap. Wayne co., New York, U.S.A., on Erie Canal, *p.* 4,864.
Lyons, Gulf of, wide bay of the Mediterranean, on S. est. of France, into which flows the R. Rhône.
Lyskanun, *sv.* of the Valais Alps, W. of Monte Rosa, alt. 8,480 ft.
Lys R., of Belgium and France, trib. (100 m.) of R. Scheldt. [Norway].
Lysterford, N.E. arm of the Sogne fiord (25 m. long), Lytham, mfg. *t.* on R. Ribble, N. Lancash., Eng., nr. Preston, *p.* 2,464. [Zeland]; fine harbor, *p.* 4,170.
Lyttleton, *sv.* Selwyn co., Canterbury dist., New Lytton, *t.* on Fraser R., Brit. Columbia, *p.* 5,364.
Lyveten R., of Westmorland, Eng., trib. of R. Eden.

M

Maad, *t.* in vineyd. dist. nr. Tokay, Hungary, *p.* 4,460.
Maas or Meuse, R. rising in Haute Marne dep., France, and flowing (580 m.) through Holland and Belgium; joins the Waal to form the Rhine.
Maasin, *t.* on the cat. of Leyte, Philippine Isls., export abaca, cotton, pepper, rice, etc., *p.* 18,300.
Maabruk, or Maabruk, *t.* and tr. centre, Sahara, Centr. Africa, 200 m. N.E. of Timbuctoo.
Macahé, *sv.* Rio Janeiro prov., Brazil, at mouth of the M. R., *p.* 6,474.
Macao, Portuguese *c.* and settlement of isl. at mth. of Canton R., China; forml. an impt. commercl. centre; area 4 sq. m., *p.* 79,400 (abt. 4,000 Portuguese).
Macapa, *t.* on K. Amazon, Brazil, exports cotton, rice and timber, etc., *p.* 6,370. [p. 12,546].
Macarsca, *sv.* Dalmatia, Austria, wine, fruit, etc.
Macassar, chf. *t.* and port of Celebes, Dutch E. Indies; *p.* 20,000. The strait of Macassar separates Borneo from Celebes. [ext. (ighthouse), *p.* 12,460].
Macayo, or Macayo, *c.* cap. Alaquas, Brazil, nr. the Maccllesfield, mfg. *t.* (alk) Cheshire, Eng., *p.* 34,804.
McClintock Channel, between Prince of Wales's Land and Victoria, Brit. N. America, communicating with Melville Sound, in the N. Polar Region.
McClure Strait, between Banks's Land and Melville Isl., B. N. America. [U.S.A., *p.* 4,240].
MacCook, industri. *c.* on Republican R., Nebraska.
McDonald Isl., S. Indian Oc., S. of Kerguelen Isl.
MacDuff, *sv.* *pt.* on est. of Banffsh., Scotl., *p.* 3,471.
Macedonia, up to 1913 an emp. region of Turkey and at one time a powerful empire, but after Balkan War of 1912-13 div. betwn. Greece, Bulgaria and Servia.
Macerata, *prov.* in the Marches, Italy; area 1,087 sq. m.; cap. M., c. betwn. the Adriatic and the Apennines; terra-cotta manuf., cathedral; *p.* 23,180.
Macgillcuddy's Reeks, *mn.* *c.* Kerry, Ireland; highest pk., Carruntuohill, alt. 3,474 ft.
Machias, *sv.* on M. R., Washington co., Maine, U.S.A., *p.* 2,809. [Dorset].
Macmillan, *bor.* Montgomerysh., Wales, *p.* 1,945.
MacIntyre R., N.S.W., trib. (30 m.) of R. Darling.
MacKay, *sv.* Queensland, co. Carlisle, on the Pioneer R., in sugar farming dist.; *p.* 5,474.

MacKeesport, *c.* on Monongahela R., Allegheny co., Penn., U.S.A.; iron and steel manu.; *p.* 40,180.

MacKees Rocks, *t.* on the Ohio R., Allegheny co., Penn., U.S.A.; iron and glass; *p.* 8,467.

MacKenzie, *R.*, N.W. Territory, Can., rises in Rocky Mtns. discharges the waters of the Gt. Slave Lake into the Arctic Oc.; total length (including trib. R. Peace) 2,350 m.

MacKinnon or **MacKinnaw**, *t.* at N.W. extrem. L. Huron, Michigan, U.S.A., *p.* 1,720. MacKinnon Sound, connects Lakes Michigan and Huron.

MacKinney, *c.* Collin co., N.E. Texas, U.S.A., in cotton-growing dist., *p.* 4,500.

Maclean, *agr. township*, Clarence co., N.S.W., *p.* Maclean, *dist.* on N.E. cst., N.S.W., area 3,180 sq. m.; traversed by the M.R.; mtns.

McMillen, *vill.* in mining dist. Gila co., Arizona, U.S.A.; *p.* (dist.) 3,848.

Macomb, *industri. c.* in McDonough co., Illinois.

Macoon, *mfg. t.* in France, on R. Saône, ruined cathedral, suffered in Huguenot wars, *p.* 20,470; also *c.* of Bibbe co., Georgia, U.S.A., on Ocmulgee R., in cotton belt; *p.* 40,605; also *c.* of Missouri, U.S.A., cap. M. co., *p.* 4,890.

Macpherson, *t.* and *ry.* centre, on Turkey Creek, McPherson co., Kansas, U.S.A., *p.* 3,840.

Macquarie Harbour, *t.* and *pt.* Franklin co., Tasmania; *p.* (dist.) 3,400.

Macquarrie, *Isl.*, S. Pacific Oc., 20 m. long; Brit. seal Macquarrie, *R.*, N.S.W., trib. (750 m.) of Darling R.

Macroom, *t.* in co. Cork, Ireland, on R. Sullane, *p.*

Madagascar, large *isl.* in Indian Oc., off E. cst. of Africa; French protectorate, area 230,000 sq. m. *p.* (est.) 3,500,000. Cap. Antananarivo, chief pt. Tananarive.

Madarasz, *industri. t.* nr. Szeged, Hungary, *p.* 7,426.

Madawaska, *R.* of N. Ontario, Can., flows (230 m.) through lake region to R. Ottawa. *p.* 20,847.

Maddaloni, *mfg. t.* in prov. Caserta, Italy, nr. Naples.

Madeira, *grp.* of salubrious Portuguese *isls.* in Atlantic Oc.; total area 315 sq. m. *p.* 150,500. Produce wine, sugar, etc. A much favoured winter resort, cap. Funchal.

Madeira, *R.* of Brazil, trib. (780 m.) of R. Amazon.

Madeley, *mkt. t.* on R. Severn, Shropsh., Eng., *p.* 8,890; also par. nr. Crews, Staffs., Eng., *p.* 2,584.

Madison, *mfg. c.* on R. Ohio, Jefferson co., Indiana, U.S.A., *p.* 7,040; also university *c.* of Dane co., Wisconsin, U.S.A., *p.* 25,531; also smir. *t.* in S. Dakota, N. Jersey, and Georgia, U.S.A.

Madisonville, *t.* in Ohio, U.S.A., *p.* 4,740; also *t.* in Kentucky, U.S.A., *p.* 3,844.

Madjicosima, *grp.* of sm. *isls.* between Formosa and Madec, *vill.* on Deer R. co. Hastings, Ontario, Can., *p.* 1,840.

Madras (or Pres. of Port St. George), a large div. of the S. Penn., Brit. India (including nat. States), area 141,720 sq. m. *p.* 41,405,404; cap. Madras, *c.* on B. of Bengal, *p.* 518,660; third *c.* of Ind; great commerce, poor health, university.

Madre de Dios, *arch.* Patagonia, rocky *grp.* off cst. of S. America in the Pacific Oc.

Madrid, *cap. c.* of Spain, and prov., New Castile; area of M. prov. 2,097 sq. m.; *p.* 770,500; *agr.* vine-growing and manuif. The *c.* of M. has university, Nat. Library, Royal Museum of Art, and many fine bldgs.; a cathedral, palace, etc.; *p.* 590,000.

Madridjos, *t.* in Toledo prov., Spain, vine-growing dist., leather industry; *p.* 6,420.

Madron, *t.* nr. Penzance, Cornwall, Eng., *p.* 2,840.

Madura, *dist.* Madras, Brit. India; area, 6,808 sq. m., *p.* 2,840,500; cap. M., *c.* on R. Vaigai, *p.* 105,500; colleges, a splendid pagoda, and many industries; also an *isl.* of the E. Indian arch., sep. from Java by Strait same name, area 1,770 sq. m., *p.* 1,168,000, fishing and cattle-rearing.

Maclaur or **Maillar**, *t.* in S.E. Sweden, area 477 sq. m.; has 1,260 *isls.*, with Stockholm *c.* at its E. extrem.

Maellstrom, *whirlpool* N.W. cst. Norway, at S. extrem. Lofoten *Is.*

Maesteg, mining *t.* Glamorgansh., Wales, *p.* 24,977.

Maestricht, *cap.* Dutch prov. Limburg; earthenware, glass, and textile factories; *p.* 37,600.

Maeskyk, *t.* on R. Maas, Holland, nr. Maestricht, *p.* 4,890.

Maifai, *isl.* off cst. Germ. E. Africa, S. of Zanzibar.

Maifeking, *t.* in N. of C. Col., Brit. S. Africa; held for seven months against Boer siege by Baden Powell, 1899-1900.

Magadozo, *cst. t.* on Af. E. cst., subject to Zanzibar, *p.* 4,000.

Magdala, hill fort Abyssinia, alt. 9,110 ft.; captured Magdaba, *fort. t.* on R. Elbe, Saxony, Prussia, one of the prin. industri. and commerc. centres in Prussia; *hqdqrs.* of Army corps; fine Gothic cathedral; *p.* (with subs. of Buckau and Neustadt), 279,460.

Magelang, *t.* in Java, nr. Samarang, impt. tr., *p.* 35,460.

Magellan, *Strait* of, between Tierra del Fuego and S. Magenta, *t.* nr. Milan, S. Italy, nr. the Ticino; great battle (Austrian defeat) 1859; *p.* 5,680.

Magerö, *isl.* N. of Norway, in Arctic O., on which is the North Cape.

Magerfontein, *t.* in Orange R. Col., Brit. S. Africa, here the Brit. under Lord Methuen were defeated by the Boers in 1899.

Maggiore, Lago, N. Italy, and Switzerland, at foot of Lepontine Alps, area 82 sq. m., contains the Boarcomen *isls.* of great scenery. *p.* 3,140.

Magway, *vill.* Columbia co., Arkansas, U.S.A., *p.* 3,400.

Magwe, *dist.* Mimbú div., Upper Burma, area 3,331 sq. m., *p.* 248,400; petrol wells.

Mahabaleswar, *t.* and health res. W. Ghats, Bombay, India; alt. 4,500 ft., *p.* 3,645.

Mahabalipur, *t.* in Madras, India, famous cave-temples, *p.* 4,120.

Mahallat, *prov.* Cent. Persia; cap. M. *c.* *p.* 9,400.

Mahanas, *R.*, India, flows (520 m.) from Orissa to B. of Bengal. *p.* (dist.) *p.* 14,840.

Mahanoy, *t.* in Schuylkill co., Penn., U.S.A., colliery

Mahé, French settlement, Madras, Malabar cst., India; *p.* 8,560.

Mahikantha, *grp.* of nat. states, Gujarat div., Bombay, India; total area 9,300 sq. m., *p.* (greatly decreased by famine) 362,400.

Mahim, *pt.* Thana dist. Bombay, India, *p.* 7,240.

Maidenhead, *bor.* Berks, Eng., nr. R. Thames, *p.* 15,280.

Maidstone, *hor.* Kent, Eng., on R. Medway, in hop garden dist.; *p.* 35,477.

Maihar, native state Bagelkhand Agency, Cent. India, area 400 sq. m., *p.* 77,460; cap. M., *t.* *p.* 6,500.

Maimensingh, or **Myensingh**, *dist.* Dacca div., Bengal, India; area 6,287 sq. m., *p.* 3,900,000; cap. Naisarabad.

Main, *R.*, Germany afflt. (304 m.) of R. Rhine.

Main, *fort* at mth. of E. Main R., Labrador.

Maine, N.E. state New Engld., U.S.A., area 29,895 sq. m., *p.* 744,500; mtns., with much forest land; cap. Augusta, chief port, Portland; also Maine, Fr.

Maine, *R.* of France, formed by junctn. of Sarthe and Mayenne, flows 7 m. to R. Loire at Angers.

Maine, *dept.* of France, area 2,810 sq. m., *p.* (decreasing) 513,000; *agr.* vineyards; cap. Angers.

Malapuri, *dist.* Aggra div., N.W. Prov., Brit. India; area 1,701 sq. m., *p.* 829,500; cap. M., *t.* *p.* mfg. wooden ware mixed with wire, *p.* 19,400.

Mainz, or **Mayence**, *t.* on R. Rhine, Hesse Darmstadt, Germany; fort. (garrison 8,000), many manuif., large trade; *p.* 110,634.

Maisons-Alfort, S.E. sub. of Paris, France *c.* *p.* 10,460.

Maisonnewe, *c.* Quebec, Can., *p.* 10,000.

Maitland, E. and W. *t.* Cumberland co., N.S.W., on Hunter R., *p.* (E.) 4,070, (W.) 7,550.

Majorca, or **Mallorca**.—(See Balearic *Is.*)

Mako, or **Makovia**, *industri. t.*, cap. co. Csanaad, Hungary, nr. R. Maros, *p.* 34,380.

Makololo, country of the Zambesi valley, S.E. Africa.

Malabar, *dist.* Madras, Brit. Ind., area 5,985 sq. m., *p.* 2,801,460; cap. Calicut, *p.* 10,000.

Malacca (with Nanning), one of the Straits Settlements (Brit.) on W. coast Malay Pen.; area (about) 1,000 sq. m., *p.* 110,000; cap. M., 130 m. N.W. Singapore. The Strait of Malacca separates Sumatra from the Malay Pen. (Leone, in French W. Africa).

Malacuri, or **Malacouri**, fortid. *t.* E.N.E. of Sierra

Malade City, on M.R., Oneida co., Idaho, U.S.A., p. 4,120. [Pyrenæes, alt. 11,268 ft.]

Maladetta, with Piede Nethou, highest pt. in the Malaga, maritime prov. S. Spain, area 2,833 sq. m. p. (decreasing) 200,000 agr.; exports wine, fruits, olive-oil, etc.; p. of city, 135,600.

Malakoff, *l. S.* by W. of Paris, close to fortifications, mainly residential, p. 15,140.

Malatia, *l.* in Memet-el-Aziz vilayet, Asia Minor, on a fertile fruit-growing plain, nr. R. Euphrates, p. 30,000, mainly, Moslems; 3,000 Armenians massacred here in 1895.

Malay Archipelago, otherwise called the Indian or Eastern A.; extensive grp. of tropical isls., extending from the Nicobar isls., in the B. of Bengal to the Solomon isls. in the Pacific, a distance of 4,500 m., and including Sumatra, Java, Borneo, the Celebes, the Philippines, New Guinea, the Bismarck Arch., etc. (See separate entries.)

Malay Peninsula, the most S. portion of the continent of Asia, jutting out lozenge-shaped into the China Sea; area abt. 70,000 sq. m. Includes Lower Siam, Perak, Johore, Pahang, and Selangore; also the Brit. cols. of Malacca (with Nanning) and Wellesley.

Malayir, eml. Persian prov. betwn. Hamadan and Burujird; cap. Dautabad.

Malaysia is that portion of the Malay Arch. lying W. of the Moluccas and Timor.

Mal Bay, an inlet of the Gaspé Pen., Quebec, Canada.

Malchin, old *t.* on the R. Peene, Mecklenburgh-Schwerin, Germany, p. 7,500.

Maldah, dist. Bhagalpur div. Bengal, lying along the banks of R. Ganges, area 1,891 sq. m., p. 880,500 (increasing); cap. English Bazaar, nr. the t. of Old Maldah. [the mfg. sub., p. 44,404.]

Malden, *c.* nr. Boston, Mass., U.S.A., of which it is Malden, New, mkt. *l.* nr. Kingston-on-Thames, Surrey, Eng., p. 3,140.

Maldive Isls., coral gr. in Indian Oc., 500 m. S.W. of Ceylon, p. 50,000 (Moslems), ruled by a Sultan subject to Brit. govt. of Ceylon.

Maldon, bor. on R.'s Blackwater and Chelmer, Essex, Eng., p. 6,253; also t. in gold-mining and farming dist. Victoria, 89 m. N.N.W. of Melbourne, p. 3,126.

Maldonado, dep. of Uruguay; also fort. spt. in same, 60 m. E. of Montevideo, p. 2,674.

Maleo, *c.* nr. Sodi, N. Italy, p. 4,473.

Male Kotiar, nat. st. of the Punjab, India, S. of Ludhiana, area 126 sq. m., p. 78,100; cap. M.K., p. 22,100.

Mallahabad, *t.* in Lucknow dist., Oudh, p. 7,248. [Ireland. Malines.—(See Mechlin).]

Malin Head, *c.* Donegal, the most northerly pt. in Malinbeg, *t.* in Buldana dist., Berar, India, p. 78,460.

Mallala, *t.* nr Adelaide, S. Australia, p. (dist.) 1,430.

Mallawan, *t.* in Hardoi dist., Oudh, India, p. 10,543.

Malleco, prov. S. Chili, area 2,857 sq. m., p. 101,060; cap. Angol. [Kent, Eng., p. 4,508.]

Malling, West (or Town), mkt. *t.* nr. Maidstone, Kent, Eng., p. 4,508.

Mallow, mkt. *t.* on R. Blackwater, co. Cork, Ireland, p. 4,550.

Malmesbury, mkt. *t.* Wilts, Eng., on R. Avon, p. 10,100.

Malmo, *st.* on The Sound, S. Sweden, exports bacon, matches, etc., thriving trade and industries, p. 71,246.

Malo, *t.* in Italy, nr. Vicenza, p. 5,568.

Malone, val. in iron ore dist., Franklin co., New York, U.S.A., p. 6,434.

Malpas, mkt. *t.* in Cheshire, Eng., p. 1,040.

Malplaquet, val. in Avesnes arrond., dep. Nord, France, Marlborough's victory, 1709.

Malstadt, Burbach, *st.* on R. Saar, Rhine prov., Pruss., large ironworks, p. 39,462.

Malta, *is.* in the Meditern., 60 m. S. of Sicily; belongs to Britain, area 111 sq. m., p. 268,504 (with Gozo and Confin); cap. Valetta, strongly fortified, arsenal, dockyard, military stn.

Malters, *t.* on R. Emmen, cant. Lucerne, Switzerland, p. 3,120. [4,822.]

Maltun, mkt. *t.* N.R. Yorks, Eng., on R. Derwent, p. 1,040.

Maluti Mts., range in Basutoland, S. Africa, highest pt. Mochius, p. 4,900 ft.

Malvern, or Great Malvern, health res., Worcestersh., at foot of Malvern Hills (highest pt., 1,395 ft.), scholastic centre, p. 16,514.

Malwa, prov. Centr. India, comprising States of Bhopal, Indore, Dhar, Jaora, Ratlam, Rajpura, etc., formerly a Mogul kingdom.

Malwan, *t.* India, Ratnagiri dist., on French is., Malabar est., Bengal Pres., p. 18,484.

Mamers, *l.* nr. Le Mans, Sarthe dep., France, p. 1,813.

Mammola, *l.* in prov. Reggio di Calabria, Italy.

Mammoth Cave, Calaveras co., California; also Mammoth Caves, Kentucky, on Green R., Edmonson co., stalactite formations in avenues aggregating 150 m. long. [Bent.]

Mamora, or Rio Grande, R., Bolivia (300 m.), trib. R. Mam Soul, mts. Ross and Inverness, Scotl., alt. 3,800 ft.

Man, isle of, in Irish Sea, area 227 sq. m., p. 55,000, chf. t. Douglas, p. 59,540; old cap. Castletown.

Mana, R., French Guiana, S. America, flows 175 m. to Atlantic. [70,140; cap. Puerto Viejo.]

Manabi, prov., Ecuador, on W. slope of the Andes, p. 12,000.

Manacor, *t.* in is. of Mallorca, wine, p. 12,000.

Managua, cap. Nicaragua, Centr. America, nr. Lake M., 32 m. S.E. of Granada, chf. coffee tr., p. 18,400.

Manaoag, *t.* in prov. Pangasinan, Luzon, Philippine isls., rice-growing dist., p. 17,000.

Manaos, *t.* at mth. of Rio Negro, Amazonas prov., Brazil, opp. Richmond, p. 10,000.

Manasarowar, sacred *l.*, Tibet, nr. source of R. Sutlej, S. of Mtn. Kailas, at alt. 15,000 ft.

Manbhum, dist. Chota Nagpur div., Bengal, Brit. India; area, 4,147 sq. m., p. 1,310,500; collieries—Admn. hdqrs., Purulia.

Mancha Real, *t.* nr. Jaen, Spain, p. 5,850.

Manche, maritime dep. N.W. France, on Eng. Chan.; area 2,475 sq. m., p. (declining) 488,210. Agr. and dairying; cap. Saint Ló; Cherbourg (p.v.) largest t.

Manchester, *c.* Lancash., Eng., on R. Irwell (which separates it from Salford), centre of the world's greatest mfg. dist., staple cotton; fine cathedral, town hall and other pub. bldgs.; p. (of c. proper) 714,427. Also c. on the R. Merimac, Hillsboro' co., New Hampsh., U.S.A., at Amoskeag falls; many flourishing manuf., p. 70,000; also mfg. t. (chiefly textiles) of Hartford co., Connecticut, U.S.A., p. 12,124; also mfg. c. of Virginia, U.S.A., on James R., opp. Richmond, p. 10,000; also t. on Makokweta R., Delaware co., Iowa, U.S.A., p. 3,125.

Manchuria, div. of the Chinese Empire, outside the Gt. Wall, including the provs. of Liao-tung, or Shengking, Kirin, and Hei-lung-chiang, area 379,150 sq. m., p. (abt.) 12,500,000; scene of much of the fighting in the Russo-Japanese War, Manchuria having been claimed by Russia as her sphere of influence. Chf. t. Mukden; princ. pt. Newchang.

Mandal, most S. *t.* of Norway, on Skager Rack, 23 m. W.S.W. of Christiansand, p. 4,130.

Mandlay, dist. (area 25,767 sq. m.), dist. (area 2,071 sq. m.) and t. (hdqrs. of div. and dist.) on the Irrawadi R., Upper Burma; formerly cap. of kingdom, p. (including Brit. garrison) 128,500. Old carved wooden palace, and many pagodas.

Mandana, *c.* on St. Cebu, Philippine isls., in rice-growing dist.; p. 15,240. [p. 7,330.]

Mandawar, old *t.* Bijnaur dist., N.W. Provs., India, Mandahata, *st.* on Narbuda R., Nimar dist., Central Provs., India, famous for its temple.

Mandh, *st.* in the Punjab, India, on lower ranges of the Himalayas; area 1,131 sq. m., p. 175,210; cap. M., t. on the mtn. R. Beas, p. 5,140.

Mandla, dist. Jubbulpore div. Centr. Provs., India, among the Satpura hills; area 5,036 sq. m., p. 297,500 (decreased by famine); cap. M., t. on Nerbuda R., p. 5,085. [centre of the Malwa opium tr., p. 18,460.]

Mandaur, *t.* in the native st. of Gwalior, India; Manduria, *t.* nr. Taranto, prov. Lecce, Italy, thriving tr.; p. 10,895.

Mandvi, *st.* in nat. st. Catch. Gujarat div. Bombay. India, on Gulf of Cutch; p. of call for Brit. steamers, p. 49,660.

Manfalut, *t.* on R. Nile, border. Upper Egypt; p. 18,460.

Manfredonia, fort. prov. Foggia, Italy, nr. site of anc. Sipontum, p. 10,848.

Mangaldan, *t.* in Pangasinan prov., Luzon, Philippine Is., rice-culture; *p.* 10,430.

Mangalore, *cap.* and admin. hdqrs. S. Kanara dist., Madras, Brit. India; exports coffee, cocoa-nuts, rice, spices, etc.; *p.* 44,550.

Mangalvedha, *t.* in nat. st., Sangli, Bombay, *p.* 9,432.

Manglaur, *t.* in Sharanpur dist., N.W. Provs., India, *p.* 10,046. (many former head-hunters.)

Mangloli, *st.* in Shan div., Burma, *p.* 6,890, including

Mangrol, *cap.* Kashiwar, Bombay Pres., India, *p.* 15,680.

Manhattan, *west*, *pl.* Coney Isl., New York, U.S.A., Manhattan Is. at mth. of Hudson R., area 22 sq. m., forms princ. part of N. Y. city (*p.v.*)

Manihiki Is., *grp.* in Pacific Oc., W. of Marquesas Is. and E. of Union Is.

Manila, *cap.* of Luzon, Philippine Is.; flourishing *spt.*, walled (Fort Santiago contains "Black Hole of Manila" dungeons); fine cathedral and many impt. bldgs.; great *tr.*; *p.* 1,250,000 (one-fifth Chinamen).

Manipur, nat. st. betw. Upper Burma and Assam, N.E. India; area 8,000 sq. m., *p.* 285,460. Brit. Resident murdered 1891; punitive expedition followed.

Manisa, *t.* nr. Smyrna, Asia Minor, at foot of Mt. Siplyan, an impt. commerc. centre; *p.* 36,000. Seat of the Byzantine impl. govt. in the 13th cent., and res. of Murad II., after abdicating the Turkish throne in the 15th cent.

Manistee, *mfg.* *t.* on L. Michigan, Mich., U.S.A., *p.* 15,140. [U.S.A., *p.* 4,548]

Manistique, *vill.* on M. R., nr. L. Michigan, Mich., Manitoba, wheat growing *prov.* of Canada, N. of Minnesota and Dakota States of the U.S.A., contains most of L.'s Winnipeg, Winnipegosis, and Manitoba, area 252,732 sq. m., *p.* 455,614. Cap. Winnipeg (*p.v.*). L. M. has an area of 1,711 sq. m.

Manitoulin, *is.* in L. Huron, Can., 80 m. by 20 m.

Manitowoc, *t.* Wisconsin, U.S.A., on L. Michigan, large *tr.*, *p.* 13,850. [farming *dist.*; *p.* 11,460.]

Mankato, *c.* in Blue Earth co., Minnesota, U.S.A.;

Manley, *t.* nr. Sydney, N.S.W., *p.* 1,864. [p. 20,184.]

Mannargudi, *t.* in Tanjore dist., India, thriving *tr.*;

Mannheim, *t.* on R. Rhine, Baden, Germany, extens. *tr.* and manuf.; grand ducal castle; *p.* 104,400.

Manningtree, *mkt.* *t.* Essex, Eng., *p.* 1,142.

Manoppello, *cap.* prov. Chieti, Italy, *p.* 4,747.

Manorhamilton, *t.* nr. Sligo, co. Leitrim, Ireland, *p.* 1,070.

Manosque, *t.* in dep. Basses-Alpes, France, nr. Digne, and

Manresa, *t.* in Barcelona prov., Spain; woollen and other textiles; *p.* 26,640.

Manu, Le.—(See Le Mans.)

Manu, *t.* in Gujarat prov., Bombay, India, *p.* 7,898.

Mansfield, *t.* in Saxony, Pruss., *cap.* of former prov. of M., *p.* 2,780.

Mansfield, *book mfg.* *t.* in Notts. England, on border of Sherwood Forest, *p.* 26,807; also arg. imp. *mfg.* *t.* of Richmond co., Ohio, U.S.A., *p.* 20,768.

Mansurah, *cap.* Dakahlieh prov., Lower Egypt; famous in the Crusade; cotton factories; *p.* 27,460.

Mantes, *t.* in Seine-et-Oise, dep. France, opp. Ligny on R. Seine; cathedral, artif. incubator, and music. inst. manuf.; *p.* 8,805.

Manitiquira, *mt.* range in Brazil, highest pk., 6,000 ft.

Mantua, *prov.* Lombardy, Italy, area 312 sq. m., *p.* 248,940; *cap.* M., fort. *t.* on R. Mincio; ironworks; *p.* 33,400. Andreas Hofer, champion of Tyrolean liberty, shot here by the French, 1810.

Manytch, R. Russ., trib. (300 m.) of R. Don. ☞

Manzanara, *t.* in Spain, prov. Ciudad Real; anc. castle, chalk and brick works, *tr.* in wine, saffron, etc.; also name of Spanish R., which joins the Henares at Madrid.

Manzanillo, commerc. *c.* of Cuba, Santiago prov.; exports sugar, tobacco, and beeswax; last battle of Spanish war fought here; *p.* 14,510.

Mapimi, *t.* in Durango State, Mexico, *p.* 3,420.

Mapusa, *t.* nr. Panjim, Goa, India, *p.* 10,864.

Maquoketa, *t.* in Jackson co., Iowa, U.S.A., nr. M. R., *p.* 2,864. [Don and Dee.]

Mar, anc. *dist.* Aberdeen co., Scotl., between R.'s

Maracay, *t.* in Guzman Blanco State, Venezuela, *p.* 8,663.

Maracaybo, *c.* *cap.* of Zulia state, Venezuela, on L. M.; great coffee, cocoa, and hide export; *p.* 25,600. G. of Maracaybo is the name given to no. of the Caribbean S., between Colombia and Venezuela. [Brazil; area 173 sq. m., *p.* 25,600.]

Marajo, *is.* at mouth of the Amazon and Paros R.'s, Maramaroe-Sziget, *t.* in Hungary; timber industry and scholastic centre; *p.* 18,573.

Maranhao, state of N.E. Brazil, on the Atlantic coast; area 177,566 sq. m., *p.* 480,654; *gr.* *tr.*; *cap.* San Luis.

Marano, *t.* nr. Naples, *p.* 8,673; *gd.* *tr.*

Marans, *t.* (industr.) in dep. Charente-Inférieure, France, *p.* 4,869.

Marash, *t.* in Aleppo vilayet, Asiatic Turkey; Kurd carpet *tr.*; *p.* 40,000, half Armenians.

Maratea, *spt.* Basilicata prov., S. Italy, on G. of Policastro, *p.* 5,564.

Marathon, Plains of, Attica, Greece, 18 m. N.E. of Athens; Mithades won his *gt.* victory over the Persian host, 490 B.C.

Marazion, or Market Jew, *sml.* *spt.* Mount's Bay, nr. Penzance, Cornwall, Eng., *p.* 1,340.

Marbella, *spt.* in prov. Malaga, Spain, on the Mediterranean, old castle, porcelain manuf., fish, raisins, figs, and cork exported, *p.* 20,140.

Marblehead, port on Massachusetts Bay, Essex co., Mass., U.S.A., summer rest. for Boston, shoe factories, *p.* 8,446.

Marburg, *mfg.* *t.* in the Austrian duchy of Styria, fruit-growing, *dist.* *p.* 25,000; also *t.* on R. Lahn, Hesse-Nassau, Pruss., university and manuf., *p.* 19,164. [p. 2,960.]

Marcaria, industr. *t.* on R. Oglio, Mantua, Italy, March, mkt. *t.* in Cambridgeshire, Eng., on R. Nen, in the Isle of Ely dist., *p.* 8,403. [p. 3,472.]

Marche, *t.* nr. Dinant, prov. Luxembourg, Belgium, *mfg.* *t.* on the Guadalquivir, prov. Seville, Spain, *p.* 14,534.

Marches, The, an Italian terr. *div.* on the Adriatic betw. Abruzzi and Emilia, area 3,763 sq. m., *p.* over 1,088,000, embracing provs. of Macerata, Ancona, Pesaro, and Urbino, all of which see.

Marchienne-au-Pont, *t.* prov. Hainault, Belgium, on R. Sambre, flourishing *tr.* *p.* 20,680.

Mardin, fort. *t.* Asiatic Turkey, Diarbekr vilayet, *p.* 12,470, half Christians, attacked during Armenian massacre, 1895.

Marne, Loch, beautiful Scottish lake in Gairloch par., West Ross, skirted by mtns. and studded with islds., length 12½ m., breadth 2½ m. at widest.

Mareng-en-Bareuil, industr. *t.* dep. Nord, nr. Lille, France, *p.* 10,120.

Marengo, *vill.* in Alessandria prov., Italy, Napoleon's great battle, 1800, *p.* 3,243; also *t.* on M. Creek, Montangle co., N.S.W., *p.* 1,863.

Marennes, *spt.* in Charente-Inférieure dep., France, nr. B. of Biscay, *p.* 5,774.

Marotia, L. in Lower Egypt, S.E. of Alexandria (50 m. by 20 m.), the modern Birket-el-Marout.

Margam, mining *t.* in Glamorgan-shire, Wales, *p.* 14,777.

Margar, industr. *t.* nr. Panjim, Goa, India, *p.* 12,085.

Margarita, *is.* of Venezuela, in the Caribbean S., pearl fisheries, area 450 sq. m., *p.* 40,000, *cap.* Asuncion.

Margate, *bor.* and seaside res. on coast of Kent, Eng., W. of the N. Foreland, in the Isle of Thanet, res. *p.* 27,086.

Margaux, *vill.* Gironde dep., France, famous for Chateau-Margaux wine, *p.* 2,620. [p. 5,949.]

Marggrabowa, *mfg.* *t.* in Gumbinnen dist., Pruss.,

Margilban, *cap.* of the prov. Ferghana, Asiatic Russ., flourishing *tr.* *p.* 20,494.

Mariana, *c.* Minas Geraes prov., Brazil, *gd.* *tr.*, *p.* 7,840.

Marianao, res. *vill.* Havana, Cuba, *p.* 5,863.

Marianne Is.—(See Ladrones.)

Mariano, industr. *t.* nr. Como, N. Italy, *p.* 5,240.

Mariavell, religious shrine in Styria, Austria, perm. *p.* 1,400. Visited by 200,000 pilgrims annually.

Maricao, *dist.* (extreme W.) Transvaal Col., Brit. S. Africa.

Marientbad, *war*, *pl.* Bohemia, Austria, *p.* 4,588.

Marlenberg, *t.* in Zwickau circle, Saxony, Germany, wool, flax, and lace industries, also silver mines, *p.* 7,400.

- Marlenburg**, *t.* on the Nogat R., nr. Dantzic, West Pruss., famous castle fortress, busy mod. manuf., p. 10,840.
- Marlenwerder**, *t.* nr. the R. Vistula and Marlenburg, West Pruss., old cathedral, iron wks., etc., p. 10,824.
- Marietta**, *t.* at mth. of R. Muskingum, Washington co., Ohio, U.S.A., sawmills, foundries, etc., p. 15,120.
- Mariellano**, indust. *t.* nr. Nola, Caserta prov., Italy, p. 12,320.
- Marijuana**, uninhab. *isl.* of the Bahama grp., 25 m.
- Mariinsk**, *t.* in Tomsk gov., Siberia, Asiatic Russ.; wood built but with imposing cathedral; agr. dist. and mining centre, p. 10,460.
- Marine**, *t.* nr. Palermo, Sicily, p. (Industr.) 10,869.
- Marinette**, *vil.* on Green Bay, L. Michigan, Wisconsin, U.S.A.; large L. commerce, p. 18,428.
- Marino**, *t.* in prov. Rome, Italy, p. 6,826.
- Marion**, *c.* cap. of Marion co., Cent. Ohio, U.S.A.; agr. imp. manuf., p. 17,220; also *c.* in nat. gas region, Grant co., Indiana, U.S.A., p. 21,264; also *c.* nr. Cedar Rapids, Linn co., Iowa, U.S.A., p. 5,240; also *vil.* in Perry co., Alabama, U.S.A., p. 4,292.
- Mariopol**, *spt.* *t.* on Sea of Azov, Yekaterinoslav gov., Russ., p. 21,524.
- Maritime Alps**, *ranges* extending from Monte Viso to G. of Genoa, along the border of France and Italy.
- Maritza**, R. Roumelia, flows past Philippopolis and Adrianople (200 m.) to the Ægean Sea.
- Markelo**, *t.* (industr.) nr. Deventer, Overijssel, Holland, p. 4,642.
- Marken**, *vil.* of the Zuider Zee, Holland, p. 1,226.
- Market Deeping**, *t.* on R. Welland, in the Lincolnsh. fens, Eng., p. 590.
- Market Drayton**, *t.* on R. Teme, Shropsh., Eng., p. 8,853.
- Market Harborough**, *mftg.* *t.* on Grand Union Canal, Leicestersh., Eng., p. 2,296.
- Market Rasen**, *t.* in agr. centre N.E. Lincolnsh., nr. Selby, Eng., p. 4,383.
- Markinch**, *t.* nr. Cupar, Fife, Scotl., p. 1,641.
- Markirch**, *t.* nr. Schlestadt, Alsace, Germany; manuf., p. 13,264.
- Marlboro**, *c.* Middlesex co., Mass., U.S.A.; boot factories, p. 13,508.
- Marlborough**, municip. *t.* Wilts, Eng.; commercl. and educational (Marlborough College); centre of agr. dist., p. 4,401; Marlborough Downs is an adjacent ridge of pastoral hills, highest pt., Milk Hill, 567 ft.
- Marlborough**, *prov.* dist. New Zealand (N.E. pt. So. Is.) embracing t's of Blenheim, Picton, and Havelock.
- Marlow** (or Great Marlow), *mkt.* *t.* on R. Thames, Bucks, Eng., p. 4,683.
- Marmande**, old *t.* nr. Agen, dep. Lot-et-Garonne, France; brandy and liqueur manuf., p. 9,264.
- Marmolada**, highest *pt.* of the Dolomite Alps, nr. the S. Tyrol, alt. 11,045 ft.
- Marmolejo**, *vil.* nr. J'en, Spain, p. (Industr.) 5,124.
- Marmora**, Sea of 170 in by 50 lies betw. Asia and Europe, communicating by the Strait of Bosporus with the Black S., and b. the Dardanelles with the Ægean; the anc. Propontis; an *isl.* (the anc. Proconnesus) lies in the S., 70 m. W.S.W. of Constantinople, 11 m. long; it belongs to Turkey.
- Marne**, *dep.* of N.E. France, in the old prov. of Champagne; area 3,168 sq. m.; wine growing (of the highest quality) and agr. are the staple industries, but textile factories flourish round Rheims, p. 435,500 (increased); cap. Châlons-sur-Marne; the R. Marne flows (210 m.) to the Seine above Paris.
- Marne, Haute**.—(See Haute Marne.)
- Marocco**.—(See Morocco.)
- Maromme**, *vil.* nr. Rouen, prov. Seine-Inférieure, France, p. 3,148.
- Marong**, mining *t.* in Bendigo co., Victoria, p. (dist.) 17,890.
- Maros R.**, Hungary, flows (400 m.) from Transylvania to the R. Theiss, nr. Szeben.
- Maros-Vásárhely**, *t.* of Hungary on R. Maros; famous old fort, with Gothic Calvinist cathedral, where in 1571 religious liberty was promulgated for the first time in Europe. Protestant college, good tr., p. 30,124.
- Marple**, industr. *t.* on R. Goyt, Cheshire, Eng.
- Marquesas**, or Mendeni *Isles*, *grp.* in the Pacific Oc., n. of the Low Arch.; under French protection; area 480 sq. m., p. 5,260; Nukahiva, and Hivaoo are the largest of the grp.
- Marquette**, *vil.* nr. Lille, Nord dep., France, p. 3,864; also *c.* on Marquette Harbr., L. Superior, Michigan, U.S.A., in the world's richest iron region, p. 17,120.
- Marradi**, *t.* nr. Florence, Italy, p. (Industr.) 8,644.
- Marrickville**, sub. *bor.* to Sydney, N.S.W., p. 35,150.
- Marsala**, *spt.* (fort.), Sicily, nr. Trapani, Italy, centre of famous wine producing dist.; p. 50,120.
- Marsciano**, industr. *t.* nr. Perugia, Italy, p. 12,580.
- Marsden**, *mftg.* *t.* on R. Colne, W.R. Yorks, Eng., p. 5,757.
- Marselles**, *c.* and *spt.* of France, on the Medterr.; cap. of Bouches-du-Rhône dep.; extensive expts. wine, silk, woollens, cottons, fruit, etc., flourishing industries, capacious docks, fine new Byzantine cathedral; p. 500,000.
- Marshall**, *c.* of Harrison co., Texas, U.S.A., mftg. centre in agr. dist., p. 8,100; also *c.* on the high prairie nr. Salt Fork of Lamine R., Salme co., Missouri, U.S.A., p. 5,240.
- Marshall Is.**, German grp. of atolls in N. Pacific Oc., total area 150 sq. m., p. 15,000. Largest *isl.* and seat of govt., Jaluit.
- Marshalltown**, *cap.* of Marshall co. on the Iowa R., Iowa, U.S.A.; mftg. and tr. *t.* in farming dist., p. 13,210.
- [centre in timber region; p. 6,124.]
- Marshfield**, *t.* in Wood co., Wisconsin, U.S.A.; mftg.
- Marsico Nuovo**, industr. *t.* in Potenza prov., Italy, on R. Agri; p. 8,240.
- Marsivan**, *t.* nr. Amasia, Asia Minor, in Turkestan vilayet, Sivas, at foot of Tavshan Daghi; good tr.; also missionary centre; p. 30,000, one-third Armenians (many massacred, 1895).
- [nr. Redcar; p. 3,464.]
- Marske-by-the-Sea**, *cap.* nr. York, p. N.R. Yorks, Eng.
- Marston**, Long, *par.* nr. York city, Eng.; close by Marston Moor, where Cromwell defeated Prince Rupert in 1644.
- Martaban**, *sn.* *t.* and former fortress opp. Maulmain, Lower Burma, on R. Salween, the medieval cap. of Pegu; it was stormed and taken by the British in 1825 and again in 1852. The G. of Martaban is an arm of the B. of Bengal, W. of Burma.
- Martha Vineyard**, *isl.* and summer res. (21 m. long), 4 m. from est. of Mass., U.S.A., separated from the mainland by Vineyard Sound.
- Martigues**, *t.* nr. Marseilles, Bouches-du-Rhône dep., France; formerly the cap. of principality, p. 6,597.
- Martina**, *t.* nr. Taranto, S.E.-most in Italy, industr. and trdg., p. 21,180.
- Martinengo**, *t.* industr., nr. Bergamo, Italy, p. 4,460.
- Martinique**, one of the French W. India *isl.* in the Antilles grp.; area 340 sq. m.; devastated by volcanic eruption in 1902, the town of St. Pierre with its cathedral, most of the inhabitants, and property valued at £4,000,000 sterling, being destroyed by the burning lava sent forth from Mont Pelée, the fatalities being reckoned at 30,000. The *p.* of the *isl.* at the time of the terrible calamity was about 20,000, now abt. 18,000.
- [U.S.A.; ry. works; p. 77,864.]
- Martinsburg**, *c.* in the Shenandoah valley, Virginia.
- Martin's Ferry**, iron and steel mftg. *t.* Belmont co., Ohio, U.S.A., on the Ohio R., p. 8,147.
- Martorel**, industr. *t.* nr. Barcelona, Spain; p. 4,864.
- Martos**, *t.* in Jaen prov., Spain; sulphur springs and baths; farming region; p. 17,890.
- Marute-Mambunda**, *kingdom* of Cent. Africa, on the Zambesi R., p. (est.) about 1,000,000.
- [p. 5,846.]
- Marvejols**, *t.* on R. Colagne, dep. Lozère, S. France.
- Maryborough**, *mkt.* *t.* Queen's co., Ireland, p. 2,890; also *t.* in agr. dist. nr. Gynnyne goldfield, March co., Queensland, p. (dist.) 10,546; also *bor.*, co. Talbot, Victoria; railway centre and works, p. 5,822.
- Maryburgh**, former name of Port William, Inverness, Scotl.; also *vil.* of R. Cronon, co.'s Ross and Cromarty, Scotl.
- [p. 43,569.]
- Maryhill**, *burgh*, suburban (N.W.) to Glasgow, Scotl.
- Maryland**, middle state, U.S.A., bounded by Virginia, Delaware, Pennsylvania, and the Atlantic Oc., area 22,210 sq. m., p. 1,296,000.
- Crossed by the Allegheny Mts.; cap. Annapolis, largest *c.* Baltimore. Industries: agr., tobacco-growing, mining, manuf., etc.
- Marylebone**, *bor.*, Middlesex co., Eng., forming a densely pop. N.W. dist. London, p. 118,221.

Maryport, mkt. *t.* and *sp.* Cumberland co., Eng., on the Irish Sea, p. 11,423.
Marysville, t. in fruit-growing dist., Yuba co., California, U.S.A., p. 6,130; also vil. in Union co., Ohio, U.S.A., p. 3,146.
Maryville, t. in Nodaway co., Missouri, U.S.A., p. 1,197.
Marzano, t. in Caserta, Italy, nr. Gaeta, p. 4,973.
Massi Land, country in E. Equatorial Africa, Mt. Kilimanjaro dist., now under German domination.
Masbat, one of the Philippine Isls., S. of Luzon, 70 m. by 30 m. [Eng., p. 9,640].
Masborough, mfg. *sub.* of Rotherham, W.R. Yorks.
Mascall, industri. t. in Oran dep., Algeria; wine producing; p. 22,400 (one-half French).
Mascarene Isls., collective name of Bourbon, Mauritius, Rodrigues, and Réunion, in the Indian Ocean.
Mascoutah, t. in St. Clare co., Illinois, U.S.A., p. 3,138.
Masena, t. nr. L. Tchad and the Cameroonian border, Cent. Soudan, Africa, cap. of Bhagirmi, p. 10,100.
Masham, mkt. t. on R. Ure, N.R. Yorks, Eng., p. 3,110.
Mashina, t. in Bornu country, E. Africa, p. 9,800.
Mashonaland, gold-bearing dist. of Africa between the Zambezi and Matabeleland, annexed by Britan in 1888, and now forming part of South Rhodesia; cap. Salisbury; p. 500,000.
**Mash, Lough, co. Mayo and Galway, Ireland, m. by Mason City, cap. Cerry Gordo co., Iowa, U.S.A., on the Shell Rock R., in rich agr. dist., p. 7,540.
Mase, or Massa di Carrara, t. nr. the Mediterranean coast, Tuscany, Italy; extensive marble quarries, p. 28,560.
Massachusetts, one of the New England states of U.S.A., bordering on the Atlantic, area 8,315 sq. m. traversed by Connecticut R.; has thriving mfg. trade and fisheries, and many excellent educational institutions, p. 3,400,000; cap. Boston (p. 7).
Massera, t. in prov. Lecce, Taranto, Italy, p. (industrial), 11,220.
Massa Maritima, mfg. t. nr. Siena, Italy, in prov. Massilia, mfg. c. of Stark co., Ohio, U.S.A., on Tuscarawas R., p. 13,120.
Massowah, t. and Italian settlement on W coast of Red Sea; chief port for Abyssinia, p. (town only) 7,890.
Masterton, t. in New Zealand (N. Island), 71 m. N.E. of Masterton, or Bandar, *sp.* Kistna dist., Madras, Brit. India, on the Coronandel coast; cotton and chitiz manu., p. 39,406.
Matabeleland, terr. Brit. S. Africa, in Linpopo and Zambesi basin, now part of S. Rhodesia.
Matagalpa, industri. t. Nicaragua, p. 10,500.
Matamoros, t. on Rio Grande, Tamaulipas State, Mexico, opposite Brownville, in Texas; gd. tr.; p. 14,684.
Matanzas, commercl. c. on N. coast, Cuba; many manu.; bombarded by American warships in 1898; p. 65,500.
Matariyeh, vil. Egypt, 6 m. N. of Cairo; the anc. Heliopolis. (freq.) p. 20,147.
Maturo, est. nr. Barcelona, Spain; thriving indus.
Matzra, t. nr. Potenza, Italy; gd. tr., p. 17,164.
Matheran, health res. Thana dist. (30 m. E. Bombay) India; alt. 2,460 ft., res. 2,474.
Matlock, t. on R. Derwent, Derbyshire, Eng., famous for its hydrostatics and beautiful scenery; p. 6,746.
Matlock Bath (adjoining urban dist.) p. 1,850.
Matsumu, c. of Japan, cap. of Yesso Isl., p. 50,000; flourishing tr. (37,480).
Matsumoto, t. in prov. Iyo, Nippon Isl., Japan, p. 1,197.
Matsumoto, t. in Iwano prov., Japan, p. 41,200.
Matwara, vil. Ontario, Can., 78 m. from Ottawa; p. (dist.) 3,246.
Matwara, t. on Fishkill Creek, Dutchess co., New Matterhorn, German name for Mt. Cervin, in the Pennine Alps; alt. 14,771 ft.
Matto Grosso, prov. Brazil, area 532,708 sq. m.; great min. wealth, iron, gold, diamond, rock-salt, etc.; cattle-ranching; p. 101,240; cap. Cuyaba.
Mattoon, c. Coles co., Illinois, U.S.A.; tr. centre of Iowa dist.; p. 10,478.
Matua, est. on S. Ceylon; large tr.; p. 19,124.
Matutina, t. (comml.) in Venezuela, 50 m. S.E. Cumana; p. 15,265.
Mau, t. in Jhansi dist. N.W. Prov., India; impt. com-**

Maubeuge, fort. t. in Aresnes, Nord dep., France; glassworks; p. 23,471.
Mauch-Chunk, dep. Carbon co., Penn., U.S.A., on Mauchline, t. nr. Kilmarnock, Ayrsh., Scotl., p. 1,600.
Maul, one of the Sandwich Isls., area 788 sq. m., 25 m. W. of Hawaii; chf. t. Lahaina.
Maulmain, or Moulmain, port on R. Salwin, Amherst dist., Lower Burma; p. 52,550.
Maumee, R. Indiana, U.S.A., flows (180 m.) to L. Erie, Mauna Kea (alt. 13,840 ft.) and Mauna Loa (alt. 13,650 ft.), volcanoes of Hawaii, Sandwich Isls.
Mau Tsehban, t. on Tons R., Azamgarh dist., India; large tr.; p. 15,236.
Mauritius, or Isle of France, Brit. Isl. col., Indian Oc.; area 795 sq. m.; p. 373,336 (two-thirds Hindu coolies); cap. Port Louis; chf. product, sugar.
Mawddach R., and estuary (19 m.), Merionethsh., Wales. [rice and tobacco; cap. Mawknai].
Mawknai, st. Burma, area 2,787 sq. m., p. 18,890.
Maxwelltown, on R. Nith, Kircudbrightsh., Scotl.; pt. of parly. burgh of Dumfries, p. 6,200.
May, Isle of, in F. of Forth, co. Fife, Scotl., light-house, p. 22.
Mayaguez, sp. Porto Rico, West Indies; gd. tr. on Mayavaram, t. Tanjore dist., Madras, India, on R. Kaveri; p. 24,624.
Maybole, burgh of barony since 1516; p. 4,839.
Mayence. (See Mainz.)
Mayenne, dep. N.W. France, area 1,087 sq. m., p. 311,000. Chiefly pastoral and agr.; cap. Laval.
Mayenne R., of Mayenne and Maine-et-Loire depts., France (flows 125 m.) to join the Sarthe. On its bank is the t. of Mayenne; ticking manu., p. 10,246.
Mayfield, par. nr. Tunbridge Wells, Sussex, Eng., p. 3,015.
Maynard, t. nr. Concord, Middlesex co., Mass., p. 11,220.
Maynooth, t. in co. Kildare, Ireland, Roman Cath. Coll., p. 324.
Mayo, maritime co. in prov. Connaught, Ireland, area 1,260 sq. m.; broken coast, much barren mtn. land, many large lakes; industries, agr. and fishery; p. 191,660 (decreasing); co. t. Castlebar.
Mayosodie, c. on the Ohio R., Mason co., Kentucky, U.S.A.; mfg. centre in agr. region; p. 6,954.
Mayotte, t. of the Comoro grp., Mozambique Chan., p. 9,500; French possn. since 1843.
Maytown, or Edwardstown, mining centre in Queens- land, on Falmuir R., p. 180.
Mazagan, sp. Morocco, 110 m. N. of Marrakesh (or Morocco c.); grain and wool tr.; p. (abt.) 10,000.
Mazamet, t. nr. Castres, dep. Tarn, France; tanneries, leather wks., etc.; p. 10,486.
Mazarron, t. nr. Cartagena, prov. Spain; metal works; p. 13,074.
Mazatlan, port of California Cinaloa, Mexico; impt. tr.; p. 15,493.
Mazzara, industri. t. nr. Trapani, Sicily; cathedral and Mazzarino, t. nr. Caltanissetta, Sicily; manu.; p. 13,868.
Meadville, c. of Crawford co., Penn., U.S.A.; French Creek; manu., and seat of Allegheny Coll.; p. 11,100.
Meaulfourvonne, mtn. on side of Loch Ness, Scotl., alt. 2,284 ft.
Meath, maritime co., Leinster prov., Ireland, area 606 sq. m., mainly pastoral land; p. 64,920 (much declined); co. t. Trim. [great wool mart; p. 12,640].
Meaux, t. on R. Marne, dep. Seine-et-Marne, France; Mecca, or Mekka, holy c. of Arabia, 65 m. E. Jeddah. Centre of Islamism, and birthplace of Mahomet, annually visited by many thousands of pilgrims; res. p. (abt.) 45,000.
Mechanicburg, t. nr. Harrisburg, Cumberland co., Mechanicsville, t. on the Hudson R., New York, U.S.A., p. 3,467.
Mechlin, or Malines, c. on R. Dyle, Belgium; chf. industries, cabinet-mkg., carpentry, chair-mkg., etc.; p. 60,400.
Mecklenburg-Schwerin, grand-duchy of Germany, bordering on the Baltic, area 5,135 sq. m., p. 600,460; cap. Schwerin.
Mecklenburg-Strelitz, grand-duchy of Germany, S.E. of Schwerin, area 1,131 sq. m., p. 203,397; cap. Neu Strelitz.
Medeah, t. in Algeria, 40 m. S.W. Algiers; good tr.; p. 8,500.
Medellin, c. cap. Antioquia State, Colombia, Centra

- America, grt. t. with working in gold and silver; exports coffee, hides, and precious metals; p. (abt.) 50,000.
- Medemblik**, *t.* on the Zuider Zee, N. Holland, p. 2,246.
- Medford**, *t.* nr Boston Middlesex co., Mass., U.S.A.; mfg. and educational; p. 23,270.
- Medgrya**, or **Madash**, *t.* on the Gt. Kotal, Transyl-Media, *per* Penn. U.S.A., nr Philadelphia, p. 471.
- Medicine Bow Mtns.**, *range* in Colorado and Wyoming, U.S.A.
- Medina**, *R.* Isle of Wight, flows to the Solent; also c. of Arabia, 248 m. N.W. of Mecca, contains tomb of Mahomet in mag. mosque, second holy c. of Islam; p. (abt.) 20,000; also c. of Orleans co., New York, U.S.A., on the Erie Canal, sandstone quarries, p. 4,394.
- Medina del Campo**, *t.* nr Valladolid, Leon, prov., *Medina del Rio Seco*, *t.* nr Valladolid, Spain; battle 1808; p. 4,041.
- Medina-Sidonia**, *t.* in Cadiz prov., Spain; grt. tr. in agr. produce, olives, etc.; p. 11,264. Here is ancestral pal. of Medina.
- Medinet-el-Fayoum**, *t.* on the Bahr Yusuf, Middle Egypt; tr. centre of rich agr. dist., many mosques; nr site of anc. c. of Crocodopolis, where was worshipped by the Egyptians the sacred crocodiles kept in Lake Mœris; pres. p. 41,460.
- Mediterranean**, the great inland sea—almost tideless—dividing Europe from Africa, and communicating with the Atlantic O. by the St. of Gibraltar and the Black S. by the Dardanelles, S. of Marmora, and the Bosphorus. Eastern part touches Asia in the Levant. Total length W. to E., 2,200 m.; greatest width of sea proper about 700 m.; water area 900,000 sq. m.; greatest ascertained depth 14,000 ft. Contains many isls.: Corsica, Sardinia, Sicily, Crete, Cyprus, and the Balearic, Lipari, Maltese, and Ionian grps., besides the Grecian arch., being the chief. (See sea articles for full list.)
- Medjidje**, *t.* in the Dobruja, Roumania, 20 m. W.N.N.
- Medina**, fort. *t.* in Nedjed, Arabia, p. (abt.) 18,000.
- Medoc**, old *dist.* of France, extending along R. Garonne (abt. 48 m.), noted for its wines; now part of Gironde dep.
- Medveditsa**, *R.* of Russia, trib. (330 m.) of the Don.
- Medway**, *R.* of Kent, Eng., flows from Surrey and Sussex (70 m.), past Maidstone and Rochester, to the Thames. [Moscow, p. 9,464.]
- Medynas**, *t.* in govt. Kaluga, Russ., 86 m. S.W. of Moscow, *caravan* of the Punjab, India, nr Lahore, p. 18,860. [manuf. p. 23,480.]
- Meerane**, *t.* in Saxony, Germany, nr Zwickau; cloth
- Meerut**, *div.* (area 11,326 sq. m.), *dist.* (area 2,370 sq. m.), and c. (p. 119,140) of N.W. Provs., Brit. India, chfy. in the Doab tract between the Ganges and Jumna R.'s; M. c. is an imp. military stn., and was the scene of the outbreak of the Sepoy Mutiny in 1857. The entire div. contains a p. of 6,000,000.
- Megara**, *t.* nr Athens, Attica, Greece, on the site of anc. c. same name, p. 5,450.
- Mehabiet-el-Kaba**, *t.* nr Cairo, Lower Egypt, p. 10,000.
- Mehidpur**, *t.* on R. Sipra, Indore, Centr. India, p. 9,124. [castle, p. 6,438.]
- Mehun**, *t.* nr Bourges prov., Cher, France; ruined
- Melchrich**, *t.* in the Rhine prov., Pruss., nr Ruhrort, iron and steel works; p. 36,480. [Angus.]
- Meigle**, *vil.* on R. Isla, Perthshire, Scotl., nr Coupar
- Melkita**, *div.* (area 10,854 sq. m.) and *dist.* (area 2,178 sq. m.) of Upper Burma in the dry or so-called rainless zone; total p. about 1,000,000. The hdqrs. *M.*, is situated on the banks of a great artificial L. (area 2,300,000 a.), p. about 5,000 (including wing of a Brit. regt.).
- Meiningen**, *cap.* Saxe-Meiningen, Germany, on R. Werra, amid dense forest; castle, ducal theatre, arsenal; p. 15,160.
- Meissen**, *t.* on the R. Elbe, Saxony, nr Dresden; royal porcelain factory; p. (with suburbs) 32,140.
- Me Kong**, or **Cambodia**, *R.* of S.E. Asia, rising in the Tibetan highlands, and flowing 2,800 m. to the China S. through Yunnan, Burma, Siam, Cambodia, and French Cochinchina, the two latter countries owing much of their fertility to its annual overflow.
- Mekras**, maritime *prov.* Baluchistan, arab (about 100,000 sq. m., p. 200,000; cap. Kadja, *t.* on Doosti R.).
- Melanesia**, a comprehensive name sometimes applied to Australasia, because of the colour of the aborigines.
- Melbourne**, cap. c. of Victoria, on the Yarra-Yarra R., the most populous c. in Australia, many splendid bldgs., grt. commerc. and industr. importance; p. (about) 500,000.
- Meldola**, *t.* nr Forlì, Italy, p. (industr.), 6,468.
- Meleda**, or **Melita**, Adriatic *is.* of the prov. Dalmatia, Austria, 23 m. long, ruined anc. pal., p. 1,524.
- Melegnano**, or **Marignano**, *t.* in prov. Milan, Lombardy, Italy, textile manuf., battles 1252 and 1859, an anc. stronghold, p. 6,120. [p. 8,128.]
- Melenecze**, industr. *vil.* nr Peterwardeln, Hungary, Meis, *t.* in prov. Potenza, Italy, noted cathed., made Norman cap. of Apulia, 1041, p. 13,124.
- Melilla**, *cap.* Morocco, fortified. Spanish settlement and convict stn., p. 10,580.
- Melinda**, *cap.* and *tr. stn.* on N. Zanzibar cst., Brit. E. Africa, p. 11,437. [26,896.]
- Melitopol**, Russ. *t.* in the Crimea, govt. Taurida, p. 11,437.
- Melkham**, mkt. *t.* on R. Avon, Wilts, Eng., p. 3,708.
- Melrose**, mkt. *t.* co. Roxburgh, Scotl., on R. Tweed, ruined abbey nr. Abbotsford, mansion built by Sir Walter Scott, p. 2,166; also c. same name, in Middlesex co., Mass., U.S.A., suburban to Boston, p. 14,400. [also *t.* nr Melbourne, Victoria, p. 1,863.]
- Melton**, *par.* on R. Deben, Suffolk, Eng., p. 1,462.
- Melton Mowbray**, mkt. *t.* Leicestersh., Eng., iron wks., famous pork pies, hunting dist., p. 9,003.
- Melun**, *t.* on R. Seine, dep. Seine-et-Marne, France the anc. Melodunum, p. 12,847.
- Melville B.** and **M.** *is.*, N. est. Australia; Melville Isl. and M. Sound, Arctic America; Melville Penns., N. Canada, S. of Baffinland.
- Membrilla**, *t.* nr Ciudad Real, Spain, p. 4,830.
- Memel**, *cap.* and thier export centre, E. Pruss., nr N. extrem. Kunsches Haft, 20,524.
- Memmingen**, *t.* in Swabia, Bavaria, formerly a free imperial city, p. 10,247.
- Memphis**, anc. Egypt. c. on R. Nile, 10 m. S. Cairo, nr. are the ruins of Sakkara; also flourishing. mfg. and cotton export. c. of Tennessee, U.S.A., on R. Mississippi, p. 1,26,080. [p. 6,334.]
- Menada**, Dutch *t.* on cst. of Celebes, cap. of residency.
- Menai Strait** (14 m. long) separates Isle of Anglesey from Carnarvonsh., Wales, crossed by Britannia ry. and Menai suspension bridges. [C. of San.]
- Menam**, *R.* flowing (800 m.) from Yun-nan, China, to
- Menasha**, industr. *vil.* on Winnepigou L., Wisconsin, U.S.A., p. 4,833. [famous for serge mfg.]
- Mende**, *t.* on R. Lot, Lozère dep. France, p. 8,126.
- Mender**, *R.* 300 m. J. of Asia Minor; the anc. Meander, falls in Aegean S.
- Mendhawal**, *t.* nr Basti, N.W. Provs., India; p. 11,889.
- Mendip Hills**, Somerset, Eng.; range 20 m. long, highest pt. 1,067 ft. [p. 11,884.]
- Mendisham**, *par.* nr Debenham, Suffolk, Eng.; p. 1,864.
- Mendota**, mkt. *t.* of La Salle co., Illinois, U.S.A., nr Chicago; p. 4,886.
- Mendoza**, *t.* (p. 43,000) and prov. (area 56,592 sq. m., p. 134,000) in W. of Argentine Repub. Wheat grow. and stock raising [11,422.]
- Menfi**, industr. *t.* nr Sciarca, Sicily, prov. Girgenti; p. 11,422.
- Mengtze**, dist. c. of Yun-nan prov., China, ruined in Tai-ping rebellion, tin and opium tr., p. 12,000.
- Menin**, *t.* on R. Lys, W. Flanders, Belgium, flourishing; tobacco tr., p. 13,280.
- Menominee**, *t.* at mth. of M. R., M. co., Michigan, U.S.A., timber and iron, p. 14,700.
- Menomonic**, *c.* on Red Cedar R., Wisconsin, U.S.A., grain and timber, p. 5,894.
- Menouf**, *t.* nr Cairo, Lower Egypt, gd. tr., p. 5,200.
- Menselinsk**, *t.* on R. Ik, Orenburg, Russ., p. 7,449.
- Menslieh**, *t.* on R. Nile, nr Gurgah, Upper Egypt, tr. centre, p. 11,245. [1869, p. 4,373.]
- Mentana**, *t.* in prov. Rome, Italy, Garibaldi's battle, Meinteith, L. (14 m. by 1 m.) and *dist.* S.W. Perthshire, Scotl., betwn. R.'s Forth and Tay.
- Menton**, health *res.* nr Nice on G. of Geneva, dep. Alpes-Maritimes, France, bridge on St. Louis (14 m. E.), crosses the torrent separatg. Italy from France;

- scents and flower essences distilled, fruit-tr., noted bone-caves, p. 16,390. [Damietta, Lower Egypt.]
- Manaleh**, *t.* (p. 4,334) and *lagoon* (50 m. by 25 m.) nr. **Messelinsk**, *t.* in Uta govt., Russ., with one of the most important fairs in S. Ural regn. for cattle, hides, tea, etc., p. 9,445. [Irov., p. 10,460.]
- Mappel**, mfg. *t.* nr. Zuyder Zee, Holland, in Drenthe; **Meppen**, *t.* in Hanover, Pruss., on R. Ems, chf. t. of the duchy of Avenburg, p. 3,845.
- Mequinez**, *c.* of Morocco, nr. Fez, one of the Sultan's residences, p. (abt.) 30,000.
- Meran**, Austrian *t.* nr. Bozen, in the Tyrol, favourite health resort (annually visited by abt. 10,000 invalids), p. (with adjng. communes of Untermais and Obermais) 18,300.
- Merate**, *t.* nr. Como, Italy, fine palace, p. 2,984.
- Mercato-Saraceno**, *t.* in Forli prov., Italy, p. 8,842.
- Mercer**, *R.* of California, U.S.A., flows to San Joaquin through the Yosemite Valley; also *t.* in California, cap. M. co., p. 3,425.
- Mercades**, *t.* in Argentina, 70 m. from Buenos Ayres, p. 7,261; also *t.* on R. Negro, Uruguay, p. 4,136.
- Mercer**, *t.* in M. co., Penn., U.S.A., nr. Pittsburgh, p. 2,488.
- Meredith**, *t.* in Victoria, in mining dist. nr. Ballarat.
- Merend**, impt. tr. *t.* of Persia, prov. Azerbajan, p. (about) 10,000.
- Merentheim**, or **Marienthal**, *t.* on R. Tauber, Jagst circle, Wurttemberg; long the seat of the Grand Master of the Teutonic Order; p. 4,350.
- Mergul**, S.-most dist. Lower Burma, in Tenasserim div., on B. of Bengal; area 9,780 sq. m., p. 40,000; cap. Mergul, good coast tr., p. 10,500; M. Arch. is a large isl. group off the coast of the dist.
- Merida**, *t.* in Badajoz prov., Spain; flourishing tr. in agr. prod.; p. 11,480; also *c.* in Venezuela, cap. Los Andes, State p. 13,264; also *t.* in Mexico, cap. Yucatan prov., on site of an old Maya city; cathedral, great tr.; p. 11,840. [hardware manu.; p. 26,212.]
- Meriden**, *t.* New Haven co., Connecticut, U.S.A.; Meridian, *t.* in cotton-growing region, Lauderdale co., Mississipp, U.S.A., p. 23,265. [1,918.]
- Merino**, *t.* in Normandy co., Victoria, in agr. dist., p. Merioneth, maritime co. N. Wales; area 602 sq. m.; pastoral and mining; p. 45,573; co. t. Dolgelly (p. 7).
- Merkara**, *t.* cap. Cough, S. India, between Seingapatam and Aralhan S., p. 8,925.
- Meroë**, or **Morawe**, Isle of Nubia, betwn. Atbara and the Nile; ruins of and cap. of Ethiopia on R. Nile.
- Meroson**, **Waters of**, *t.* (4 m. long) in Palestine, N. of the S. of Galilee, traversed by R. Jordan; where Joshua defeated Jabin, King of Hazor; the mod. Bahr-el-Huleh. [Kirkcudbrightsh., alt. 2,764 ft.]
- Merrick**, *mtn.* (highest in Scotl.) nr. Newton-Stewart.
- Merrill**, *c.* Lincoln co., Wisconsin, U.S.A., on W. R., timber tr., p. 9,283.
- Merrimac R.**, New Hampshire and Mass., U.S.A.; rises in White Mts. and flows (N. 3 m.) to Newbury Port; on its banks, in Essex co., Mass., is the t. of M., p. 3,110.
- Merriva**, *t.* N.S.W., Brisbane co., p. (dist.) 2,945.
- Merscheld**, mfg. *t.* in Rhensish Pruss., nr. Solingen (now generally known as Ohlig), p. (with commune) 15,600. [Eng.]
- Mersca**, *isl.* (41 m. by 2 m.) at mth. of R. Colne, Essex.
- Merseburg**, *t.* on R. Saale, Saxony, Pruss.; cathd. and castle; noted for beer, p. 20,184.
- Mersey**, *R.* of Lancs. and Cheshire, Eng.; length 68 m., enters Irish S. by fine estuary at Liverpool.
- Mersina**, *sp.* S. cat. Asia Minor, port for Tarsus and Adana; good tr., p. 12,500. [Wales, p. 80,999.]
- Methyr Tydvil**, *t.* in colly. dist. Glamorgansh., S. Meru, *t.* nr. Beauvais, dep. Oise, France, p. 4,823.
- Merv**, *oasis* in Turkoman desert, Russ. Centl. Asia, along the R. Murgav; contras. many large villages (one formerly the c. of Merv), total p. 250,000.
- Merville**, *t.* on R. Lys, Nord dep., France, p. 7,849.
- Mervana**, *div.* of dist. Ajmere-Mervana, Rajputana, India, p. 108,500.
- Mernig**, *t.* on R. Saar, Rhensish Pruss., nr. Treves, p. 5,014.
- Messagne**, mfg. *t.* nr. Brindisi, prov. Lecce, S. Italy; p. 9,897.
- Mescal**, on Rio de las Balsas, *R.* (500 m.) of Mexico, flows betwn. Guerrero and Michoacan States to Pacific. [p. 5,123.]
- Meschede**, *t.* nr. Arnsberg, Westphalia, on R. Ruhr; **Meschovak**, *t.* in Kaluga Govt., Russ.; p. (indust.), 5,485.
- Mesched**, or **Marsh-had**, *c.* on R. Tehind, Khorasan; "the Mecca of Persia"; grt. tr. centre, p. (abt.) 80,000. Something like 100,000 pilgrims annually visit the shrine of Imam Riza, in a splendid Shilike mosque. [grd. tr.; p. 9,840.]
- Mesheryetsbe**, *t.* in govt. Siedlee, Russ. Poland; **Mesopotamia**, *gt. plain* between the Tigris and Euphrates R.'s, Asiatic Turkey; 700 m. long, 200 m. w're, inhabited by nomads; but settled agr. is being encouraged, Baghdad is the Turkish cap. of the mod. prov. Upper M., covers anc. Assyria, and Lower M., Chalden and Balyion.
- Messenia**, or **Karon**, G. of inlet of the Mediterranean, S. and E. of the G'icuan dist. of M., which has an area of 1,390 sq. m., and a pop. of 160,500, cap. Kalamata.
- Messina**, fortfd. c. spt. of Sicily, on Strait of M., opp. Reggio. Has famous univy., and flourishing silk manu.; exports fruit, wine, silk, oil, etc., p. (1901) 147,106. Almost destroyed by earthquake, Dec. 1908. In Strait of M. (22 m. long), between Sicily and Calabria were the anciently famous rock of Scylla and whirlpool of Charybdis.
- Messingham**, *agr.* in agr. dist. nr. Brigg, Lincolnsh., Eng., p. 1,462.
- Mestre**, *t.* on lagoon nr. Venice, Italy, p. 10,145.
- Mesurado**, *R.* Liberia, W. Africa, flows (300 m.) to sea at Monrovia, nr. C. Mesurado, on the Gram Coast.
- Mesurata**, or **Mizrat**, *t.* on coast of Tripoli, N. Africa, p. 2,420.
- Meta**, coast *t.* nr. Sorrento, prov. Naples, Italy, p. 7,450; also *R.* of Columbia and Venezuela (750 m., navigable about 400 m.) trb. of R. Orinoco.
- Metcalf**, *t.* nr. Melbourne, Victoria, p. (dist.) 3,845.
- Metemneh**, *t.* in Nubia, on R. Nile, opp. Shendy; objective pt., Stewart's div., Wolsley's relief expedition, 1885. [Eng., p. 4,330.]
- Methley**, *t.* in colliery dist. nr. Leeds, W.R. Yorks.
- Methuen**, *t.* in Essex co., Mass., U.S.A., 27 m. from Boston, p. (industri.) 7,840.
- Metkovich**, mkt. *t.* nr. Herzegovina frontier of Dalmatia, on the Narenta R., Austria, p. 5,112.
- Metropolis**, *c.* on Ohio R., Messac co., Illinois, U.S.A., p. 18,137.
- Mettmann**, mfg. *t.* nr. Dusseldorf, Rhensish Pruss., p. 12,590.
- Metz**, fortfd. *t.* in Lorraine, on R. Moselle, captured from France by the Germans in 1870. Cathedral, and many fine public bldgs. and statues; p. 58,560, exclusive of garrison (22,000 men).
- Metzingen**, *t.* in Black Forest, Wurttemberg, on R. Neckar, nr. Stuttgart, p. 5,548.
- Meudon**, *t.* nr. Versailles, France, dep. Seine-et-Oise; castle-observatory, Galliera almshouses and orphanage, military works; p. 10,110.
- Meslebeke**, industri. *t.* in C. Belgium, p. 9,887.
- Meurs**, *t.* nr. Dusseldorf, Rhensish Pruss., p. 12,590.
- Meurthe**, *R.* of France, flowing (70 m.) from the Vosges Mts. to the Moselle at Frouard.
- Meurthe-et-Moselle**, dep. of F. France, adjng. Germ., Lorraine, Belgium, and Luxemburg, area 2,037 sq. m.; agr. vineyards, and mining; p. 486,474; cap. Nancy (p. 2).
- Meuse**, dep. N.E. France, bordering on the Ardennes and Luxemburg; area 2,405 sq. m.; mining, manu., and live-stock rearing; p. 283,500; cap. Bar-le-duc (p. 2).
- Meuse**, *R.* of France, rising in the Langres plateau, Haute-Marne, and flows to North Sea through Belgium and Holland, a course of 500 m.
- Mevagissey**, fishing *t.* nr. St. Austell, Cornwall, Eng., p. 2,614.
- Mewe**, *t.* on R. Vistula, nr. Marienwerder, E. Pruss., Mexborough, mfg. *t.* nr. Doncaster, W.R. Yorks, Eng., p. 14,938.
- Mexico**, federal *republic* in S. of N. America; area 755,500 sq. m. (exclusive of coast isl. covering 2,420 sq. m.). Extremely fruitful, but contains much forest and woodland, and also mountain dists. rich in minerals, especially silver and copper. Stock-raising and agr. are the chief occupations in the N. States.

- and p. reaches 15,000,000, about one-fifth of European extraction. Cap. Mexico c. in plain nr. Jezeaco, alt. 7,460 ft. above sea; fine House of Congress, many large public bldgs., and extensive tr. and industries; p. 385,000.
- Mexico**, c. of Audrain co., Missouri, U.S.A.; seat of Hardin College; p. 5,250; also name of t. in Luzon, Philippine Isls., p. 14,500.
- Mexico**, Gulf of, large inlet of the Atlantic (2,000 m. E. to W. by 800 m. N. to S.) lying S. of U.S.A. and E. of Mexico. Communicates by Florida Strait with the Atlantic, and by the Channel of Yucatan with the Caribbean Sea. [p. (communal) 6,484.
- Mézès**, *spl.* nr. Montpellier, France, in dep. Hérault.
- Mézères**, *chf.* t. of dep. Ardennes, France; fortified; p. 8,128.
- Mező Bereny**, *mfg.* t. nr. Bekes, Hungary, p. 12,270.
- Mészöreyes**, *mkt.* t. Csabod co., Hungary; horse-breeding, sugar refining; p. 6,364.
- Mező Kovász**, t. in Borsod co., Hungary, flourishing manu., p. 11,240.
- Mező-Túr**, t. on R. Boretyó, nr. Debreczin, Hungary, thriving tr. and manu., p. 24,840.
- Mezzojoso**, t. nr. Palermo, Sicily, p. 7,949.
- Mhow**, t. in nat. st. Indore, Centl. India, with Brit. mil. cantonmt., p. (including garrison) 36,470.
- Migao**, t. trading and mfg., on S. est. Panay Isl., in the Philippines, p. 22,846.
- Miake**.—(See Kioto).
- Miami**, R. of Ohio, U.S.A., trib. (200 m.) of O. R.
- Miamisburg**, t. on M. R., Montgomery co., Ohio, U.S.A., p. 3,236. [India, p. 6,678.
- Miani** (or Mecanee), t. in Hushiarpur dist., Punjab, Miram, or Maranhão, R. of Brazil, flows (350 m.) to São Marcos Bay. [of the Urals, Russ., p. 12,463.
- Mississippi Zavod**, goldmining t. in the Orenburg gov. border, on R. nr. Presburg, Hungary, on the R. M., p. 11,748. [1,240.
- Micheldever**, *par.* nr. Winchester, Hants, Eng., p. Michigan, central st. U.S.A., in the valley of the Great Lakes, partly agr., partly rich in minerals, area 58,915 sq. m., p. 2,900,000; cap. Lansing (p. v.).
- Michigan**, c., Laporte co., Indiana, U.S.A., on L. Michigan, large lake tr., p. 16,220.
- Michigan**, L., in the basin of R. St. Lawrence, enclosed by the two peninsulas of the State of M. and by Wisconsin, Illinois, and Indiana, area 23,500 sq. m., discharges by str. of Mackinaw to L. Huron.
- Michipicoten**, R. Ontario, Canada, flows (125 m.) to L. Superior.
- Michoacan de Ocampo**, st. of Mexico, on the Pacific, area 22,881 sq. m., mountainous and rich in minerals, p. nearly 1,000,000; cap. Morelia.
- Micronesia**, *div.* of Oceania, embracg. many (mainly coral) smll. isls. and isl. grps. N. of the Equator and E. of the Philippines, includg. the Carolinas, the Ladrões, and the Felews.
- Middelburg**, t. in the vl. of Walcheren, Holland, nr. Flushing, ag. cap. of the prov. of Zealand, margarine factories and gd. transit tr. in timber, etc., p. 20,140; also t. and centl. dist. Transvaal col., Brit. S. Africa.
- Middelfurt**, *spl.* on cst. Funen, Denmark, p. 3,120.
- Middleboro**, t. in Mass., U.S.A., in agr. dist. of Plymouth co., 34 m. S.E. of Boston, p. 7,240.
- Middlebury**, t. nr. Burlington, Vermont, U.S.A., marble quarries, p. 3,468.
- Middleham**, *par.*, with race-horse tr. stables, nr. Leyburn and Middleham Moor, N. Yorks, Eng., p. 3,736.
- Miesport**, t. in Ohio, U.S.A., nr. Pomeroy, on O. R.
- Middlebrough**, *spl.* in Cleveland dist., N.R. Yorks, Eng., on estuary of R. Tees, centre of iron tr., ship-bldg. and coal export, p. 104,787.
- Middle ex**, S.E. Midland co., Eng., N. of R. Thames, containing the c. and much of the co. of London, area 283 sq. m., p. 3,500,000.
- Middleton**, *mkt.* and manu. t. S.E. Lancash., Eng., nr. Manchester, p. 27,083; also mkt. t. in co. Cork, Ireld., p. 3,348; also mkt. t. on R. Tees, go. Durham, Eng., p. 2,354.
- Middlebury**, c. of Middlesex co., Connecticut, U.S.A., on C. R., p. 10,000; also c. Orange, co. New York, U.S.A., on Walkill R., p. 15,894; also c. Butler co., Ohio, on Miami and Erie Canal, p. 9,860; also bor
- Dauphin co., Penn., U.S.A., on Susquehanna R., p. 5,858.
- Middlewich**, t. nr. Northwich, Cheshire, Eng.; p. 4,010.
- Middleley**, industr. t. nr. Halifax, W.R. Yorks, Eng.; p. 2,143. [formerly a parly. bor.; p. 1,947.
- Midhurst**, mkt. t. on R. Rother, Sussex, Eng., p. 1,743.
- Midland**, t. in Simcoe co., Ontario, Can.; p. 1,743.
- Midlothian**.—(See Lothians and Edinburgh.)
- Midnapore**, *dist.* Burdwan div., Bengal, India; area 5,186 sq. m., p. 2,800,000; cap. M., t. on Katsai R.; brass and copper wire manu.; p. 33,000. [p. 5,840.
- Midsomer Norton**, t. nr. Bath, co. Somerset, Eng.; Mieres del Camino, t. on R. Leno, Spain, nr. Ovieio; tr. in ores and agr. prod.; p. 18,475.
- Miguelturra**, t. nr. Ciudad Real, Spain; p. 6,428.
- Migulinskaja Stanitsa**, t. in Don Cossacks prov., S. Russia; gt. grain export; p. 18,048.
- Minapur**, or Meherpur, t. Nadhya dist., Bengal, India; p. 5,843. [caspan Ky.; p. 8,414.
- Mikhailov**, t. in Asiatic Russ., startg. pt. of Trans-Mila, tradg. t. nr. Constantine, Algeria; p. 6,865.
- Milan**, c. of Italy, on R. Olona, in Lombard Plain; cap. of M. prov., the Roman Medialunum, it is the second c. in size of mod. Italy, and a place of great commerc. and industr. as well as political importance. P. abt. 600,000. Exports the agr. prod. of fertile surroundg. dist., and much silk, wool and other textiles locally produced; also machinery, furniture, etc. A great art and educat. centre. Magnificent cathd. of marble, decorated in Flamboyant style; many art galleries, museums, etc.
- Millazzo**, fort. *spl.* Sicily, on N. cst., nr. Messina; here Garibaldi defeated the Neapolitans n. 1860, p. 16,820. [13,846.
- Mildenhall**, mkt. t. on R. Lark, Suffolk, Eng., p. Mildura, t. and irrigat. centre, Victoria, N.S.W. border, on Murray R.; p. (dist.) 2,865.
- Mill End New Town** (p. 47,973), and **Mill End Old Town** (p. 111,275) *townships* of the Tower Hamlets grp., East London, Eng.; industr.
- Mileto**, t. in Calabria, Italy, prov. Catanzaro; p. 4,243.
- Millford**, *bor.* (of Pembroke dist.) on Milford Haven, Pembroke-sh., Wales; a centre for mackerel-fishery distributn., p. 5,738; also t. in Worcester co., Mass., U.S.A.; boot manu.; p. 14,121.
- Millanah**, t. in Algeria, 68 nr. S.W. of Algiers, busy trade centre; p. 6,809.
- Military Frontier**, a belt of country (now incorporated with Transylvania, Hungary, and Croatia-Slavonia) in Austria-Hungary; placed under martial regulations for defence against Turkish aggression; area 7,428 sq. m.
- Milittle**, industr. t. in Sicily, Catania prov.; p. 70,946.
- Milk R.**, trib. (500 m.) of R. Missouri, Montana, U.S.A. [glvce manu.; p. 18,240.
- Millau**, t. on R. Tarn, prov. Aveyron, France; bld. Millbrook, t. N.W. Southampton, Hants, Eng., at mth. of R. Test; p. 3,472.
- Millbury**, t. Worcester co., Mass., U.S.A.; p. 4,608.
- Millchester**, t. nr. Charter Towers, Queensland; p. (dist.) 1,849. [educat. centre; p. 4,873.
- Milledgeville**, c. on Oconee R., Georgia, U.S.A.; Millom, mkt. t. (with blast furnaces) on Duddon estuary, Cumberland, Eng.; p. 8,612.
- Millport**, t. S. of Great Cumbrae Isl., Scotl.; p. 1,614.
- Milltown Malby**, mkt. t. on Mal Bay, co. Clare, Ireld.; p. 1,420. [Allegheny, p. 4,237.
- Millvale**, *bor.* Penn., U.S.A., betwn. Pittsburg and Millville, c. on Maunce R., Cumberland co., N.W. Jersey, U.S.A., glass, iron, and cotton manu., p. 11,000. [4,530.
- Milingavie**, t. in Stirling-sh., Scotl., nr. Glasgow.
- Millarow**, *mfg.* t. S.E. Lancash., Eng., subn. to Rochdale, p. 8,584.
- Milo**, or Melos, *isl.* of the Cyclades, Greece, volcanic, length 13 m., p. 4,347. Here was found in 1820 the famous statue, Venus of Milo, a model of womanly form in sculpture.
- Milton**, t. in Norfolk co., Mass., U.S.A., subn. to Boston, and containing the Blue Hills Park and Observatory, p. 7,433; also iron wkg. t. of Northumberland co., Penn., U.S.A., on Susquehanna R., p. 6,874.
- Milton Abbas**, *wd.* Dorset, Eng., nr. Blandford, (dist.) 1,064; Milton Abbots, par. nr. Tavistock,

Devon, Eng., p. 1,247; Milton-next-Sittingbourne, t. on R. Swale, Kent, Eng., p. 7,130. [alt. 11,400 ft.]

Milstein, *pk.* of the Atlas Mtns., Morocco, N. Africa.

Milvertown, mkt. t. Somerset co., nr. Taunton, Eng., p. 3,039; also t. on R. Avon, Warwicksh., Eng., p. 2,287.

Milwaukee, c. on L. Michigan, Milwaukee co., Wisconsin, U.S.A., neat packg., brewing, and many manuf., gt. tr., p. 373,857.

Minam, famous grotto *viz.* nr. Kerman, Persia.

Minas Basin, E. arm of Bay of Fundy, Nova Scotia.

Minas Geraes, state of Brazil, area 222,160 sq. m., mining and agric., p. 3,250,000; cap. Ouro Preto.

Minbu, *div.* (area 17,170 sq. m.) Upper Burma, p. over 1,000,000.

Minch, *The channel*, betw. isl. of Lewis and Scottish mainland, 24 m. to 40 m. wide; The Little Minch is another chan. to S. of foregoing, betw. the Outer Hebrides and Skye. [Eng., p. 3,702.]

Minchinhampton, mkt. t. nr. Stroud, Gloucestersh., Minchinmadvia, *pk.* (volcanic) of the Patagonian Andes; alt. 7,954 ft. [R. Po.]

Mincio, R. Italy, flows (38 m.) from Lago di Garda to Mindano, *isl.* of the Philippine grp.; area 36,756 sq. m., p. 600,000, U.S.A. possession.

Minden, govt. *dist.* Westphalia, Pruss.; area 2,029 sq. m., Cap. Mt., fort. t. on R. Weser; p. 26,120.

Mindoro, *isl.* Philippine grp., s. of Luzon; area 4,009 sq. m., [3,459.]

Minthead, mkt. t. and wat. *pl.* Somerset, Eng., p. Mineo, industr. t. in Catania prov., Sicily; p. 10,134.

Mineral Point, t. nr. Madison, Wisconsin, U.S.A., p. 3,743.

Minerbis, t. nr. Bologna, Italy, p. 7,486. [p. 3,234.]

Miner's Mills, t. in Penn., U.S.A., on Susquehanna R., Minersville, *bor.* on Schuylkill R., Penn., U.S.A., p. 3,728.

Minervino, industr. t. nr. Barletta, prov. Bari, S. Italy.

Mincivella, old Russ. *prov.* now part of Kutais govt.

Minho, R. flows (170 m.) from Galicia to the Atlantic, and formg. pt. of the northn. boundy. betw. Spain and Portugal.

Minho, or Entre-Douro-e-Minho, N. *prov.* Portugal; area 2,808 sq. m., p. over 1,000,000. [11,288.]

Minieh, t. on R. Nile, mid-Egypt; impt. tr. centre, p. Miniet Dasher, *viz.* nr. Ghizeh, Lower Egypt; four pyramids. [3,666.]

Minmi, t. Cumberland co., N.S.W., in colly. dist.; p. Minneapolis, cap. c. of Minnesota, U.S.A., on both banks of the Mississippi R. at the Falls of St. Anthony, and adjoining the c. of St. Paul; has the largest flour mills in the world and an immense timber industry; seat of the University of Minnesota, p. 72,540.

Minnesota, a N. centl. state, U.S.A., adjng. Manitoba, Can.; p. over 2,000,000; area 83,395 sq. m., agr. and flour-milling, timber-sawing and wood-work, meat-packing and mining; cap. St. Paul, Principal l.s. the Mississippi and Red R. (both of which rise in the st.) and the Minnesota R. (2,250 m.) trib. of the Mississippi. Besides St. Paul and its great "twin city," Minneapolis, Duluth is an immense commerc. centre. The State contains many lakes.

Minnick, Water of, R. of Ayrsh and Kirkcudbrightsh., Scotl. (15 m.), trib. of R. Cree.

Minni Wakan, t. in Dakota, U.S.A., 40 m. by 12 m.

Minonck, t. and impt. *cy.* *mn.* N. Illinois, U.S.A., p. 3,474. [283 sq. m., cap. Fort Mahon.]

Minorca, one of the Balearic Isls., Spanish; area 1,100 sq. m., Russ.; area 35,293 sq. m.; agr., grain, flour-milling, brewing; p. 2,250,000; cap. Musk, t. on a trib. of R. Beresina; many manuf.; p. 93,480. M. was part of the anc. t. Lithuania.

Minster, *par.* in Isle of Sheppey, Kent, Eng., nr. Sheerness; p. 1,546.

Minussinsk, t. in Yenisei govt., Russ. Siberia; fertile prairie regn.; p. 10,430. [of Christiania.]

Miosen, largest L. of Norway (55 m. long) 40 m. N.E. Miosvand, snnr. Norwegian L. (24 m. long) in S.W. Christiania prov.

Miquelon, French *isl.* off S. est. Newfoundland.

Mira, t. on the Brenta Mota, Venice, Italy, p. 10,136; also t. nr. Coimbra, Portugal, p. 6,847. [7,376.]

Mirabella, c. nr. Benevento, Avellino prov., Italy, p.

Mira, nat. st. Deccan div. Bombay, India; area of senior branch 339 sq. m. (p. 88,500), of junior branch 225 sq. m. (p. 35,074). Chfs. of both parts of st. reside in Mira; t. nr. R. Kistna, p. 32,828. [M. Bay.]

Miramichi, R. of New Brunswick, flows (220 m.) to Miramida, northn. st. Venezuela; area 33,963 sq. m., pastoral and agr.; p. 500,000. [7,823.]

Miranda-del-Ebro, industr. t. nr. Burgos, Spain; p. Miranda-do-Corvo, mftg. t. nr. Coimbra, Portugal; p. (commune) 11,042. [gal. p. 8,661.]

Miranda-do-Douro, industr. t. nr. Moncorvo, Porto

Mirandola, t. (fortif.) in Modena prov., Italy; former cap. of a duchy; p. 14,180.

Mirano, t. nr. Padua, N. Italy; p. 7,496.

Mirfield, industr. t. on R. Calder, nr. Huddersfield, W. R. Yorks, Eng.; p. 11,712.

Mirgorod, old dist. t. govt. Poltava, Little Russ., of the Khori R.; suffered in the Polish wars; p. 10,622.

Mirim, L. on border of Brazil and Uruguay, 115 m. by 20 m. [Kharkov; p. 14,108.]

Miropolie, t. on the Psiol R., Kursk govt., Russ., nr. Mirzapur, dist. Benares div. N.W. Prov., Brit. India; area 5,223 sq. m., p. 1,080,500; cap. M., c. on R. Ganges, formerly a gt. tr. emporium; p. 79,500.

Misantla, ruined Mexican c. nr. Jalapa.

Mishawaka, c. St. Joseph co., Indiana, U.S.A., on St. J. R., t. of manuf. of agr. unimp. p. 10,134.

Musilmer, industr. t. on Bagara R., Palermo, Sicily.

Misiones, terr. of the Argentine; area 11,282 sq. m.; farming and stock-raising; p. 38,484; cap. Posadas.

Miskish Mtns., between R. Kennmare and Bantry B., Ireland; highest pk. 1,272 ft. [centre; p. 48,941.]

Miskolez, t. nr. Kirlau, Hungary; impt. tr. and traf.

Missassinewa R., Ohio, U.S.A., afflt. (140 m.) of R. Wabash.

Mississippi, a S. state of U.S.A. lying E. of M. R. and N. of the G. of Mexico and Louisiana; area 46,810 sq. m., grows corn, tobacco, cotton, and pasture; p. 1,850,000 (three-fifths coloured—including Chinese and Red Indians); cap. Jackson.

Mississippi R. (with its afflt., the Missouri, the longest R. of N. America), rises in Itasca L., Minnesota, and flows through Minnesota, Wisconsin, Iowa, Illinois, Missouri, Kentucky, Arkansas, Tennessee, Mississippi, and Louisiana, to the G. of Mexico, where it empties by five mouths. Navigable for 2,000 m. by steamboats to the Falls of St. Anthony, Minnesota. Total length of the Mississippi proper to the Gulf, 2,547 m.; of the Lower Mississippi, with the Missouri, about 3,000 m. [M. L. to R. Ottawa.]

Mississippi R., Ontario, Canada, flows (100 m.) from Missolonghi, c. on G. of Patras, Greece, p. (about) 10,000. Taken by the Turks and Egyptians in 1826. Lord Byron died here in 1824.

Missoula, c. on Clark Fork of Columbia R., Montana, U.S.A., nr. the military post of Fort M.; seat of Montana Univ.; p. 4,560.

Missouri, centl. state U.S.A.; area 69,415 sq. m.; stock-raising, maize-growing, etc., coal and iron-mining, pork-packing, etc. p. well over 3,000,000 (5 per cent. coloured). Jefferson c. is the cap. but St. Louis is the E. is the chf. commerc. centre, next in importance being the gt. meat-packing Kansas c., on the W. border.

Missouri (or Mud R.), gt. afflt. of R. Mississippi; formed by the junction in Montana of the R.'s Jefferson and Madison, flowing through the State of Dakota, and dividing Nebraska and Kansas from Iowa and Missouri, and finally uniting with the Mississippi nr. St. Louis. Length (including the Madison) 3,047 m.; navigable 2,400 m. to Fort Benton.

Missouri R. (Little), trib. of M. R. proper, length 450 m.

Mistassini, L. within Quebec prov., Canada (100 m. long), drains by Rupert's R. to James Bay. Mistassini, or the Little Mistassini L., stretches parallel to the E. side of the greater L.

Misterbianco, t. nr. Catania, Sicily, p. 8,730.

Mistretta, mftg. t. in Messina prov., Sicily, p. 19,483.

Mitau, or Mitava, cap. of the Russ. govt. Courland, on the A. R. Riga; formerly the resort of the Dukes of Courland; gt. tr., p. 7,464.

Mitcham, *par.* in Surrey, Eng., nr. Croydon; lavender and peppermint growing and resident; p. 15,948, also suburb. Adelaide, S. Australia.

Mitchell, silver-mining, *dist.* N.S.W., 15 m. W. of Rydal, p. 4,800; also vil. on R. Thames, Ontario, Canada, p. 2,847; also dist. of Cent. Queensland.

Mitchell Mts., *peaks* of the Black Mtns., N. Carolina, U.S.A., alt. 6,710 ft.; also called the "Black Dome."

Mitchelstown, nr. Fermoy, co. Cork, Ireland, p. 2,457.

Mitrovica, old Hungarian t. in Croatia-Slavonia, site of the Roman Symmum, cap. successively of Pannonia and Illyricum; thriving mod. tr.; p. 11,500.

Mittweida, t. on R. Zschopau, nr. Leipzig, Saxony; cotton mills, engineering wks.; p. 18,120.

Mitylene, or Mytilene, Turkish is. in *Ægean S.* (the anc. Lesbos), area 0.8 sq. m.

Miya, *cap.* on Bayo Owari, Hondo Isl., Japan, p. 12,860.

Miyazaki, t. in prov. Tango, Nippon Isl., Japan, p. 13,433.

Mizhiritch, t. in Kharkov, Russia, p. (indult.) 9,477.

Mlava, or Malwa, divt. in Russia, govt. Plock, nr. Prussia, frontier of Poland; tanneries and gr. grain tr.; p. 16,361.

Moa, t. on Murray R., co. Cadell, N.S.W., p. (dist.) 1,548.

Moberley, *par.* nr. Altrincham, Cheshire, Eng., p. 1,548.

Moberly, c. on the prairie, Randolph co., Missouri.

Mobile, c. and *port.* on Mobile R., M. co., Alabama, U.S.A.; gr. cotton expt.; p. 52,412.

Mocha, or Mokha, fort. spt. t. on Red S., in Yemen, Arabia; coffee expt.; p. 5,245.

Modbury, t. in Pembrokeshire, Devon, Eng., p. 1,580.

Modder River, on border of C. Colony, S. Africa, trib. of Orange R.; battle, Boer War, 1899; sml. t. and rv. stn. 24 m. S. Kimberley.

Modena, *prov.* Emilia, Italy; area 1,000 sq. m.; p. 352,000; cap. M. t. nr. Bologna, ducal palace (now a milit. sch.); fine town hall, Romanesque cathed. Terra-cotta and other manuf.; p. (continue) 71,000.

Modica, t. nr. Syracuse, Sicily; cheese, macaroni, and sweetmeat factories; p. 43,174.

Modling, t. nr. Vienna, Lower Austria, in the Brühl valley, sulphur baths, metal industry; p. 17,883.

Moel Shabod, *mt.* Carnarvonsh., Wales, nr. Snowdon, alt. 2,865 ft.

Moen, Danish is. in the Baltic, area 45 sq. m., p. 15,410.

Moeris, anc. artific. L. in Middle Egypt W. of R. Nile, nr. the mod. Birket-el-Karim (35 m. by 7 m.).

Moero, or Mwera, L. of Centr. A.ica, drains to R. Congo, area 2,700 sq. m.

Moffat, *burgh* and health *resort* Upper Annandale, Dumfriessh., Scotl., p. 209.

Mogadore, fort. spt. c. on W. coast Morocco, p. 20,000.

Mogilev, or Mohilev, govt. W. Russ., between Minsk and Chernigov; area 18,551 sq. m.; p. nearly 2,000,000 (mostly White Russians). Industries: agr. and stock kpg., with some manuf.; cap. Mogilev on R. Dnioper, a walled t. with imp. commerce; p. 45,840.

Mogi-Mirim, *trädg.* t. São Paulo prov., Brazil, p. 13,234.

Moguer, t. nr. Huelva, S. Spain; wine expt.; p. 7,645.

Mohács, t. on R. Danube, nr. Fünfkirchen, Hungary, battles 1586 and 1687 with the Turks; gd. mod. tr.; p. 15,400.

Mohavi Desert, an extensive sterile tract below Sealev. in San Bernardino co., S. Carolina, U.S.A.

Mohawk R., New York, U.S.A., trib. (175 m.) of R. Hudson.

Moidart, sea loch and coast *dist.*, Inverness-sh., Scotl.

Moissac, t. on R. Tarn, nr. Montauban, France; fine abbey ch.; p. 9,864.

Moji, Japanese t. on Shimomoseki Strait, Kiusiu side; Mola di Bora, *cap.* of Apulia, S. Italy, on the Adriatic, nr. Brindisi, p. 13,648.

Mola di Gaeta (now generally called by its anc. name of Formia), t. in Gaeta, prov. Caserta, 117 y. p. 8,000.

Mold, t. on R. Alyn, nr. Chester and in co. Flintsh., N. Wales; one of the Flint Boroughs, colliery dist., p. 4,975.

Moldau, R. of Bohemia, flows (262 m.) to R. Elbe.

Moldavia, *div.* of Roumania, between Bessarabia (Russ.) and Austria-Hungary; area 18,000 sq. m.; ch. t. Jassy.

Molenbeek-Saint-Jean, t. Brabant prov., Belgium, one of the communes included in the cap., a great mfg. centre, p. 61,400.

Molėtta, *cap.* Bari prov. Apulia, Italy; olive oil and macaroni manuf., gd. est. tr., p. 30,484.

Moliagui, t. gold-ld. dist. Victoria, 115 m. N.W. Melbourne, p. 1,894.

Molin, or Mohlin, t. in Lauenberg, Schleswig-Holstein.

Molina, industr. t. nr. Murcia, Spain, p. 7,152.

Moline, c. on Mississippi R., Rock Isl. co., Illinois, U.S.A.; turn wagon and agr. imp. manuf.; p. 24,199.

Mologa, industr. t. Yaroslavl govt., Russia, p. 7,424; on Mologa R. (250 m.), a trib. of R. Volga.

Molsheim, t. nr. Strassburg, in German Alsace-Lorraine; sword and bayonet factories, p. 4,120.

Moluccas, or Spice Is., Dutch grp. betw. Celebes and New Guinea in the E. Indian Archipel.

Ambona, Ceram, Gilolo, etc.; total area 20,460 sq. m., p. (abt.) 500,000.

Mombasa, *est.* on the E. est. of Africa; hdqrs. of the Brit. E.A. protectorate; good harb., and naval depot; tr. in ivory, hides, and rubber, p. 27,530.

Momein, or Teng Yueh-chow, t. in S.W. of prov. Yun-nan, China, on the Irwadi R., Burmese frontier, open to foreign tr., p. 7,836.

Mompoy, or Mompox, t. on R. Magdalena, Colombia.

Monaco, sml. *principality* on the Mediterranean nr. Nice, surrounded by the French dep. Alpes Maritimes; area 4 sq. m. only, p. 10,000; includes the t's of Gondamine, Monaco, and Monte Carlo, famous for its gambling Casino; beautiful climate and scenery, Prince's palace on the Rock of Monaco.

Monadliath Mts., on W. side Strathspye, Inverness-sh., Scotl., highest pk. 3,087 ft.

Monaghan, island co. Ulster prov., Ireland; area 500 sq. m., mainly past. and agr., p. 71,395 (more rapidly declining than in any other Irish co.); Moraghan, on the Ulster Canal, is the co. tr., p. 2,900.

Monaro, *mountain plateau* (area 8,335 sq. m.) N.S.W., bordering on the S. Paich and Victoria, comprising the highland sources of Murray and Murrumbidgee R's.

Monasterzyska, industr. t. nr. Buczac, in Galicia.

Monastir, *spt.* on G. of Hammanet, Tunis, N. Africa, p. 12,130.

Monastir, or Vitolia, c. of Macedonia, Europ., Turkey, in the Karu Su Valley; many mosques, military hdqrs., great tr. in corn, grain, flour, hides, and woollen stu. is, p. 61,220.

Monch (or "The Monk") Mtn., Bernese Alps, Switz., alt. 13,468 ft.

Monchique, t. on the Serra de Marchique, Faro dist., Portugal; baths, sanatorium, exports wine, oil, chestnuts, etc., p. 7,228.

Moncton, c. of Westmorland co., New Brunswick; ry. centre, gd. harb., cotton and other manuf.

Mondego, R. of Portugal, flows (130 m.) to the Atlantic at Cape M. [p. 10,948.]

Mondodono, t. in Iugo prov., N.W. Spain; cattleld.

Mondovi, t. in Cuneo prov., Piedmont, Italy, majolica manuf.; nr. is the famous sanctuary ch. of Vico, with a remarkable dome, declared a national monument; p. 9,420.

Monforte, t. in prov. Lugo, Spain; old tower and palace of the counts of Leon; Jesuit College, p. 12,664.

Monghyr, *dist.* Bhagalpur div. Bengal, Brit. India; area 3,521 sq. m.; indigo industry; p. 2,080,483; cap. Monghyr, t. on R. Ganges; swords and cheap firearm manuf.; p. 25,000 (greatly decreased).

Mong Nai, *china state* of Burma, area 2,716 sq. m.; rice, sugar, and tobacco grown largely; p. 24,320.

Mong Nai, the old cap., has many ruined pagodas, but is chiefly built of thatched bamboo (burnt down 1888, but quickly rebuilt).

Mongolia, *terr.* belonging to the Chinese Emp., W. of Manchuria, S. of Russia (Siberia) frontier, and N.E. of China proper and Chinese Turkestan; area over 1,250,000 sq. m.; mainly occupied by mtn. ranges and the great Gobi and other deserts; and inhabited by something like 3,000,000 Mongols, Kalmucks, Tungus, Chinese, and various Turkish tribes; chiefly nomadic cattle-breeders and traders.

Mong Pal, sml. S.W. Brit. Shan st. Burma; area (est.) 4,000 sq. m.; fully, rice-growing country; p. 18,400.

Mong Pan, E. Southern Shan st. Burma; area 2,999 sq. m.; mtn. teak forests, with rice growing on the plains by the Salween R.; p. 20,000.

Mong Pan, t. in Haute-Loire prov., France, nr. Le

- Monk Bretton**, colly. *t.* nr. Barnsley, W.R. Yorks, Eng., p. 4,783.
- Monmouth**, maritime co. Eng.; area 534 sq. m., p. 395,778; industries: coal and iron mining, quarrying, manuf., and stock-keeping; co. *t.* Monmouth, at confu. of R's Wye and Monnow, p. 5,209; also name of cap. Warren co., Illinois, U.S.A., mfg. *t.* in colly. regu. p. 8,123, and a vil. in Monmouth co., New Jersey, U.S.A., scene of a battle during the American War of Independence between Washington and the British troops. [trib. (28 m.) of R. Wye.
- Monnow**, R. of Monmouthsh. and Herefordsh. Eng.
- Monongahela City**, Washington co., Penn., U.S.A., on the M. K.; mining and natural gas regn.; p. 5,464. Monongahela R. flows from West Virginia (150 m.) to join the Allegheny R. at Pittsburg and form the Ohio.
- Monopoli**, *sp.* S. Italy, Bari prov., p. 12,000. Trade declining through the expansion of Brindisi and other railway-favoured rival ports.
- Monovar**, *t.* nr. Alicante, Spain; gd. trade; p. 8,842.
- Monreale**, *t.* nr. Palermo, Sicily; magnificent cathedral, the finest specimen of the Sicilian Norman-Barbaric style, built in the 12th cent.; p. 14,548.
- Monroe**, c. Ouachita pr., Louisiana, U.S.A., in cotton growing and pulp forest regn., p. 6,214; also c. of Monroe co., Michigan, U.S.A., paper manuf., p. 5,033.
- Monrovia**, *t.* cap. Liberia, at mth. of Mesurado R., Africa, p. 5,000.
- Mons**, industr. *t.* Hannaut prov., Belgium, on the Trouville R., in productive coalfield dist., p. 28,106; fine Gothic cathedral and t. hall. [12,410]
- Monseice**, industr. *t.* nr. Padua, Italy, p. (communal)
- Monserat**, or **Montserrat**, a jagged *mt.* nr. Barcelona, Spain (alt. 4,000 ft.), with famous monastery and image of the Virgin.
- Monaua**, *t.* nr. Springfield, Mass., U.S.A., p. 4,180.
- Monsummano**, industr. *t.* nr. Lucca, Italy, stalactite grotto and health res., p. 7,843.
- Montagnana**, *t.* nr. Padua, Italy, p. (communal) 11,258.
- Montalban**, *t.* nr. Valencia, Venezuela, gd. tr., p. 7,893.
- Montalbano**, *t.* Basilicata prov., Italy, p. 6,385.
- Montalcino**, *t.* in Siena prov., Italy; flourishing industr., p. 9,439.
- Montana**, N.W. *st.* of U.S.A., adjoining Canada, area 145,310 sq. m., two-thirds mountainous, with copper, silver, gold and lead mining, one-third pastoral and agr. *t.* p. 37,000, cap. Helena.
- Montanchis**, *t.* nr. Caceres, Spain, p. 4,542.
- Montargis**, *t.* nr. Orleans, Loiret dep., France, fine town hall, gd. tr., p. 11,010.
- Montauban**, *t.* on R. Tarn, dep. Tarn-et-Garonne; silk manuf., cathedral, p. (communal) 28,800.
- Montbellard**, *t.* nr. Besançon, Doubs dep., France, watch manuf., p. 10,438.
- Mont Blanc**, *mt.* of the Alps, on the confines of Italy and France; highest p.k. in Europe except the Caucasus, alt. 15,781 ft.
- Montbrison**, *t.* in France, cap. Loire dep., on R. Vézère; cretonnes and silks, p. 7,468.
- Montceau-les-Mines**, *t.* in Saône-et-Loire dep., France, p. 25,324, weaving, spinning, metal working.
- Montclair**, *t.* on the slope of Watchung mtn., Essex co., New Jersey, U.S.A., resident. sub. of New York, p. 21,550.
- Mont-de-Marsan**, *t.* in Landes dep., France; drugget manuf., resin distilling, p. 12,000.
- Mont d'Or**, *mt.* *grp.* Puy-de-Dôme dep., France, highest p.k. 6,138 ft.
- Monte Carlo**, *t.* in the small republic of Monaco, resorted to for its beauty and because of the splendid gambling casino, res. p. 3,840.
- Monte Cassino**, *mt.* nr. Naples, Italy, with celebrated Benedictine monastery.
- Montecatini**, *t.* in Pisa prov., Italy, nr. Volterra, saline mineral baths, p. 5,000; also celebrated mineral bathing res. with large natural vapour baths, in the valley of the Nievole, Lucca prov., Tuscany, Italy, res. p. 7,000, visited by 40,000 persons annually.
- Monte Corvo**, in the Apennines, 70 m. E.N.E. of Rome, alt. 5,583 ft.
- Montefiascone**, *t.* in Rome prov., Italy, on L. Bolseno; cathedral, p. 6,000.
- Montefrio**, *t.* in Granada, Spain, old Moorish fortress; cotton manuf., p. 10,803.
- Montego Bay**, *cap.* N. *ist.* Jamaica, p. 6,120.
- Monteth**, or **Monteth**, *dist.* Perthsh., Scotl., contains L. Monteth (a round), with named castle.
- Monteleone**, *p.k.* of the Valais Alps, nr. the Simplon Pass, on border of Italy and Switzld., alt. 11,660 ft.
- Monteleone di Calabria**, *t.* in Catanzaro prov., Italy, anc. Hipponium and later Vibo Valentium; old castle, p. 13,120. [brick and tile wks., p. 14,285]
- Montelimar**, *t.* in dep. Drôme, France, nr. Valence.
- Montella**, *t.* nr. Avellino, Italy; mfg., p. 9,283.
- Montellano**, *t.* nr. Seville, Spain, p. (industr.) 5,037.
- Montelupo**, *t.* on R. Arno, nr. Florence, Italy, p. 6,120.
- Monte Maggiore**, *t.* nr. Palermo, Sicily; mfg., p. 8,735.
- Monte Maggiore**, *mt.* W. of Stresa, on Lago Maggiore, alt. 4,800 ft., magnif. view.
- Monte Motterone**, *mt.* W. of Stresa, on Lago Maggiore, alt. 4,800 ft., magnif. view.
- Montenegro**, *kingdom*, decid. indep. 1878, formerly under Turkish dominatn.; lies betwn. Albania and Herzegovina, and cut off in great part by Dalmatia from the Adriatic; area 3,630 sq. m., mainly mtns.; chf. industry cattle raising, p. (abt.) 230,000; cap. Cetinje, chf. comm. centre Podgoritz, princ. *t.* Antivari.
- Montepulciano**, *t.* in Siena prov., Tuscany, Italy; famous for wine, mediev. walls, cathedral, p. 3,000.
- Monterale**, *fortif.* nr. Aquila, Italy, p. 6,112.
- Monterebau**, *t.* on R. Seine, 31 m. S.E. Paris, France; here Napoleon defeated the Allies in 1814; p. 7,954.
- Monterey**, c. cap. Nuevo Lóuiz *st.* Mexico, gd. tr., p. 60,424, also winter lth. res. on B. of Monterey, M. co., S. Carolina, U.S.A., p. 3,500.
- Monte Rosa**, *grp.* of Pennine Alps on border of Italy and Switzld., highest p.k. 15,277 ft.
- Monte Rotondo**, highest *mt.* Corsica, alt. 9,971 ft.
- Monte San Giuliano**, *mt.* nr. Trapani, W. Sicily, areanc shrine of Venus Erycina, alt. 2,495 ft.
- Monte Sant'Angelo**, *t.* and pilgrim res. in Foggia prov., Apulia, Italy, p. 20,480.
- Montespertoli**, *t.* nr. Florence, Italy, mfg., p. 9,916.
- Montevarchi**, industr. *t.* on R. Arno, Tuscany, Italy, p. 10,874.
- Montevideo**, *sp.* c. on Plata estuary Uruguay, cap. of the repub.; large foreign tr., exports hides, tallow, wool, etc. p. 270,000.
- Monte Viso**, *p.k.* of the Cottian Alps, nr. the French border of Italy, and 42 m. S.W. of Turin, alt. 12,652 ft.
- Mont Genèvre**, *p.k.* of the Cottian Alps, in dep. Hautes Alpes, France, close to the Italian border at Briançon, alt. 9,100 ft.
- Montgomery**, *inld.* co. N. Wales, area 797 sq. m., mainly pastoral, p. (decreasing) 53,147, co. *t.* Montgomery (p. 983); Welshpool is the largest separate municipality, and Newtown the most populous urban dist.
- Montgomery**, *dist.* Brit. India, Lahore div., Punjab, area 5,754 sq. m., wheat grow., camel breeding, silk manuf., cotton-ginning, and lacquered woodwk., p. nearly 50,000, cap. M. *t.* p. 5,510.
- Montgomery**, c., cap. of M. co., Alabama, U.S.A., large tr. in timber and cotton, p. 38,130.
- Montignies-sur-Sambre**, *t.* nr. Mons, Hainaut prov., Belgium, colleries, blast furnaces, pul works, p. 19,512. [lery and iron manuf., p. 40,110.]
- Monthon**, *t.* on R. Cher, dep. Allier, France, cut.
- Montmartre**, a hilly, N. *sub.* of Paris, France, p. 37,400.
- Montmady**, *fort.* *t.* on R. Chiers, dep. Meuse, Fr. p. 2,110, often besieged, last capt. by the Germans in 1879.
- Montoro**, c. of Andalusia, Spain, nr. Córdoba, on the R. Guadalquivir, oil mills, gd. trade, p. 13,472.
- Montpelier**, c. on the Winoski R., Vermont, U.S.A., cap. of the st., granite quarries, p. 7,200.
- Montpellier**, c. cap. of Hérault dep., France, 6 m. N. of Mediterranean, beautifully situated in the viney *dist.* *t.* gt. tr. in wine and brandy, p. 82,412.
- Monte Perdu**, *p.k.* of the Pyrénées, Aragon dep., Spain, alt. 10,007 ft.
- Montreal**, largest *c.* in Dominion of Canada, sitd. on an isl same name at confu. of Ottawa and St. Lawrence R.'s in Hochelaga co., Quebec; the city has many mpt. manuf. and gd. tr., the R. St. Lawrence is crossed by the magnif. Victoria Jubilee bridge.

9,284 ft., and among the princ. pub. bldgs. are the McGill University, the Roman Catholic and Anglican cathedrals, p. (with subs.) 470,480.

Montreuil-sous-Bois, hilly E. *sub.* of Paris with extensive peach orchards and numerous manu., p. 35,418.

Montreux, *vil.* on L. of Geneva, cant. Vaud, Switzd., health resort, nr. the castle of Chillon, p. 8,120.

Montrose, *sp.* and *bor.* (of the M. grp.), Forfarsh., Scotl., chemical and rope wks., p. 10,973.

Mont St. Michel, a fort. French rock off the est. of Normandy, nr. Avranches, with vil. and picturesque church.

Montserrat, Brit. *isl.* of the Leeward group, West Indies, area 32 sq. m., p. 12,250, climate salubrious, sugar cane, arrowroot, and lime culture, manu., lime juice, molasses, essential oils, &c. [p. 4,894]

Montville, *t.* in New London Co., Connecticut, U.S.A.

Monza, *t.* nr. Milan, N. Italy, impt. comml. centre, p. 12,246.

Monzie, *par.* nr. Crieff, Perthsh., Scotl., stone coffins, Fingal's fort, and the reputed tomb of Osian.

Mookden.—(See Mukden.)

Mooltan.—(See Multan.)

Moon, *mtns.* of the, anc. name applied to the African range of S. Abyssinia. [p. 12,564]

Moonee Ponds, *sub.* dist. Melbourne, Victoria, A.

Moorefoot Hill, range in Peebles and Midlothian, Scotl., alt. 2,135 ft.

Mooselaw, *c.* Sask., Can., p. 14,000. [R. 35 m. by 10 m.]

Mooshead Lake, Maine, U.S.A., source of Kennebec

Moose River, Ontario, flows to James Bay, where also is Moose fort, 700 m. from Montreal. [44,300]

Moquedua, *ct.* dep. S. Peru, area 22,516 sq. m., p. 10,973.

Mora, *t.* nr. Toledo, Spain, manu., p. 7,864.

Moradabad, or **Muradabad**, *dist.* Rohilkhand div., N.W. Prov., India; area 2,282 sq. m.; wheat, rice, cotton, p. (hircag.) 1,200,000. Cap. M. c., on R. Ramganga; p. 76,424.

Morant, *t.* on S. E. Jamaica; p. 7,248.

Morar, *t.* nr. Gwalior, *c.* in native st. of Gwalior, Centl. India; formerly a Brit. milit. cantonment; (manuf.) p. 12,237.

Moratalla, *t.* in Murcia prov., Spain; rough cloth

Morava, R. of Moravia, trib. (212 m.) of R. Danube.

Moravia, *prov.* Austrian Emp.; area 8,580 sq. m.; p. 2,500,000; agr. and forestry are the chief industries; but there is consid. mfg. and tr.; cap. Brinn.

Moray, *anc.* *prov.*, Scotl.; included Elgin and Nairn.

Moray Firth, *erm.* of the N. Sea on the Scottish est. betw. Clyth Ness, Cathness, and N. Aberdeensh.

Morbhanj, nat. st. in W. Orissa, Bengal, India; area 4,243 sq. m.; p. 394,628.

Morbhanj, *ct.* dep., France, on B. of Biscay; area 2,739 sq. m. Formed from part of anc. Brittany; it is hilly and marshy; industries, agr., apple-growing, mining, and sardine fishery off coast; p. (increasg.) 560,400; cap. Vannes [p. (dist.) 3,240]

Mordialloc, *t.* in Bourke co., Victoria, Melbourne; p. 12,240.

Morescombe, *ct.* *sub.* of N. Lanes., Eng., on Morescombe B. (an inlet of the Irish S. 18 m. by 20 m.); p. 12,480. [Michocau st.; thrvg tr. p. 35,400]

Morelia, formerly Valladolid, *c.* of Mexico; cap. Morelia, *t.* in prov. Castellán de la Plana, Spain; the Roman Carta *Alia*; anc. castle; p. 7,484.

Morélas, indl. st. Mexico; area 2,774 sq. m.; mainly agr. and sugar-cane growing; p. 163,468. Cap. Cuernavaca. [defeated Austrian host here in 1735]

Morgarten, nr. Lucerne, Switzd.; Swiss Confederates

Morgan, *t.* on L. of Geneva, cant. Vaud, Switzd., p. 4,540.

Morlaix, *t.* in Finistère dep., France; g. tobacco

Morley, *bor.* nr. Leeds, W. K. Yorks., Eng.; woollen-cloth manu.; p. 24,585.

Morningside, S. *sub.* of Edinburgh, Scotl.; p. 10,182.

Morocco, one of the Barbary states, W. of Algiers and N. of Sahara, and washed by Mediterranean and Atlantic; area 313,630 sq. m., traversed by the Atlas mtns.; much desert to the south; p. 6,500,000. Cap. Fez. Morocco city, one of the most impt. t's in the empire, famous for its leather manu., is properly styled Marrakesh; p. 40,000.

Merou, industr. *t.* nr. Guadaira, Andalusia, Spain,

S.E. of Seville; p. 17,240; also vil. in Puerto Principe prov., Cuba; p. 2,140.

Morpeth, *t.* nr. Newcastle, Northumberland, Eng.; in mining dist.; p. 7,436 (of partly, bor., 63,079).

Morris, *c.* of Grundy co., Illinois, U.S.A.; in coal mining regn.; p. 4,531.

Morrisania, N. *sub.* New York, U.S.A., on Harlem R.; p. 21,420.

Morristown, *t.* Morris co., New Jersey, U.S.A.; p. 12,388. Washington had here his hdqrs. 1776 and 1779.

Morshansk, Russn. *t.* on R. Tzna, govt. Tambov;

Morsøe, Danish *isl.* in the Lum Fjord; area 138 sq. m.; p. 19,840. [cheese, ironwks.; p. 5,220]

Mortara, *t.* in Pavia prov., Lombardy, Italy; hats, Mortlake, Thames side *par.* Surrey, Eng.; subm. to London; associated with Oxford and Cambridge boat-race; mainly resident; p. 30,379.

Morven, *mt.* nr. Ballater, Aberdeensh., Scotl., alt. 2,862 ft.; also mtn. nr. Bernedale, Cathness, Scotl., alt. 2,313 ft.

Morvi, nat. st. Katiawar, Gujarat div., Bombay, India; area 821 sq. m., p. 111,487; cap. M., t. on R. Machhu, p. 16,842.

Morwell, *t.* in colliery dist. Victoria, p. 3,148. [p. 7,424]

Mosciana, *t.* in Ierapio prov., Italy; manu.;

Moscow, *cent.* *govt.* Russ., area 12,858 sq. m., watered by R.'s Moskva and Yuzma; p. 2,500,000. cap. M., c. on R. Moskva, former cap. R. Empire. Contains the famous Kremlin, with Palace of Czars of Muscovy. Seat of M. University; and is the cit. comml. c. of Russ. Banned by the inhabitants during French occupatn., 1812; pre. p. abt. 1,000,000. [Rhine]

Moselle, R. (328 m.) of France and Pruss. trib. of R. Moska, R. (249 m.) of Russ., affl. of R. Oka.

Mosquito Terr., or **Mosquito Coast, *dist.* of Nicaragua, from R. San Juan to Cape Honduras, formerly under Brit. protectn.; area 7,000 sq. m., cap. Grey Town. [p. 9246. Gt. timber export]**

Moss, *sp.* t. Norway, on fjord 32 m. S. Christiania;

Mossamedes, *t.* on Little Fish Bay, Portuguese W. Africa; sanatorium for Angola prov.; exports rubber.

Mossel Bay, or **Aliwal South**, *sp.* Cape Col. S. Africa. (See Aliwal.)

Mossend, *t.* nr. Glasgow, Lanarksh., Scotl.; p. 3,842.

Mossagle, *t.* n. Dunedin, New Zealand; woollen manu.; p. 1,894.

Mossley, mkt. *t.* in Prestwich div., Lancash., Eng.; foundries and woollen and cotton factories; p. 13,095.

Moss Side, manu. dist. S. of Manchester, Lancash., Engl.; p. 27,483.

Moss Vale, *t.* nr. Sydney, N.S.W.; p. 2,868.

Mostagenem, *t.* in Oran dep., Algeria, nr. the Mediterranean est.; in viney. dist.; p. 18,086.

Mostar, walled *t.* on Narenta R., Herzegovina, Austria-Hungary; govt. tobacco factory; p. (including garrison) 15,046.

Mosul, *t.* on R. Tigris, Turkey, cap. of vilayet same name; great comml. centre; p. 40,000.

Motala, *t.* in Linköping dist. Sweden, nr. the gt. Motala ironwks.; p. 3,500.

Motherwell, *t.* nr. Glasgow, Lanarksh., Scotl., in mun. dist.; bridge bldg. industry; p. 40,378.

Motihari, *t.* in Champaran dist., Bengal, India; g. d. tr. p. 11,424.

Motril, *t.* Granada, nr. the est., Spain; sugar-cane and beetroot growing; exports grapes, esparto grass, figs, etc.; p. 18,240.

Mottram, *t.* nr. Glossop, Chester, Engl.; p. 3,420.

Mouken.—(See Mukden.)

Moulins, *t.* on R. Allier, France; cathedral, fine town-hall, and ruined chateau; p. 23,462.

Moulmein, hdqrs. of Amherst dist. and Transvaal div. Lower Burma; exports teak, rice, etc.; p. 56,000. [p. 6,500]

Moulsey, E. and W., *vis.* on R. Mole, Surrey, Eng.;

Moundsville, *c.* on Ohio R., Marshall co., W. Virginia; numerous manu.; p. 6,486.

Mount Adams, *pt.* White Mountains, New Hampshire, U.S.A.; alt. 5,679 ft.

Mountain Ash, mfg. *t.* nr. Aberdare, Glamorgansh., Wales; p. 1,797.

Mount Britton, goldfld. Queensland, nr. Mackay;

Mount Carmel, *bor.* Northumberland co., Penn., U.S.A., on Wabash R.; gt. tr. in anthracite coal; p. 1,450. [co. on Clinton R.; minl. springs; p. 7,438.]

Mount Clemens, *c.* Michigan, U.S.A., cap. Macomb

Mount Descent, *ct.* of est. of Maine, U.S.A., area 100 m., mtinous; summer rest.; res. pop. 8,600.

Mount Egerton, gold-mining *c.* nr. Melbourne, Victoria; p. (dist.), 3,140.

Mount Gambier, *c.* co. Grey, S. Australia, nr. Port Macdonnell, p. 2,807.

Mount Mellick, mkt. *c.* Queen's co., Linst., Irel., anciently called Ballyvullin, "the town in the woods," p. 3,110. [nr. Rockhampton, p. 11,460.]

Mount Morgan, gold-mining *c.* Raglan, Queensland.

Mount Morris, *vil.* New York, U.S.A., Livingstone co., p. 4,120.

Mounts, mkt. *c.* Queen's co., Irel., p. 1,860. [wide. Mout. P's Bay, *vil.* on S. coast Cornwall, Eng., 20 m.]

Mountrassel, *c.* Linst., Eng., p. 2,480. [115, 5894.]

Mount Sterling, *c.* Montgomery co., Kentucky, U.S.A.

Mount Vernon, *c.* Jefferson co., Illinois, U.S.A. in taring, regu. p. 6,120; also *c.* on Ohio R., Povey co., Indiana, U.S.A., ry. centre, p. 5,401; also *c.* on Bronx R., Westchester co., New York, U.S.A., subn. to N.Y. c.; p. 3,919; also *c.* on Kokosing R., Knox co., Ohio, U.S.A., furniture and waggon manuf., p. 7,040.

Moura, wall'd. *c.* in Algarve, Portugal, p. 5,947.

Mourne Mtns., co. Down, Irel.; highest pk. 2,796 ft.

Mourzouk, *c.* in the Fezzan Oasis, Tripoli, N. Africa; tr. centre; p. 8,464. [wool weaving; p. 20,804.]

Mouscron, *c.* in W. Flanders, Belgium; cotton and

Mouse Water, *R.* of Lanarksh., Scotl., trib. (14 m.) of R. Clyde; Mouse, or Souris R., Canada and U.S.A. (500 m.), trib. of R. Assiniboine. [1,848.]

Moveille, mkt. *c.* co. Donegal, Irel., on Loch Foyle, p. 3,107.

Mayo, *R.* cos. Mayo and Sligo, Irel., flows (55 m.) to Killybegs.

Moyobamba, *c.* nr. Chacabuyas, Peru, p. 8,260.

Mozambique, Portuguese prov. E. Africa, basin of the Zambezi R., and front *c.* Delgado N. to Delagoa B. on est.; area 382,680 sq. m., p. (est.) 2,000,000, cap. M. on sm. isl. nr. est.; p. 7,000. The Mozambique channel lies betw. Madagascar and Port E. Africa, 1,000 m. long by 250 m. widest narrowest part.

Mozzyr, *c.* on Pripiet R., govt. Minsk, Russ.; imp. tr. centre; p. 14,826. [N. for road to L. Hmen.]

Msta, *R.* of Russ., flows (250 m.) in govt. Tver and Mtsensk, mfg. *c.* on R. Zusia, govt. Orel, Russ., p. 18,943.

Mubarakpur, *c.* Azamgarh dist., N.W. Prov., India, much Wenlock, mkt. *c.* Sitrophi, Eng. (See Wenlock.)

Much Woolton, industri *c.* nr. Liverpool, Lancash., Eng., p. 4,320.

Mudana, *c.* on est. S. of Marmora, Asia Minor, port for Brusa; the anc. Myra, olive-oil export; p. 4,800.

Muhaltich, or Mikhalitch, *c.* nr. Brusa, Asia Minor; extensive tr. to 10,468. [India, p. 0,831.]

Muhammabad, *c.* Azamgarh dist., N.W. Prov.,

Muhamrah, *c.* in prov. Aralistan, Persia, on the Haflar Canal; imp. tr. and customs stan.; p. 5,000.

Mühlhausen, *c.* on R. Ulstut, Pruss., Saxony, nr. Erfurt; formerly a free impl. *c.*; woollen and cotton manuf.; p. 26,680.

Muirkirk, ning. and mfg. *c.* Ayrsh., Scotl., p. 6,043

Mukama, *c.* on R. Ganges, Patna dist., Bengal, India, p. 14,108.

Mukden (Chinese "Shingking"), wall'd *c.* cap. of Manchuria, on the Liao R., 110 m. N.E. of its port Newchwang; great comm. and political centre; formerly the cap. of the Manchu dynasty, and contains the royal tombs; p. about 250,000.

Mula, *c.* nr. Murcia, Spain; gd. tr. p. 11,420.

Mulde, *R.* of Saxony and Anhalt, Germany, trib. (130 m.) of R. Elbe. [sh. isl. grps. in Pacific.]

Mulgrave Arch, collective name of Gilbert and Mulgrave, *mms.* of Sierra Nevada range, Spain, alt. 11,663 ft. [industry centre, p. 98,740.]

Mülhausen, *c.* in Alsace-Lorraine, Germany; gt. cotton

Mülheim am Rhein, mfg. *c.* in Rhensh. Pruss., ry. opp. Cologne, p. 11,260. [Düsseldorf, p. 40,840.]

Müheim-am-Rhur, mfg. and tr. *c.* Rhensh. Pruss.,

Mull, *ct.* of W. Scotl., included in co. Argyll, one of the largest of the Hebrides; area 357 sq. m., p. 4,800;

chf. t. Tobermory. The Sound of Mull (12 m. wide) separates the isl. from Morvern.

Mullingar, mkt. *c.* (and co. *c.*) Westmeath, Ireland, on R. Brosna; p. 4,500.

Multan, or Mooltan, *dist.* Lahore dist. Punjab, Brit. India; area 6,076 sq. m.; wheat, millet, cotton and indigo; cotton-ginning mills; p. (steadily incrg.) 750,000; cap. M. c. nr. R. Chenab; carpet and silk manuf., mil. cantonmt.; p. 76,480.

Mumbles Head, point of est. of Glamorgan, Wales, W. of Swansea B. [Duseldorf; p. 56,080.]

München Gladbach, mfg. *c.* Rhensh. Pruss., nr. Muncie, *c.* on White R., Delaware co., Indiana, U.S.A.; iron, steel, glass, and paper; p. 25,120.

Munder, *c.* on R. Weser, Hanover, nr. Göttingen; ruined castle; p. 7,349.

Münsteradorf, ind. *vil.* *c.* nr. Cologne, Pruss., p. 8,807.

Munich, or München, cap. *c.* Bavaria, on R. Isar; many splendid bldgs., famous art galleries, royal palace, archiepiscopal cathed., university, etc.; flourishg. commerce and manuf., specially noted for beer-brewing, p. (rapidly incrg.) well over 600,000.

Munkacs, old corporate *c.* nr. the Latorcza co., Bereg, Hungary; cathedral and beautiful castle; p. 16,220.

Munster, *prov.* S.W. Irel., embrcg. cos. Waterford, Cork, Kerry, Limerick, Clare, and Tipperary; area 9,475 sq. m. (see cos. separately). Also name of a t. in Germany, Alsace-Lorraine, calico manuf.; p. 6,804.

Münster-am-Stein, *vat. pl.* on R. Nahe, Pruss.; brine springs; with ruins of Rheingrafenstein Castle and Elberburg Castle, res. p. 854.

Munsterberg, *c.* on K. Ohlan, prov. Silesia, Pruss.; brick and tile making; p. 8,474.

Mur, or Muhr, *R.* Austria, trib. (250 m.) of R. Drave; rises in Salzburg, and flows through Styria and part of Hungary.

Muradabad, (See Moradabad.)

Murchison Falls, on Shiré R., Brit. E. Africa, nr. Albert Nyanza L. Murchison (Mt.) peak of Kocky Mts., Brit. Columbia, Alberta terr., alt. 13,500 ft.

Murchison R., W. Australia, flows (800 m.) S.W. to Gantheime Bay; on its bank Mt. Murchison, alt. 1,600 ft.

Murcia, old kingdom and *prov.* S.E. Spain; now the provs. of Albacete and Murcia; area of mod. prov. Murcia, 4,478 m., bordering on Mediterranean, rich in metals, esp. argentiferous lead, p. 24,820; cap. M. c. on K. Segura; silk and other industries; fine Renaissance cathed.; p. 111,460.

Murfreesboro, *c.* Rutherford co., Tennessee, U.S.A., scene of Stone R. battle, Civil War, 1862-1863. Confederate retreat; p. 4,100. [R. Rhine.]

Murg, *R.* of Baden and Württemberg, trib. (40 m.) of Murgab, or Murghab, *R.* of Afghanistan and Asiatic Russ., flows (250 m.) into Khiva and past Merv until lost in desert swamps. [N.W. Berlin, 18 m. long.]

Murtesee, L. Mecklenburg-Schwerin, Germany, 60 m.

Murons, *c.* on R. Oka, Vladimir govt.; manuf.; p. 17,485.

Murphyboro, ind. *ct.* on R. Bigmuddy R., Jackson

Murray R., the prin. *R.* of Australia, separates N.S.W. and Victoria, and flows (1,120 m.) to L. Alexandrina and Encounter B., nr. the Coorong, S. Australia; also name of large dist. N.E. Victoria between Australian Alps and Gippsland and the Murray R.

Murree, *sanatorium* in Kowalundi hill dist. of the Punjab, India, 7,453 ft. above sea-level; has hotels and the largest brewery in India; res. p. (exclusive of military) 2,100; has large summer floating pop.

Murrumbidgee, *R.* of N.S.W., flows (1,350 m.) to the Murray R., after recg. the waters of the Lachlan R.; Murrumbidgee is the name given to the extensive pastl. dist. of N.S.W. betw. the Rs. Murray and Murrumbidgee.

Murrumbidgee, *c.* N.S.W., on the Liverpool mtn. range, 292 m. N.W. of Sydney, p. (dist.) 1,184.

Murshidabad, *dist.* in the Bengal Pres., Brit. India; area 2,114 sq. m.; silk and indigo industries; p. 1,400,500; cap. M. t. on the Bhagirathi (old sacred ch. of R. Ganges); palaces, mosques, tombs, gardens, decaying industry in gold and silver embroidery, ivory carvg., and silk wvg., p. 35,000 (continuously decreasing).

Murtosa, *t.* and fishg. centre on lagoon nr. Aveiro, Portugal, p. 10,470.

Murvelro, fort. *t.* nr. Valencia, Spain; the anc. Saguntum, p. 6,484.

Murwara, *t.* Jabalpur dist., Cent. India, p. (indusl.)

Murwillumbah, *t.* nr. the Queensland border and the S. Pacific cat., N.W. W. p., (dist.) 1,848.

Musa Jebel, mt. N.W. Arabia (alt. 7,375 ft.) identified with Sinai, or Moes Mount, of Scripture, by some.

Musardu, *t.* in French W. Africa, old cap. of the Mandingo nation, p. 8,400.

Muscat, *t.* on the G. of Oman, Arabia, cap. of the old kingdom of Oman, and a cliff centre of Arabian tr., p. (est.) 40,000, one of the hottest places in the world.

Muscatine, *c.* of Muscatine co., Iowa, U.S.A., on R. Mississippi; meat packing and timber industries, p. 16,420 (Florence, Alabama, U.S.A.).

Muscle Shoals, rapids in the R. Tennessee, nr. Muscovy, name applied alternatively to Russia.

Muscogee, *t.* in the Creek Nation, Indian Terr., U.S.A., p. 25,278. (timber works and tr., p. 21,062).

Muskeron, *c.* on M. L., Co., Michigan, U.S.A.;

Muskingum, *c.* of Ohio, U.S.A., trib. (240 m) of R. Ohio

Musselburgh, *t.* on R. Esk, nr. Edinburgh, Scotl., of which it may be reckoned a seaside suburb; golf links; joins with Edinburgh as a burgh, p. 15,938.

Mussey Shell R., Montana, U.S.A., trib. (300 m.) of Missouri.

Mussonelli, mfg. *t.* nr. Caltanissetta, Sicily, p. 11,243.

Musoori, or **Masuri**, *t.* and *sanatorium*, Delira Dun hill dist., N.W. Provs., India, 6,600 ft. above sea-level, adjoining Landlur, the Lower Himalayan convalescent depot for Brit. troops, and nr. the Chakrata cantonment, p. 12,000.

Mustapha, a *sub* of Algiers *c.*, p. 13,142.

Muttra, or **Mathura**, dist. Agra div., N.W. Provs., India; area 1,441 sq. m., p. 77,000; the M.C. on the Jumna R., a holy place of the Krishna cult. with carved Hindu temples, bathing stairs, &c. p. 59,860.

Muzaffargarh, dist. Derajat div., Punjab, Brit. India; area 3,422 sq. m., p. 410,000 (increasing); cap. M. C. on the R. Chenab, p. 3,264.

Muzaffarnagar, dist. Meerut div., N.W. Provs., Brit. India; area 1,656 sq. m., p. 900,500 (increasing); cap. M., *t.* on the N.W. Ry., p. 21,180.

Muzaffarpur, dist. Patna div., Bengal, Brit. India; area 3,003 sq. m., indigo and opium culture, p. 2,750,000 cap. M., *t.* on Little Ganges R., p. 45,100.

Muzar, *t.* nr. Raikhi, Bokhara, p. (est.) 24,000.

Muz Tagh, mtn. pass over Karakorum range, E. Turkestan, alt. 18,930 ft.

Mwapa, or **Mwapa**, *t.* in Uvanga, German E. Africa, on tr. route from Bagamoya to interior.

Mweelra, mtn. co. Mayo, Ireld., alt. 2,688 ft.

Mweru, Lake. (See Moero.)

Myaungmya, dist. Irawadi div., Lower Burma; area 3,505 sq. m., p. 320,500; chief *t.* Patana; Myaungmya has p. 4,400.

Myconae, celebrated ruins *c.* of Morea, Greece, nr. Argos. The chief objects discovered in excavations on the site are a museum at Athens.

Myconos, or **Mykonos**, *isl.* of the N. Cyclades, in the Aegean Sea, Greece, p. 4,000.

Myelat, div. of Southern Shan States, Burma; area 3,723 sq. m.; produce, rice and sugar; *p.* uncertain.

Myingyan, dist. in Meiktila div., Upper Burma; area 3,130 sq. m., p. 300,000.

Myitkinya, dist. Mandalay div., Upper Burma; area 10,610 sq. m.; forest and fallow predominate; p. 68,000. Hdqrs. *t.* on the Irawadi, 245 a. of 1,650 (including 400 mil. police). [Göltzsch, p. 7,146.

Myitau, or **Muhlau**, *t.* nr. Plauen, Saxony, on R. Mymensingh. (See Maimaisingh.) (2,293 ft.)

Mynydd-mawr, mtn. nr. Carnarvon, N. Wales, alt. 1,540 ft.

Myzowitz, mfg. *t.* on R. Przemska, nr. Cracow, Pruss. Silesia, p. 11,240. [Arch., Dutch E. Indies.

Myzol, or **Misol**, *isl.* (50 m. long) N. Ceram, Malay Mysore, nat. *st.* South. India, enclosed by Brit. terr.; area 39,444 sq. m., p. over 5,500,000. Coffee plantings, gold mining; Brit. mil. cantonment and hdqrs. of Admin. at Bangalore (*g.v.*). Cap. Mysore, *c.* nr. Seringapatam, p. 71,305. [p. 6,884.

Mytho, fortified *t.* in French Cochinchina on R. Mekong.

Mytholmroyd, mfg. *vil.* on R. Calder, nr. Halifax, W.R. Yorks, Eng., p. 4,152.

Mytilene (classic Lesbos). (See Mitylene.)

Mzab, dist. of Algeria, with R. same name; *chf. t.* Gardaia.

Mzconow, industr. *t.* nr. Warsaw, Russ. Poland, p. 6,236.

Mzenak. (See Mizenak.)

Mzombe, R. Germ. E. Africa, trib. (120 m.) of R. Ruaha.

Mzymta, R. of the Caucasus, Russ., flowing (80 m.) past Romanovskoe and Llesnoe to the Black Sea.

N

Naab, R. Bavaria (50 m.) crosses R. Danube nr. Raibach.

Naldyryk, mfg. *vil.* nr. Rotterdam, S. Holland, p. 5,874.

Naarden, *t.* nr. Amsterdam, S. Holland, destroyed by Spaniards 1572, p. 3,124.

Naas, *t.* in co. Kildare, Ireld., former cap. Leinster, p. 3,400.

Nabah, or **Narba**, nat. *st.* India, in the Punjab, area 935 sq. m., p. 300,000; cap. N., *t.* S. of the Sutlej, p. 18,400.

Nabal, *t.* nr. Hammanet, Tunis, tr. centre, p. 8,668.

Nablus, or **Nablous**, *c.* Palestine, nr. Jerusalem, the anc. Shechem or Scythar, and later Napopolis; former cap. Samaria, 5000 manuf., p. 20,000; Jacob's Well and Mt. Gerizim adja. ent.

Nabua, *t.* Aunbos Camarines prov., Luzon, Philippine Isls., mkt. for agr. prod., p. 17,245.

Nachod, *t.* in Bohemia, Austria, on R. Mettau at entree to Lewin Nachod Pass nr. the Pruss. frontier, old castle, Pruss. victory 1866, cotton-spinning, dyeing, etc., p. 10,120.

Nadia, **Nadiya**, or **Nuddea**, dist. Presidency div., Bengal, India, area 2,982 sq. m., indigo, p. 1,609,500; cap. *t.* *Churnagar*, former cap. *t.* *Nadia*, *t.* on R. Bhagratih, p. 15,000. [gd. trade, p. 31,483.

Nadiad, *t.* Kaira dist., Ahmedabad, Bombay, India.

Nadol, *t.* in Judipur st., Rajputana, India, ruined temples.

Nadudvar, mfg. *t.* nr. Debrecin, Hungary, p. 8,120.

Nadworna, *t.* Austrian Galicia, nr. Hantslaw, p. 6,894. [medieval *t.* hall, p. 8,602.

Næstved, mkt. *t.* co. Presto, Zealand, Denmark.

Nafa, or **Napa**, *sp.* in Izu-chu Isls., Japan, p. 35,482, *gd. trade*.

Nafels, *vil.* on R. Linth, cant. Glams, Switzld., nr. Zurich; hero in 1388 the Austrians were repelled by gallant Glarus natives. [the Wolds, p. 1,960.

Nafferton, *par.* nr. Driffeld, E.R. Yorks, Eng., on *Naga Hills*, The, *div.* in Assam, India, area 5,770 sq. m., sparse *p.* (102,000); cap. Kohima, *p.* (exclusive of Gurka garrison), 1,824.

Nagambee, *t.* co. Moira, Victoria, *p.* (dist.) 2,250.

Nagar, *div.* Mysore st., India, area 11,652 sq. m., p. 1,250,000, emigrants Chualdurg, Shimoga, and Kadur dist. (*g.v.*); also name *spt.* Tanjore dist., Madras, India, p. 8,295. [and industry, p. 18,000.

Nagasaki, flourishing. *spt. c.* on Ku-shu Is., great *t.*

Nagina, *t.* Bijnor dist., N.W. Provs., Brit. India, sugar tr., gun manuf., p. 24,600.

Nagode, nat. *st.* Baghelkhand agcy., Centl. India, area 450 sq. m., p. 84,500, suffered severely from famine 1896-97; cap. Unchehra, former cap. Nagode, nr. Sutna, which was a military cantonment.

Nagoya, *t.* in Owari prov., Hondo, Japan, thriving cap., great tr., chief ceramic industry, centre, also cotton and silk factories, p. 295,680.

Nagpur, *div.* (area 24,127 sq. m., p. 2,750,000), dist. and *c.* in Centl. Prov. India, inpt. weaving indust., fort, arsenal, and mil. cantonments, p. 130,000.

Nagy Abony, mfg. *t.* nr. Pesth, Hungary, p. 13,012.

Nagy Banya, mining *t.* (gold, silver, lead) nr. Szatmar, Hungary; beautiful *pk.* p. 12,840.

Nagybecskerek, industr. *t.* on R. Bega, nr. Temesvar Hungary, p. 22,424.

Nagyenyed, *t.* in Alsó-Fehér co., Transylvania, Hungary; *c.* R. Maros; wood careg., educational centre; famous for wine in mid. agcy., p. 7,862.

Nagygyaroly, *t.* (indusl. and educnl.) nr. Debreczy, Hungary; castle of Counts Karolyi, p. 16,408.

Nagykuta, mkt. *t.* nr. Pesth, Hungary, p. 6,223.

- Nagykikinda**, *t.* in Torontal co., Hungary; flour and fruit tr.; *p.* 26,326. [*p.* 25,600.]
- Nagykörös**, industri. *t.* in co. Pest-pilis-Solt, Hungary.
- Nagyseben**, or Hermannstadt, industri. *t.* in Seeben co., Hungary; hars. Army corps; *p.* 39,422.
- Nagysonbát**, *t.* co. Pozsony, Hungary; malt and match factories, sugar refining; *p.* 14,122.
- Nagyvárad**,—(See Grosswardein.)
- Nahant**, summer res. on Mass. Bay, Essex co., Mass., U.S.A.; res. *p.* 1,420. [Hesse.]
- Nabe**, *R.* Germany, flows 69 m. to R. Rhine nr. Bingen.
- Nabati**, or Nyeabatie, *t.* in the Parganas, Bengal, India; gd. tr.; *p.* 22,463.
- Nailsea**, *par.* nr. Taunton, Somerset, Engl.; *p.* 1,894.
- Nailsworth**, *t.* nr. Stroudhouse, Glouce., Engl.; *p.* 3,031.
- Nain**, *settlem.* Moravia, Brehin, E. czt. Labridor; also Gallican *t.* (the mod. Nem) scene of the miracle of raising the widow's son.
- Naini Tal**, *dist.* Kumaon, div. N.W. Provs., India; area 2,068 sq. m.; *p.* 306,000. The *t.* of N.T. stands on mtn. lake, alt. 6,400 ft. above sea, *p.* 12,560.
- Nairn**, mar. co. Scotl., on Moray F. between Elgin and Inverness; area 200 sq. m.; *p.* 9,319; cap. N. burgh (one of the Inverness Parly. grp.), *p.* 4,661.
- Nairobi**, *cap.* of prov. Ukamba, B.E.A., 327 m. from Mombasa, also chief seat of govt., a centre of the Uganda Ry., and for long came shooting; *p.* 14,000.
- Najabad**, *t.* Bijoor dist., N.W. Provs., India; tr. in timber, sugar, etc., metal manuf.; *p.* 20,120.
- Nakhichevan**, industri. *t.* in govt. Erwan, Transcaucasia, Russ., *p.* 6,849; also *t.* on R. Don. Yekaterinograd govt., Russia; founded by Armenian emigrants; flourishing tr.; *p.* 24,523. [*p.* 8,943]
- Nakodgar**, tr. *t.* in Punjab, India; nr. Jalandhar;
- Nakskov**, spt. co. Maribo, Isl. Laaland, Denmark; sugar refg.; *p.* 8,697.
- Namagan**, or Namagan, *quadr.* *t.* on the Sir Daria, Forana, Turkistan, A-nt. Russia; *p.* 28,420.
- Namaland**, or Namaqualand, parched S. African *prov.* betw. Walfisch B. and the Orange R. reaching from the Atlantic est. to Kalahari Des.; area 200,000 sq. m. Little Namaland is a dist. of Cape Col., S. of the Orange R.
- Namding**, imp. tr. *t.* in French Tonquin, *p.* 52,400.
- Namoi**, *R.* (270 m.) in N.W. trib. of R. Darling.
- Namsiau**, industri. *t.* on R. Weiser, Silesia, Pruss., *p.* 6,430.
- Namur**, *prov.* Belgium bordg. on France; collieries, woodland; area 3,444 sq. m. cap. N., fort. c. at conf. Meuse and Sambre R's; *p.* 34,624.
- Nanaimo**, *t.* on Vancouver Isl., Brit. Columbia, collv. dist., *p.* 7,400. [Hungary, *p.* 14,828]
- Nanas**, or Hajdu Nanas, industri. *t.* nr. Dobreczin, Nanchang, c. on Kan-Kiang R., Nankmg. China, gt. tr., *p.* (est.) 120,000. [industri., *p.* 115,450.]
- Nanche**, *t.* nr. Yenkow, Chi-Kiang prov., China.
- Nancy**, old cap. Lorraine, and pres. chf. *t.* of French dep. Meurthe-et-Moselle, gt. industri. actv., the inhabitants including many Alsatians from the conquered prov.; *p.* 120,000.
- Nandair**, *t.* in Hyderabad, India, tr. centre, *p.* 15,110.
- Nandgaon**, trib. st. Chhattisgarh div., Centrl. Prov., India, area 995 sq. m., *p.* 126,000, cap. Raj-Nandgaon, cotton mill.
- Nandidrug**, *dist.* Mysore st., India, embracing Bangalore, Tumkur and Kolar dists., area, 8,212 sq. m., *p.* 1,545,000.
- Nandod**, cap. c. of Rajpala st., Bombay, India, nr. Surat, good tr.; *p.* 11,546.
- Nankai**, or Nanking, gt. Chinese c. on Yangtse-Kiang, cap. Kiang-Su prov., and a famous seat of learning and industri. actv., *p.* (est.) 240,000; contains the Ming tombs, or mausoleums, of founders of the Ming dynasty.
- Nan Ling**, or Sing, mtn. *chs.* betw. Yangtse-Kiang basin and that of the Si. China.
- Nanning**, treaty *st.* on West R., Kwangsi prov., China, chf. mkt. on S. frontier, *p.* 40,000.
- Nanterre**, *t.* nr. Paris, Seine dep., France, noted for cakes and alumina manuf.; *p.* 35,100.
- Nantes**, *t.* in Brittany, dep. Loire-Inférieure dep., France, on R. Loire, hsch. and fish preserve manuf., wood pulp, bell foundries machine works, stained glass, nursery gdns., *p.* 170,280.
- Nanticoke**, *t.* on Susquehanna R., Luzerne co., Penn., U.S.A., in anthracite coal country, *p.* 17,216.
- Nantucket**, *isl.* *t.* and *st.* of *envy*, N. co., Mass., U.S.A., summer res., *p.* 4,110.
- Nantwich**, mkt. *t.* on R. Weaver, Chesh., Eng., brine baths, ironwks., fox-hntg. centre, *p.* 7,616.
- Nantyglo**, industri. *vil.* nr. Abertillery, Monmouthsh., Eng.; *p.* 14,214.
- Napa**, or Napha, *st.* in Lin-Chin isls.; also *t.* on N.R., California, U.S.A., soda springs, *p.* 4,480.
- Napier**, *t.* on Hawkes Bay, N. Zealand, fine esplanade, *p.* 9,584.
- Naples**, most pop. c. in Italy, on B. of N., at ft. of Vesuvius, opp. site of anc. Pompeii, sanctuary of Madonna di Pompeii, grove of Prozzuoli, Castel del Ovo, grand cathed., vlt. ch. of San Francesco di Paola, monastery of San Martino, many museums and pub. instns., imp. shuffg. and manuf. subject to earthquakes (isl. of Ischia devastated 1883) and volcanic eruptns., *p.* 724,000 (of prov. 1,500,000).
- Napo**, *R.* of Ecuador (800 m.), trib. of R. Amazon.
- Napoleon**, *vil.* on Maumee R., Henry co., Ohio, U.S.A., *p.* 3,846.
- Nara**, *t.* Yamato prov., Nippon is., Japan, nr. Kioto, shrines and temples, colossal image of Buddha, *p.* 31,400, old cap. of Japan, when it had a *p.* of 200,000.
- Naralinga**, tr. *t.* in Dacca dist. Bengal, India, *p.* 23,120. [32,824]
- Narandera**, *t.* on Murrumbidgee R., N.S.W., *p.* 1,800,000; also R. betw. the Deccan and Hindustan, flowing (800 m.) from Rewa to the Arabian Sea.
- Narberth**, *t.* nr. Tenby, Pembrokesh., Wales, one of the Pembrokeshire Boroughs, *p.* 1,246.
- Narbonne**, *t.* dep. Aude, France, famous for honey; an imp. c. of the West Goth., captured by the Saracens in 719, and by the Franks in 759, *p.* 20,120.
- Nardo**, industri. *t.* nr. Gallipoli, prov. Lecce, Italy, *p.* 14,104, cotton manuf. [Adriatic.]
- Narenta**, *R.* of Herzegovina, flows (140 m.) to the Narev, *R.* of Poland and W. Russ., flows (200 m.) to R. Bug, nr. Warsaw.
- Nariad**, *t.* in Kavia dist., Bombay, India, nr. Athmarabadi; tr. centre, *p.* 20,400. [*p.* 13,000]
- Narni**, *t.* in Perugia prov. Umbria, Italy; cathedral, Narni, *t.* near Grosseto, Sicily, Italy; industri. *p.* 11,489.
- Narracan**, or Victoria, nr. Melbourne, *p.* (dist.) 5,140.
- Narragansett Bay**, inlet of the Atlantic, off coast of Rhode Isl., U.S.A., N. pier, on R. Isl., is a popular summer resort in Washington co., R. Isl.
- Narsingharh**, nat. st. Bhojpal Agcv., Centrl. India, area 625 sq. m., *p.* 117,560; N. *t.* *p.* 8,300 (declining); has some tr.
- Narsinghpur**, *dist.* Narmada div. Centrl. Provs., India, area 1,910 sq. m., mainly agr. *p.* 313,750 (declining); cap. N. *t.* on R. Singur, *p.* 10,225.
- Narva**, *t.* on R. Narova, Russ., founded in 1223 by the Danes; cathed., textile factories, *p.* 19,480.
- Narvayan**, *t.* in prov. S. Ilocos, Luzon, Philippine Isls., in fertile mtn. surrd. valley, good tr. and cotton manuf., *p.* 16,400.
- Naseby**, *vil.* 12 m. N. of Northampton, Eng.; at Naseby Field was fought the decisive battle of the Civil War in 1645, Cromwell and Fairfax defeating the Royalists.
- Nashua**, *c.* on the N. R., New Hampshire, U.S.A., cotton, paper and iron wks., *p.* 25,400.
- Nashville**, *c.* on the Cumberland R., Tennessee, U.S.A., cap. of the State; fine capitol and other pub. bldgs., gt. timber tr. and imp. manuf., universities and colleges, *p.* 110,428.
- Naslelak**, *t.* nr. Warsaw, Poland, industri., *p.* 6,930.
- Nasik**, *dist.* Deccan div., Bombay, India, area 5,940 sq. m., agr. and cotton weaving industries, *p.* 810,000; cap. N., *o.* on the Godavari R., a holy place of the Hindus, *p.* 25,100.
- Nasirabad**, *dist.* *c.* of Malhansingh dist. on the Brahmputra R., Bengal, India, *p.* 14,500; suffered severely by earthquake, 1897; also *t.* in Khandesh dist., Bombay, India, *p.* 10,834; also *t.* and cantonment Ajmere, Rajputana, India, *p.* 22,428.

- Naso**, *z.* nr. Messina, Sicily, industr., p. 10,120.
- Nassau**, *z.* on R. Lahn, nr. Wiesbaden, Pruss.; ruined castles; p. 1,840. Also name of a former Duchy of Germany, on the Rhine, now incorporated in Hesse-Nassau; also *z.* on N. Providence Isl., in the Bahamas; health resort; p. 12,500. The Nassau or Pogy Island (two) lie W. of Sumatra.
- Natal**, Brit. *col.* in S. Africa, betwn. the Indn. Oc. and the Drakenberg mtns. N.E. of Cape Col.; area (includg. Zululand and the Brit. Amatungaland Protectorate) 35,171 sq. m.; mtnous terraces, with a fertile semi-tropical cst. belt; p. over 1,101,000, only 54,000 of whom are Europeans. Cap. Pietermaritzburg; chf. port, Durban. Exports wool, coffee, ivory, sugar, hides, ostrich feathers, etc. Also name of a t. in Brazil, cap. Rio Grande do Norte; rubber and other exports; p. 69,800; also t. on cst. of Sumatra.
- Natanz**, *prov.* Persia, in hill country betwn. Kashan and Isfahan; famous for pears and other fruit. Cap. N., a large Highland vil. with old mosque; p. 3,864. [M.] in rich cotton-growing dist.; p. 13,500.
- Natchez**, c. Adams co., Mississippi, U.S.A., on R. **Natchawara**, *z.* in Udaipur dist., Rajputana, India; r. centre; p. 1,934. [and rubber factories; p. 9,843.]
- Natick**, *z.* in Middlesex co., U.S.A.; boots, shoes.
- Natore**, industr. town, Narad R., Rajshahi dist., Bengal, India; p. 9,865.
- Natural Bridge**, limestone *arch* (215 ft. high) crossg. sm. R. in Rockbridge co., Virginia, U.S.A., nr. Lexington.
- Naucratis**, anc. *c.* 10 m. W. of the Rosetta br. of R. Nile, nr. the mod. Egypt. vil. of Nebreh, midway betwn. Cairo and Alexandria; excavated by Flinders Petrie and Gardiner; many remains of temples found. [p. 9,862.]
- Nauen**, *z.* nr. Potsdam, Pruss.; Brandenburg *prov.*;
- Naugatuck**, industr. *z.* in New Haven co., Connecticut, U.S.A., on the N.R.; p. 11,480.
- Naubeim**, or **Bad Naubeim**, *vat. pl.* Gerny., on the Tanus Mtns., Hesse-Darmstadt; warm saline springs, overhung by the Johannesberg woods; fine Kurhaus; res. p. 4,860 (20,000 visitors annually).
- Naumburg**, mfg. *z.* on R. Saale, Pruss., Saxony; cathedr., annual Hussite feast, year is the wat. pl. of Kosen; p. 24,864.
- Nauplia**, or **Napoli di Romania**, fort. *z.* in the Morea, Greece, on B. of Nauplia; p. 4,865.
- Naushahra**, *z.* nr. Peshawar, Punjab, India; with cantonmt.; p. 13,146.
- Nave del Rey**, *z.* nr. Valladolid, Spain; p. 6,240.
- Navan**, mkt. *z.* on R. Boyne, co. Meath, Ireland; p. 3,854.
- Navarino**, or **Neocastro**, fort. *z.* Greece, on W. cst. Morea. Turkish-Egypt. fleet destroyed in the harbour by allied Eng., French, and Russians in 1827.
- Navarre**, *prov.* and old kingdom N. Spain, bounded by the Pyrénées; area 4,090 sq. m., p. 313,000. Wine-growing, timber, mtns. and agr. Cap. Pamplona.
- Nawasota**, *z.* in E. Texas, U.S.A., on the N.R.; p. 14,540.
- Nawabganj**, *z.* nr. Lucknow, Oudh, India; p. 14,540; administrative hqrs. of the Ban Banki dist. Also t. in the Paganas, Bengal, India, r. centre; p. 18,760.
- Nawanagar**, nat. st. in Kathiawar, Gujarat div., Bombay, India; area 3,393 sq. m.; p. 985,000. Cap. N., silk and gold embroidery; p. 50,860.
- Naxos**, or **Naxia**, *isl.* and *z.* of Greece, largest of the Cyclades, area 164 sq. m., famous for wine, p. 15,000 (of t. 1,680).
- Nazareth**, *z.* nr. Acre, Palestine, now called en-Nâsirâ, centre of missionary enterprise, p. 10,000 (6,200 Christians); also sml. industr. t. nr. Ghent, Belgium, p. 4,868. [Lopez.]
- Nazareth B.**, on Gaboon *est.*, W. Africa, N. of Cape Naze, *Tha.* C. on Skager Rack, S. Norway; also headland nr. Harwich, co. of Essex, Eng.
- Neagh, Lough**, *z.* in Ulster *prov.*, Ireland, largest in Brit. Isles (area 153 sq. m.), drains by R. Ban.
- Neamtzw.** *z.* in Roumania on R. N., nr. Piatra, ruined fort. and famous monastery, p. 9,120 (one-half Jews).
- Neath**, *z.* on R. N., Glamorgansh., Wales, nr. Swansea, one of the Swansea bors., copper, tin, and chemical wks., p. 17,590.
- Nebraska**, a central st. of the U.S.A., area, 76,855 sq. m., mainly prairie, p. 1,109,646; cap. Lincoln; ch. c. Omaha, on R. Missouri (*z.*); Nebraska City is also on R. Missouri, in the farm regn. of Otoe co., p. 7,564.
- Neches**, R. of Texas, U.S.A., flows (300 m.) to Sabine Neckar, R. rising betwn. the Swabian Alb, nr. Schwenningen, and the Blk. Forest, Gerny., and flowing 240 m. through Württemberg and Baden to the Rhine at Mannheim. [R. Rhine, p. 5,492.]
- Neckarau**, *vat.* nr. Mannheim, Baden, Gerny., on Nedenhas, an *arm.* of Norway, on Skager Rack, p. 76,421.
- Nedrigallov**, industr. *z.* nr. Kharkov, Russ., 7,893.
- Nedjed**, or **Nejd**, interior desert country of Arabia, mainly flat surface, inhabited by Wahabees.
- Needham Market**, *z.* on R. Cipping, Suffolk, Eng., p. 1,831.
- Needham**, mfg. *z.* nr. Boston, Mass., U.S.A., p. 6,148.
- Needles**, group of rocks jutting out at W. extrem. Isle of Wight, Eng.
- Neemuch**, or **Nimach**, *z.* in Gwalior st., Centl. India, on Rajputana border, Brit. military cantonmt., p. 24,109. [p. 62,410.]
- Ne-e-gata**, *c.* on W. cst. Hondo, Japan, open port.
- Neenah**, *z.* on Fox R., Winnebago co., Wisconsin, U.S.A., timber yds., flour and paper mills, summer resort, at foot of Winnebago Lake, 6,243.
- Negapatam**, *z.* at mth. of Vettar R., Tanjore dist., Madras, India, joined with the municipality of Nagore, ry. terminus, good shipping t. in rice, etc., p. 58,545.
- Negaunee**, *z.* nr. Green Bay C., Marquette co., Michigan, U.S.A., in hæmatite iron dist., p. 7,140.
- Negros**, one of the Philippine Isls. S. of Mindanao; length 120 m., width (near) 25 m.; p. (about) 200,000.
- Nehâvend**, fertile Persian *prov.*, cap. N., with old nil citadel, fine gdn., etc.; p. 5,100.
- Nelaton**, *z.* nr. Glasgow, Renfrewsh., Scotl., p. 2,680.
- Neisse**, *z.* of Germany (115 m.), trib. of R. Oder, sometimes called the Glatz Neisse. On its bank is the t. of Neisse; fine bldgs. and a sanatorium; p. 25,466.
- Neiva**, or **Nitza**, R. of Russia, E. of the Ural, trib. (300 m.) of R. Tura.
- Nellore**, *dist.* Madras Pres., India; area 8,765 sq. m.; cattle breeding, agr., and indigo growing; p. 1,500,000. Cap. N., t. on R. Pennar, p. 30,846.
- Nelson**, mfg. *z.* nr. Burnley, Lancs, Eng., p. 39,485; cotton is the staple. Also mth. t. of silver-mining dist., West Cootenay, Brit. Columbia, p. 6,600.
- Nelson**, or **N. of Keewatin**, Canada, carrying the water of L. Winnipeg to Hudson B.; length (with its great trib. the Saskatchewan) 1,450 m. Also provin. div. of S. Isl., New Zealand; area 10,468 sq. m.
- Nelsonville**, *z.* on Hocking R., Athens co., Ohio, U.S.A.; colliery region; p. 5,841. [p. 8,237.]
- Nemirov**, mfg. *z.* Podolsk gov., Russ., nr. Kamenetz.
- Nemours**, *z.* nr. Fontainebleau, Seine-et-Marne *prov.*, France, p. 4,587. Fine old ch. and castle, glass factories; p. 5,022.
- Near**, *R.* (70 m.), flows to the Wash. Lincolnsh., Eng.
- Neenagh**, mkt. *z.* co. Tipperary, Ireland, p. 5,218. [R.]
- Neosho**, R. Kansas, U.S.A., trib. (150 m.) of Arkansas.
- Nepal**, or **Nepaul**, indpt. *kingdom* S. Himalayas, N. of Brit. India and S. of Tibet; area 54,000 sq. m.; exports rice, tobacco, timber, ghee, etc.; p. (about) 4,000,000; cap. Kathmandu. [p. 4,628.]
- Nephil**, *z.* Utah, U.S.A., nr. Mt. Nebo and Silver City.
- Nephim**, *mtn.* in co. Mayo, Ireland, nr. Crossmolina, alt. 2,646 ft.
- Nérac**, *z.* nr. Agen, dep. Lot-et-Garonne, France; formerly an impr. Huguenot centre; p. 7,862.
- Nerbudda**. (See **Narbadâ**). [Russ., p. 6,238.]
- Nerchinsk**, *z.* on R. Nercha, Transbaikalia, Asiatic Nerja, coast *z.* nr. Malaga, Spain; industr.; p. 7,844.
- Nervi**, *vat.* nr. Genoa, Italy; sm. harbour, sheltered; lemons, figs, oranges, etc.; p. 3,140. [22 m. long.]
- Ness**, Loch, on Caledonian Canal, Inverness, Scotl.
- Neston and Parkgate**, *z.* Cheshire, Eng., on the estuary of R. Dee, p. 4,480. [tr.; p. 4,486.]
- Nesved**, *z.* on Præstøe Isl., Zealand, Denmark; good Neavish, *z.* nr. Minsk, Russ. industr.; p. 11,248.
- Netherlands**, or the Low Countries, designation formerly applied to Belgium and Holland, and now officially retained by the latter. *Kingdom* of W. Europe; area 12,648 sq. m., p. (nearly) 5,950,000.

Polit. cap. The Hague; comm. cap. Amsterdam. Country low-lying, intersected by dykes, fertile and productive; agr., butter and cheese-making, mkt. gardening, distilling, and various manufs.

Nethou, mtn. in Spain, Pyrenees, Maladetta group, alt. 11,770 ft.

Nesley, vcl. Hants, Eng.; Royal Military Hospital and Army Medical Sch.; ruined abbey.

Netze, R. of Pruss., trib. (140 m.) of R. Warta, rises in Poland.

Neubau, W. swb. of Vienna city, Austria, p. 78,589.

Neu Brandenburg, t. on Tollen See, Mecklenburg-Strelitz, Gerny.; grand-ducal seat of Belvedere, monuments to Bismarck and Fritz Reuter, p. 10,846.

Neuburg, t. on R. Danube, nr. Augsburg, Bavaria; fine old abbey ch., imperial hunting box, p. 8,133.

Neufahrwasser, t. on mth. of R. Vistula, W. Pruss., port of Danzig, p. 5,480. [p. 5,084.]

Neuchâteau, t. nr. R. Meuse, dep. Vosges, France, Neuchâtel, or Neuchâtel, one of the Swiss cantons, area 311 sq. m. (86 in. forest, 364 in. lake of Neuchâtel); agr., vineyard, asphalt mines; also watchmfg. industries, p. 132,000. Cap. N., t. on N.W. shore of lake; has watchmfg. sch., p. 27,286. Great chocolate factory at Serrières, a suburb of N. [nesia.]

Neu Hannover, t. of the Neu Pommern grp., Mela-Neubaus, t. nr. Tabor, Bohemia; industr., p. 9,740.

Neuhausen, swb. of Munich, Bavaria; resid., p. 10,400.

Neuilly-sur-Seine, swb. W. of Paris, France, betw. the Seine and the fortifications; fine bridge and castle, p. 38,694.

Neu Lauenburg, t. in Bismarck Arch., area 571 sq. m.; formerly known as Duke of York's Isl., Gern. possn.

Neu Mecklenburg, t. in Bismarck Arch., area 500 sq. m., Gern., formerly called New Ireland, [14,894.]

Neumünster, t. nr. Hamburg, Pruss.; cloth, mfg., p. 10,400.

Neunkirchen, or Neuenkirchen-am-Steinfeld, t. nr. Wiener-Neustadt, Lower Austria; textile and metal industries, p. 11,233.

Neu-Pommern, largest t. in Bismarck Arch., area 9,652 sq. m.; formerly known as New Britain.

Neuquen, terr. in the Argentine Republ., area 42,345 sq. m.; agr. and stock-rang., p. 17,000. [p. 17,142.]

Neurode, t. nr. Breslau, Silesia, Prussia; industr., p. 10,800.

Neu-Ruppin, t. on Lake Ruppin, nr. Berlin, Pruss.; educat. and industr., p. 18,500.

Neusalz, t. on R. Kupa, Silesia, Pruss.; enamellg. and paper-maché works, p. 12,400.

Neusandee, or Neu-Sandee, industr. t. in W. Galicia, Austria; ry. wk. shops, petroleum dist., p. 16,800, nearly all Polish. Also sand, adjoin., has a large annual fair, and cattle tr.

Neusatz, t. on R. Danube, opp. Peckwardein, S. Hungary; a royal free city, taken by the Austrians in 1849, and nearly destroyed; literary and comm. centre, p. 26,220. [Pamlico Sound.]

Neuse, R., N. Carolina, U.S.A. flows (300 m.) to Neustadt, t. nr. Vienna, Lower Austria; manuf., p. 26,489; also t. subn. to Mavagrad, Pruss. Saxony, p. 25,423; Neustadt for Prinduk, t. nr. Oppeln, Pruss., battles 1745, 1760, and 1779, p. 18,421; Neustadt-an-der-Hardt, t. nr. Landau, Rhenish Bavaria, furniture, sewing-mchne. factories, etc., p. 14,780; Neustadt an der Orla, t. nr. Weimar, Gerny., p. 6,147; Neustadt Eberswalde, t. nr. Berlin, Gerny., p. 14,786. [p. 9,238.]

Neustettin, t. nr. Coslin, Pomerania, Pruss.; manuf.; Neustrelitz, cap. Mecklenburg-Strelitz, Gerny., nr. Altrelitz, the old cap., p. 11,984; has grand-ducal residence. [mchy. manuf., p. 12,004.]

Neuttscheitz, t. in Moravia, Austria; 827 imp. and Neutra, R. Hungary, trib. (100 m.) of R. Waag; also t. on R. Neutra, same name, cap. of N., p. 14,140, cathedl. [industri., p. 8,119.]

Neu Ulm, t. on R. Danube, Bavaria, opp. Ulm; Newried, t. in Rhine prov., Pruss., nr. Coblenz; cap. of the mediatised countships of Wied; noted for its schools and establishments. of the Moravian Brethren; p. 11,840.

Neva, R. Russ., gov. St. Petersburg (40 m.) flows past the cap. from L. Ladoga to G. of Finland.

Nevada, Pacific st. of U.S.A., betw. Utah and Oregon and Idaho, and bounded S. and W. by Cali-

fornia, area 110,700 sq. m.; arid, but rich in minerals, partic. gold and silver, though the products of both is greatly diminishing; p. 82,000 (declining); cap. Carson C. Also N. C. of Missouri, U.S.A.; cap. Vernon co.; zinc mining and smelting; p. 7,500.

Nevre, t. in Russ. Poland, nr. Vitebsk; manuf.; p. 8,981.

Nevres, t. on R. Loire, cap. Nivèze dep., France; the Roman Noviodunum; porcelain and falence industry; cathedl., p. 25,623. [govt. Perm. Russ., p. 17,480.]

Neviansk-Zavod, t. in iron and gold reg. Ural Mtns., Nevill's Cross, nr. Durlam, Eng.; here the English defeated the Scots in 1346.

Nevin, t. and fishing pt. on Carnarvon B., N. Wales, nr. Pwllhel; one of the Carnarvon bors.; p. 2,009.

Nevlis, loc., arm of sea off cst. of Inverness-sh., Scot., 14 m. long; also Brit. Isl., Leward grp., W. Indies, area 50 sq. m., sugar export, p. 15,500, cap. St. Christopher.

New Albany, t. on Ohio R., Floyd co., Indiana, U.S.A., opp. Louisville, Kentucky; glass, iron, and steel manuf.; p. 20,750. [23,560.]

New Amstel, mfg. t. nr. Amsterdam, Holland, p. New Amsterdam, t. in Brit. Guiana, on Berbice R.

Newark, mkt. t. on R. Trent, Notts, Eng.; brewg., iron wks., etc., p. 16,412; also C. Essex co., New Jersey, U.S.A.; many flouring, manuf., p. 347,469; also C. on Lucking R., L. C. Ohio, U.S.A.; ry. car. wks. and varied manuf.; p. 25,404. [3,510.]

Newbattle, far on S. Esk R., nr. Dalkeith, Scotl., p. New Bedford, C. and pt. on est. of Acushnet, Buzzard's B., Mass., U.S.A., nr. Boston, formly. whale fishy. centre, p. 96,652.

New Berne, pt. of entry on R. Neuse, N. Carolina, U.S.A.; tr. in timber, tobacco, cotton, etc., p. 9,560.

Newberry, vcl. N. C., S. Carolina, U.S.A., p. 4,124.

Newbiggen-by-the-Sea, cst. wat. pt. nr. Morpeth, Northumberland, Eng., p. 3,406.

Newbold and Dunston, mng. t. nr. Chesterfield, Derbys, Eng., p. 6,344. [Eng., p. 4,826.]

Newbottle, t. ading. Houghton-le-Spring, Durham, Newbridge, t. on R. Loddon, C. Gladstone, Victoria, p. (dist.) 2,982; also t. on R. Liffey, C. Kildare, Ireland; p. 3,340.

New Brighton, t. and wat. pt. nr. Birkenhead, Ches., Eng., p. 5,848; also a bor. of New York C., U.S.A., on Staten Isl.; warehouses and factories; p. 24,008; also bor. on Beaver R., Beaver co., Penn., U.S.A., m. colly. dist., p. 7,340.

New Britain, C. Hartford co., Connecticut, U.S.A.; iron and brass manuf.; p. 43,916. [See also New Pommern.]

New Brunswick, prov. Dominion of Canada; area 27,911 sq. m., largely forest-clad, extremes of cold and heat, traversed by mountains, with many lakes, fishg., hunting, agr., manuf.; p. 351,815; cap. Fredericton (1917). Also C. New Jersey, U.S.A., on Rantau R.; india-rubber and leather factories; p. 23,388.

Newburg, t. on R. Hudson, Orange co., New York, U.S.A.; clothg. and mchy. manuf.; p. 27,805.

Newburgh, t. on R. Tay, Fifesh., Scotl., nr. Perth, p. 1,977. [(par.) 4,378.]

Newburn, vcl. on R. Tyne, nr. Newcastle, Eng., p. Newbury, mkt. t. on R. Kennet, Berks, Eng.; impt. wool mkt.; p. 10,759; also vcl. on Connecticut R., Orange co., Vermont, U.S.A., p. 3,122.

Newburyport, C. and port on R. Merrimac, Essex co., Mass., U.S.A.; boot and shoe factories, commerce and fisheries; p. 14,500.

New Caledonia, French t. of Australasia, S. Pacific Oc.; area 8,100 sq. m., cap. Noumea; p. (of isl.) 53,000 (includg. natives, officials, military, convict guards, and prisoners); chf. French penal settlement.

New Canaan, t. in Fairfield co., Connecticut, U.S.A., p. 3,249.

New Castle, former prov. Spain, now divided over Madrid, Ciudad Real, Cuenca, Guadalajara, and Toledo

Newcastle, t. nr. mth. of Great Fish R., C. Col., Brit. S. Africa; also t. N. of Drackenburgh dist., Natal; also on R. Avon, nr. Perth, W. Australia; also port in Durham co., Ontario, Can., nr. Toronto; also C. in Lawrence co., Penn., U.S.A., on Shenango R.,

colly. dist., p. 40,100; also c. at mth. of R. Hunter, N.S.W., coal regn., p. (with subs.) 55,000; also mkt. t. in co. Limerick, Ireland, p. 2,120.

Newcastle, or Miramichi, N.Y. New Brunswick, cap. of N. co., on M. R., gd. tr., p. 5,394. [p. 924.]

Newcastle Emlyn, or R. G. Cardigan, Wales. **Newcastle-under-Lyme, Staffordsh., Eng.**, or **Lyme Brook**; breweries, paper mfg., etc.; p. 50,504.

Newcastle-upon-Tyne, c. and N. Northumberland, Eng., connected by bridges with bor. of Gateshead, Durham; great shipbuilding and colliery port; cathedral, many fine pub. bldgs., flourishing chemical and many other manufacs. p. 266,071. [Water, p. 1,204.]

Newcastleton, par. in Roxburgh co., Scotl., on Liddel **Newchang, or New Chwang, treaty pt.** at head of G. of Pechili, Manchuria, China; exports, beans, silk, etc.; p. (est.) 60,000. Occupied by Japan in 1895, but retroceded subsequently under pressure of Russia and France.

Newchurch-in-Rosedale, mfg. t. in Lancash., Eng., nr. Bacup, p. 6,842. [burgh, Scotl., p. 2,142.]

New Craighall, mining vt. nr. Musselburgh, Edin-New Cumberland, t. W. Virginia, U.S.A., on the R. Ohio, nr. Pittsburg, p. 4,833. [p. 1,481.]

New Cumnock, vil. on R. Nith, Ayrsh., Scotl., **New Decatur, t. Alabama, U.S.A.**, t. S. of Decatur, on R. Tennessee, p. 5,555. [Nile, t. in Egypt, p. 1,000.]

New Dongola, or Maraka, t. t. in Nubia, on R. New England, past. dist. in N.E. of N.S.W., traversed by New Eng. mtn. range, area 13,000 sq. m.; the New Eng. States of the U.S.A. are Maine, New Hampshire, Vermont, Mass., Connecticut, and Rhode Isl., forming collectively part of the North Virginia grant of James I. to the Plymouth Company in 1606.

Newent, mkt. t. in Gloucestersh., Eng., p. 2,194.

New Forest, woodland regn. (area 95,000 acres) in S.W. Hants, Eng. Lyndhurst is the forest cap., and Brockenhurst and Beaulieu (with ruined abbey) are villages within the demesne. William Rufus and another son of the Conqueror, Richard, both met with violent deaths in the forest appropriated by their father.

Newfoundland, Brit. isl. col. N. America, E. of the G. of St. Lawrence, area 42,734 sq. m.; is the oldest Brit. col., p. (including that part of Labrador over which Newfoundland has jurisdiction) 222,619; cod and lobster fishery and sealing are the chief industries, but agr. and mining are being extensively developed; the climate is severe; cap. St. John's (p. v.).

New Glasgow, sp. Nova Scotia, nr. Pictou, p. 3,124.

New Granada, former name of the United S. of Colombia, S. America (p. v.).

New Guinea, or Papua, largest isl. in world (except Australia), lies N. of Australia and S. of the Equator, area 234,768 sq. m. Portion W. of 142° is a Dutch possn., the S.E. expanse forming Brit. New Guinea, and the N.E. Kaiser Wilhelm's Land, or German N. Guinea; the inhabitants are mainly the aboriginal Papuans and immigrants or descendants of immigrants of Melanesian race, probably abt. 600,000 in all, with only some 700 or 800 whites in all, inclg. missionaries, traders, and officials. The resources of the isl. are as yet undeveloped, though there is doubtless much mineral wealth waitg exploitatn., and considerable cultural possibilities. [p. (dist.) 3,120.]

Newham, t. in co.'s Bourke and Dalhousie, Victoria, New Hampshire, a st. of the New Eng. grp., U.S.A., touching the Canadian border, area 9,325 sq. m.; agr. and fruit-growing extensively pursued, but the bulk of the inhabs. are concerned in various manuf. and commerce; p. 430,000, cap. Concord, c. spt. Portsmouth, princ. mfg. centre Manchester (p. v.).

New Hartford, c. Connecticut, U.S.A., on the Farmington R., Hartford co., p. 5,040.

New Haven, c. and pt. of Connecticut, U.S.A., on New Haven Harbr., inlet of Long Isl. Sound, seat of Yale Univrsy., and of many flourishg. manufs., p. 133,505.

Newhaven, sp. at mth. of R. Ouse, Sussex, Eng., the passenger pt. for Dieppe, p. 6,665; also fishing t. on F. of Forth, Edinburgh, Scotl., p. 4,754.

New Hebrides, French isl. grp. in S. Pacific, N. of New Caledonia, total area 5,135 sq. m.

New Holland, ferry and ry. stn. on R. Humber, Lincolnsh., Eng., opp. Hull.

New Iberia, t. in Ibera co., Louisiana, U.S.A.; sugar, cotton and rice growg., timber tr., p. 9,120.

Newington, bor. of London, Eng., S. of Southwark; industri. and residnt., p. 116,819.

New Ireland, (See New Mecklenburg.)

New Jersey, Atlantic St. U.S.A., adjoing. New York, area 8,242 sq. m.; manuf. and agr., p. over 2,600,000, cap. Trenton, ch. cities Newark and Jersey City (p. v.).

New Lambton, colly. dist. N.S.W., sub. to Newcastle, co. Northumberland, p. 2,120.

New Lebanon, t. New York, U.S.A., nr. Albany, in Columbia co.; contains Lebanon Springs, p. 3,864. [4,149.]

New Lisbon, vil. nr. Pittsburg, Ohio, U.S.A., p. New Liverpool, vil. on R. St. Lawrence, Levis co., Quebec, Can., p. 2,025.

New London, c. on R. Thames, Connecticut, U.S.A.; fine harbr., varsity boat races on r., silk and woolen factories, p. 20,814.

Newlyn, picturesque cst. vil. Mounts Bay, Cornwall, Eng., p. 3,156.

Newmains, t. nr. Wishaw, Lanarksh., Scotl., p. 2,843.

New Malden, mkt. t. nr. Kingstons, Surrey, Eng., p. 3,850.

Newmarket, t. and racing centre, Cambridgesh., Eng., finest heath, p. 19,865; also t. in York co., Ontario, Can., p. 2,865.

New Mexico, terr. of U.S.A., N. of the Mexican Repub. and S. of Colorado st., area 122,580 sq. m., traversed by the Rocky Mtns., p. 327,301, chiefly of Mexican descent; mineral, horticult., and agr. industries flourish, and stock-raising also; cap. Santa Fé.

New Mills, industri. t. Derhysh, Eng., p. 8,990.

Newmills, mfg. (muslin and lace curtains) t. nr. Kilmarnock, Ayrsh., Scotl., p. 4,806. [p. 1,510.]

Newnham, t. on R. Severn, Gloucestersh., Eng.

New Norfolk, t. Tasmania, nr. Hobart, fruit-growng. p. (dist.) 5,147.

New Orleans, c. and pt. on R. Mississippi, cap. of Louisiana, U.S.A., the great cotton mart of America and a busy comm. and mfg. centre, p. 345,564.

New Philadelphia, c. on Tuscarawas R., Ohio, U.S.A., mpt. ry. and canal centre, p. 7,948.

New Plymouth, sp. on W. coast N. Isl., New Zealand, cap. Taranaki dist., p. 4,872.

Newport, c. Campbell co., Kentucky, U.S.A., on Ohio R., a residt. sub. of Cincinnati, with mpt. local industr., p. 30,500; also c. Rhode Isl., U.S.A., on Narragansett R., fashionable seaside rest., perm. p. 27,420.

Newport, Isle of Wight, bor. and cap. of isl. on Meihna R. (includ. in co. Hants), Eng., p. 11,155.

Newport, Mon. t. on R. Usk, co. M., Eng., slipbldg. and manuf.; also consid. shipping tr., p. 83,700.

Newport News, c. and sp. on Chesapeake B., Virginia, U.S.A., shipbldg., various manuf., large tr., p. 28,420.

Newport-on-Tay, burgh co. Fife, Scotl., opp. Dundee, p. 5,643.

Newport Pagnell, mkt. t. Bucks, Eng., p. 4,239.

Newport (Salop), mkt. t. Shropsh.; Eng., 11 m. S.W. Sta ford, p. 2,250. [17 m. long, cap. Nassau (p. v).]

New Providence, isl. of the Bahama grp., W. Indies, Newquay, wat. pt. on cst. of Cornwall, Eng., 14 N. of Trum, p. 4,415.

New Quay, cst. t. nr. Abernorr, Cardigansh., Wales, New Richmond, t. in Ohio, U.S.A., on O. R., 20 m. from Cincinnati, p. 2,162. [Islington, London, Eng.]

New River, artificial aqueduct, 36 m. long, Herts. to New Rochelle, c. Westchester co., New York, U.S.A., on Long Isl. Sound, residt., p. 28,807.

New Romney, t. nr. Hythe, Kent, Eng.; one of the Cinque Ports, p. 1,333. [p. 5,072.]

New Ross, mkt. t. on R. Barrow, co. Wexford, Ireland, p. 1,1958.

New Siberia, arch. off the Arctic cst. of Siberia; area 10,000 sq. m., climate very severe.

New South Wales, oldest st. of Australian Commonwealth, betwn. the Pacific cst. and S. Austrlia, havng. Queensland on the N. and Victoria on the S.; area, 311,098 sq. m., p. 1,648,222; fertile cst. dists.,

pastoral and agr., much minl. wealth in the table lands and mountainous expanses. cap. Sydney (q.v.).
Newstead, *t.* in Victoria, 80 m. N.W. of Melbourne;
Newstead Priory, Notts, Eng., nr. Mansfield, once the home of Lord Byron, the poet.
Newstraitville, *v.t.* Perry co., Ohio, U.S.A., p. 3,464.
Newton, mfg. *t.* on Charles R., Middlesex co., Mass., U.S.A., p. 32,200; also *c.* in agr. dist. Harvey co., Kansas, U.S.A., p. 7,428; also *c.* in Jasper co., Iowa, U.S.A., p. 4,894; also *t.* in New Jersey, U.S.A., cap. Sussex co., p. 4,192. [*p.* (dist.) 12,712.]
Newton Abbot, mkt. *t.* on R. Teign, Devon, Eng.,
Newton Heath, industr. *dist.* N.E. Manchester, Lancash., Eng., p. 41,177.
Newton-in-Makerfield, or **Newton-le-Willows**, mfg. *t.* 15 m. E. of Liverpool, Lancs., Eng., p. 18,462.
Newtonmore, *par.* Inverness-sh., Scotl., on R. Spey, Newton-Stewart, *burgh* on R. Cree, Wigtownsh., Scotl., p. 2,061.
Newton-upon-Ayr, *t.* subn. to Ayr, Scotl., p. 6,814.
Newtown, mkt. *t.* on R. Severn, Montgomerysh., Wales, p. 5,929; also S.W. sub. Sydney, N.S.W., p. 28,010; also *t.* nr. Hobart, Tasmania, p. 1,948.
Newtownards, mkt. and industr. *t.* co. Down, Ireland, nr. Belfast, p. 9,340. [*Ireland*, p. 1,010.]
Newtown Stewart, mkt. *t.* on R. Mourne, co. Tyrone, New Ulm, *c.* in Brown co., Minnesota, U.S.A., founded 1854, destroyed by Indus. 1862, since rebuilt.
New Westminster, *t.* on Fraser R., Brit. Columbia; former cap. of col., p. 14,000.
New Whataboom, *c.* on Hellingham B., Puget Sound, Washington, U.S.A.; saw-mills, timber tr., p. 8,211.
New York, one of original States, U.S.A., touching Canada on the N., and reaching the Atlantic on the S., with Niagara and L. Erie on the W., and Connecticut, Mass., and Vermont on the E.; including Long Isl. and Staten Isl., the "Empire State," as it is sometimes styled. New York has a total land area of 47,600 sq. m., and a p. exceeding 9,500,000, being at once the most populous and industrially import. of the States; its soil is fertile and varied in character, and there are many L's and R's, while the Adirondack and Catskill mtns. furnish extensive upland regions; Albany is the State cap. (q.v.).
New York C., largest *c.* in N.Y. State and the Western Hemisphere. commerc. metrop. of the U.S.A.; originally founded L. Dutch Settlers at New Amster dam at the S. extremity of Manhattan Isl. (q.v.), it has grown to embrace a total official area of 395 sq. m., with a p. at the census of 1910, of nearly 4,800,000; connected by bridge over the East R. with Brooklyn; that city was included in the consolidatn. of 1898 of New York, while the gt. communities in New Jersey State of Jersey City, Hoboken, Newark, &c., politically belong to the gigantic commercial aggregatn. of the American business cap., so that over 1,000,000 more persons than those comprised in the New York census retin. referred to lived just across the Hudson R. and within 10 m. of the City Hall; the bridge and pub. instns. of New York are on a fitting scale with its colossal importance.
New Zealand, Brit. Colonial *dist.* *grp.* in the S. Pacific E. of S.-E. Australia and Tasmania, just over 1,200 m. from Sydney, N.S.W.; it consists of the two main isls. N. and S. (collective area 102,993 sq. m.), Stewart Isl. (621 sq. m.), the Aucklands, and some sm. islets to the S. with the Kermadecs on the N., giving in all an area of 104,471 sq. m.; the isls. are mountainous (with active volcanoes), and contain numerous L's, thermal springs, and groves; the scenery being as diverse as beautiful, and the climate generally healthy; p. 1,021,066 (exclusive of 46,500 Maories); cap. Wellington (wh. wh. t. Auckland, Christchurch and Dunedin (all of wh. see) have larger p.; chr. exports, wool, grain, flour, meat (refrigerated and preserved), leather, &c. Nozla, Nexhin, or Nejin, industr. *t.* on R. Oster, in the Russ. govt. of Tchernigov; formerly of consid. commerc. importco., p. 46,840.
Ngami, reedy *swamp* in Brit. S. Centl. Africa, formerly a L., 30 m. long, 3,700 ft. above sea; discovd. (1849) by Dr. Livingstone.
Ngan-Hoet, inland *prov.* China, along the lower Yangtze-Kiang R.; area 24,000 sq. m., p. 20,000,000; cap. Ngan-King, in green tea growing dist.

Nha-Trang, *cap.* on est. of Cochinchina, sometimes called Khanh-hoa; fine harbour, p. 6,146.
Nhill, *t.* Victoria, Lowan co., in farming dist., p. 3,404.
Niagara, R. forming part of bdy. between Can. and U.S.A.; flows 35 m. from L. Erie to L. Ontario; has rapids and the famous falls (167 ft.). Niagara falls is the name of a town on the Ontario bank of N. R. opp. the cataract; two wonderful bridges, p. 4,426; also *c.* on American side of the R., extendg. along the summit of cliff for 3 miles, p. 30,445.
Niamtso, *t.* in Moldavia, Roumania, p. (industr.) 6,230.
Nias, *isl.* (Dutch) W. of Sumatra, 95 m. long.
Nicaragua, Centl. Amer. republ. S. of Honduras, reaching from Pacific to Caribbean S. on the Atlantic; area 49,000 sq. m., p. 600,000; produce: coffee, bananas, india-rubber, sugar, timber; cattle-rearing is pursued extensively, and there is some mineral wealth. Managua is the cap. (Leon the largest *c.*) the old cap. L. Nicaragua (in the S. part of the republ.) is 92 m. long by 42 m. wide at the broadest; point and drains by the San Juan R. to the Caribbean S. The great scheme of utilising the waterway of the L. and R. in the formatn. of a canal uniting the two oceans first received constructive attention *v.* 1889. [Apennines, p. 15,110.]
Nicastro, mfg. *t.* in Catanzaro prov. Italy, W. of the Nice, spr. *c.* and Riviera, health rest. on the Mediterranean; France at the foot of the Alps; beautiful climate and surroundings, joins the ancient t. of Cimiez. Ceded to France in 1860 by Sardinia; fruit and flower exports, perfume manuf., p. 141,624.
Nicobar Isls., Brit. *grp.* in Bay of Bengal, between the Andamans and Sumatra; total area 635 sq. m. p. 6,800.
Nicopoli, fort. *t.* on R. Danube, Bulgaria; Turkish fleet destroyed here 1829, *t.* captured by Russians. 1877, p. 5,468.
Nicosia, *v.t.* prov. Catania; mfg. *p.* 16,110; also name of cap. of Cyprus (formerly called Lefkosia, and more anciently Ledia); fortified, mosques, hand wavg. in silk and cotton; p. 15,000 (about two-fifths Moslems). [*p.* 7,827.]
Nicotera, *sp.* nr. Reggio, Calabria, Italy; gd. tr.
Nicoya, *t.* on penin., of N., N. Bay, Costa Rica, Pacific est., p. 11,200. [Pruss., p. 5,976.]
Niederrad, *t.* (industr.) nr. Frankfurt-on-the-Maine.
Niederwald, *hill* opp. Bingen-on-the-Rhine, Pruss., a spur of the Taunus, nat. monument commemorating German triumph over France, 1870-1871, and the formatn. of the G. Empire.
Nelder Wesel, or **Nelzel**, fort. *t.* below Düsseldorf, on R. Rhine, Pruss., p. 22,485.
Niemen, or **Memel**, R. of E. Pruss. and Russ., 1 in R. govt. of Minsk and flowg. 500 m. to the Kurisches Haff, 30 m. N.E. Königsberg.
Niemes, *t.* nr. Buntzlau, Bohemia, on R. Polzer; cloth, linen, bentwood furniture, and vinegar manuf. p. 5,840.
Nienburg, *t.* on R. Weser, nr. Hanover, Pruss.; Nieskine; mfg. *t.* Chermikov govt., Russ.; p. 51,282.
Nieuwpoort, fort. *t.* nr. Ostend, Belgium, p. 3,320.
Nieuwpoort, fort. *t.* nr. Rotterdam, Holland, p. 4,126.
Neluwveld, mtn. *range* nr. Roggeveld, Cape Col., Brit. S. Africa; highest pt. 7,300 ft.
Nievre, centl. *dep.* France; traversed by Morvan Mtns.; area 2,659 sq. m., agr., grape growing, minerals; p. (decreasg.) 319,500; cap. Nevers (q.v.).
Nigdeh, *t.* in Asia Minor, Konia, vilayet; many beautiful bldgs.; p. 20,000.
Niger, *g.* in West Africa; rises nr. the sea in the outer mtn. zone of W. A.f. as the R. Tembi and sweeps round by Timbuktu to a delta in the G. of Guinea on a circuitous course of 2,600 m., receivg. its gt. trib., the R. Benue, abt. 250 m. from its mouth.
Nigeria, Brit. *Protectorate* in W. Africa occupying the lower basin of R. Niger, with the regn. adjoing. up to Lake Chad; divided administratively into N. and S. Nigeria; total area over 300,000 sq. m., p. (est.) 25,000,000; chiefly Hausa, indus. and gd. traders. Cap. Wurnu; former cap. Sokoto; ch. *t.* Kano, the gt. emporium for the Central Soudan, with a daily mkt. attendance of 30,000.
Nigata.—(See Nee-e-gata).

- Nijar**, *z.* in Almería prov., Spain, in fertile fruit, nuts, and grain growg. dist.; manuf. fine porcelain; p. 13,146. [industri. p. 7,647.]
- Nijkerk**, *z.* nr. Arnhem, Gelderland, Holland.
- Nijni-Novgorod**, *prov.* of Middle Russia, intersected by R.'s Volga and Oka; area 19,797 sq. m. Soil chiefly black earth; agr., shipping, minerals, manufactures, p. abt. 2 miles. Cap. N.-N. *z.* at conf. of R.'s V. and O., gr. commercial centre p. 100,000 (more than double at the famous annual fair). Merchandise to the value of 25,000,000 sterling has been sold at one fair; but the railways are causing its decline.
- Nizhnevolzhsk**, *z.* in the Ural range, govt. Perm, Russ.; thriving indust.; p. 51,000.
- Nikolskaya**, *z.* on R. Amur, Primorsk govt., Asiatic Russ.; p. 6,290.
- Nikolaiev**, fort. *z.* nr. Kherson, at hd. of est. R. Bugg; Russ.; chf. port of the Russian Black Sea fleet; admiralty yards and mchy. works; p. 110,246.
- Nikolsburg**, or **Nikulow**, *z.* at foot of Polau mtns., S. Moravia; grape growg. and cloth manuf.; p. 8,000. [govt., Russia; p. 10,824.]
- Nikopol**, industri. *z.* on R. Dnieper, Yekaterinoslav
- Nismabur**, *z.* in Madras Pres., Brit. India; imp. tr.; p. 12,400.
- Nile**, the longest R. in Africa (see Bah-el-Ablad—White Nile—and Bah-el-Azrek—Blue Nile) flows through a longer stretch of basin (over 2,450 m. in a direct line) than any other R. in the world, and along all its windings measures over 4,000 m., falling short only of the extent claimed for the Mississippi. (See also under Atbara.)
- Niles**, *c.* and *rv.* centre Trumble co., Ohio, U.S.A., on the Mahoning R.; p. 9,084; also *c.* Berrien co., Michigan, U.S.A., on St. Joseph R.; industri. p. 6,249.
- Ningdi**, sm. nat. st. Orissa, India, nr. est. of B. of Bengal; p. 50,300.
- Ningdi Hills**, Neelgherries, or Blue Mountains: range in Madras, S. India (alt. 6,500 ft.) giving name to sm. dist. of the Presidency; area 957 sq. m., p. 118,400. Coffee, tea, and cinchona grown; cap. Utakanand.
- Nimach**, *c.* Gwalior, Cent. India. (See Neemuch.)
- Nimar**, *dist.* Narbada div., Centl. Prov., Brit. India, area 3,357 sq. m., p. 345,268; admin. hdqrs., Khandwa, with cotton factories. [p. 5,894.]
- Nimburg**, *z.* on R. Elbe, Bohemia, nr. Prague, industri.
- Nimeguen**, fort'd *z.* on R. Waal, nr. Arnhem, Holland, mfg. ale, Pruss. blue, pottery, cigars; woods and beautiful scenery, p. 44,000.
- Nîmes**, or **Nismes**, *z.* in Gard dep., France, Roman antiquities, educat. instns., silk manuf., wine trade, p. 82,120.
- Nineveh**, celebrated *c.* of Assyria, stood on the E. bank of the upper R. Tigris, opp. the mod. Mosul.
- Ning Po**, treaty pt. in Chekiang prov., China, 100 m. from Shanghai, prin. expts., cotton and tea, p. 255,000.
- Ninove**, *z.* on R. Dender, nr. Ghent, Belgium, industri., p. 7,146. [sq. m., p. 2,849.]
- Nio**, Greek *isl.* nr. Naxos, in the Cyclades, area 20 Niohara, R. trib. of R. Missouri, flows 450 m. from Wyoming to Nebraska, U.S.A.
- Nior**, *z.* dep. Deux-Lèvres, France, noted for its onions and glove manuf., p. 21,146. [sq. m., p. 10,460.]
- Nipand**, *z.* in Belgium dist., Bombay Pres., India, p. 11,000.
- Nippon**, or **Nipon**, native name of Japan, applied often (but wrongly) to Hondo, the princ. isl. of the Mikado's Empire.
- Nipigon**, *z.* in Thunder Bay dist., Ontario, Can. (70 m. long, 30 m. wide, 1,000 isls.), discharges by N. R. (30 m. long) to Lake Superior.
- Nipissing**, *z.* Ontario, Can., midway betwn. Ottawa and R. L. Huron, 50 m. long, 35 m. wide.
- Nippes**, *z.* in Pruss., sublv. to Cologne, p. 5,846.
- Niscemi**, *z.* nr. Caltanissetta, Sicily, industri., p. 13,463.
- Nisch**, or **Nish**, *z.* on R. Nishava, Servia, prosperous and picturesquely situated, p. 22,300.
- Nishapur**, *prov.* N. Khorassan, Persia, grows grain and cotton, and contains famous turquoise mines, p. 140,000; cap. N., *c.* with gd. fruit tr., p. 15,000; mosque with tomb of Omar Khayyâm.
- Nisser Vind**, *z.* Norway (30 m. long) drained to Skager Rack.
- Nith**, R. of S.W. Scotl. (71 m.), flows to Solway F., S. of Dumfries; Nithsdale is a beautiful valley along R. bank.
- Niue-Fekal**, or **Savage Isl.**, coral reef (14 m. long, 10 m. wide) in S. Pacific, under Brit. protectn., grows cocoa-nuts, yams, and bananas, p. 4,950.
- Nituchang**, *z.* Manchuria. (See Newchang.)
- Nivales**, *z.* in Brabant prov., Belgium, rlyw. work-shops, veg. pchmt. manuf., p. 12,120.
- Nivernais**, old *prov.* of France, now forming Nièvre prov. and part of Cher.
- Nixdorf**, industri. *z.* nr. Leitmeritz, Bohemia, p. 7,133.
- Nizampatam**, *z.* and *sp.* Ktina dist., Madras, India, Nizam's Dominions. (See Haidarabad.) [p. 4,860.]
- Nizhni Novgorod**. (See Nijni-Novgorod.) [p. 7,120.]
- Nizza Monferrato**, industri. *z.* nr. Alessandria, Italy, Noakhali, *dist.* Chittagong div., Bengal, India; area 1,645 sq. m., grows rice and areca-nuts; p. 1,590,000; cap. N. (or Sudharam), t. p. 5,500.
- Noale**, *z.* nr. Padua, Italy; industri.; p. 5,170.
- Noblesville**, *z.* Hamilton co., Indiana, U.S.A., p. 5,180.
- Nocera Inferiore**, *z.* nr. Naples, prov. Salerno, Italy, the anc. Nucera Alfaterna, p. 16,880; Nocera Umbria, cathedral *c.* Perugia prov., Italy, anc. Nucera Castellaria, p. 7,149.
- Noel**, industri. *z.* prov. Bari, Italy, p. 11,456.
- Nogent-le-Rotrou**, *z.* on R. Huise, Eure-et-Loire dep., France; castle, p. 8,094. Nogent-sur-Marne, vil. suburban to Paris, 3 m. E. of the fortifications, p. 10,140. Nogent-sur-Seine, *z.* nr. Troyes, dep. Aube, France, p. 4,328.
- Noia**, or **Noja**, industri. *z.* in prov. Bari, Italy; p. 8,137.
- Nola**, *z.* nr. Naples, prov. Caserta, Italy; was an anc. *c.* of Campania, noted for its vases, taken by the Romans 319 B.C.; p. 14,495.
- No Man's Land**, former name of Grijpaland E. (p.v.); also sm. isl. 3 m. S.W. of Martha's Vineyard, Mass., U.S.A.
- Nombre-de-Dios**, *z.* nr. Durango, Mexico, U.S.A.; good tr.; p. 6,424.
- Nordia**, *z.* prov. Perugia, Umbria, Italy; old walls, cathedral; famous for pork and terra cotta; p. 5,808.
- Nord**, N. dep. France, on Belgian frontier and N. Sea, area 2,292 sq. m., (increasing) 1,901,560; agr., flourishg., mining and textile manuf., cap. Lille (p.v.).
- Nord Cap**, or **North Cape**, most N. point Europe, on isl. Marøer, Norway.
- Norden**, W. *sub.* (nifig.) Rochdale, Lancs, Eng.; p. 6,238; also t. Hanover, Pruss., nr. Emden and the N. Sea; gin distilling, yeast factory; p. 7,500. The port of Norden is Norddeich, 4 m. N.W.
- Norderney**, one of the Frisian Isls., Hanover, pop. German seaside resort, p. 4,480; 25,000 summer visitors annually. [manuf., cathedral, p. 98,406.]
- Nordhausen**, *z.* in Hartz Mtns., Saxony; chemical
- Nordheim**, *z.* nr. Göttingen, Hanover; industri.; p. 7,124. [Norway, opp. North Cape]
- Nordkyn**, most N. point of the European mainland,
- Nordland**, or **Norrland**, territorial *dist.* of Norway, comprising the Lofoden Isls. (p.v.).
- Nördlingen**, *z.* nr. Nuremberg, Bavaria, nr. R. Eger; former imperial *c.* carpet factories; p. 8,429.
- Nore**, *the anchorage* Thames estuary, Eng.; also R. 1st. trib. (70 m.) of R. Barrow.
- Norfolk**, *est. co.* E. England; mostly flat and marshy, with shallow lake expanses known as the Broads; area 2,119 sq. m., p. 400,049. Industries chfy. agr.; with extensive fisheries from Yarmouth. Cap. Norwich (p.v.).
- Norfolk**, *c.* on N. Hrbr., N. co., Virginia, U.S.A.; shppg., genl. manuf., coffee-roastg.; p. 67,432; also *c.* on Elkhorn R., Madison co., Nebraska, U.S.A., in farm. country; p. 4,100.
- Norfolk Isl.**, fertile *isl.* in Pacific, 800 m. E. of N.S.W.; area 131 sq. m.; formerly a penal settlement; pines, oranges, etc.; p. 1,000.
- Noric Alps**, *mtns.* rgn. in Styria, Salzburg, S. Austria, and Carinthia, betwn. valleys of Drave and Danube.
- Normal**, vil. nr. Bloomington, M'Lean co., Illinois, U.S.A.; p. 5,200. [manuf.; p. 11,480.]
- Normanby**, *z.* nr. Middlesbrough, N.R., Yorks.
- Normandy**, old French *prov.* on Eng. Channel, mainly agr.; most divided into depts. Manche, Calvados, Eure, Seine Inférieure, and part of Orne. Rouen

was cap. The Roman Lugdunensis; later a powerful Dukedom, conquered Eng. 1066-69.
Normanton, colliery and ry. *W. R.* Yorks, Eng.; p. 15,033; also t. on R. Normun, Queensland; p. (dist.) 3,465. [area 29,393 sq. m.; p. 110,496. Cap. Pitea.
Northampton, on *Pes. N. dist.* Ozien, Sweden; area 2,000,000, near one-third coloured. Cap. Raleigh, chf. port, Wilmington.
Northampton, t. on R. Motala, Östergötland prov., Sweden; cotton spinning, cloth wvng., shipbldg.; p. 45,866.
Northland, (See Nordland.)
Norsewood, t. nr. Napier, New Zealand; p. 1,640, mainly immigrant Norwegians. [5,826.
Nort, t. nr. Nantes, dep. Loire-Inférieure, France; p. North Adams, c. on the Housac R., Berks co., Mass., U.S.A.; textiles, boots and shoes; p. 28,287.
Northallerton, mkt. t. in agr. dist. N.R. Yorks, Eng.; p. 4,806.
Northam, par. nr. Bideford, Devon, Eng., p. 5,500; also t. on R. Avon, nr. Perth, W. Australia; p. (dist.) 4,249.
Northampton, S. Midland co. Eng.; area 985 sq. m., chf. agr.; mining and manuf. (especially boots); p. 348,532. Cap. N., t. on R. Nen, metrop. of Brit. boot-mkng. ind.; p. 7,740.
Northampton, c. on the Connecticut R., Hampsh. co., Mass., U.S.A.; collegiate and mfg.; p. 22,149.
North A-over, t. nr. Boston, Mass., U.S.A.; p. 5,840.
North A-leboro, t. in Bristol co., Mass., U.S.A.; jewellery manuf.; p. 7,740.
North Australia, dist. or terr. N. of S. Australia, washed by Timor S., Arafura S., and G. of Carpentaria. [4,948.
North Baltimore, vol. Ohio, U.S.A.; Wood co. p. North Berwick, t. on F. of Fort, Haddingtonsh., Scotl.; p. 3,247.
North Bierley, mfg. and ironwks. t. nr. Bradford, W.R. Yorks., Engl.; p. (sub. dist. includg. Wyke), 22,130.
North Brabant, prov. in S. Holland. (See Brabant.)
Northbridge, industr. t. nr. Worcester, Mass., U.S.A.; p. 6,230. [U.S.A., p. 4,124.
North Brookfield, mfg. vol. nr. Worcester, Mass., North Cape, (See Nord Cap.)
North Carolina, S. Atlantic st. of the U.S.A., E. of Tennessee and S. Virginia, area 52,250 sq. m., agr., cotton growg. and mfg., tobacco cult. and manuf., p. about 2,000,000, near one-third coloured. Cap. Raleigh, chf. port, Wilmington.
Northcote, t. nr. Melbourne, Victoria, fruit-growg. and pastoral dist., p. 8,124.
North Dakota, N.W. st. of U.S.A., mainly rolling prairie, agr. and minn., area 70,795 sq. m., p. 350,150. Cap. Bismarck.
North Danville, t. in Caledonia co., Vermont, U.S.A., p. 4,840; also vil. in Rockingham co., New Hampshire, U.S.A., p. 2,062. [Pacific and Atlantic.
North East Passage, N. est. Europe and Asia, betw. Northern, industr. t. on R. Ruhme, Hanover, Pruss., p. 8,230. [3,849.
Northfield, vil. on Cannon R., Minnesota, U.S.A. p. Northfleet, shipbldg. t. on R. Thames, Engl., adjng. Gravesend, p. 14,184. [and Nebraska, U.S.A.
North Fork of Platte R. (800 m.). Colorado, Wyoming.
North Holland, prov. of the Netherlands, on Zuider Zee, and N.S., area 1,069 sq. m., p. 900,120. Cap. Amsterdam (p. v.).
North Kingston, t. Rhode Isl., U.S.A., p. 6,261.
North Knoxville, t. Tennessee, U.S.A., p. 3,488.
North Manchester, t. Indiana, U.S.A., on Eel R., Wabash co., p. 4,021. [R. Mole, p. 1,620.
North Molton, t. N. Devon, Eng., nr. S. Molton, on Northop, est. par. Flintsh., Wales, p. 5,864. [4,896.
Northowram, t. nr. Halifax, W.R. Yorks., mfg., p. North Plainfield, bor. Somerset co., New Jersey, U.S.A., p. 5,840.
North Platte, c. Nebraska, U.S.A., on Platte R., Lincoln co., p. 4,744.
North Providence, t. Rhode Isl., U.S.A., p. 3,888; also isl. of the Bahamas. (See Nassau.)
North Sea, or Germ. Ocean, arm of the Atlantic, E. of Gt. Brit., W. of Norway, Sweden, and N. Germ., and

N. of Holland, Belgium, and France, length 600 m., width 400 m.
North Shields, mkt. t. Northumberland, Eng., a Tyne port and part of the borough of Tynemouth (p. v.).
North Smithfield, t. Rhode Isl., U.S.A., p. 4,864.
North Somerset, vol. Arctic America, N. of Boothia, also suburb of Sydney, N.S.W., p. 39,270, and E. of Prince of Wales Isl. [5,846.
North Sydney, est. Cape Breton Isl., Nova Scotia, p. North Tarrytown, vol. New York, U.S.A., p. 5,493.
North Tonawanda, c. Niagara co., New York, U.S.A., mfg., p. 12,261. [and S. of Harris, 18 m. long.
North Uist, vol. of the Outer Hebrides, W. of Skye, Northumberland, N. maritime co. Eng., on border of Scot., area 2,015 sq. m., pastoral, mng. and manuf. with shipbldg. on Tyneside, p. 69,014; cap. Newcastle-on-Tyne (p. v.). [U.S.A., p. 4,776.
Northumberland, bor. on Susquehanna R., Penn., Northumberland Isl., off E. ct. Australia.
Northumberland Straits, separates Prince Edward Isl. from Nova Scotia, and New Brunswick.
North Vernon, c. Indiana, U.S.A., Jennings co., p. 4,870. [p. 4,124.
North Walsham, mkt. t. nr. Aylsham, Norfolk, Eng.
North West Passage, betw. Atlantic and Pacific, on N. coast of America.
North-West Frontier Province of India, area 13,737 sq. m., p. over 2,000,000,000; cap. Peshawar (p. v.).
North-Western Provinces and Oudh, former name of what is now officially styled the United Provinces of Agra and Oudh, Brit. India, total divs. 12,626 sq. m., p. 48,500,000; includes the divs. of Meerut, Agra, Gorakhpur, Kumaun, Rohilkhand, Allahabad, Benares, Lucknow, and Fyzabad, also the nat. sts. of Rampur and Garwal in the Himalayas, all of wh. sec. North-West Territories of Canada, the tracts of Brit. N. America, N.W. of the older part of the Canadian Dominion, includg. the Alberta, Assiniboia, Athabasca, Franklin, Keewatin, Mackenzie, Saskatchewan, and Ungava, rearranged and organised in 1904 as the two provinces of Alberta and Saskatchewan (all of wh. sec. Area 2,553,337 sq. m., p. 220,071 (includg. 27,000 Indians). [salt mine dist., p. 18,154.
Northwich, mkt. t. nr. Warrington, Cheshire, Eng., North Woolwich, t. on R. Thames, Essex, Eng., manuf., p. 7,480.
Norton, par. nr. Sheffield, Derbysh., Eng., p. 3,019.
Norton-on-the-Moors, par. nr. Burslem, Staffs., Eng., p. 15,029. [Long.
Norton Sound, inlet W. of Alaska, Behring S., 200 m.
Norwalk, t. on Long Isl. Sound, Fairfield co., Connecticut, U.S.A., good harb., flourshg. manuf., p. 21,163; also bor. Huron co., Ohio, U.S.A., mfg. centre of farming dist., p. 7,106.
Norway, country of N. Europe, W. sectn. of Scandinavian penin., area 124,411 sq. m., p. 2,246,238, minous with cst. broken by many fjords; cap. Christiania (p. v.).
Norwich, c. on R. Wensum, Norfolk, Eng., cathedral; ruined castle, manuf., p. 121,493; also vil. on Chenang R., New York, U.S.A., in dairyng regn., p. 6,221; also c. E. London co., Connecticut, U.S.A., paper and textile factories, p. 21,460.
Norwood, S. vol. div. Lambeth, Surrey, Eng., mainly result. for London workers and 'bus-men, p. 62,296 also vil. Hamilton co., Ohio, U.S.A., subm. to Connecticut, p. 7,460; also S.E. sub. Adelaide, S. Australia. [p. 35,483.
Nosari, t. in Baroda, Bombay India, nr. Surat, mfg., p. 15,029.
Nossi Bé, French isl. off. of N.W. coast Madagascar, area 120 sq. m., volcanic; coffee, sesame, sugar, tobacco, p. 10,420; cap. Hellville. [p. 23,865.
Noto, c. nr. Syracuse, Sicily, cathedral, wine, mfg.
Nottingham, midl. co. Eng., area 824 sq. m., mainly pastoral and woodl., p. 664,077; cap. Nottingham c. on R. Trent, centre of Eng. lace industry, R.C. cathed., fine bldgs., castle, museum, gt. mkt. sq., p. 250,942.
Notting Hill, suburb dist. W. London, Eng., p. 48,644.
Noumea, or Port de France, cap. New Caledonia, p. 10,886. Mass. foundries, p. 9,262.
Nouzon, t. nr. Mézières, Ardennes dep., France, on Novara, Alpine prov. N. Italy, in Piedmont, area 2,553 sq. m., cap. N., mfg. t. nr. Milan, p. 50,160.

Nova Scotia, maritime prov., Canada, area 51,068 sq. m., mainly fertile uplands and rich valleys, but with mtns. along the coast, nr. B. of Fundy; much mineral wealth, and very val. fisheries; p. 464,600; cap. Halifax.

Nova Zembla, two large uninhabited isls. in Arctic Ocean, included in Russ. govt. Archangel, total area 35,321 sq. m.

Novelda, i. on R. Vinalopó, Alicante prov., Spain; wine-growing dist., saline and sulphurous springs, p. 10,116.

Novgorod, govt. N. Russia, adjng. St. Petersburg, area 47,236 sq. m., agr. and mfg., p. 1,500,000; cap. Veliki Novgorod, c. on R. Volkov, nr. Lake Ilmen, old cathedr., p. 27,460.

Novi, i. nr. Medina, Italy, mfg., p. 7,081.

Novibazar, or Veni-Bazar, i. on R. Rashka, Bosnia, occup. by Austria, 1879, p. 12,000.

Novigrad, spt. nr. Fiume, Hungary, p. 8,936.

Novi Ligure, i. nr. Genoa, prov. Alessandria, Italy, noted for silk manuf., p. 14,620.

Novo Alexandrovsk, i. govt. Kovno, Russ., nr. Dünaburg, p. 7,140.

Novo Georgievsk, industr. i. on the Dnieper, Kherson govt., Russia, p. 8,495.

Novograd-Volynsk, i. on S. R., Volhynia, Russ., iron and soap wks., busy fairs, p. 18,608.

Novogrodsk, i. nr. Grodno, govt. Minsk, Russ., mfg., p. 13,241. [p. 12,842]

Novol Oosen, industr. i. govt. Samara, Russ., Novokhopersk, i. nr. Veronesh, Russ., mfg., p. 9,800.

Novoli, i. in prov. Lecce, Italy, p. 5,800. [p. 9,800]

Novomirgorod, i. (fortifd.), Kherson govt. Russ., p. 6,621. [p. 20,640]

Novomoskovo, i. (mfg.) on R. Samara, Yekaterino-Novo Radono, spt. Portug. W. Africa, p. 6,146.

Novo Rossysk, spt. on N.E. coast Black S., Caucasus, Russ., gr. grain export, p. 18,688. [p. 18,283]

Novo Sibkov, i. Tchernigov govt., Russ., gd. tr. p. Novouzensk, i. on Uzen R., Samara govt., Russ., fortified imp. fairs, p. 15,468.

Novozybkoff, i. surrounded by marshes and forest, in Tchernigov govt., Russ.; tallow, hemp, preserved meat; p. 17,464.

Nowgong, dist. Brahmaputra Valley div., Assam, India; area 3,258 sq. m., tea-growing; p. 261,000 (decreasing); c. N., t. on Kalang R., p. 5,050; also name of a t. in the dist. of Chhatrapur Bundelkhand agency, India, with Brit. military cantonment; p. 8,120.

Nowo-Radomsk, or Radomsko, i. nr. Piotrków, Russ. Poland; bent-wood furniture, textile, tanneries, etc.; p. 14,659.

Nowra, i. in co. Vincent, N.S.W., p. (dist.) 4,280.

Noya, spt. Corunna prov., Spain; a very old t. with lace and linen industries; p. 9,084.

Noyon, i. dep. Oise, France; birthpl. of Calvin, fine cathedr.; p. 6,450.

Nubia, the anc. Ethiopia, an African country S. of Egypt, now included in Egyptian Soudan; chf. c. Khartoum (q.v.).

Nuble, R. and prov. Chili, bordering on the Argentine; area 3,556 sq. m., p. 174,600; cap. Chillan.

Nueces, R. S.W. Texas, U.S.A., flows (400 m.) to Corpus Christi B., G. of Mexico. [p. 4,518]

Nueveta, spt. N. cat. prov. Puerto Principe, Cuba, p. Nuevo Leon, spt. Mexico; area 24,324 sq. m.; agr. and stock-rng.; p. 350,480; cap. Monterey.

Nukahiva, one of the Marquesas isls. (q.v.).

Nukha, fort. i. Transcaucasia, Russ.; noted for silk industry; p. 30,184. [p. 4,228]

Nunsestak, i. Victoria, nr. N.S.W. border, p. (dist.) Nun, chf. mth. of R. Niger; also R. (130 m.) on S. frontier of Morocco with t. thereon, nr. C. Nun, gd. tr.; p. 5,140; also R. Manchuria, China, trib. (500 m.) of the Sungari. [(dist.) 2,183]

Nunawading, i. on Blackburn Creek, Victoria, p. Nuneston, mkt. i. Warwickshire, Eng.; ribbon manuf., glazed bricks, sanitary pipes; p. 37,083.

Nunivak, is. 120 m. long in Bering, S. Alaska.

Nuoro, i. nr. Cagliari, Sardinia; industr. i. p. 7,062.

Nurenbreg, old c. in Middle Franconia, Bavaria, on the R. Pegnitz; manuf. wooden toys, clocks, beer, pencils, etc.; great hop tr.; castle and many

interestg. bldgs.; made a free imp. c. in 1219, annexed to Bavaria, 1816; p. (commune) 325,651. [p. 108]

Nuriootpa, i. nr. Adelaide, S. Australia, p. (dist.) Nurlingen, i. on R. Neckar, Wurttemberg; p. 6,124.

Nusco, i. in Avellino prov., Italy; manuf.; p. 5,088.

Nussdorf, zw. of Vienna, Austria, p. 5,432.

Nutfield, par. Surrey, Eng., nr. Reigate, p. 1,869.

Nuthall, par. nr. Nottingham, Eng., p. 2,143.

Nuwara Eliya, sanatorium, of Ceylon, 6,240 ft. above sea-level with Pedderallagalla mtn. (2,056 ft. higher) behind it, res. p. 5,000. [U.S.A., p. 5,416]

Nyack, vil. on R. Hudson, Rockland co., New York.

Nyanza.—(See Albert Nyanza, Albert Edward Nyanza, and Victoria Nyanza.)

Nyasa, or Nyassa, L. of Centl. Africa, 1,500 ft. above sea-level, area 11,000 sq. m.

Nyasaland Protectorate, British Centl. Africa, on Lake Nyasa; area 44,000 sq. m.; p. 98,276.

Nyborg, fort. i. on isl. of Funen, Denmark, p. 5,609.

Nyr Bathor, i. nr. Dobreczin, Hungary, p. 4,540.

Nyireghyaza, mfg. i. in Hungary, 29 m. N. of Dobreczin, p. 32,419.

Nykerk, i. in Gelderland, Holland; industr. i. p. 7,640.

Nyköbing, spt. Denmark, co. Maribo, on isl. of Falster; exports butter and bacon; p. 7,894.

Nycköbings, spt. Sweden, at hd. of inlet on coast, 58 m. S.W. of Stockholm; engineering and shipbuilding, timber tr.; p. 8,247. [p. 240,668; cap. Helsingfors]

Nyland, prov. Finland, on G. of F.; area 4,586 sq. m.; Nymagee, i. in Mouramba, copper-ming, dist. N.S.W., p. 3,472. [(dist.) 4,684]

Nyngan, i. on Bogan R., Gregory co., N.S.W., p. Nyon, or Nion, i. on L. of Geneva, cat. Vaud, Switzld., p. 3,893.

Nyons, i. nr. Avignon, dep. Drôme, France, p. 3,624.

Nystad, spt. in govt. Åbo-Björneborg, Finland, on G. of Bothnia, p. 3,801.

Nystrom, Mt., Fremont co., Wyoming, U.S.A.

Nzobe, i. at W. extrem. Congo Free State, Centl. Africa, p. 8,140.

Nzola, R. Equatorial Africa, flowg. (120 m.) to L.

O

Oahu, one of the Sandwich Isls., S. E. of Kauai; area 600 sq. m., p. 28,586; cap. Honolulu; also L. (fed by glaciers) in Mt. Cook dist., New Zealand (S. Isl.), 72 m. long by 24 m. wide.

Oajaca, or Oaxaca de Jaurez, st. on Pacific coast, Mexico, area 35,140 sq. m., agr. and mining, p. 915,200; cap. O., c. on Rio Verde, alt. 4,800 ft., centre of cochineal trade, p. 34,126.

Oakbank, i. nr. Adelaide, S. Australia, p. (dist.) 4,248; also par. nr. Mid-Calder, Edinburgh, Scotl., oil works.

Oak Bluffs, summer resort, Edgartown, Martha's Vineyard, Mass., U.S.A.; famous for its camp meetings.

Oak Cliff, i. Texas, U.S.A., on Trinity R., Dallas co., p. 4,862. [p. 2,116]

Oakengates, i. nr. Shrewsbury, Shropsh., Eng., p. Oakham, mkt. c. on Rutland, Eng., p. (civil par.) 3,310.

Oakhampton.—(See Okehampton.)

Oakland, c. on San Francisco B., California, U.S.A., of which it is a favourite residential sub., p. 120,174.

Oakleigh, township, co. Bourke, nr. Melbourne, Victoria, p. (dist.) 1,874. [Chicago c., p. 7,420]

Oak Park, vil. Illinois, U.S.A., now included in Oakworth, mfg. i. nr. Keighley, W. Yorks, Eng., p. 4,279. [Dunedin, p. 7,224]

Oamaru, spt. on E. coast, S. Isl., New Zealand, nr. Oatlands, eccl. dist. nr. Chertsey, Surrey, Eng., p. 2,180; also township nr. Hobart, Tasmania, p. 1,184.

Oaxaca.—(See Oajaca.)

Oban, spt. and burgh on Firth of Lorn, Argyllsh., Scotl.; wat. vat. pl. and summer resort of Highland tourists; p. 6,597. [town imp. tr. centre]

Obeld, or El Obeld, i. in Kordofan, 215 m. S.W. Khar-Oberalp, Alpine par. (alt. 6,710 ft.) connecting Andermatt with the Roder Rhein Valley, Switzld., co. Ob-
Oberramberg, vil. nr. Munich, U. Bavaria; famous for its decennial Passion Play, and for ivory and wooden toys. [p. 5,248]

Ober-Ebnheim, i. nr. Strassburg, Alsace, Germany,

Oberhausen, iron-mfg. *t.* nr. Cologne, Rhenish Pruss., p. 48,684; also *wt.* nr. Eitheim, Baden, Germany, p. 3,840.

Oberlahnstein, *t.* in Hesse-Nassau, Germany, at junction of R. Lahn and Rhine; old castle, anc. walls; wine tr. and mining; p. 8,290.

Oberland, or **Bernese Oberland**, picturesque mtnous. region in cant. Bern, Switz.; great tourist resort.

Oberlautendorf, *t.* in Brüz dist., Bohemia; colliery dist., textile and other manuf.; p. 13,286.

Oberlin, *wt.* Lorain co., Ohio, U.S.A.; college; p. 6.

Oberpfalz, or **Upper Palatinate**, Bavarian circle ading. Bohemia; area 3,717 sq. m., p. 550,463; cap. Ratisbon.

Obernad, mfg. *t.* nr. Frankfurt-on-the-Main, Pruss., p. 6,135.

Oberstein, *t.* on R. Nahl, Oldenburg, Pruss.; famous.

Oberwesel, *t.* nr. Coblenz, Rhenish Pruss.; formerly free imperial tr. with towered walls, and ruined castle of Schönburg, opp. romantic rocks of the "Seven Sisters," p. 2,618.

Obi, *Ob*, or **Obe**, *R.* of W. Siberia, flows from the Altai Mtns. to the G. of Obi, length (with its trib. the R. Irtysh) 2,600 m.; the G. of O. is an inlet of the Arctic O. (length 600 m.) N. of Siberia.

Obok, or **Obok**, French *sp.* on Tadoura B., in the Red S., with a col. extending 40 m. inland opp. the extreme S.W. of Arabia.

Oboyan, *t.* in Kursk govt., Russia; industr., p. 8,124.

Obwalden, half cant. Unterwalden, Switz. (*q.v.*), area 183 sq. m. [p. 5,460.]

Ocala, *c.* Florida, U.S.A., imp. ry. centre Marion co.

Ocana, anc. *t.* on the O. plateau nr. Arzuñez, Toledo prov., Spain, centre of pottery industry in wine-growing dist., ruined castle, p. 6,000; also *t.* in Magdalena st., Colombia, industr., p. 7,140.

Ociobello, *t.* (mfg.) on R. Po, nr. Rovigo, Italy, p. 5,689.

Ocean Grove, *t.* in New Jersey, U.S.A., seaside rest. S. of Long Branch, p. 3,125.

Oceania, or **Oceanica**, name given to the islds. of the Pacific; divided usually into Australasia, Malaysia, Polynesia, Melanesia, and Micronesia.

Ochakoff, fort, *t.* in Odessa dist., Kherson govt., Russia, on a cape of the Black S.; gt. grain tr., p. 12,610.

Ochil Hills, Scottish *range* reaching from the Firth of Tay to the N. Strling; highest pt., Ben Cleugh.

Ochrida, *t.* of O. Albania, Turkey, nr. Monastir, p. 11,180. The L. of O. (anc. Lacus Lychnitis) is about 18 m. long. [Altamaha.]

Ocmulgee, *R.* Georgia, U.S.A. trib. (280 m.) on R.

Oconee, *R.* Georgia, U.S.A., joins the Ocmulgee 90 m. W. of Savannah (after flowing 250 m.) to form the Altamaha. [industr., p. 6,624.]

Oconomowac, *t.* nr. Milwaukee, Wisconsin, U.S.A.

Oconto, *t.* on Green Bay, and the O. R. O. co., Wisconsin, U.S.A.; manuf., p. 7,148.

Ocosingo, *t.* nr. Palenque, Chiapas st., S.E. Mexico; anc. ruins, p. 11,460. [industr., p. 8,880.]

Ocumare, *t.* in Bolívar st., Venezuela, nr. Caracas.

Odawara, *st.* *t.* nr. Tokio, Japan, p. 16,424; gt. trade.

Odeshiah, Turkish *t.* in Asia Minor, N.E. of Aidin and W. of Smyrna; p. 10,112; flourishing trade.

Odenkirchen, mfg. *t.* in Rhenish Pruss., nr. Düsseldorf, p. 16,140.

Odense, *sp.* on isl. of Funen, Denmark; anc. *c.* said to have been founded by Odín; thrivg. ind. and tr., p. 49,484.

Odewald, wooden mtn. *range* of Hesse, Germ., betw. R.'s Neckar and Main; with many romantic ruined castles; highest pt., hill of Katzenbuckel, overlooking Eberbach, 2,057 ft.

Oder, *R.* Germ., flowing (550 m.) from Moravia through Silesia, Brandenburg, and Pomerania, past Breslau, Frankfurt, and Stettin, to the Baltic; the Roman Vliadus. [Optitrygm; p. 7,124.]

Oderzo, *t.* nr. Venice, prov. Treviso, Italy; the anc.

Odessa, *chf. sp.* Russia, on Black S.; gt. grain export; founded 1794, unabsorbed by English and French 1854; p. 476,500.

Odham, mkt. *t.* nr. Winchester, Hants, Eng., p. 3,023.

Oedenburg, or **Sopron**, *ryl. free c.* Hungary; cap. Oedenburg co.; flourishing tr.; p. 33,000. [8,840.]

Oederan, *t.* nr. Zwickau, Saxony; woollen manuf.; p.

t. on R. Oels, nr. Breslau, Pruss. Silesia; castle; p. 10,840. [carpet manuf.; p. 14,184.]

Oelsnitz, *t.* on Weisse Elster, nr. Plauen, Saxony;

Oelwitz, *c.* and *ry. centre*, Fayette co., Iowa, U.S.A., p. 7,183. [Sweden woollens; p. 23,476.]

Oelbro, mfg. *t.* at end of Hejlsdal L., on isln.

Oesel, *isl.* in the Baltic, govt. Livonia, Russ., 45 m. by 25 m.; p. 55,460; *chf. t.* Arensburg.

Oestergötland, *lanc.* or *prov.* of S.E. Sweden; area 4,267 sq. m.; p. 270,868.

Öta, *min.* in Centr. Greece, flanked by the pass of Thermopylae; the modn. Katavothra; alt. 7,060 ft.

Offenbach, *t.* on R. Main, nr. Frankfurt, Hesse, Germ.; fancy leather *trds.*, manuf.; p. 76,000.

Offenburg, *t.* on R. Kinzig, nr. Carlsruhe, Baden; cotton and other manuf.; p. 15,426.

Örden, *c.* of Weber co., Utah, U.S.A., nr. the Great Salt L.; imp. *t.* and *ry. centre*; p. 25,580.

Ogdensburg, *c.* and *pt.* on R. St. Lawrence, New York, U.S.A., opp. Prescott; good trade; p. 13,811.

Ogeeschee, *R.* Georgia, U.S.A., flows (200 m.) to the Atlantic, S. of Savannah. [manuf.; p. 5,180.]

Oggersheim, *t.* in the Palatinate, Rhenish Bavaria;

Oglio, *R.* Italy; traverses L. Iseo, and flows (135 m.) to the Po. [morganshire, Wales, p. 21,200.]

Ogmore and Garw, industrial *t.* nr. Bridgend, Glam.

Ogowe, *R.* of French W. Africa (700 m. long), enters Atlantic at C. Lopez.

Ohio, *R.* of America, trib. of R. Mississippi; formed in Penn., U.S.A. by the junctn. of the Monongahela and Allegheny R.; at Pittsburg, thence navigable for 975 m. to Cairo in Kentucky, 1,200 m. from the mth. of the M. R.

Ohio, centr. *state* of U.S.A., N. of the O. R. and S. of E. Erie and Michigan; area 41,000 sq. m.; gt. farming and mfg. *tr.* p. 4,500,000; cap. Columbus; largest cities Cleveland and Cincinnati.

Ohlau, *t.* on R. Oder, Silesia, Pruss., nr. Breslau; in tobacco growg. and mfg. dist.; p. 10,422.

Ohligs, formerly **Merscheid** (*q.v.*). [22,146.]

Ohomura, *t.* on Kiu-Siu Isl., Japan; active tr.

Ohndorf, *t.* ading. Lusatia, Saxe-Coburg-Gotha, Germany; porcelain wks., p. 6,510.

Oich, Loch, *t.* in the Great Glen, Inverness-sh., Scotl., 6 m. long, 1 m. wide. [R.; petrol ind., p. 15,100.]

Oil City, Venango co., Penn., U.S.A., on the Allegheny River, 269 N. France, traversed by R. Ouse 187 m. trib. of R. Seine; area 2,272 sq. m.; agr., gng., and manuf.; p. 46,000, cap. Beaverus (*q.v.*)

Oka, *R.* Russ., trib. (100 m.) of R. Volga at Nizhni Novgorod, also *R.* of Siberia, in the Russ. govt. Irkutsk, trib. (500 m.) of R. Angora.

Okasaki, *t.* nr. G. of Ovari, Japan; industr., p. 16,112.

Okayama, *t.* in Hizen prov., Nipon isl., Japan; gt. tr. and thrivg. manuf.; p. 57,240. [p. 3,175]

Okehampton, ind. mkt. *t.* nr. Tavistock, Devon, Eng.

Okhotsk, *st.* *t.* in E. Siberia (p. 8,144), on Sea of O., a gt. gul. (1,000 m. by 500 m.) of the North Pacific, enclosed by the Siberian maind., Kamschatka, the Kuriles Isls., Yesso, and Saghalien Is.

Oki, *grp.* of Japanese Isls., N. of prov. Isumo, princpl. Dōgo, total area 130 sq. m., p. 64,800; cattle husg.

Oklahoma, *State* of the U.S.A., including the Indian Terr. in 1890, area 70,057 sq. m.; prairie, plains, and mtns., p. 1,057,155, inclusive of 12,000 Red Indians in the reservations. *Chf. tr.*, Guthrie (the cap.) and Oklahoma City, both of which have a gd. cotton tr.

Okolona, *t.* in Mississippi, U.S.A., Chickasaw co., p. 4,130.

Oland, or **Oeland**, *isl.* on Calmar Sound, E. cost. Sweden, area 533 sq. m., p. 39,500. *Chf. t.* Borgholme, a sea-side resort (*q.v.*).

Olathe, mfg. *t.* on Missouri R., Kansas, U.S.A., nr. Kansas City, p. 4,826. [nr. Birmingham, p. 32,240.]

Oldbury, mkt. and industr. *t.* in Worcestersh., Eng.

Old Castle, former *prov.* of Spain, N. portion of anct. kingdom of Castile, now divided into Santander, Soria, Segovia, Logrono, Avila, Valladolid, Palencia, and Burgos provs., all of which see.

Oldbroek, *wt.* in Gelderland, Holland, nr. Elburg; industr., p. 5,126.

Oldenburg, grand-duchy of Germany, total area 9,499 sq. m.; agr., brewing, manuf., shipping, p. 490,140; cap. O., *c.* on R. Hante, nr. Bremen; imp. horse

- fair**, grand-ducal palace, p. 26,460. Also name of a t. in Holstein, Pruss., 30 m. N.E. of Lubeck, p. 3,140.
- Oldenzaal**, t. in Overijssel, Holland, nr. Delden; manuif., p. 4,714. [anthracite coal regn., p. 5,148.]
- Old Forge**, bor. in Lackawanna co., Penn., U.S.A.; iron, p. 7,948.
- Oldham**, cotton mfg. t. on R. Medlock, nr. Manchester, Lancs, Eng., p. 147,495. [9,633 ft.]
- Old Man of Coniston**, mtn. N. Lancs, Eng., alt.
- Old Meldrum**, vtl. in Aberdeensh., Scotl., p. 7,110.
- Old Town**, c. on Penobscot R., Maine, U.S.A.; industri., p. 6,088. [regn., p. 10,472.]
- Olean**, t. on Allegheny R., New York, U.S.A.; oil
- Oleggio**, t. in prov. Novara, Italy; industri., p. 9,428.
- Olenek**, R. Siberia, flows W. of the Lena, 800 m., to Arctic Ocean. [p. 19,410.]
- Oleron**, French isl. on B. of Biscay: area 59 sq. m., Oligopol, t. in Podolia govt., S. Russ.; mfg., p. 6,149.
- Olhas**, est. t. in Faro dist., Portugal; fisheries, p. 10,120.
- Olifant R.**, S. Africa, rises nr. Heidelberg in the Transvaal Colony, joins the Limpopo in Portuguese terr., and flows to the Atlantic. [p. 8,848.]
- Olinda**, c. in Pernambuco prov., Brazil; industri.,
- Oliva**, t. prov. Valencia, Spain, nr. Alicante, wine growg. dist., ducal palace, p. 8,010.
- Oliva de Jerez**, t. nr. Badajoz, Spain; industri., p. 5,642.
- Olivenza**, fort. t. nr. the Portuguese frontier, Spain; barracks, postoffice, p. 5,880.
- Olives**, Mount of, or Jebel et Tur, hill nr. Jerusalem, highest summit 2,672 ft.; Getsemane is at the foot overlooking the Kedron valley.
- Olmutz**, c. of Moravia, on an isl. in the March; one of the chf. fortresses of Austria, cathedr., university, brewing, etc., p. 22,810.
- Olney**, t. in N. Hucks, Eng., 11 m. S.E. Northampton, p. 2680; also c. and rly. centre Richmond co., Illinois, U.S.A., p. 4,542. [p. 5,428.]
- Olneyville**, t. ading Providence, Rhode Isl., U.S.A.
- Olonez**, govt. N. Russ., E. of Finland; area 57,437 sq. m.; forest, steppe, and L., agr. and stock-rvg. p. 445,000; cap. Petrovavodsk; Olonez t. is situated in the O. govt. 11 m. N.E. of St. Petersburg, p. 1,468.
- Oloron**, mfg. t. on Gave d'Oloron. dep. Basses-Pyrénées, France, p. 10,004.
- Olot**, industri. t. in Gerona prov., Spain, p. 7,126.
- Ols.—(See Oels.)**
- Olsnitz.—(See Oelsnitz.)**
- Oltentza**, t. on R. Danube, Ilfov dist., Roumania; the anc. Constantia, p. 5,800.
- Olvera**, t. nr. Cadiz, Spain; thriving tr., p. 8,804.
- Olviopol**, t. on R. Bug, Kherson govt., Russ.; mfg., p. 6,120.
- Olympia**, a plain of Peloponnesus, Morea, Greece, on R. Ellis, where were held the Olympian games; also name of a modern c. of Washington, U.S.A.; timber trade, p. 4,100.
- Olympus** (mod. Elymbo), mtn. Thessaly, Macedonia, W. of the G. of Salonica, alt. 9,753 ft.
- Olyphant**, bor. on Lackawanna R., Penn., U.S.A., p. 6,449.
- Om**, R. Siberia in the Russ. govt. Tonsk, trib. (330 m.)
- Omagh**, t. on R. Strule, Tyrone, Irel., p. 4,220.
- Omaha**, c. on Missouri R., Nebraska, U.S.A., gt. tr. and mfg. centre, p. (exclusive of South Omaha) 125,000.
- Oman**, kingdom on S.E. ext. Arabia, under Brit. supervisin., area 82,000 sq. m., p. 1,500,000, agr. and fruitgrowg. Cap. Muscat (p. 2). The G. of Oman, an arm of the Arabian S., forms entrance to Persian G.
- Ombay**, Australasian isl., 50 m. by 30 m., N. of Timor, p. 106,000. [p. 2,289.]
- Ombersley**, par. nr. Droitwich, Worcestersh., Eng.
- Ombrose**, R. of Tuscany, Italy, flows to the Mediterranean (85 m.) nr. Grosseto, the anc. Umbro
- Omdurman**, c. in the Soudan, on R. Nile opp. Khartoum, built by the Mahdi; here Kitchener defeated the Dervishes, 1898.
- Omoa**, township, Victoria, Benambra co., (dist.), 3,140.
- Ometepe**, isl. in Lake Nicaragua, Cent. America, with volcano, alt. 5,747 ft.
- Omsk**, fort. t. W. Siberia, on the Irtysh R., seat of the Russ. govern. genship. of the Steppes, great tr. cathedr., p. (with military) 51,420. [p. 6,480.]
- Onate**, t. Guipuzcoa, Spain, nr. Bilbao, industri., p.
- Onega**, L. of N. Russ., Olonez govt., 85 m. from L. Ladoga, area 3,765 sq. m., also R. of the Russ. govt. Olonez and Archangel, flowg. 400 m. to the G. of Onega, a southern arm of the White S.; also t. in the govt. Archangel, at mth. of O. R., p. 3,120.
- Oneglia**, spa. on G. of Genoa, nr. Nice, Italy, olive oil t., p. 7,948.
- Onehunga**, spa. on Manukoa Harb., nr. Auckland, New Zealand, p. 3,120.
- Oneida**, L. nr. Syracuse, New York, U.S.A. (20 m. by 6 m.) discharges by R. Oneida (76 m. long) to R. Seneca; Oneida t. Madison co., N. York, is on bank of R. O., 6 m. from O. L., p. 6,561.
- Oneonta**, vtl. on Susquehanna R., Otsego co., New York, U.S.A., ry. wagonwks., p. 7,846.
- Ongole**, t. Nellore dist., Madras, Brit. India, gd. tr., p. 11,248. [Ingoda.]
- Onion**, R. Siberia and Mongolia, trib. (380 m.) of R. Ononduga, L. nr. Syracuse, New York, U.S.A., 5 m. long by 1 m. wide. [p. 8,540.]
- Onstwedde**, mfg. t. prov. Groningen, Holland, p.
- Ontario**, L., smst. of the great lakes of the St. Lawrence basin, separating the Canadian prov. of O. from New York, U.S.A., area 6,500 sq. m. The prov. of O. (formerly called Canada W., or Upper Canada) has a total area of 222,000 sq. m., great mineral wealth with most fertile land, produc. immense grain crops, p. 26,000; chief towns Toronto (the prov. cap.), Ottawa (the cap. of the Dominion), Hamilton, and London (all of which see). [p. 12,400.]
- Onteniente**, industri. t. on R. Clariano, Valencia, Spain,
- Oosterhout**, mfg. t. nr. Breda, N. Brabant, Holland, p. 11,426. [Opatovka L., great r., p. 10,180.]
- Opatov**, t. nr. Sandomer, Radom govt., Russ., on the
- Opelika**, mfg. t., Lee co., Alabama, U.S.A., p. 4,084.
- Openshaw**, mfg. t. Larcash, Eng., S.E., of Manchester, p. 18,480.
- Opbir**, mtn., Sumatra, nr. the Equator, alt. 9,603 ft.; also mtn. Malay Peninsula, 45 m. E.N.E. of Malacca, alt. 5,693 ft., also mtn. nr. Dunedin, New Zealand; also gold-field dist. N. S.W., nr. Bathurst.
- Opporto**, spa. of Portugal on R. Douro, second c. in the ctry. for commerc. impct. and pop. (188,000), gt. wine tr., many manuif., flourishg. fisheries, contains the royal pal. of Torre de Marca, and many fine bldgs. and large institutns
- Oppeln**, t. on K. Oder, Pruss., Silesia, former cap. of principality, remains of palace, seat of administn., Upper Silesia, p. 36,424.
- Oppido**, t. nr. Palmi, Calabria, Italy, industri., p. 6,840.
- Opwyck**, mfg. vtl. nr. Brussels, Belgium, p. 4,045.
- Oran**, port of Algeria, on G. of Oran, gt. tr. in wool, wines, oil, and grain, p. 100,050 (more than a quarter each French and Spaniards).
- Orange**, anc. t. Vaucluse dep., France, p. 10,120; also t. in fruit growg. and mining dist. N. S.W., p. 7,420; also c. Essex co., New Jersey, U.S.A. (resid. sub. of New York c.), p. 29,680.
- Orange** (or Gariep) R., chief R. of S. Africa, flowg. 1,200 m. to the front of Natal to the Atlantic.
- Orange Free State**, province of the Union of S. Africa, area 50,392 sq. m., exports wool, hides, diamonds, ostrich feathers, etc., p. 375,000 (143,419 being whites). [p. 14,224.]
- Orangeville**, t. in Wellington co., Ontario, Canada, p.
- Oranienburg**, on K. Havel, nr. Potsdam, Pruss., industri., p. 5,123. [cathedr., p. 4,100.]
- Orbetello**, fortif. t. Grosseto prov., Tuscany, Italy,
- Orchha**, Orchha, or Tehri, nat. st. Bundelkhand Agcy., Cent. India, area 2,000 sq. m., p. 338,400; O. t. on R. Betwa, the former cap., has a palace and fort; Tehri, prest. res. of the chf., is 40 m. S. and is also fortified. [Scotl., alt. 1,200 ft.]
- Ord of Caithness**, hill and hland, nr. Helensdale,
- Ordu**, t. on uth. cst. Asia Minor, nr. Kerasund, gd. tr., p. 6,084. [p. 192,680; cap. O. (See Oerebro).]
- Orebro**, or Oerebro, prov. Sweden, area 3,502 sq. m.,
- Oregon**, Pacific st., U.S.A., between Washington and California, area 96,030 sq. m., mountainous and timber and minl.-producng. fishery and fish canning, mfg., p. 68,240; cap. Salem; Oregon c. is a small mfg. centre on the Willamette R., at the falls, in Clackamas co., within Oregon st., p. 4,040.
- Orehov**, t. in Taurida govt., Russ., nr. Yekaterinoslav, industri., p. 7,123.

Orel, *govt.* middle Russ., E. of Smolensk, area 18,040 sq. m., agr. and stock-keep., p. 2,250,000; cap. Orel, on R. Oka, p. 72,000; the R. Orel flows 130 m. to the Dnieper, in the Putava govt.

Orenburg, *prov.* E. Russia, in the S. Urals, area 73,816 sq. m., rich in minerals, p. nearly 1,750,000; cap. Orenburg (famous for its horse fairs, and its shawls knitted from goat wool), p. 95,406.

Orense, inland *prov.* N.W. Spain, area 2,738 sq. m., timber and fruit growg., agr., p. 405,000; cap. O., c. on R. Mino, p. 15,760.

Orfa, or **Uria**, fort. *z.* of Turkey in Asia, nr. Diarbekr; p. 3,846.

Orford, fishery *z.* on R. Ore, Suffolk, Eng., nr. Ipswich; p. 1, 346. Orford Ness is a cst. promontory, 24 m. to the S.E. (Old Dacian fortress; p. 14,668.

Orghyess, *z.* in Bessarabia prov., Russ., on site of an **Oria**, or **Uritana**, *z.* nr. Brindisi, prov. Lecce, Italy; gd. tr.; p. 8,980.

Oriente, *terr.* of E. Ecuador, N. of R. Marañon, inhabited mainly by roving Indians, est. at about 480,000. (dist., with silk and other manuf.; p. 27,110.

Orihuela, *z.* in Alicante prov., on the R. Segura; agr.

Orillia, *z.* and summer rest. on L. Conchiching, Ontario, Can.; p. 5,018.

Orinoco, R. Venezuela; rises in Parima mtn. and flows circuitously 1200 m. to the Atlantic opp. Trinidad. Its trib. the Casiquiare, connects it with the Rio Negro and the Amazon. (industri.; p. 4,820.

Oriolo, *z.* in prov. Cosenza, Italy, nr. Noceto.

Orissa, div. of the new province of Behar and Orissa (*q.v.*), Brit. India, formerly a Hindu kingdom, fell later under Mogul and Mahratta rule, and then under British domination in 1803.

Oristano, *z.* on R. Tirso, Cagliari, Sardinia; cathedr.; p. 7,124.

Orizaba, *z.* in Vera Cruz prov., Mexico; p. 30,180; good tr. Near the slumbering volcano, same name, alt. 17,381 ft.

Orkhon, R. Mongolia, trib. (30 m.) of R. Selenga.

Orkney, co. of Scotl., formed of an insular grp. in the N. Sea, 68 isls in all, 20 being inhabited; total area, abt. 360 sq. m.; p. 25,900. Largest isl. Pomona or Mainland, Kirkwall (*q.v.*) cap. [p. 4,824.

Orlando, industri. *z.* Florida, U.S.A., in Orange co.; or **Orléannais**, old *prov.* France, corresponding mainly to pres. depts. of Loire-et-Cher, Eure-et-Loire, and Loiret.

Orleans, *z.* on R. Loire, Loiret dep., France; and cap. Orléannais; gr. trade in wine, brandy, wool, blankets, etc.; Indqrs. army corps; grand cathedr.; university; p. 73,400.

Orleans, Isle of, in St. Lawrence R., nr. Quebec, Canada; area 70 sq. m. [p. 14,583.

Ormesby, industri. *z.* nr. Middlesbrough, Yorks, Eng.; or **Orme's Head**, Great and Little, promontories on cst. Canarvon, N. Wales, 35 m. W. of Laverpool.

Ormakirk, silk and cotton mfg. *z.* Lancash., Eng.; p. 7,400.

Ormaiz, *z.* and strait at entrance to Persian Gulf; ruined *z.* dep. Normandy, France; area 2,372 sq. m.; agr., dairying, stock-keeping, fruit-growg.; p. (decreasg.) 324,000. Cap. Alençon (*q.v.*).

Orono, *z.* Maine, U.S.A., on Penobscot R.; p. 4,764.

Orontes, R. of N. Syria; flows 200 m. past Antioch to the Mediterranean. (plg keep. dist.; p. 29,460.

Orohaza, mkt. *z.* Hungary, nr. Szegedin; in agr. and **Orotava**, *z.* in Tenerife, Canary Isls.; gd. tr.; p. 8,540.

Oroya, *z.* on R. Montaña, Peru, alt. 12,178 ft.; p. 8,364.

Orpington, *agr.* and *residential dist.*, Kent, Eng., ading. Chislehurst; p. 15,865.

Orsara, industri. *z.* nr. Bovino, prov. Aveellino, Italy; p. 15,865.

Orsha, Russian *z.* on R. Dnieper, Moghilev govt.; mkt. for grain and timber; p. 15,420.

Orsk, *z.* on R. Ural, Orenburg, Russ. In prairie and stock-raising dist.; tanneries and tallow factories; p. 16,493. [Gates Pass, p. 5,046.

Oroava, mkt. *z.* on R. Danube, Hungary, nr. the Iron-Orta, *z.* of Italy, W. of Lago Maggiore, area 7 sq. m.; also *z.* in Foglia prov., on shore of L. Orta, p. 7,122.

Orta, *z.* in Italy, on R. Tiber, nr. Viterbo; industri. *z.* p. 4,892. [France; manuf.; p. 7,012.

Orthes, *z.* on the Gave du Pau, dep. Basses-Pyrénées.

Ortiz, *z.* in Guarico st., Venezuela; good tr.; p. 8,946.

Ortler Spitz, *mtn.* 10 m. S. of Glarus; the loftiest in the Tyrol, alt. 12,811 ft. [p. 5,577.

Orton, mkt. *z.* nr. Appleby, Westmorland, Eng., p. 5,577.

Ortona, mfg. *z.* on the Adriatic, prov. Chieti, Italy; cap. of anc. Frentani, p. 15,622.

Oruro, dep. Bolivia, E. of Peru; area 27,350 sq. m.; p. 112,000 (three-fourths Indians); cap. O., t., p. 13,000.

Orvieto, *z.* in Umbria, Italy, prov. Perugia, on R. Paglia; cathedral, Etruscan antiquities; p. (communal) 18,246. [from Ipswich to Harwich.

Orwell, R. Suffolk, Eng., estuary of R. Gipping, runs Orzi-Norvi, *z.* nr. Brescia, N. Italy; industri.; p. 6,842.

Osage City, nr. Topeka, Kansas, U.S.A., p. 4,185.

Osaka, large spt. *z.* and commercial centre, Hondo Isl., Japan; great tr. and impt. silk, tea, and other industries; Shinto and Buddhist temples; p. 1,250,000.

Oswatimie, *z.* Kansas, U.S.A., on the Osage R., p. 4,890.

Osbome, Isle of Wight, former marine English royal res. now Convales. House for Army and Navy Officers, nr. Cowes.

Oscarschamn, *z.* on Calmar Sound, Sweden, p. 7,878.

Osceola Mills, *bor.* Clearfield co., Penn., U.S.A., p. 3,824. [land and machine factories; p. 11,040.

Oschatz, *z.* on R. Dollnitz, Leipzig, Saxony; sugar Oschersleben, *z.* nr. Magdeburg, Saxony; lignite mines, various manuf.; p. 15,082.

Oscoda, *z.* nr. Bay City, Michigan, U.S.A., p. 3,426.

Osero, coast *z.* on Adriatic, Lussini Isl., Austria; p. 2,825. [p. 40,820.

Osh, *z.* Fergana govt., E. Turkestan; large China tr.; p. 15,082.

Oshawa, *z.* on L. Ontario, nr. Toronto, Canada, p. 3,894.

Oshima, group of 3 sm. Japanese isls., S. of Kiu-Shiu.

Oshkosh, *z.* on Fox R., Wisconsin, U.S.A.; extensive manuf.; p. 33,072. [p. 7,240.

Oshuneyn, *z.* in Egypt W. of R. Nile, tr. centre, Oshakow, *z.* on L. Seliger, govt. Tver, Russ., tannery and boot-makg. centre; p. 14,243.

Osmio, *z.* in Ancona prov., The Marches, Italy, cathedr., silk-spinning, p. 5,102.

Okaloosa, *z.* of Mahaska co., Iowa, U.S.A., in agr. and colly. regn., p. 11,748. [p. 5,624.

Osman Bazar, *z.* Bulgaria, nr. Shumla, gd. tr., p. 15,082.

Osnaabrück, *govt.* Hanover, l. of Holland, p. 370,000; cap. O., t. (sometimes called Osnaberg) in valley N. of the Pentofurter Forest, cathedr., many manuf., p. 66,000. [p. 16,994.

Ospina, *z.* in Portuguesa st., Venezuela, good tr., p. 15,082.

Ossa, *mtn.* Thessaly, N. of Vale of Tempe and Olympus, alt. 9,194 ft. [Eng., p. (with Gawthorpe) 14,081.

Osselt, industri. *z.* nr. Wakefield, W. Yorks.

Ossining, *z.* Westchester co., New York, U.S.A., on Hudson R. (formerly Sing-Sing), has famous prison, p. 8,400.

Ostend, *z.* and pop. wat. pl., Belgium, pas. route between Britan and cont. of Europe, p. 50,180.

Ostergöhr, *z.* nr. Magdeburg, Prussn, Saxony, p. 4,860.

Osterope, *z.* at foot of Harz mtns., nr. Göttingen, Hanover, metal and textile indust., p. 7,154; also *z.* on L. Drenzen, E. Pruss., old Teutonic cast, paper factories, agr. and timber tr., p. 15,110.

Ostersund, *z.* in Jantland, Sweden, on Stor L., in industr., p. 7,488.

Ostia, anc. *port* on R. Tiber, *z.* c. of Rome, Italy, marshy situatn., archaeological remains. [p. 18, 10.

Ostiglia, *z.* nr. Mantua on R. Po, Italy, industri., p. 15,082.

Ostrau, *z.* on R. Ontrawitz, Moravia, in colly. and ironwks. dist., p. 35,800; also *z.*, opposite the latter, in Austrian Silesia, in coalfield, p. 21,964.

Ostrog, *z.* in Volhynia govt., Russ., on R. Goryn, leather tanning, p. 16,245.

Ostrogohsk, *z.* on the Pikhaya Sosna, Veronezh govt., Russ., tallow and cattle tr., tanneries, etc., p. 14,900. [wks., p. 13, 18.

Ostrov, *z.* in Russn. Poland, govt. Lomza, agr. mchv.

Ostrowo, *z.* nr. Posen, Prussia, manuf., p. 10,342.

Ost See (or East S.), German name for the Baltic.

Ostuni, *z.* nr. Brindisi, prov. Lecce, Italy, manuf. *z.* p. 15,082.

Ostun, *z.* in Seville prov. Spain, commercial, p. 19,471.

Oswaldthistle, mfg. *z.* nr. Blackburn, Lancs., Eng., p. 15,720.

Oswego, industri. *z.* New York, U.S.A., on L. Ontario;

foundries and factories; p. 23,368; also t. on Neosho R., Kansas, U.S.A., p. 4,600. [p. 9,997.]
Oswestry, mkt. t. Shropsh., Eng.; ry. centre, castle; **Otago**, prov. dist. New Zealand, S. port. So. Isl.; area 23,497 sq. m., mtsous, afforested, rich in gold; cap. Dunedin (p. 7).
Otábeite, or Tahiti, largest of the Society Is., French possn. in Eastern Archipelago; area 478 sq. m.; cap. Papeete, p. 12,060. [quake in 1868.]
Otavallo, t. nr. Quito, Ecuador, destroyed by earth-
Otschakov, t. on R. Dnieper, Kherson govt., Russ.; industr.; p. 7,468.
Otley, t. on R. Wharfe, W.R. Yorks, Eng.; mchy., paper, and printing works, tanneries, etc.; p. 9,843.
Otranto, fishg. t. S. Italy, on Strait O. (entrance to the Adriatic between Albania and Italy), p. 2,874. Once a flourishing c. cathedral and fine mosaic pavement. Lecce prov. was formerly known as Terra di Otranto. [1½ m. wide.]
Otsu, t. in O. co., New York, U.S.A., 5 m. long. **Otsu**, t. in Omi prov., Yezo isl., Japan: busy tr.; p. 21,640. [resid. and industr.; p. 21,126.]
Ottaviano, t. nr. Naples, at foot of Mt. Vesuvius;
Ottaviano, t. subn. to Vienna, Austria, p. 30,405.
Ottawa, R. of Canada (trib. of St. Lawrence, 730 m. long); also c. of Carlton co., Ontario, cap. of the Dominion: splendid covt. bldgs, great timber and other industries and tr.; p. 87,092; also c. at mouth of Fox R., Illinois, U.S.A.; manuf.; p. 11,460; also c. on Otago R., Kansas, U.S.A., ry. works; p. 7,624.
Ottensen, t. in Schleswig-Holstein, Germany, now united with Altona (p. 7).
Otterburn, vil. on R. Rede, Northumberland, Eng.; here in 1388 was fought the famous battle of Clieve Chase. [nr. Exeter, p. 3,700.]
Ottery St. Mary, mkt. t. on R. Otter, Devon, Eng.
Ottoman Empire.—(See Turkey.)
Ottumwa, t. on Des Moines R., Iowa, U.S.A.; in midst of col. field; p. 22,012.
Ottway, C. S. W. extremity of Victoria.
Ouchita, or Washita R., Arkansas, U.S.A., trib. (550 m.) of Red R. [p. 8,120.]
Ouariga, or Warigia, t. in Algerian Sahara; tr. centre;
Oudenarde, t. Belgium; textile factories, beautiful town hall; battle here, the Allies defeated the French in 1708.
Ouda, or Awadh, prov. (and former kingdom) amalgamated with N. W. Prov., India; area 23,965 sq. m.; p. 13,000,000; 1st best well-cultivated fertile plain between Nijal and R. Ganges; cap. Lucknow (p. 7).
Oudshoorn, vil. C. Colony, Brit. S. Africa, on Olifants R., p. 8,084.
Ougree, t. on R. Meuse, nr. Liège, Belgium; industr. (in colly. dist.); p. 15,470. [p. 9,346.]
Oullins, t. nr. Lyons, dep. Rhône, France; manuf.;
Oulton Broad, L. Suffolk, Eng., nr. Lowestoft.
Oundle, mkt. t. on R. Nen, Northants, Eng.; p. 2,908.
Ourray, c. Colorado, U.S.A., Ourray co.; industr.; p. 5,409.
Oursque, t. nr. Bejal, Alentejo prov.; manuf.; p. 8,090.
Ouro Preto, t. cap. Minas Geraes prov., Brazil, nr. gold-mines, p. 61,604.
Ourthe, R. Belgium, trib. (50 m.) of R. Meuse.
Ouse, or Great Ouse, R., Eng., flows (156 m.) to the Wash; also R. of Sussex, flows (30 m.) to Eng. Channel at New Haven; also R. of Yorks, formed by R.'s Swale and Ure, flows past York and Goole to Humber estuary (130 m.) [Eng., p. 5,148.]
Outwood, eccles. dist. nr. Wakefield, W.R. Yorks, **Ovamboland**, dist. C. Namaqualand, S. Africa.
Ovar, t. on lagoon Aveiro, Portugal, 25 m. S. of Oporto; grows onions and other vegetables; fishery; p. 13,100. [p. 8,124.]
Ovenden, industr. t. nr. Halifax, W.R. Yorks, Eng.;
Over, t. nr. Middlewich, Chesh., Eng.; manuf.; p. 9,843. (See Darwen.) [p. 4,623.]
Overton, t. nr. R. Dee, Flintsh., N. Wales; one of the Flint bors.; p. 1,208.
Overijssel, Dutch prov., borders on Zuider Zee; area 1,301 sq. m.; p. 349,100; cap. Zwolle.
Ovidopol, t. and fort on R. Dnieper, govt. Kherson, Russ., p. 6,498.
Oviedo, maritime prov. N. Spain; area 4,098 sq. m., p. 605,484; agr., fruit, sardine, and other fisheries;

cap. O., t. on R. Nalon; gt. mkt.; p. 50,108. Gothic cathed.
Owatonna, t. in Spelle co., Minnesota, U.S.A., p. 5,408.
Owego, industr. t. on Susquehanna R., Tioga co., N. York, U.S.A., p. 6,200.
Owensburgh, on Ohio R. (cap. Davies co.), Kentucky, U.S.A.; tobacco factories, whiskey distilleries; p. 16,246. [Can.; good tr. and manuf.; p. 1,124.]
Owen Sound, port on Georgian B., Grey co., Ontario, **Owen Stanley**, mtn. Brit. New Guinea, alt. 13,205 ft.
Owosso, c. on Shawasssee R., Michigan, U.S.A.; timber tr.; p. 10,124. [to Snake R.]
Owyhee R. Nevada and Oregon, U.S.A., flows (300 m.)
Ozenhope, industr. t. nr. Keighley, W.R. Yorks, Eng.; p. 2,451.
Oxford, co. (S. Midland) Eng.; area 756 sq. m., p. 120,777; mainly agr.; cap. O., c. between R.'s Cherwell and Thames. Famous seat of learning; university and many fine colleges; p. 53,049; also smt. t.'s in New Jersey, U.S.A., and Ashley co., New Zealand.
Oxley, t. in co. Delatite, Victoria, p. 3,180.
Oxus, R. Asia.—(See Arnu Daria.) [p. (est.) 260,500.]
Oya, t. in W. Cape, cap. Yoruba ctry.; gt. tr. centre;
Oyster Bay, fav. cst. resort, Long Isl., 30 m. E. New York, U.S.A., res. p. 16,500. [p. 6,098.]
Oystermouth, port nr. Swansea, Glamorgansh., Wales, **Oziers**, nr. Sassari, Sardinia; industr.; p. 9,460.
Ozór, R. mfg. t. nr. Warsaw, Poland, p. 11,245.

P

Paar, R. Bavaria, trib. (70 m.) of R. Danube.
Paardeburg, on Modder R., Orange R. Col., Brit. S. Africa; here Cronje and his Boer command surrendered to Lord Roberts, 27th Feb., 1900.
Paarl, t. and summer resort, Cape Col., Brit. S. Africa, 28 m. E. of Cape town, p. 26,246.
Pabianize, or Pabianze, mfg. t. in Petrikau govt., Russian Poland; in forest hunting dist., p. 28,095.
Pabna, or Pubna, dist. Rabshahi div., Bengal, Brit. India; area 1,839 sq. m., suffered from earthquake, 1897; rice and jute crops, p. 1,480,000; cap. P., t. on R. Ichlanati, nr. old bed of R. Ganges; gd. trade, p. 17,008.
Pacajes, t. La Paz dep., Bolivia, manuf., p. 11,220.
Paceco, nr. Trapani, Italy; industr., p. 7,468.
Pachacamac, t. nr. Lima, Peru; has smt. ruined and more modern temples of the Incas; p. 4,639.
Pachino, t. on Cape Pasaro, Syracuse, Sicily; grape growg., basket-mkg., and fishg., p. 10,946. [p. 18,420.]
Pa-Chow, Chinese industr. t. 50 m. S. of Pekin,
Pachuca, t. in Hidalgo st., Mexico, nr. productive silver mines, p. 44,480.
Pacific Ocean, largest of the world's water divisions, stretching between America, Asia, and Australia, and communicating in the N. by Behring Strait (30 m. wide only) with the Arctic and reaching S. to the Antarctic circle, 9,000 m.; greatest width 10,000 m. at the Equator. The mean depth of the Pacific proper within the limits mentioned, as estimated by Murray, is 2,475 fathoms. The greatest known depth is at a point between Hawaii and the Philippines, where a sounding of 5,265 fathoms, or about 6 miles, has been taken by a U.S.A. telegraph surveying ship.
Padang, free spt. t. Sumatra, cap. of Dutch govt. of W. cst. of the Isl., p. 16,400.
Paddington, parly. bor. of W. London, Eng.; resid. and industr., p. 249,570; also bor. N.S.W., subn. to Sydney, p. 26,000.
Paderborn, t. nr. Dortmund, Westphalia; printing and brewg. industr., cattle, corn and wool tr., mml. springs, cathed., p. 26,284.
Padermo, t. nr. Monza, Milan, Italy; industr., p. 6,897.
Padiham, textile mfg. t. nr. Burnley, Lancs., Eng., p. 13,637. [tr., p. 11,810.]
Padrauna, t. Gorakhpur dist., N.W. Prov., India; gd. **Padron**, t. on R. Ulla, Corunna prov., Spain; grana, grapes, and fruit-growg. dist., textile manuf., ruined c. cathed., p. 7,146. [Eng., p. 2,480.]
Padstow, spt. t. on R. Camel, nr. Bodmin, Cornwall,
Padua, fort. t. nr. Venice, in Padua prov., Italy; university and many fine bldgs., flourishing industries, p. (commune) 98,000; (of prov.) over 500,000.

Paducah, c. on the Ohio R., McCracken co., Kentucky, U.S.A.; tobacco factories and large tr.; p. 24,100.

Padula, t. nr. Salerno, Italy; industr.; p. 9,043.

Paeana, t. on R. Po, nr. Valuzio, Italy; manuf.; p. 8,196.

Pagan, *township*, of Myingyan div., Upper Burma, at one time cap. of the Burmese Empire; many pagodas. [Inlils, macaroni factories; p. 13,202.]

Pagan, t. nr. Salerno, Campania, Italy; cotton

Paganica, industr. t. nr. Aquila, Italy; p. 6,149.

Pago, *isl.* Dalmatia, off Croatian cst. in the Adriatic; 37 m. long; p. 6,504.

Pahang, one of the Federated States of the Malay Penins., under Brit. influence; p. 118,000; cap. P. T., p. 7,460.

Paignton, cst. t. on Tor B., Devon, Engl.; p. 8,500.

Palineville, *vill.* on Grand R., Lake co., Ohio; industr.; p. 5,245.

Paisley, port and mfg. t. on White Cart R., Renfrewsh., Scotl.; anc. abbey; p. 8,477.

Pakhol, treaty pt. in Kwantung prov., China; dry fish export; p. 25,000. [p. 6,400.]

Paknam, t. at mth. of Menam R., Siam; sugar; area 6,210 sq. m.; grows rice, grain, tobacco, sugar, etc.; also exports petrol and teak; p. 590,400. Hdqrs. 1. P. on R. Irwadi; boat-build. centre; p. 20,100. [Punjab, India; gd. tr.; p. 7,128.]

Pakpattan, t. nr. R. Sutlej; Montgomery dist., Paka, t. on R. Daulube, nr. Buda, Hungary; manuf.; p. 12,055.

Palacios, t. in Seville prov., Spain; industr.; p. 5,082.

Palaeocretic S., ice-region extending for 1,200 m. round the N. Pole. [p. 6,845.]

Palafurkel, t. in Gerona prov., Spain; manuf.; p. 5,734.

Palafuria, t. nr. Catania, Sicily; industr.; p. 5,734.

Palais, *le*, t. on Belle Isl. off Brittany, France; p. 4,826.

Palaja, t. nr. Pisa, Italy; manuf. and tr.; p. 8,042.

Palakollu, t. Godavari dist., Madras, India; gd. tr.; p. 8,042.

Palamau, *dist.* Chota Nagpur div., Bengal, India; area 4,905 sq. m.; silk and lace exports; p. 609,680; much unprofitable jungle.

Palamkotta, t. in Tinnevely dist., Madras, India, on Tambaram R. opp. Tinnevely t.; official hdqrs., gd. tr., p. 10,980.

Palanka, g. Danubian *vils.* of Hungary (Neu, Alt, and Deutsch P.) 12 m. S.W. of Bacs; industr.; p. 9,140 collectively.

Palanpur, nat. st. Gujarat div., Bombay, India; area 3,177 sq. m., has suffered severely from plague and famine; p. 223,024. P. t., the resid. of the Diwan (of Afghan descent), is a rivy. t. with 18,000 inhabs.

Palar R., S. India flowing (230 m.) from Mysore to the sea.

Palatinate, *circle* of Bavaria, W. of the R. Rhine, comprising Kaiserlautern, Manheim, Landau, and Speyer, all of which see. The (total p. 220,000) reaches to Baden, Alsace, Hesse, and Rhenish Pruss.

Palatinate, Upper, *circle* of Bavaria adjng. Bohemia, p. 550,840 (cap. Ratisbon, g.v.)

Palawan, *isl.* of the Philippine grp., lying towards Borneo, area 4,576 sq. m., p. 50,500. [p. 7,894.]

Palazzo, t. nr. Melfi, Patenza prov., Italy; industr.

Palazzo-Adriano, industr. t. nr. Coerleone, Palermo prov., Sicily; p. 6,843.

Palazolo, t. nr. Noto, Syracuse prov., Sicily, on site of anc. Acra; many antiquities, p. 12,000.

Palembang, t. on Musi R., Sumatra; cap. P. residcy., p. 53,460. The Dutch res. of P. corresponds to the old kingdoms of P. and Jambi.

Palencia, *indl. prov.* Spain; partly fertile plain, partly wooded and mtnous., area 3,127 sq. m., p. 198,460; cap. P., on R. Carrion, old local industries, barracks, p. 17,864.

Palenque, *vill.* in Chiapas st., Mexico, nr. extensive and magnif. palace and temple ruins, p. (dist.) 9,828.

Palermo, *gov. c.* and cap. of former kingdom Sicily, on N. ext. of isl., many beautiful squares, pub. bldg., and promenades; extensive tr., fisheries and manuf. (silk, &c.), cathedral, Norman-Saracenic, p. (commune) 325,000; (prov.) abt. 800,000.

Palestine, *Philitia*, or The Holy Land, the anc.

country of the Jews, south. porta. of Syria betw. the Mediterranean and the Lebanon and Anti-Lebanon S. and N., and the Dead Sea and the Desert of Syria and Arabia W. and E.; area 10,000 sq. m., p. (estmd.) 800,000; under Turkish rule, pres. Hebrew p. being only abt. 12,000, Christn. 80,000, the remainder of the inhabs. Mohammedan; chf. c. Jerusalem (g.v.).

Palestine, mfg. t. in Texas, U.S.A., cap. Anderson; c. agr. and forest regn., p. 20,040.

Palestrina, t. nr. Rome, Italy; the anc. Praeneste, cathedral, p. 6,439.

Palghat, t. Malabar dist., Madras, Brit. India; busy trade centre, p. 44,260.

Palitana, *cap.* P. st., Kathiawar, India; a city of Jain temples, inhabited by priests and their servants.

Paik's Bay and Strait, *gulf* and *channel*, betw. Ceylon and S. India, arm of the Indian O.

Pallanza, t. on Lago Maggiore, Piedmont, Italy; beautiful winter resort, p. 3,946.

Palma, fort. t. on the Spanish isl. of Majorca, largest of Balearic grp.; five pub. bldgs., gd. tr. m. wine, silk, &c., also impt. manuf., p. 69,050; also t. nr. Norta, Cacerza prov., Italy, p. 7,840; also t. nr. Girgenti, Sicily, industr., p. 13,240; also t. in Huelva prov., S. Spain, p. 6,410.

Palma, San Miguel de, one of the Canary isls., area 333 sq. m.; traversed by mtn. range, p. 42,120; cap. Santa Cruz de la Palma. [4,892.]

Palmanova, fort. t. nr. Udine, Italy; industr.; p. 12,055.

Palmas, Cape, *prom.* on coast Liberia, West Africa.

Palmas, Las, c. on N. est. Grand Canary, Canary Isles; cathedral, good shipping and local tr.; p. 54,488.

Palmella, t. nr. Lisbon, Portugal; industr.; p. 6,804.

Palmer, textile mfg. t. Hampden co., Mass., U.S.A.; p. 8,433.

Palmerton, *township* nr. Dunedin, New Zealand, p. (dist.) 1,808; also t. (North P.) nr. Wellington, New Zealand, p. 1,602; also spt. on Port Darwin, N. Australia, p. 1,140; also t. co. Perth, Ontario, Canada, p. 7,724.

Palmy, t. in Reggio prov., Calabria, Italy; olive oil, Palmyra (anc. Tadmor), c. (ruined) in Syrian desert, 120 m. N.E. of Damascus, extensive remains; also vil. Wayne co., New York, U.S.A., p. 3,648; also t. Marion co., Missouri, U.S.A., p. 4,888; also lagoon islet of Polynesia (Brit.) N.W. of Christmas Isl.

Palni, t. Madurai dist., Madras, India; good tr.; p. 12,120.

Palni Hills, range betw. E. and W. Ghats, S. India, c. nr. Bari, Italy; industr.; p. 11,246.

Palo Alto, t. in Santa Clara co., California, U.S.A., p. 2,246. Here was fought first battle of war between Mexico and U.S.A. in 1846. [15,460.]

Palombara, t. nr. Tivoli, Central Italy; good tr.; p. 12,055.

Palos, *port*, on Rio Tinto, Huelva prov., S. Spain, p. 10,980; Columbus voyaged hence in 1492.

Palos, t. nr. Veszprém, Hungary; industr.; p. 5,860.

Palouse R. of Idaho and Washington, U.S.A., trib. (220 m. of Snake R.).

Palte, or Tamboro, remarkable ring-shaped lake of Tibet (nearly 30 m. long), 50 m. S.W. of Lhasa.

Palwal, trading t. in Gurgaon dist., Punjab, India, p. 12,424.

Pambula, t. in Auckland co., N.S.W., nr. the Pacific coast, p. 2,268.

Pamiers, t. on R. Ariège, nr. Foix, France; iron manuf.; p. 10,108.

Pamirs, great *plateau* from which the prin. mtn. chains of Asia diverge, alt. 13,600 ft. Often called "the roof of the world," it lies on the borders of the Russian, Chinese, and Brit. Indian empires, N.E. of Afghanistan, W. of East Turkistan, and S. of a great portion of Asiatic Russia. [Carolina, 75 m. by 25 m.]

Pamlico Sound, arm of the Atlantic, on E. coast of N. Pampa, *terr.* in centre of Argentina; area 56,320 sq. m., p. 24,000; stock-rearing; cap. General Acha.

Pampas, great open grassy *plains* in S. Amer., stretching from the Andes to the Atlantic, and from Tierra del Fuego to El Gran Chaco; Pampas del Sacramento is the specific name of the plains of Peru traversed by the Ucayali R.

Pampeluna, or Pamplona, c. on the R. Arga, N. Spain, nr. the French frontier; was cap. of the anc.

kingdom of Navarre. Fortified, cathedral; p. 32,000. Thriving textile industries. [p. 10,420.]

Pamplona, *t.* in Santander st., Colombia; good trade;

Pana, c. Christian co., Illinois, U.S.A., in colly. dist., p. 5,340.

Panama, *t.* in dep. same name, Colombia, S. America, at the upper end of the Panama G., and 3 m. from the Pacific terminus of the Panama railway and canal works and dock; gd. export tr. in hides, pearl-shells, etc.; p. 35,000. The length of the canal works across the Isthmus of P. from P. to Aspinwall or Colon is 46 m. The Isthmus (formerly called the I. of Darien) is the connecting link of N. and S. America, and the narrowest land neck between the Atlantic and Pacific; p. of dept. 200,000.

Panaro, *R.* of Italy, trib. (75 m.) of R. Po.

Pansay, *dist.* of the Philippine grp., S.E. of Mindoro; area 4,708 sq. m., contains Iloilo and antique provs., total p. over 1,000,000.

Panch Mahals, *dist.* Gujarat div., Bombay, India; area 1,613 sq. m.; grows rice and poor grain; manuf., lacquered ware and toys; p. 261,500 (decreasing); suffered very severely from famine 1899-1900; administ. hdqrs., Godhra.

Pancsova, *t.* fort., on R. Temes, Hungary, nr. Belgrade; manuf.; p. 18,240. Here the Austrians defeated the Turks in 1739, and the Austrians the Hungarians in 1849.

Pandharpur, *t.* in Sholapur dist., Bombay, India, on R. Bhima; Temple of Vishnu, the most frequented place of pilgrimage in the Deccan, p. 21,110.

Panhandle, popular name for projecting dists. N. of W. Virginia, N.W. Texas, and Idaho, U.S.A.

Panipat, *t.* Karnal dist., Punjab, Brit. India, nr. old bank of R. Jumna; tr. and military centre, p. 28,642.

Panissière, *t.* nr. Montbrison, Loire dep., France; industr., p. 5,860.

Panna, *nat. st.* Bundelkhand agency, Centl. India; area 2,558 sq. m., had famous diamond mines, now unprofitable, p. 240,564; cap. P., t. nr. Banda, p. 14,750.

Panteg, or **Panteague**, *par.* in iron and colly. dist., Monmouthsh., Eng., nr. Pontypool, p. 7,864.

Pantellaria, volcanic *isl.* in Mediterranean; belongs to prov. Trapani, Sicily; area 58 sq. m., p. 8,500, chf. t. P., on N.W. cst., p. 3,418.

Pantin, *t.* of S. Denis, dep. Seine, just outside the fortins, of Paris, France; industr. dist., p. 33,406.

Panton, *t.* in prov. Lugo, Spain; mtnous, agr., and wine-growng, dist., p. 13,108. [p. 14,095.]

Panwel, *t.* in Thana dist., Bombay, India; gd. tr., p. 9,140; also mfg. c., Miami co., Kansas, U.S.A.; p. 4,216.

Pao-ting, one of the chief *cs.* of Pe-chih-l. prov., China, on the R. Yung-ting; gt. tr., p. 130,000.

Papa, *mfg. t.* in Veszprém co., Hungary, nr. Presburg, p. 16,085. [p. 8,124.]

Papanguaro, *t.* Durango st., Mexico; impt. tr.,

Papenburg, *t.* in prov. R. Ens, Hanover, Pruss.; good canal tr. and shipbldg. industry, p. 8,114.

Paplet, French *c.* on cst. of Otaheite (or Tahiti) isl., in the Society grp., p. 3,688.

Paps of Jura, grp. of three *mtns.* on Jura Isl., Scotl., highest pk. 2,565 ft.

Papua. (See New Guinea).

Par, *spt.* nr. St. Austell, Cornwall, Eng., p. 1,524.

Para, *estuary* of Rs. Amazon and Tocantins, N.E. Brazil, 200 m. long, and 40 m. wide at entrance to Atlantic.

Para, or **Grão Para**, *prov.* Brazil, traversed by the Lower Amazon R., and bordering on Guiana, and the Atlantic, area 443,900 sq. m., p. 450,600; also a *spt.* on the Para, cap. of prov., centre of river tr. of the Amazon system; exports rubber, balsam, hides, etc., p. 64,860. [5,640.]

Parabiago, *mkt. t.* nr. Milan, Lombardy, Italy, p. 5,748.

Paradas, industr. *t.* nr. Seville, Spain, p. 5,748.

Paraguay, *R.* S. America, flows 1,600 m. from Brazil to the Paraná, nr. Corrientes, forming pt. of E. bdy. of Bolivia, and W. bdy. of Paraguay.

Paraguay, *repub.* S. America, lying mainly betwn. the Paraguay and Paraná R.'s and bounded by the Argentine, Bolivia, and Brazil, area 174,204 sq. m., p.

650,000 (incldg. 80,000 Indians of the Chaco). Climate tropical, vegetatn. luxuriant; industries: fruit growing, cattle-rearing, prepn. of Paraguayan tea, tobacco-planting, timber-cutting, etc. Cap. Asunción (p. 2).

Parahiba, *R.* Brazil (500 m.) flows to Atlantic in State of P., area 28,854 sq. m., p. 320,560. Cap. P., t. nr. mth. of R. P., p. 46,260; also a *cr.* rising in São Paulo st., Brazil, and flowing 658 m. betwn. Rio de Janeiro and Minas Gerais to the Atlantic N.E. of Rio de J.; Parahitinga is a t. of São Paulo on the latter R., p. 6,210. [tr. and industries, p. 32,460.]

Paramaribo, *spt.* on R. Surinam, Dutch Guiana, active

Paramythia, *t.* nr. Yania, Turkey, p. 5,424.

Parana, *R.* S. America (2,000 m.) flows from Brazil through Paraguay and Argentina to join the Uruguay and form the est. of La Plata. Also prov. Brazil, betwn. R. P. and the Atlantic, area 85,453 sq. m., p. 650,000. Cap. Curitiba; also t. on R. P. in Argentina, Entre Rios st., p. 26,840, active tr.

Paranagua, *spt.* Parana prov., Brazil, exports Paraguayan tea, etc., p. 8,640.

Paranahyba, *R.* Brazil, prov. Goyaz, flows 500 m. W. to join the Curumã; both affluents of the Parana; also another R. of Brazil, flowing (830 m.) to the Atlantic, at the port of San Luis de Paranahyba, in prov. Piaul., p. of t. 25,460.

Parati, *t.* in Guarico st., Venezuela, nr. Ortiz, p. 12,865.

Parati, *spt.* Rio Janeiro prov., Brazil; good tr., p. 12,865.

Parchim, *t.* on R. Elbe, Mecklenburg Schwerin, Gerny., minl. spring; birthpl. of Field-Marshal Moltke, p. 10,560. [gratz; old chateau, p. 19,518.]

Pardubitz, *t.* on R. Elbe, Bohemia, Austria, nr. König-Parechia, or Paro, cap. Paros, isl. of the Cyclades, in the Ægean S., p. 2,480.

Parozzo, *csr. t.* nr. Rovigno, Istria, Austria, fishg. and shipbldg., mulberry plantatn., p. 10,087.

Parra, *fort. cst.* of Epirus, Turkey, nr. Arta, p. 4,810.

Parra Kimed, *t.* Gangan dist., Madras, Brit. India, res. of raja, college, gd. tr., p. 21,849.

Parima, *Sierra*, *mtn.* range, S. Venezuela, highest pt., abt. 10,000 ft.

Paris, *ct.* cap. of French Repub. on R. Seine, enclosed within fortins, 22 m. long and includg. an area of 30 sq. m. Contains some of the finest bldgs. in the world, and has many splendid boulevards, open spaces, and monuments, while for art, literary, and scientific collections its renown is universal; its industries, wealth and commerce are enormous; p. 2,900,000. In 1871 captured by the German Army, after a 41 month's siege, since which period the fortifications have been rendered the most extensive in existence.

Paris, *c.* in cotton and grain dist., Lamar co., Texas, U.S.A., p. 9,840, also c. in agr. regn., Edgar co., Illinois, U.S.A., p. 6,646, also c. cap. Bourbon co., Kentucky, U.S.A., p. 5,148, also t. on Grand R., Brant co., Ontario, Can., p. 3,540. [4,089.]

Paria Hill, *t.* cap. Oxford co., Maine, U.S.A., p. 1,000.

Parkersburg, *c.* Ohio R., Wood co., W. Virginia, U.S.A., manuf. centre in oil and nat. gas regn., iron-works, p. 13,460.

Parkes, gold-ming *t.* Billahong dist., N.S.W., p. 3,804.

Parkgate. (See Weston and Parkgate.) (Eng. Park Gate, industr. sub. of Rotherham, W. R. Yorks, Parkhead, E. sub. Glasgow, Scotl., resid. and industr., p. 9,428.)

Park Range, *cm.* of the Rocky mtns., Colorado, U.S.A., mt. Lincoln, alt. 14,297 ft.

Parma, *prov.* Emilia, Italy, area, 1,250 sq. m., cap. Parma, t. between the Apennines and the R. Po, flourishing tr., felt hat and other factories, university, cathed., and other fine bldgs., p. 51,260.

Parnassus, *mtn.* ridge in Greece, 83 m. N.W. of Athens, nr. the ancient Delphi, the modern Liakhura, highest summit, Licorea, 8,068 ft.

Paros, *isl.* in Grecian Arch., 5 m. W. of Naxos, area 63 sq. m., p. 9,840, cap. Paro (p. 2).

Parramatta, *t.* on P. R., Cumberland co., N.S.W., noted for orchids and oranges, oldest t. in Australia, p. 13,084. [p. 15,500.]

Parras, *t.* nr. Mapimi, Durango st., Mexico, gd. tr.,

Parret, *R.* Dorset and Somerset, Eng., flows (35 m.) to Bristol Channel, nr. Bridgwater.

Parry Cape, on Arctic cst., N. America, Parry Is., grp. in Arctic Oc., N. of Melville Sound, includg. Melville Isl., Bathurst Isl., Prince Patrick Isl., &c., Parry Sound, t. on Georgian B., Ontario, Can. p. 9,018.

Parsons, *c.* nr. Fort Scott, in Labette co., Kansas, U.S.A., mfg. centre in rich farm. dist., p. 8,142.

Parsonstown, King's co., Ireld.—[See Birr].

Partabgarh or **Pratabgarh**, *dist.* Fyzabad div., Oudh, Brit. India, area 1,430 sq. m., grows sugar, hemp, opium, and indigo, p. 894,260, admin. hdqrs., Bela.

Partabgarh or **Pertabgarh**, *nat. st.* in Rajputana Agency, India, area 959 sq. m., p. (decreasg.) 52,000, cap., P., t. on rwy., p. 1,300. [Palerno, p. 14,840.

Partanna, *industri.* t. in Trapani prov., Sicily, nr. Partinico, t. nr. Nioth, Deux-Sevres, France, on promonty, overlookg. the Thouet, auct. ramparts and interestg. old bdgs., woollen indust., p. 7,010.

Partick, *mfg.* *sub.* of Glasgow, Scotl., p. 60,848, has flourishg. Clydeside ship-bldg. yards, [22,428.

Partinico, *mfg.* and tr. t. nr. Palermo, Sicily, p. Parton, *sp.* adjng. Whitehaven, Cumberland, Eng., p. 1,624. [tr.: p. 10,050.

Parvatipur, t. Vizagapatnam dist., Madras, India; gd. Parys Mtn., *hill* in N.E. Anglesey Wales; copper mines.

Pasadena, *c.* Los Angeles co., California, U.S.A., in fruit-growg. regn., base of San Gabriel Mtns.; p. 30,281. [liqueur manuf.; p. 3,484.

Passages, *sp.* Gulpuzcoa prov., Spain; wine and Pascani, t. in Suciava dist., Moldavia, Rumania; industri.; p. 8,425.

Pasco, or **Cerro de Pasco**, t. in famous silver-ming. dist., Junin dep., Peru; situated 14,280 ft. above sea-level; p. 16,120.

Pas-de-Calais, French name of Strait of Dover; also nautime dept., N. France; area 2,606 sq. m.; agr. and coal-field dists.; p. (alt.) 1,000,000; cap. Arras.

Pasewalk, old mfg. t. nr. Stettin, Pomerania, Pruss.; p. 10,814.

Pasig, t. on P. R. Luzon, Philippine Is.; commerc. centre of the lake regn.; p. 23,648.

Pasitano, *cst.* t., industri., nr. Salerno, Italy; p. 5,873.

Pasman, *isl.* nr. Zara, in the Adriatic, belonging to Dalmatia, Austria (15 m. long, 3½ m. wide); wine, oil, etc.; p. 10,415.

Passage, *West*, *sp.* on Cork Harb., Ireld.; p. 2,618.

Passaic, *c.* on P. R., K. Co., New Jersey, U.S.A.; thring. manufs.; p. 54,770. Passaic R. flows 100 m. to Newark B.

Passamaquoddy Bay, *arm* of the Atlantic (15 m. long), betwn. New Brunswick and Maine, U.S.A.

Pasarowitz, *mfg.* t. nr. K. Danube, Servia, nr. Belgrade; p. 12,463. [p. 34,500.

Passaruan, t. in Dutch residcy. of P., Java; impt. tr.; p. 16,528.

Passy, *W. sub.* of Paris, E. of the Bois de Boulogne, Paris, t. in Cauca st., Colombia, on flank of Pato volcano; p. 11,240. [p. 5,086.

Pasztó, t. on R. Zagyva, Hungary, nr. Pesth; industri.,

Patagonia, *southernmost* *portn.* of America; includg. all of Argentina S. of the Rio Negro, and all of Chili S. of Chiloé prov. Area (exclud. Tierra del Fuego) 235,000 sq. m., abt. one fifth of which is Chilean terr. The s. is sparse, and includs. abt. 20,000 wandering Indians of tall stature. Along the csts. are flourishg. civilised settlements. The Andes ranges, stretching 1,000 m. from S. to N. of Patagonia, divide the Chilean str. on the W. from the Argentine portn. on the E.

Patani, t. in Gu'arat, Baroda st., India; p. 34,620; impt. tr.; also t. in Nejal, nr. Khatmandu; p. 31,420.

Patani, *nat. st.* in Malay penin., trib. to Siam; p. (abt.) 100,000; cap. P., t. on E. cst., p. 2,800.

Patapasco, R., Maryland, U.S.A., flows 80 m. to Chesapeake B. nr. Baltimore. [N. isl.; p. 1,460.

Patea, t. nr. New Plymouth, N. Zealand (on S.W. cst. Patey Bridge, mkt. t. on R. Nidd, W. Yorks, Eng.; p. 7,753.

Paterno, *c.* Catania, Sicily, at ft. of Mt. Etna; p. (communal) 18,600; on site of anc. Hybla; gd. tr.

Paterson, *c.* New Jersey, U.S.A., on Passaic R., 17 m.

N.W. New York; great mfg. centre, called "the Lyons of America," because of its extensive silk industry; p. 125,000; also name of t. in Durham co., N.S.W.; p. 2,648.

Patiala, native st. within the Punjab, India, S. of the Sutlej R. (sometimes called Puttala); area 5,418 sq. m., t. p. 140,769. Cap. P., t. on rwy. from Shatinia to Rajpura; p. 55,428.

Patkal, *min. range* Indo-Chinese penins., betwn. Assam and Burma; Chaukan (or Lugayak) alt. 9,020 ft.

Patmos, *isl.* 20 m. S. of Samos, W. cst. Asia Minor, one of the Sporades, belongs to Turkey, monastery to St. John the Divine.

Patna, *dist.* (area 23,675 sq. m., p. 16,000,000), and dist. of same (area 2,076 sq. m., p. 1,750,000) of Behar prov., Bengal, India; opium is extensively grown, and prepared for market in the cap. c. of P., on R. Ganges, a great industri. and commcl. centre with a p. of 135,000; the c. stretches for 9 m. along the R., and the mil. cantonmt. of Dinapur joins it on the W.

Patna, *feudatory st.* in Chhattisgarh div., Central provs., India, area 2,399 sq. m., p. 277,560; this st. was formerly under Brit. administratn., and the ruling chf. is a rajput of high lineage.

Patras, *fortif.* *sp.* on G. of P., W. cst. Greece, 70 m. from Corinth, divided and castle, tr. in currants, raisins, figs, olives, wine, skins, etc., p. 10,000.

Patricroft, *industri.* t. nr. Manchester, Lancs., Eng., p. 12,140. [oil manuf., tunny fsig., p. 10,406.

Patti, *c.* Messina prov., Sicily, cathedr., silk and olive-Paturage, t. nr. Mons, Belgium, industri., p. 12,424.

Pau, t. and health res. on Gave de Pau, Basses-Pyrénées dep., France, p. 31,465; the R. Gave de Pau flows 105 m. to join R. Adour, nr. Bayonne.

Paulliac, t. on R. Gironde, nr. Bordeaux, France, Médoc wine tr., p. 5,248. [6,014.

Paul, t. on Mount St. Bay, Cornwall, Eng., p. (hist.)

Paulton, *par.* nr. Bath, Somerset, Eng., p. 2,428.

Pavia, *prov.* Lombardy, Italy, area 1,290 sq. m., p. 511,000; cap. P. c. on the Ticino, nr. Milan, "the city of a hundred towers," fine cathedr., basilica, and Visconti palace, also university and Carthusian monastery, military engineering wks., and many manufs.; p. 36,500.

Pavlodar, t. in prov. Senupalatinsk, Asiatic Russ., on K. Irksh, tr. centre for the Kirghiz cattle-breeder, p. 8,560. [Volochya, manuf. and tr., p. 16,210.

Pavlograd, t. in Yekaterinburg gov., 40,000, on R. Pavlovo, industri. t. on Oka R., gov. Nijni-Novgorod, Russ., cutlery wks., p. 14,285.

Pavlovskiy Posad, t. on Klyazma R., Moscow gov., Russ., woolen manuf., p. 12,624.

Pawtucket, *c.* on P. R., Providence co., Rhode Isl., U.S.A., cotton manuf., foundries, etc., p. 51,622.

Paxo, or **Paxos**, one of the Iorian Is., nr. Corfu, Greece, olive oil, p. 5,810. [U.S.A., p. 4,110.

Paxton, *c.* nr. Big Vermilion R., Ford co., Illinois, Peasands, mfg. c. on Rio Uruguay, Uruguay, labourd by the Brazilians 1862, p. 12,122.

Payson, *industri.* t. nr. Mt. Nebo, Utah, U.S.A., p. Peabody, leather mfg. t. Essex c., Mass., U.S.A., p. 12,240; formerly called South Danvers.

Peabody Bay, *arm* of Smith Sound, N.W. c.st., Greenland, [flows (1,000 m.) to L. Athabasca.

Peace, R., rises in Rocky Mtns., Brit. Columbia, and Peak of Derbyshire, nautous, *dist.* mid.-Eng., extendg. from Chesterfield to Buxton, and Ashburne to Glossop, highest pt. Kinder Scout, alt. 2,080 ft.

Pearl, *c.* Mississippi, U.S.A., flows (200 m.) to G. of Mexico, name also given to Canton R., S. China.

Pearl Is., *sm.* *grp.* in B. of Panama, belong to Colombia.

Pecciola, t. nr. Pisa, Tuscany, Italy, industri., p. 7,416.

Pe-chi-li, *prov.* N. China, adjng. Mongolia and the G. of Pe-chi-li, area 58,949 sq. m., p. 28,000,000; the G. of P. is an arm of the Yellow S., and the Strait of P. connects the two.

Peckham a S.E. *sub.* of London, Eng., industri. and residt., included in bor. of Camberwell.

Peconic, R., of New Mexico and Texas, U.S.A. (764 m.), trib. of Rio Grande.

Pecs, *mfg.* t. in Baranya prov., Hungary, famous for wine, porcelain, and organ manuf., p. 48,000.

Peddapur, *t.* Godavari dist., Madras, India; *gd. tr.*, p. 12,140.
Peddle, *t.* in Cape Colony, Brit. S. Africa, in P. div.
Pedee, or Great Pedee, R. N. and S. Carolina, U.S.A., flows to Winyah B. n. Georgetown; navigable 150 m.
Pedrotrallage, *min.* in S. of Ceylon, alt. 8,235 ft.
Peelbies, *co.* S. of Scotl. betw. Lanark and Midlothian, Selkirk and Dumfries; area 354 sq. m., mainly agr., but mtous., p. 15,597; cap. Peelbies, health rest. on R. Tweed, p. 5,554.
Peekakill, *t.* Westchester co., New York, U.S.A., on Hudson R.; annual camp. *gd.* of the National Guard, p. 10,500.
Peel, fishery *t.* on W. cst. Isle of Man, p. 4,550; Peel R., N.S.W., trib. (with the Namoi, 600 m. long) of R. Darling; also R. Canada (500 m.) joins the Mackenzie R. at the delta. [Saxony, p. 5,010.
Pegau, industr. *t.* on White Elster R., nr. Leipzig.
Pegli, *vil.* nr. Voltri, on G. of Genoa, Italy, p. 4,894.
Pegnitz, *headstream* of the R. Regnitz, Bavaria, flows 60 m. to Fürth; also name of a sm. industr. *t.* nr. source of R. P., p. 1,842.
Pego, *t.* in prov. Alicante, Spain, nr. Valencia, mfg.
Pegu, *div.* of Lower Burma, includg. Rangoon and neighb. dists.; area 13,083 sq. m., *gt.* rice crops, p. nearly 2,000,000; cap. P., p. 12,140.
Pel-ho, R. in prov. Pe-chih, China (300 m.), unites with R. Yun-ho at Tientsin and flows to G. of Pe-chih.
Pellau, *t.* nr. Breslau Pruss. Silesia; mfg., p. 7,835.
Pelne, *t.* Hanover, Pruss. Brunswick; breweries, cattle mkt., p. 18,245.
Pelpus, L. Westn. Russ. (length 80 m. by 32 m.) discharges by R. Narova to G. of Finland.
Pekin, *c.* in Tazewell co., Illinois, U.S.A.; *gt.* grain mkt. in agr. and coalfield reg., p. 10,018.
Peking, or Pekin, *c.* cap. of Chinese Empire lying in the plain betw. the Pei-ho and Hun-ho R.'s, and 56 m. S.E. of the Great Wall; an immense *c.* 25 m. in circumference, divided betw. Chinese and Tartar communities, and having a p. est. at alt. 1,000,000; prin. bldgs. the Imperial Palace in the "Purple Forbidden C.", Bell Tower and Drum Tower in the Tartar *c.*, and "Temple of Heaven," in the Chinese *c.*; suffered severely in Boxer rising, and capt. by allied Brit. and American forces, Aug. 14, 1900.
Pelago, *t.* (industr. nr. Florence, Tuscany, Italy, p. 11,108 (communal).
Pelaw Is., Pacific grp. W. of the Carolines, Germn. (See Micronesia).
Peling, *isl.* off E. cst. Celebes (50 m. by 30 m.); also *isl.* off W. cst. Corea, in the Yellow Sea; also range of hills S. of the Hoang-ho Valley, N.W. China.
Pellon, or Zagora, celebrated *min.* S. of Mt. Ossa, Thessaly, Greece, alt. 5,310 ft.
Pella, industr. *t.* Marion co., Iowa, U.S.A., p. 3,948; also name of missn. stn. Bushmanland on Orange R.; Cape Colony, Brit. S. Africa. [on N. cst. So. Isl. Pelorus Sound, extends 25 m. ind. from Cook Strait.
Pelvaux, *min.* France, betw. Isere and Hautes-Alpes alt. 13,442 ft.
Pemba, *isl.* 45 m. long, p. 10,000 off Zanzibar cst., Brit. E. Africa; also *t.* on L. Moeru, Equatorial Africa, p. 8,480; also *t.* in Dutch New Guinea.
Pemberton, *t.* adjoining Wigan, S.W. Lancs, Eng.; thriving manuf., p. 35,640.
Pembroke, maritime *c.* S. Wales, adjng. Cardigan and Carmarthen, area 617 sq. m., hilly, mainly agr. with fisheries and mfg. industries, p. 89,956; cap. Pembroke, dockyard *t.* on creek of Milford Haven, p. 15,673. The Pembroke dist. of Pearly bora, comprises P., Milford, Tenby, Haverfordwest, Wiston, Narberth, and Fishguard. P. is also name of a *t.* (mfg.) in Ontario, Canada, on the Alzette L., p. 5,565; and of two *t.*'s in the U.S.A., viz. P. in Washington, co. Maine, nr. Eastport, p. 5,014; and P. on the R. Merrimack, New Hampshire, p. 5,245.
Pembroke, *township* N. of Dublin *c.*, Ireld., p. 29,260.
Pen, *t.* nr. Alibagh, Kolaba dist., Bombay, India; *gd. tr.*, p. 8,846.
Penafel, industr. *t.* nr. Oporto, prov. Minho, Portugal, p. 5,120; also mfg. *t.* in Valladolid prov., Spain, p. 4,548.
Penang, or Prince of Wales Isl., Brit. possn. Straits Settlements off W. cst. Malay Pen.; area 107 sq. m.,

p. (includg. Wellesley prov., opp., and the Dinding Isl.) 250,000; cap. Georgetown.
Pen Argyll, *bor.* Penn., U.S.A., industr. centre on border Northampton co., p. 4,908. [Wales, p. 15,488.
Penarth, *sub.* *t.* at mth. of Taf R., Glamorgan, p. 4,246.
Penas de San Pedro, *t.* nr. Albacete, industr.; p. 18,918.
Pendle Hill, nr. Clitheroe, N.E. Lancash., Eng., alt.
Pendleton, industr. *t.* adjoining Manchester, Lancash., Eng., on N.W., p. 64,386. [gt. tr.; p. 12,110.
Penedo, *t.* on S. Francisco, Alagoas prov., Brazil;
Penge, S.E. *sub.* of London, Eng.; Crystal Palace park partly in the hamlet; residential; p. 23,337.
Peniche, fort. *t.* on Atlantic cst., Portugal, nr. Lisbon, p. 12,750.
Penicuik, *t.* on N. Esk R., nr. Edinburgh, Scotl., p. 12,750.
Penig, *t.* on R. Mulde, nr. Leipzig, Saxony; manuf.; p. 17,125.
Penistone, mkt. *t.* on R. Don, W.R. Yorks, Eng., p. 13,408.
Penj-deh, or Penj-deh, Russn. *t.* in Centr. Asia, nr. the Afghan border, on R. Murghab, N. of Herat; capt. in 1885 by Komarov.
Penkridge, industr. *t.* on R. Penk, Staffordsh., Eng., 6 m. S. Stafford; p. 4,427.
Pennamawr, *t.* and cst. *wat. pl.* nr. Conway, Carnarvonshire, Wales, p. 4,942.
Penner, or Pennair, *c.* of Mysore and Madras, India, flows 355 m. to sea nr. Nellore; also another R. flowing S. of this (245 m.) to Cudalore on the Coromandel cst.
Pennsylvania, one of N. Atlantic states, U.S.A.; includes the terr. colonised by William Penn in 1682; total area 45,219 sq. m.; mtous., and rich in coal, iron, and petrol; very extensive manuf.; p. nearly 7,500,000; cap. Harrisburg; princ. cities, Philadelphia and Pitsburg [all of which see]. Penn. is frequently spoken of as "the Keystone State."
Penn Vann, *t.* at ft. of Keuka L., New York, U.S.A.; grape-growg. dist.; p. 15,040. [an arm of the Atlantic.
Penobscot, R. Maine, U.S.A., flows 275 m. into P. Bay.
Penon de Valez, Spanish fort, and settlement in Fez, Morocco, 75 m. S.E. of Ceuta. [Carnarvonsh., Wales.
Penrhyn, extensive slate-quarrying dist. nr. Bethesda.
Penrith, mkt. *t.* Cumberland, Eng., nr. Carlisle; ruined castle; p. 8,973.
Penryn, mkt. *t.* Truro div., Cornwall, Eng., on Fal-mouth Harb., granite quarries, p. 3,992.
Pennacola, *sp.* on P. Bay, Florida, U.S.A., exports, timber, fruit, cotton, p. 22,982.
Pentland Firth, *strait* betw. Orkney and the Caithness cst., Scotl. P. Hills, range running S.W. through the counties of Lanark, Edinburgh and Peebles, Scotl., highest p. k. abt. 1,900 ft.; P. Skerries, grp. of small isles in P. Firth, with lighthouses.
Pentonville, an ecclesiastical dist. of N. London, p. 10,120, industr. and residential.
Penza, *prov.* E. Centr. Russ., S. of Nijni-Novgorod, area 14,997 sq. m., mainly agr., dairying, and stock-raising, p. 1,605,000; cap. P., *t.* on K. P., *gt. tr.* in grain, p. 66,240.
Penza, *prov.* and *bor.* Cornwall, Eng., at hd. of Mount's Bay pichard fish., exports, copper, tin, and china clay, p. 13,408. [the cap., p. 14,126.
Penzing, industr. *vil.* nr. Vienna, Austria, subn. to Peoria, *c.* on Illinois R. Peoria co., Ill., U.S.A., a great grain mkt. of the Mississippi valley, p. 66,275.
Pepin Lake, (28 m. long, 3 m. wide), an extension of the K. Mississippi in Wisconsin and Minnesota, U.S.A.
Pepperell, *c.* in Middlesex co., Mass., U.S.A., p. 4,129.
Pera, *sub.* Constantinople, Turkey, N. of the Golden Horn.
Perak, one of the Federated Malay States under Brit. administratn. area 10,000 sq. m., chf. product tin, p. 348,114. [Northumbld., Eng., p. 8,125.
Percy, or Percy Main, eccles. *vil.* on R. Tyne, Perekop, Isthmus of, connects Crimea with S. Russ. proper, and separates Sea of Azov from Black Sea; P., *t.* in Russn. govt. Taurida, on the lsth., p. 4,890.
Pereslavl-Zalesski, mfg. *t.* nr. Vladimir, Russ., p. 8,948.
Pereslavl, mfg. and *tr. t.* in Poltava govt., Russ., p. 15,405.
Pergamon, anc. name Bergama, or Bergama, *c.* in Asia Minor on R. Caicus, 50 m. N. of Smyrna, imp. architectural antiquities.

Pergola, *f.* nr. Urbina, in the Marches, Italy, on R. Cesano, industr., p. 17,400. [17,400.]
Periakulam, *f.* nr. Madura, Madras, India, *gd. tr.*, p. 17,400.
Perigord, *f.* nr. Isle, Dordogne, France, the anc. Vesuna, cathedl., *gd. tr.*, noted for its "Perigord pies" of partridges and truffes, and for fine young pigs, p. 30,140.
Perim, *Brit.* *f.* in Strait of Babelmandeb. (See Aden.)
Perleberg, industr. *f.* on the Stepenitz, Brandenburg, Pruss., p. 9,428.
Perm, *govt.* of E. Russia, in the Ural Mtns.; area 128,212 sq. m., great mineral wealth, imp. agr. and stock-keeping (including bees) industries; p. 3,250,000, chiefly peasantry and rural dwellers. Cap. P. t. on R. Kama; manu. *f.* p. 50,520.
Pernambuco, maritime *prov.*, Brazil, S. of Parahyba and Ceará; area 49,625 sq. m., p. 1,180,000; great sugar and cotton export. Cap. P. (or Recife), on the Atlantic coast, p. (with the isl. comprised in the commune) close on 200,000.
Pernau, *fortd.*, *sp.* nr. Riga, in Livonia, Russia; good foreign trade; p. 14,180. [strongly fortid.; p. 6,042.]
Perote, industr. *f.* nr. Vera Cruz, Mexico; formerly Perovsk (formerly Ak-metchet), fortid. *f.* Kokand, Asiatic Russ., on the Sir Daria R.; cattle tr.; p. 6,154.
Perpignan, fortid. *f.* dep. Pyrénées-Orientales, France; cathedl., anc. res. of the Kings of Majorca; flourishing trade and industries; p. 40,748 [p. 5,193.]
Perry, *c.* and *tr. centre* Noble co., Oklahoma, U.S.A., p. 3,140.
Perryville, *f.* in Boyle co., Kentucky, U.S.A.; battle, American Civil War, 1862. [4,108.]
Persboro, mkt. *f.* on R. Avon, Worcester, Eng., p. 1,180.
Persia, *kingsdom* S. Central Asia, between Turkey and Baluchistan and Afghanistan W. and E., and Transcaucasia, the Caspian, and W. Turkestan N. to the Persian G. and G. of Oman S. Area 636,330 sq. m., partly lofty tablelands and mtn. chains, with arid desert, and partly fertile and beautiful plains; p. 9,500,000 (3,000,000 nomadic). Cap. Teheran; large co. S. Taurus, Ispahan, Meshed (all of which see); prod., wheat, fruit, sugar; manu. f. shawls, silks, carpets, embroidery, arms, etc. The Persian G. is an arm of the Indian Oc., between P. and Arabia, 550 m. long.
Perth, E. Midland co. Scotland, N. of Stirling; area 2,588 sq. m., hilly, mfg., and agr.; p. 124,339. Cap. P., c. on R. Tay; dyeing, floor loth, glass, wincey, and linen factories; p. 35,851. Also c. on Swan R., cap. W. Australia; flourishing trade and industries; p. 38,500. Also c. in Lanark co., Ontario, Canada, p. 4,268.
Perth Amboy, *c.* and *port* on Rantan Bay, New Jersey, U.S.A.; terra-cotta works and many flourishing industries; p. 32,160. [p. 6,274.]
Pertuis, industr. *f.* nr. Avignon, dep. Vaucluse, France.
Peru, *repub.* N.W. of S. America, between S. Pacific, Brazil and Bolivia, and Ecuador and Chili; area 695,730 sq. m., p. (about) 5,000,000, half aboriginal. Traversed by the Cordilleras of the Andes; produces guano, nitrates, sugar, cotton, maize, etc. Cap. Lima; chief port, Callao (q.v.). Also name of a c. on Wabash R., Miami co., Indiana, U.S.A., mfg. centre in agr. region, p. c. 0,014. Also mfg. c. in colliery dist. La Salle co., Illinois, U.S.A., p. 7,180.
Perugia, *prov.* Central Italy, traversed by the Apennines; area 3,719 sq. m., p. 700,500. Contains the beautiful L. of Perugia, 30 m. round (the anc. Trasymene). Cap. of prov. P., c. on hills above R. Tiber; university, cathedral, frescoed "hall of the money-changers." Seat of the Umbrian school of painters of the Renaissance; p. (communal) 65,860.
Peruwels, *f.* nr. Mons, Belgium; industr.; p. 8,895.
Pesaro, fortid. *f.* in the Marches, Italy, on the Adriatic coast; the anc. Pisaurum, famous for its figs.; p. 26,000 (communal). [1,118 sq. m., p. 750,000; cap. P. Pesaro and Urbino, *prov.* Italy, in the Marches; area Pescadore, *isl. grp.* 30 m. W. of Formosa, in the typhoon track, comprising 48 islets, total area 451 sq. m., p. 90,000; also grp. of Peruvian est. N.W. of Callao; also smll. grp. of the Marshall Is. in the Pacific; "Pescadore" sign in Spanish "Fishers' Is.," p. 30,140.
Pescara, R. of Cent. Italy, flows 90 m. to the Adriatic, nr. Pescara t. prov. Chieti, p. (comm.) 6,840.
Peschiera, fort *f.* on L. Garda, nr. Mantua, N. Italy, p. 3,700.

Pescia, *c.* in prov. Lucca, Italy, nr. Florence; cathedl., p. 14,865. [p. (comm.) 7,649.]
Pescina, *f.* in prov. Aquila, Italy, nr. Avezzano.
Peshawar, *dist.* (area 2,444 sq. m., p. 800,000) and *div.* (area 8,505 sq. m., p. 1,750,000) of the Punjab, India; cap. of dist., div., and of the N.W. Provs. P., c. on R. Bari, at the entree of the Khyber Pass; *gt. tr. depot* for Afghanistan and Cent. Asia, p. 90,440; W. of the c. is a mil. cantonment, accommodating a force of 20,000.
Pesth, *c.* of Hungary, on l. bank of R. Danube, opp. Buda, and connected therewith by suspension br., the two c.'s forming the Hungarian cap. of Budapesth. (See Buda.)
Petaluma, *c.* Sonoma co., California, U.S.A., p. 5,424.
Petcheneg, mfg. *f.* on R. Sieverimoi Donetz, govt. Kharkov, Russ., p. 9,470.
Petchili, China. (See Pe-chi-li.)
Petchora, K. N. Russ., flows 1,400 m. from the Ural Mtns. to the Arctic Oc.
Peten, L. Cent. America, nr. Yucatan frontier of Guatemala, 45 m. by 3 m.; also isl. in L.
Peterborough, *c.* Northants, Eng., on R. Nene, cathedl., brickworks, and factories, p. 33,578; also mfg. t. on Otanabee R., Ontario, Can., at the falls, p. 18,500, also mfg. nr. Concord, New Hampshire, U.S.A. [also mfg. on est. of Queensland, alt. 2,600 ft.; Peterhead, *isly.*, port E. Aberdeensh., Scotl.; granite output, herring trading, one of the Elgin burghs, p. 13,613.]
Peterhof, *f.* on G. of Finland, 16 m. from St. Petersburg, Russ.; beautiful mngl. palace, p. 11,416.
Petermann Peak, mtn. in E. Greenland, on Kaiser Franz Josef Fiord, alt. 11,418 ft.
Petersburg, *c.* on the Appomattox R., Virginia, U.S.A.; tobacco manu., and meat-canning, p. 24,127; also t. on Sangamon R., Illinois, U.S.A., p. 4,928; also twmpsh. S. Australia, in Kimberley mng. dist., p. 2,856.
Petersfeld, mkt. *f.* nr. Portsmouth, Hants, Eng., p. 3,947. [Survey.]
Petersham, *sub.* Sydney, N.S.W., p. 23,500; *vil.* in Peterswaldau, *f.* nr. Breslau, Pruss. Silisia; industr., p. 9,120. [Japan.]
Peter the Great Bay, on est. of Manchuria, S. of Peterwardein, fortid. *f.* on R. Danube, Austria-Hungary; the Gibraltar of Hungary, p. 4,400.
Petit-Quevilly, *f.* c. along, Rouen, dep. Seine-Inférieure, France; cotton-spinning, gutta-percha and chemical wks., p. 22,054.
Petlad, *f.* in Baroda st., India; *gd. tr.*, p. 15,085.
Petone, *f.* nr. Wellington, New Zealand, p. 3,469.
Petoskey, *f.* on Little Traverse Bay, L. Michigan, Michigan, U.S.A., est. tr., p. 6,404.
Petra, ruined *c.* Arabia Petraea, on Wadi Mada brook, in the valley betw. the Dead S. and the G. of Akabah, interesting excavatns. [p. 10,180.]
Petralla, *f.* nr. Cefalù, prov. Palermo, Sicily, industr., p. 1,180.
Petrizak, *govt.* Russ. Poland, on Prussan frontier, area 1,799 sq. m., p. 901,459; cap. P., t. on R. Strada, manu. p. 26,840.
Petrograd. (See St. Petersburg.)
Petrolia, *c.* and *port* on Bear Creek, Lanston co., Ontario, Can., oil wells, p. 4,250.
Petroleum Centre, *f.* nr. Oil City, Venango co., Penn., U.S.A., p. (dist.) 5,418.
Petropavovsk, industr. *f.* on R. Ischim, Russan govt., Akmoinsk, Siberia, p. 21,460.
Petropavlovsk, smll. *sp.* in Siberia, on E. est. Kamchatka, occupied jointly by the English and French in 1855.
Petropolis, *f.* nr. Rio Janeiro, Brazil, beautiful health resort, 2,300 ft. above sea-level, p. 6,240.
Petrovacz, industr. *vil.* nr. Bacs, Hungary, p. 8,416.
Petrovosselo, mfg. *f.* nr. Old Becse, Hungary, p. 9,684.
Petrovsk, *sp.* on the Caspian, Daghestan prov., Transcaucasia, Russ., hot sulphur baths, naptha springs, p. 11,420; also t. in Russan govt. Saratov, on R. Medvedyitz, manu. *f.* p. 19,804.
Petrozavodsk, *f.* on L. Onega, Olonez govt., Russ., ordnance wks., p. 12,180.
Petch, or *Ipek*, *f.* nr. Scutari, Albania, Turkey, and st. of the Serbian patriarch, p. 10,000.
Pettau, *f.* on R. Drave, nr. Marburg, Styria, p. 4,896.

- Petuna**, or **Bodune**, *t.* Karin prov., Manchuria, nr. the Sungan K., p. (est.) 30,000. [3,044.]
- Petworth**, mkt. *t.* nr. Chichester, Sussex, Eng., p. 17,258.
- Petzka**, mftg. *t.* nr. Szegedin, Hungary, p. 17,258.
- Peveragno**, industr. *t.* nr. Coni, Piedmont, Italy, p. 8,195.
- Pewsey**, mkt. *t.* nr. Marlborough, E. Wilts, Eng., p. 11,952.
- Pezenas**, *t.* nr. Montpellier, dep. Hérault, France, absinthe distill., p. 7,500.
- Pfeffers**, or **Pfäfers**, *vill.* cant. St. Gall, Switzd., hot medicinal baths, p. 2,046.
- Pforzheim**, industr. *t.* on edge of Black Forest, Baden, Germany, jewellery manuf., p. 70,460.
- Phaltan**, nat. *st.* Deccan div., Bombay, India, area 397 sq. m., p. 68,400; cap. P., *t.*, 37 m. N.E. Satara, p. 11,045. [p. 8,225.]
- Phaphund**, *t.* Etawah dist., N.W. Provs., India.
- Pharsalus**, *c.* in dist. Pharsalia, Thessaly, anc. Greece, the mod. Farsala, scene of Caesar's triumphs over Pompey, 48 B.C.
- Philadelphia**, *c.* on Delaware R., Penn., U.S.A., covering an area of 1294 sq. m., gd. commerc. industr., and educatn. centre, divided by the Schuylkill R., founshg. university and city instrns., and many thriving manuf., p. over 1,550,000.
- Phillippeville**, *spt.* *t.* Algeria, on B. of Stora, nr. Constantine, in villed. dist., with cork forests, fine hartr., p. 21,000.
- Philippi**, ruined *t.* nr. Drama, Macedonia, Christian ch. founded here by the Apostle Paul.
- Phillipine Isls.**, *archipel.* between the Pacific and China Sea, total area 127,853 sq. m.; comprises Luzon, Camarines, Mindoro, Panay, Leyte, Samar, Mindanao, Cebu, Negros, Bohol, Palawan, and smnr. islands; p. 8,000,000; cap. Manila, prod. tobacco, sugar, coffee, rice, cocoa, hemp, etc.; ceded by Spain to U.S.A. in 1898.
- Phillipsburg**, *vill.* in Orange R. Col., Brit. S. Africa, betwn Bethulie and the O.R.
- Phillipopolis**, *c.* on Muntzia R., E. Roumelia, Bulgaria; gt. commerc. centre; exports rice, cocoons, attar of roses, wine, corn, etc.; Greek cathedr.; p. 48,086.
- Phillack**, *t.* on St. Ives B. Cornwall, Eng.; p. 4,120.
- Phillaur**, *t.* nr. Thalaifar, on K. Sutlej, Punjab, India; p. 8,060.
- Phillipsburg**, *c.* on R. Delaware, Warren co., New Jersey, U.S.A.; ironwks.; p. 11,528.
- Phoenix**, *c.* on Salt R., Maricopa co., Arizona, U.S.A.; industr.; p. 6,125.
- Phoenix Isls.**, sm. *grp.* betwn. the Equator and Samoa, Polynesia; formerly productive of guano, now uninhabited. [iron-bridge bldg. wks., 10,142.]
- Phoenixville**, *hor.* on Schuylkill R., Penn., U.S.A.
- Phoukok**, French *ist.* G. of Siam (34 m. by 16 m.); p. 2,820.
- Phthiotis and Phocis**, *monarchy* (or prov.), Greece, betwn. the G. of Corinth and Thessaly, area 2,349 sq. m.; p. 138,000.
- Piacenza**, *prov.* Emilia, Italy; area 965 sq. m., p. 250,000; cap. P., fortified, *t.* and military stn. on R. Po; arsenal, manuf.; cathedr., noted ch. of San Sisto, Palazzo Comunale; p. 36,500. [p. 9,749.]
- Piana de' Greci**, *t.* nr. Palermo, Sicily; industr.; p. P. Pianella, mftg. *t.* nr. Chieti, Teramo, Italy; p. 7,143.
- Piano di Sorrento**, *t.* on B. of Naples, Italy; gd. cst. tr.; p. 9,124. [govt. Siberia, flows to Arctic O.]
- Piasini**, *st.* (75 m. by 30 m.) and K. (250 m.), Yeniseisk Piatigorsk, *t.* and *vill.* *st.* in Stavropol' govt., nr. Georgievsk, Russ.; hot springs; p. 25,478.
- Piatra**, *c.* on R. Bistritza, Roumania; many churches; timber and wine tr.; p. 17,500.
- Piauh**, or **Piauhy**, maritime *prov.*, Brazil; area 116,218 sq. m.; p. 305,000; cap. Therezina; also R. of P. prov. (flows 300 m.), trib. R. Caninde.
- Piave**, R. Italy (125 m.) flows to Adriatic 52 m. E.N.E. of Venice.
- Piavosero**, L. W. of Archangel, Russ.; 50 m. long, 13 m. wide.
- Piazza**, *c.* nr. Caltanissetta, Sicily, Italy; good tr.; p. Piazza, mkt. *t.* nr. Padua, Italy, p. 6,124. [p. 1,280.]
- Picardy**, old *prov.* France; now div. into depts. Yonne, Oise, Aisne, Pas-de-Calais, and Somme.
- Pichincha**, *prov.* Ecuador; area 6,215 sq. m., p. 210,800; also volcano, W. of Andes range, nr. Quito; cap. P. prov.; alt. 15,924 ft.
- Pickering**, mkt. *t.* N.R. Yorks, Eng.; p. 3,674; also sub. dist. prov. Ontario, Can. [detta (p.v.).]
- Pie-Methon**, *st.* of the Pyrenées; also called Mala-Pica, *ist.* of the Azores; area 254 sq. m.; wine tr.; p. 22,404; also volcano on same, alt. 7,600 ft.
- Pictou**, *spt.* Marlborough prov., New Zealand; p. 3,394; also port on B. of Quinté, nr. Kingston, Ontario, Can.; p. 3,493; also *t.* in co. Camden, N.S.W.; p. 4,018.
- Pictou**, *spt.* P. co., Nova Scotia; coal export; p. 3,464.
- Piedimonte**, *t.* nr. Taormina, Catania, Sicily; p. 5,894; Piedmonte d'Alife, *t.* nr. Caserta, S. Italy; p. 1,824.
- Piedmont**, *terr.* N. Italy, embracg. provs. Turin, Cuneo, Novara, and Alessandria; area 11,340 sq. m., p. 2,500,000; mainly agr. Cap. Turin, *c.* (p.v.).
- Piedra Blanca**, *t.* prov. Catamarca, Argentina; gd. tr.; p. 14,289. [Eng., nr. Ramsden Dock.]
- Piel**, *ist.* (with ry. stn.) nr. Barrow-in-Furness, Lancsh., Pierce, *c.* Missouri, U.S.A., inupt. ry. centre, Lawrence co.; p. 5,296. [Quebec, Can.; p. 3,240.]
- Pierreville**, *vill.* on R. St. Francis, Yamaska co., Pietermaritzburg, cap. *c.* of Natal, Brit. S. Africa; handsome govt. bldg.; p. 35,814.
- Pierrelia**, *st.* Potenza prov., Italy; industr.; p. 7,042.
- Pietraperzia**, mftg. *t.* nr. Caltanissetta, Sicily, p. 14,480.
- Pietrasanta**, *t.* nr. Lucca, Italy; gd. local tr., (comm.) 15,108.
- Pilcomayo**, or **Araguay**, R. rising in S. Bolivia, and flowg. through the Gran Chaco, separating W. Paraguay from the Argentine; trib. (1,400 m.) of the Paraguay, which it joins opp. Asuncion.
- Pilibhit**, *dist.* Kohlikhand, div. N.W. Provs., Brit. India, area 1,372 sq. m.; grows rice, wheat, and sugar, p. 470,000; cap. P., *t.* on Desha R., p. 35,000.
- Pilkrington**, mftg. *t.* S.E. Lancash., Eng., p. 16,148.
- Pillau**, fortified *spt.* betwn. Frischestaff and Baltic, E. Pruss.; outpost of Königsburg shipbldg., amber workg.; p. 3,000.
- Pilsen**, *c.* at jctn. of Rs. Radbuz and Mies, Bohemia, Austria; beer-brewg., bell-fdg., p. (includg. suburbs and garrison) 80,420. [London, Eng., p. 23,250.]
- Pimlico**, *dist.* (residnt. and industr.) of Westminster, Pinar del Rio, *c.* of W. Cuba, centre of Veleta Abajo, tobacco industry, p. 10,164.
- Pieczow**, industr. *t.* in Kielce prov., Poland, p. 7,082.
- Pind Dadan Khan**, *t.* Jhelum dist., Punjab, India; hussawer, embroidered scarves, pottery, &c., p. 15,000. [Greece, highest pk., 8,050 ft.]
- Pindus**, *mtg. chn.* betwn. Thessaly and Albania, N. Pine Bluff, *c.* Jefferson co., Arkansas, U.S.A.; in cotton regn., p. 12,010. [Dwina.]
- Pinegar**, R. of Archangel, Russ., trib. (50 m.) of R. Pinerolo, mftg. *t.* in Turin prov., Italy, p. 18,463.
- Pines**, Isle of, French possn. in the Pacific, nr. New Caledonia, area 593 sq. m.; convict settlement; also Spanish Isl. of the W. Indian Arch., nr. Cuba, area 134 sq. m., [the Pina R., grt. water tr. 80 m.]
- Pinsk**, *t.* in Minsk govt., W. Russ., on the marshes of Pinxton, industr. *vill.* nr. Alfreton, Derbysh., Eng., p. 2,518. [p. 9,075.]
- Piove di Sacco**, *t.* nr. Venice, in Padua, Italy; manuf., Pignone, *t.* nr. Prosinone, S. Italy, on the Amaseno R., the Volcanic Priernum, p. 6,042. [manuf., p. 13,708.]
- Piqua**, *c.* on the Miami R., Ohio, U.S.A.; agr., imp Piquetberg, *t.* in P. div., W. prov., Cape Col., Brit. S. Africa, *p.* (dist.) 3,127. [p. 19,624.]
- Pirana**, *c.* and *port* nr. Athens, Greece; great tr., p. Pirano, *spt.* Istria, Austria, nr. Trieste; wine and olive culture, manuf., p. 14,120. [p. 10,586.]
- Piremed**, fortified, *t.* in Janina vilayet, Albania, Turkey, p. Pirut, *cst.* *t.* Venezuela, opp. Pirut Isl., p. 8,120.
- Pirmasens**, mftg. *t.* nr. Zweibrücken, Rhenish Bavaria, p. 16,824.
- Pirna**, industr. *t.* on R. Elbe, Saxony, p. 21,200.
- Pirot**, *t.* (with mediæval fortress) on R. Nishnana, p. (includg. military) 11,063.
- Pisa**, *prov.* Italy, area 1,180 sq. m., p. 318,140; cap. P., *c.* on R. Arno, famous leagu. tower, cathedr., university, mineral baths, royal stud farm, cotton manuf., p. 66,100. [p. 14,000.]
- Pisek**, or **Pisecca**, mftg. *t.* nr. Tabor, Bohemia, p.

Pishni, mtn. valley Afghanistan, alt. 5,000 ft., area 5,500 sq. m., p. 50,000. [nr. Mariguy, 22 ft.]

Pissaroch, famous waterfall, cant. Valais, Switzerland.

Platice, *t. nr. Matena*, Basilicata, Italy; industr., p. 506.

[with citadel, thriving industries, p. 30,086.]

Platja, *t. nr. the Ombone*, Florence, Italy; walled.

Plasencia, *R. Old Castle*, Spain, trib. (140 m.) of R. Douro.

Platcalra, mtn. most S. of the Lower Archipelago, E. Pacific, area 3 sq. m.; under admin. of N.S.W., p. 126, mostly descends. of the outcrops of the "Bounty" [also t. on same, p. 5,508.]

Pitea, *R. N. Sweden*, flows 180 m. to G. of Bothnia.

Pitești, or **Pitești**, *t. on R. Arges*, Wallachia, Roumania; flouring, tr., p. 16,214. [tr., p. 11,846.]

Pithapur, *t. Godavari dist.*, Madras, India; gd. local

Pithiviers, *t. nr. Orleans*, dept. Loiret, France; saffron growg. dist., noted for pies and cakes, p. 6,645.

Pitlochry, picturesque Highland vil. nr. Pass of Killicrankle, Perthsh., Scotl.; tourist res., residl., p. 1,640. [Scotl., p. 2,489.]

Pitaligo, New, *t. nr. Fraserburgh*, N. Aberdeensh., Pittenweem, burgh on F. of Forth, Fifc, Scotl.; one of the St. Andrews Burghs, p. 1,888.

Pittsburg, gt. ironworks c. of Alleghany co., Penn., U.S.A., at conf. of Alleghany and Monongaheli R.'s; university p. (with subs.) 750,000; also a c. of Crawford co., Kansas, U.S.A.; zinc-smeltg., p. 13,140.

Pittsfield, c. on the Housatonic R., Burks co., Mass., U.S.A.; cotton and boot factories, p. 32,121; also vil. nr. Quincy, Pike co., Illinois, U.S.A., p. 4,800.

Pittston, c. on Susquehanna R., Luzerne co., Penn., U.S.A.; anthracite coal regn., p. 14,159.

Piura, *N. dep.*, Peru, area 13,931 sq. m., p. 240,280; cap. P., t. nr. the est., p. 13,500.

Pizzo, *vil.*, Cantonaro prov., Calabria, Italy, on steep cliff overlooking c. of Santa Eufemia; castle, tunny and coral fishg., p. 8,660. [p. 7,041.]

Placentia, *t. on W. est.*, Avalon Pcnins., Newfoundland.

Placentia Bay, inlet of the Atlantic, S. est. Newfoundland, 65 m. long.

Plainfield, c. Union co., New Jersey, U.S.A., 24 in. from New York; residl., p. 20,559.

Plaistow, dist. E. London, Eng., in bor. West Ham, p. 105,024; industr. and resid., p. 4,263.

Plaquemine, vil. on Mississippi R., Louisiana, p. 4,263.

Placencia, *t. on R. Jerte*, Caceres prov., Spain; tr. in agr. produce, p. 9,084.

Plassey, battlefield on Bhagurath R., Bengal, India.

Plaza, *La*, (See Argentina.)

Plate R., on Rio de la Plata, estuary of the Paraná and Uruguay R.'s, flowing to the Atlantic betw. Argentina and Uruguay, 170 m.; width at head 25 m., at mouth, 138 m. [500 m.] of R. Missouri.

Platte R., or **Little Platte R.**, Iowa, U.S.A., trib. Platte (or Nebraska) R., affl. (1,250 m.) of the Missouri, from Colorado, Wyoming, and Nebraska, U.S.A. [of Pesh.]

Platten See, L. (area 266 sq. m.) Hungary, 55 m. S.W. Platteville, *t. Grant co.*, Wisconsin, U.S.A., on Little Platte R., p. 3,049. [York, U.S.A., p. 9,010.]

Plattsburg, mfg. c. on L. Champlain, Clinton co., New York, U.S.A., p. 1,840.

Plattsmouth, c. Cass co., Nebraska, U.S.A., at conf. of Platte and Missouri R.'s; grain and cattle tr., p. 5,646.

Plauen, *t. on Weisse Elster R.*, nr. Zwickau, Saxony; piano works, cotton factories, etc., p. 92,148.

Pleasant Hill, *t. nr. Kansas c.*, Missouri, U.S.A., p. 4,125. [New Zealand.]

Pleanty Bay, arms of the Atlantic, N.F. est. No. Isl., Pietenberg, *t. nr. Arnsberg*, Westphalia, p. 4,840.

Plerna, fortid. *t. on Touchintza R.*, Bulgaria; many mosques; besieged and captured by the Russians, 1877; large tr. wine and cattle, p. 19,000.

Plinlimmon, mtn. Monmouthsh. and Cardigan., Wales; alt. 2,469 ft.

Plöck, c. on R. Vistula, Poland; grain and wood export, p. 28,000; cap. Russ. govt. of P.; area 4,300 sq. m., p. 54, 640. [gd. tr.]

Plombières, est. t. Morbihan dept., France, p. 11,240;

Plon, *t. nr. Kiel*, Holstein, Gerny., p. 3,849.

Plonei, *t. in Prahova dist.*, Roumania; tr. centre in petrol. dist.; p. 45,000.

Plombières, *t. nr. Epinal*, Vosges dep., France; warm saline springs; p. 2,800.

Plumstead, dist. of Woolwich, Kent, Eng.; contains royal arsenal, p. (E. and W.) 71,222.

Plymouth, spt. and dockyd. E. Devon, Eng., on Plymouth Sound. Comprises the "three towns" of P., Devonport, and Stonehouse; p. 112,042. Ship- and engineering works, and many manuf. water 1 in. long, and extensive fortifics.

Plymouth, spt. on P. Harbor, P. co., Mass., U.S.A., nr. Boston; manuf. and tr.; p. 10,450. Pilgrim Fathers landed here 1609; also bor. Luzerne co., Penn., U.S.A., on Susquehanna R., in anthracite coal regn., p. 16,246; also t. on Yellow R., Indiana, U.S.A., p. 4,260; also sml. pt. N. Carolina, U.S.A.

Plympton, mkt. t. Devon, Eng., 4 m. E. Plymouth, nr. R. Plym, p. 1,420. [gr. tr., p. 32,500.]

Pnom Penh, *t. nr. Udong*, Camhodi, on R. Mekong; Fo, R. Italy flows from Monte Vso, through Piedmont and Lombardy (350 m.) to the Adriatic.

Pocahontas, co. in W. Virginia; also mfg. t. in Tazewell co., Virginia, p. 5,400; also sub. of Petersburg, Chesterfield co., Virginia, p. 5,411.

Pocklington, mkt. t. E. R. Yorks, Eng., p. 2,556.

Podgoritz, *t. nr. Scutari*, Montenegro, fortid., p. 5,888.

Podgorze, mfg. t. on K. Vistula, opp. Cracow, Austria, Galicia, p. 14,810.

Podolia, prov. S. Russ., N. of Bessarabia, and borderg. on Austria; area 10,221 sq. m., p. 3,500,000. Industries, agr., stock-raising, gdg., bee-keepg., etc.; chf. t. Kamennetz-Podolsk, or Kamennec.

Pointe-a-Pitre, *t. in isl.* of Guadalupe, French W. Indies, p. 17,840. [the anc. Puciacum; p. 8,120.]

Poisay, *t. nr. Versailles*, dept. Seine-et-Oise, France; once a Huguenot stronghold, fine cathedral; near here the Black Prince defeated the French in 1356, and captured King John; p. 42,164 (communi).

Pokrovsk, industr. t. Samara govt., Russ., p. 20,458.

Pola, fortid. gc. on Istrina, pc. of Venice; chf. naval stn. and arsenal of the Austro-Hungarian Empire; the Roman Pietas Julia; cathed., many Roman antiquities; inpt. comm. harb. and centre; p. (with garrison) 48,500.

Poland, former indpt. co. E. Cent. Europe, partitioned 1772, 1795, and incorporated by Austria, Prussia, and Russia. The portion retaining the name now forms the W. div. of Russ.; area 49,159 sq. m., p. 10,000,000; cap. Warsaw (p. v.).

Polignano, *t. nr. Bari*, Italy, on the Adriatic, p. 8,546.

Pollia, *isl.* of the Philippine grp., E. of Luzon, 30 m. by 20 m. [p. 9,064.]

Polistena, *t. in Calabria*, Italy, nr. Reggio; industr.; Polistena, *t. in Majorca*, Balearic Isl., nr. Palma, p. 8, 375. [nr. Turin, p. 5,644.]

Pollenza (the anc. Polentia), *t. in Macerata prov.*, Italy.

Pollokshaws, burgh of Renfrewsh., Scotl., subn. to Glasgow; industr. and resident., p. 19,932. [p. 4,018.]

Pollokshields, S.W. sub. Glasgow, Scotl., resident.; starch manuf.; p. 5,260. [Vitelsk, Russ., p. 21,585.]

Polotsk, or **Polok**, industr. t. on R. Duna, govt. Poltava, prov. S.W. Russ., area 19,055 sq. m.; 3 ur.; p. over 3,500,000, mainly peasantry; cap. P., industr. t. on the Vorokla K.; formerly had great wool fairs, now declined; p. 55,000.

Polynesia, sub-div. of Oceania, comprising the isls. and groups of the Pacific within 30 degrees N. and S. of the Equator, and betw. 135 degrees E. and W. long.; all of which are dealt with under separate entries.

Pomaranice, *t. nr. Veltara*, Pisa prov., Italy; industr.; p. (communi) 8,146.

Pombal, *t. nr. Leiria*, Estremadura, Portugal; p. 4,845; also t. in Parahiba prov., Brazil, p. 4,346.

Pomerania, prov. N. Russ., area 11,628 sq. m., p. 1,700,640; divided into govts. Stettin, Stralsund, and Köslin (all of which see).

Pomeroy, c. on Ohio R., Meigs co., Michigan, U.S.A.; p. 5,864. Boule-ids and salt works. [p. 10,494.]

Pomigliano d'Arco, industr. t. nr. Naples, Italy.

Pomona, or **Manland**, one of the Orkneys (p. v.); also c. Los Angeles co., California, U.S.A.; fruit-culture; p. 6,427.

Pompeii, ruined c. of Italy, stood 13 m. S.E. of Naples, nearly at foot of Vesuvius; destroyed A.D. 79, site discovered in 1748; many most interesting excavations. [p. 13,414.]

Ponani, *t.* Malabar dist., Madras, India; gd. cst. tr.; *Port Adelaide*, *spt.* S. Australia, nr. Adelaide c., on G. St. Vincent, *p.* 6,660.

Ponce, *t.* on S. cst. Porto Rico, nr. San Juan; medicinal Pondicherry, *c.* on the Coromandel cst.; cap. French E. India; 100 m. S. of Madras; cotton, rice, etc., exports; area of dist. 135 sq. m., surrounded by Brit. terr. S. Arcot; *p.* 385,000. [Cap. Ponce, *c.* on the Muta R., hqrs. of Bombay army; thriving industr.; *p.* 122,580 (including cantonment 30,000).]

Pondolândia, *terr.* Cape Col., Brit. S. Africa, S.W. of Natal; *p.* (abt.) 200,000. [and tr.; *p.* 20,246.]

Ponereh, *t.* nr. Vilna, govt. Kovno, Russ.; manuf. *Pons*, *t.* dep. Charente-Inférieure, nr. Sautes, France; *p.* 4,814; also *t.* in nr. Montpellier, dep. Hérault, France; *p.* 5,749.

Ponta Delgada, *t.* on Sao Miguel, Azores; largest *t.* in the Isles; *Portuguese* *p.* 18,422.

Pont-à-Mousson, *t.* on R. Moselle, nr. Nancy, France; lacquer-ware manuf.; *p.* 13,084.

Pontarlier, fortid. *t.* Doubs dep., France; abstinence distilleries; *p.* 8,583.

Pontassieve, *uifg.* *t.* nr. Florence, Italy; *p.* 12,120.

Pont-Audemer, *t.* on R. Risle, dcp. Eure, France; metal and leather factories; *p.* 6,089.

Pontchartrain, *L.* N. of New Orleans, Louisiana, U.S.A.; 40 m. by 25. [a principally; *p.* 10,018.]

Pontevedra, *prov.* Spain, on Atlantic cst.; area, 1,739 sq. m.; 1 agr. live-stock, fisheries; *p.* 449,810. Cap. P. L. nr. R. Lerez; *p.* 20,184.

Pontiac, *c.* on the Clinton R., Oakland co., Michigan, U.S.A.; sptg. resort (fishg. and shooting on the lakes); *p.* 11,410; also sml. c. on Vermilion R., Livingstone co., Illinois; *p.* 4,815. [settlement; *p.* 5,810.]

Pontianak, *c.* on W. cst. Borneo; thriving Dutch Ponticelli, *vil.* nr. Naples, Italy; *p.* 6,819.

Pontifical States, *States* of the Church, or Papal States; compartments of Italy, formerly comprising the present dist., Umbria, the Marches, and Latium.

Pontine Marshes, swampy tract extending 25 m. along the Italian cst. S. of the Compagna di R. Oma.

Pontivy, formerly Napoleonville, *t.* on R. Blavet, dep. Morbihan, France; military centre, anc. castle of the dukes of Rohan; *p.* 10,145. [industr.; *p.* 3,086.]

Pontnewydd, *t.* nr. Pontypool, Monmouth, Eng.

Pontoise, *t.* nr. Paris, dep. Seine-et-Oise, France; old Celtic *t.* with good modern trade; *p.* 6,014.

Pontremoli, *t.* in Mugra Valley, Tuscany, Italy; cathedral, citadel, mineral springs, marble quarries; *p.* 11,410. [good cattle trade; *p.* 6,452.]

Pontypool, mkt. *t.* nr. Newport, Monmouth, Eng.; Pontypridd, or Newbridge, mkt. *t.* on R. Taff, Glamorgansh., Wales, manuf., remarkable bridge; *p.* 43,315.

Ponza, *chf.* *isl.* of the sm. Ponza group off coast Campana, S. Italy; was a state prison place under the Roman emperors; *p.* (of the group, including Palmarola and Zannone) 3,647. [Anciently called the Pontine Isles. [local trade; *p.* 11,858.]

Poo-Ching-Hien, *t.* in Fo-Kien prov., China; good *Pooles*, *spt.* and mkt. *t.* E. Dorset, Eng.; oyster fisheries, good harbour; *p.* 38,886.

Poona, *dist.* Deccan div., Bombay, Brit. India; area 5,309 sq. m.; agr., cotton, silk, and blanket manuf.; *p.* (nearly) 1,000,000. Cap. Poona, or Pina, *c.* on the Muta R., hqrs. of Bombay army; thriving industr.; *p.* 122,580 (including cantonment 30,000).

Popayan, *t.* in Cauca s., Colombia; *p.* 6,946.

Popelinge, *t.* in W. Flanders prov., Belgium, in hop-growing dist.; *p.* 11,256. [dist. *p.* 162,449.]

Poplar, *par.* E. London, Eng., Thames-side industr.

Popocatepetl, active volcano, nr. Puebla, Mexico, alt. 17,784 ft. [p. 7,555.]

Popoli, *t.* nr. Sulmona, prev. Aquila, Italy; industr.

Porbander, *unt.* *st.* Gujarat div., Bombay, India, on the Kathiawar p., *p.* 86,000. Cap. P., considerable native boat trade; *p.* 20,064.

Porco, *mtn. group* in Andes of Bolivia, alt. of highest peak, 16,000 ft.

Porcoseno, *t.* in Udine prov., Venetia, Italy; cathedral, silk and cotton industries; *p.* 7,814. [In 4,864.]

Porongrud, *spt.* Norway, on Skager Rock; timber tr.; *Port Adelaide*, *spt.* S. Australia, nr. Adelaide c., on G. St. Vincent, *p.* 6,660.

Portadown, *t.* on R. Bann, Armagh, Irel.; linen manuf.; agr. prod. mkt.; *p.* 11,797.

Portage, *c.* on Wisconsin R., Columbia co., Wisconsin, U.S.A.; farming and timber region; *p.* 6,049.

Portage la Prairie, *port* Macdonald co., Manitoba, Canada; grain expt.; *p.* 4,447.

Port Albert, *spt.* *t.* Victoria, nr. Corner Inlet, *p.* (dist.) 3,580.

Portalegre, *dist.* Portugal, agr., olives, wines, area 2,482 sq. m., *p.* 130,000. Cap. P. c., 103 m. N.E. Lisbon, cork and woollen manuf.; *p.* 11,428.

Portarlinton, mkt. *t.* on K. Barrow, Queen's and King's co., Irel.; *p.* 2,440.

Port Arthur (Chinese Lu-shun-Kou), fortress S. of the Liaoting peninsula, Manchuria, formerly a Chinese naval arsenal, captured by the Japanese 1894, leased to Russ. later, but again surrendered to the Japs., after a stubborn siege, Jan. est. 1905. A most important strategic point commanding the Gulf of Pe-chili and the Yellow S.; *t.* Ont. Can., *p.* 11,000.

Port Augusta, *t.* on Spencer G., S. Australia, fine harbour and t. hall, *p.* 1,560; also *spt.* W. Australia, on Cape Leewards.

Port-au-Prince, or **Port Republicain**, cap. and chf. *t.* of the Haytian Republic, on B. of Cavaïes, gt. tr., suffered sev. times from earthquake and fire, *p.* 50,000.

Port Blair, Indian conv. *st.* settlement, Andaman Is.

Port Chester, *uifg.* *vil.* Westchester co., New York, U.S.A., on Long Isl. Sound, *p.* 8,680.

Port Darwin, or **Palmerston**, chf. *t.* and harb. nr. terr. S. Australia, *p.* 3,018.

Port de France, or **Noumea**, cap. New Caledonia, (French), *p.* 10,000.

Port Denison, *harbr.* and bay on P. cst., Queensland.

Port Dundas, *harbr.* and bay on St. Clair R., Michigan, and Clyde and Monkland canals, *p.* 10,181. (Africa.)

Port Darnford, *harbr.* on cst. of Zululand, Brit. S. Portel, Le, cst. *vil.* dep. Pas-de-Calais, France, *p.* 5,607.

Por. Elizabeth, *spt.* on Alga Bay, Cape Col., Brit. S. Africa, exports skins, wool, ostrich feathers, *p.* 38,600.

Portentus, industr. *t.* cant. Bern, Switz., *p.* 5,845.

Port Erin, *est.* *vil.* nr. Castletown, Isle of Man, fisheries.

Port Fairy, or **Belfast**, *est.* *t.* in Victoria, *p.* 2,918.

Port Glasgow, shipbldg. centre on K. Clyde, 30 m. below Glasgow, Scotl., *p.* 17,749.

Port Hope, chf. *t.* Durham co., Ontario, Can., on N. shore L. O., industr., *p.* (dist.) 6,002.

Port Huron, *c.* and *pt.* on St. Clair R., Michigan, U.S.A., *p.* 22,108. gt. gran and lumber tr.

Portici, *t.* on B. of Naples, Italy, industr. and resid., *p.* 13,420.

Portishead, *est.* *t.* nr. Bristol, Somerset, Eng., *p.* 2,946.

Port Jackson, splendid *harb.* (18 m. long) on cst. co. Cumberland, N.S.W., Sydney co. (p.v.) on S. shore.

Port Jervis, *vil.* on Delaware R., Orange co., New York, U.S.A., railway, wks. and manuf., *p.* 9,510.

Port Knockie, *vil.* on cst. Banffsh., Scotl., nr. Buckie, *p.* 1,248.

Portland, *c.* Oregon co., Multnomah, U.S.A., on R. Willamette; gt. wheat and flour expt., *p.* 207,214; also *c.* Cumberland co., Maine, U.S.A.; flourishg. spt., fine harb., *p.* 58,046; also *t.*, Middlesex co., Connecticut, U.S.A.; stone quarries, *p.* 4,000; also *t.* N. of and subn. to St. John, New Brunswick, Can., *p.* 16,420.

Portland Canal, *ford* on N.W. cst. of America, formg. bdy. between Alaska and Brit. Columbia; lower portion known as Portland Inlet.

Portland, *isl.* of, *peninsula* and *t.* (with dockyd. and convict prison) 4 m. S. of Weymouth, Dorset, Eng.; Bill of Portland at extremity.

Portland Town, *div.* in St. Marylebone, Middlesex; industr. and resid., N.W. London, Eng., *p.* 9,864.

Port Louis, *spt.* *st.* Morbihan, France, nr. Lorient,

- p. 346; also cap. of isl. of Mauritius, Indian Oc.,
 chf. commerci. pl. in col. p. 73, 460.
Port Macquarie, *st.* (and *river*) on est. N.S.W., at
 Hastings R., p. 100, 124.
Portmadoc, *st.* on Fremadoc B., Carnarvonsh.,
 Wales; copper and slate export.
Port Mahon, *st.* can. isl. Minorca, Spain; quarantine
 sta., exports live stock, corn and c., p. 18, 560.
Port Moody, *terminus* Canadian Pacific Ry., Brit.
 Columbia, Vancouver. [on S.E. est., p. 1, 084.
Port Moresby, *st.* and *stn.* of govt. Brit. New Guinea.
Port Natal, (See Durban). [Zeland.
Port Nicholson, *harb.* at S. extrem. N. isl., New
 Porto Alegre, *cap.* r. Rio Grande do Sul st., Brazil;
 exports lard, preserved meats, &c., p. (ext.) 100,000.
Portobello, *wat. pl.* on F. of Forth, Edinburgh, Scotl.;
 one of the Leith Burghs, p. 9, 585.
Porto Calvo, *st.* in Alagoas prov., Brazil, p. 8, 046.
Porto Empedocle, *st.* and *stn.* Girgenti prov., Spain;
 sulphur exports, p. 9, 808. [gd. tr., p. 10, 080.
Porto Feliz, *st.* São Paulo prov., Brazil, on R. Tite;
 Porto Ferrajo, *chf. t.* Isl. Elba, prov. Leghorn, Italy,
 p. 5, 802.
Port of Spain, *cap.* Isl. Trinidad, W. Indies, p. 35, 000.
Portogénaro, *st.* n. Udine, prov. Venice, Italy;
 industri., p. (commune) 9, 864.
Porto Maurizio, *prov.* Liguria, Italy; area 455 sq. m.,
 p. 148, 600; cap. P. M., t. on G. of Genoa, bathing
 rest., p. 7, 500.
Porto Novo, *st.* S. Arcot dist., Madras, India, on
 Commundol. Cst.; here Sir Eyre Cooke defeated
 Hyder Ali, 1781, p. 8, 200; also French t. Slave Cst.,
 Dahomey, W. Africa, nr. Right of Benin, p. 20, 000.
Porto Praya, *st.* Santiago, Cape Verde Isl.; gd. tr.,
 p. 12, 600.
Porto Rico, W. Indian *st.* of the Greater Antilles,
 ceded by Spain to the U.S.A. in 1898; area 3,500
 sq. m.; produce coffee, sugar, cocoa, tobacco, &c.,
 p. nearly 1,000,000, mainly natives of mixed Spanish
 and aboriginal descent; cap. San Juan de Porto Rico.
Porto Santo, sml. *isl.* of the Madeira grp., 26 m. N.E.
 Madeira. [4, 864.
Porto Santo Stefano, *st.* S. of Tuscany, Italy, p.
 Porto Vecchio, *st.* Corsica, Italy, nr. S. extrem. of
 isl., p. 2, 784.
Port Phillip, *bay* on S. est. Victoria (40 m. long, 40 m.
 wide); Melbourne stands on R. Yarra Yarra at its
 mth. in F. P. Bay.
Port Pirie, *st.* on Spencer's G., S. Australia, p. 1, 246.
Portree, *st.* on W. est. Skye, Inverness co., Scotl.,
 p. 884.
Port Republican. (See Port-au-Prince and Hayti).
Port Richmond, *part* of Richmond bor., New York
 city, U.S.A., on N. shore Staten Isl., p. 6, 560.
Port Royal, *fortd.* t. Jamaica, nr. Kingston, dockyd.
 and barracks, p. 16, 000. [1, 960.
Portrush, *st.* nr. Coleraine co., Antrim, Ireland,
 p. Port Said, *st.* Egypt, N. end Suez Canal, p. 40, 000.
Portsea Island, *fortd.* *st.* on est. of Hants, Eng.,
 between Portsmouth and Langston Harbours. (See
 Portsmouth.)
Portlady, *sub.* Brighton, Sussex, Eng., p. 6, 454.
Portsmouth, *bor.* and naval *port*, Hants, Eng., on
 Portsea Isl., opp. Isle of Wight, p. 23, 106; has
 largest naval estab. in the world; Portsmouth is the
 garrison t.; Portsea has the naval dockyards. Land-
 port is resident. from the industri. pop., and South-
 sea is a pop. mod. watg. pl. within the bor. area;
 across the harbour is Gosport (p. 21).
Portsmouth, *c.* on the Ohio R., Scioto co., Ohio,
 U.S.A., iron and boot manuf., p. 23, 481; also *sp.* at
 mth. of Elizabeth R., Virginia, U.S.A., rly. wks. and
 many manuf., p. 23, 200; also *c.* on Piscataqua R.,
 New Hampshire, U.S.A., cotton manuf., p. 11, 436.
Portsoy, *st.* nr. Banff, Scotl., p. 1, 091.
Port Townsend, *c.* Jefferson co., Washington, U.S.A.,
 timber tr., p. 3, 500.
Portugal, republic of the Iberian penin., S.W.
 Europe, area (includ. Madeira and the Azores)
 35,665 sq. m., mtnous, with wide fertile valleys;
 prod. grapes, cereals, oranges, olives, mulberries;
 agr., mfg., and fisheries, p. 5, 500,000; cap. Lisbon
 (p. 4). [3, 500.
Portugalette, *t.* nr. Bilbao, Biscay prov., Spain, p.
- Portuguesa**, *st.* N.W. Venezuela, area 6,815 sq. m.,
 p. 80,000; cap. Guanare; also R. Venezuela, trib.
 800 m. of R. Apure. [1, 550.
Portunna, *t.* on R. Shannon, co. Galway, Ireland.
Port Vendres, *st.* nr. Perpignan, dep. Pyrénées-
 Orientales, France, p. 3, 542.
Posadas, *t.* on R. Guadalupe, nr. Cordova, Spain.
Poscharevatz, *t.* in Servia. (See Passarowitz).
Posen, *prov.* of Prussia, Poland, area 11,184 sq. m.,
 p. 1,000,000, stock-raising, mining, and mfg.; also dist.
 or govt. in same, and *c.* (cap. of prov. and govt.) on
 R. Wartha, *fortd.* hqrs. 5th German Army Corps,
 cathed., and many manuf., p. 125, 000.
Pösgarn, *t.* nr. Yarkand, Chinese Turkestan, p. 8, 045.
Posselt Bay, W. est. of Sea of Japan, Asiatic Russ.
Pösselberg, *old t.* in Saxe-Meiningen, Germany, nr. Jena,
 porcelain and flannel manuf., p. 14, 208.
Potchefstroom, *vil.* Transvaal Col., Brit. S. Africa,
 on the Vaal R., p. 4, 128.
Potenza, *prov.* S. Italy, area 3,845 sq. m., p. 556, 400;
 cap. P., *fortd.* t. nr. Salerno, cathed., wine, brick-
 mfg., p. 10, 500. [Italy, p. 7, 864.
Potenza, *Piacenza*, *t.* on the Adriatic, Macerata prov.,
 Italy, and *st.* *fortd.* on the R. Rion, Transcaucasia,
 Russ., p. 3, 819.
Potomac, *R.* of U.S.A., dividg. Virginia from Mary-
 land, flowg. (400 m.) past Washington to Ches-
 apeake Bay.
Potosí, *dep.*, Bolivia, adjoining Chili and the Argentine;
 area 52,100 sq. m., famous for silver mines, p. 35, 800.
 Cap. P., on *st.* of Cerro Gordo de Potosí, 13,330 ft.
 above sea-level, flourishing tr., p. 20, 860.
Potsdam, *c.* Pruss., 16 m. S.W. Berlin, in centre of
 picturesque lake dist. of Havel. Cap. Potsdam govt.,
 beautiful parks and gardens and many palaces,
 includg. German Impl. res., p. 64,000.
Potters, The, *dist.* N. Staffs, Eng., centre of
 earthenware industry, comprng. t.'s Burslem, Hanley,
 Fenton, Tunstall, Stoke, and Longton, all of
 which see.
Potton, *mkt.* t. Bedfordsh., Eng., p. 2, 263.
Pottstown, *bor.* on Schuylkill R., Montgomery co.,
 Penn., U.S.A., ironwks., p. 14, 082.
Pottsville, *c.* of Schuylkill co., Penn., U.S.A., manuf.
 centre in anthracite coal regm., p. 20, 236.
Poughkeepsie, *c.* in Dutchess co., New York, U.S.A.,
 on Hudson R.; clothing and iron factories, nr. is
 Van Cortlandt Coll. for women, p. 17, 000.
Poultney, *t.* nr. Vermont, U.S.A., on New York
 border, p. 4, 260. [Eng., p. 5, 824.
Poulton-le-Sands, township, on Morecambe B. Lancs.
Poverty B., *inlet* on E. est., N. Isl., New Zealand.
Po-Yang, *t.* prov., Kiang-si, China, 80 m. long, 40 m.
 wide.
Pozoblanco, *t.* nr. Pedroche, Cordoba prov., Spain,
 cattle fairs, rich lead mines in dist., p. 12, 000.
Pozsony, *t.* on R. Danube, Hungary, 35 m. E. of
 Vienna; dynamite and fine brush manuf., p. 70,000.
Pozzuoli, *t.* nr. Naples, Italy; min. bath., ordnance
 works, p. 17, 110. Notable Roman ruins.
Praga, *t.* on R. Vistula, Poland, opp. Warsaw,
 stormed by Russians under Suvoroff, 1794, p. 4, 180.
Prague, *c.* of Bohemia, picturesque anc. cap. on R.
 Moldau, university founded in 1248, extensive manuf.
 and tr., fine cathed.; p. (includg. garrison and subs.)
 nearly 400,000.
Prabran, *c.* Victoria adjoining Melbourne, p. 30,000.
Prairie du Chien, *c.* on Mississippi R., Crawford co.,
 Wisconsin, U.S.A., p. 4, 847.
Prato, *t.* nr. Florence, Italy; mediæval castle and
 fortins, woollen manuf., p. 28, 214. [nr. Königsberg.
Pregeau, *R.* E. Pruss., flows (125 m.) to Frisches Hafn,
 Fregelau, *t.* on Lower Ucker Lake, nr. Stettin, Pruss.,
 industri., p. 27, 124.
Prerau, *t.* on R. Bečava, nr. Olmütz, Moravia, Austria-
 Hungary; manuf., p. 28, 125. Formerly hqrs. of
 the Moravian Brethren.
Presburg (former cap. Hungary). (See Pozsony).
Prescott, *mfg. t.* S.W. Lancs, Eng., nr. Liverpool;
 watchmkg., p. 8, 154. [3, 694.
Prescott, *port* on R. St. Lawrence, Ontario, Can., p.
 Freeley Mtns., N.E. Pembrokesh., Wales; alt.
 1,754 ft. [4, 295.
Presgal Isle, *t.* Maine, U.S.A., in Arrostok co.; p.

Preteigne, mkt. *t.* on R. Luggie, Radnorsh., Wales; p. 2,793. [Lancs. Eng.; p. 17,113.]

Preston, cotton mfg. *t.* and port on R. Ribble, Lancs., Eng.; p. 17,113. [Lancs. Eng.; p. 17,113.]

Prestonpans, cst. *t.* nr. Edinburgh, Haddingtonsh., Scot.; here in 1745 "Bonnie Prince Charlie" defeated British; p. 1,292. [Eng.; p. 17,125.]

Prestrich, industri. *t.* nr. Manchester; S.E. Lancs.; p. 12,000. [Eng.; p. 17,125.]

Pretoria, cap. Transvaal Col., Brit. S. Africa; fine parity. bdgs., wide boulevards; imp. t. centre; p. 12,000. [S. Afr. Rep. p. 11,500.]

Prevesa, fort. *t.* on G. of Artz, European Turkey; p. 12,000. [Gd. shipg. tr.; p. 11,500.]

Pribylor Isle, *sm.* Alaskan *grp.* in Behring Sea; seal fishg. centre. [p. 20,450.]

Priluki, *t.* in Poltava govt., Russ., Industri. and comm. *t.*

Primorsk, on Littoral Province, Asiatic Russ.; extends from Corea N. to the Arctic Oc.; area 750,000 sq. m., p. 114,000. Cap. Nikolayevsk.

Prince Albert, *div.* and *t.* Cape Col., Brit. S. Africa; N. of Gt. Zwartke Berge; p. (of div.) 9,120.

Prince Albert Land, *dist.* Brit. N. America, bordg. on Arctic Ocean.

Prince Edward Isl., *prov.* Can.; area 2,184 sq. m.; p. 105,000; dairying, fishery, and manu.; much forest land. Cap. Charlottetown.

Prince Rupert, *c.* of British Columbia and Pacific port of the Grand Trunk Pacific R. way, p. 5,000.

Prince of Wales Isl., (S. E. Penang).

Prince's Isle, Sea of Marmora, 15 m. S.E. of Constantinople; the anc. Demoneia; p. 10,000.

Prince's Isl., or **Principe**, *sm.* Portuguese *isl.* in Bight of Biafra, W. Africa. [Eng.; p. 2,648.]

Princes Risborough, mkt. *t.* nr. Aylesbury, Bucks.

Princess Charlotte Bay, *inlet* N.E. ext. N.S.W.

Princeton, *c.* Gilson co., Indiana, U.S.A.; industri. *t.* p. 7,548; also bor. Mersey co., New Jersey, U.S.A.; seat of university; p. 4,850; also t. Bureau co., Illinois, U.S.A.; industri. *t.* p. 4,285.

Prince William Sound, *bay* on S. coast, Alaska.

Prinzen, Portuguese *isl.* in Gulf of Guinea; p. 3,415. Cap. San Antonio. [Dnieper.]

Pripets, *r.* in govt. Minsk, Russ., trib. (350 m.) of R. Pripiatka, or Pripiatka, *t.* in Kosovo vilayet, European Turkey, on K. Sirmiza; many mosques; sugar and coffee tr.; p. 21,000.

Prirend, *t.* in Albania; *t.* on R. Drin, European Turkey, in Kosovo vilayet; manu. and comm. *t.* p. 3,654. [8,500; silk industry.]

Privas, *t.* nr. Valence, dep. Ardèche, France; p. 1,200.

Prizzi, *t.* nr. Palermo, Sicily, Italy; manu. *t.* p. 12,106.

Prjevalsk, *dist.* *t.* prov. Semireychensk, Russ.-Turkistan, nr. I. Issyk-Kul; p. 10,416; good local tr.

Procidia, *isl.* at N.W. extrem. Bay of Naples, Italy, 5 m. long; the anc. Prochyta, p. 14,120; also fort. *t.* on same, p. 4,118.

Prome, *ast.* in Pegu div. Lower Burma, area 2,914 sq. m., p. 365,000; chf. t. P. on Irrawaddy R., p. 30,500. [17,560.]

Proskurov, *t.* on R. Bug, Podolia, Russ.; manu. *t.*

Prossna, *r.* trib. (12 m.) of R. Weichsel, forming part of bdy. betw. Prussia and Pruss. Poland.

Prospect, *t.* in S. Australia, sub. to Adelaide, p. 4,124.

Prossnitz, manu. *t.* in plain of H. mna, Moravia, Austria; match-making, brewing, malt and sugar industries, geese breeding, p. 27,500.

Provence, old maritime *prov.* S.E. France; now depts. Var, Basco-Alpes, Bouches-du-Rhône, and part of Vaucluse.

Providence, *c.* at head of Narragansett B., Rhode Isl., U.S.A.; imp. manu. and educat. instrins., seat of Brown University, g'd. distrb. centre for New England, p. 25,820. [5,246.]

Provincetown, *vil.* on Cape Cod, Mass., U.S.A.; p. 1,200.

Provins, *t.* nr. Melun, dep. Seine-et-Marne, France; anc. ramparts, fine old ch., p. 7,820.

Provo, *c.* at base of Wasatch mtns., Utah, U.S.A., nr. shore of Utah Lake; p. 6,618.

Prussia, *kingdom* and princ. *st.* of Gerin. Empire, bordering on the Baltic, Denmark, and N. Sea, area 134,565 sq. m.; largely low moorland, with much forest land and considerable expanse of bog, great mineral wealth, flourishing agr. and many and extensive manu. *t.* p. 40,165,000 (1910), cap. Berlin (9. v.).

Pruth, *r.* flowing (350 m.) betw. Roumania and Bessarabia from the Carpathian mtns. to the Black S.

Przemysl, fort. *t.* in Austrian Galicia; mchy. and other manu., timber and corn tr., p. (includ. garrison of 8,000) 24,000. [Austrian Rep. p. 11,500.]

Psol, *r.* Russ., flows (300 m.) to the Dnieper at Kremenichug.

Pskov, *govt.* N.W. Russ., S. of St. Petersburg, area 17,069 sq. m.; agr. and dairy fmg., p. 1,200,000; largely peasant proprietary; cap. P. *t.* on Velikaya R.; flux tr., p. 34,600. [14,027.]

Pudsey, mfg. *t.* nr. Bradford, W.R. Yorks, Eng.

Pudukkattai, or **Pudukota**, nat. *st.* S. India, sub. to Madras, area 1,101 sq. m., p. 380,420; cap. P. *t.*, p. 17,420.

Puebla, *st.* Mexico, area 12,207 sq. m., p. 1,108,054; agr., coffee, and sugar growing; cap. P., one of the oldest and most imp. *c.*'s of Mexico, alt. 7,127 ft.; great tr., p. 98,640; also t. Majorca isl., Spain, p. 5,082. [Smelting centre; p. 44,395.]

Pueblo, *c.* on Arkansas R., Colorado, U.S.A.; great Pueblo Nuevo del Mar, *st.* on the Mediterranean, Valencia, prov. Spain; summer rest; p. 13,850.

Puenteareas, *t.* on R. Tea, prov. Pontevedra, Spain, nr. Vigo, in vine-grow. dist.; porcelain manu. *t.*; ruins of Castle of Solrozo; p. 13,250.

Pulte Gental, *t.* on R. Genil, Corjoja prov., Spain; olive groves; p. 12,000.

Puerto Bello, *st.* nr. Panama, Colombia, p. 2,960.

Puerto Cabello, *st.* Venezuela, on the Caribbean S., nr. Valencia; large exports; p. 15,468.

Puerto de Santa Maria, *st.* on R. Guadalete, Cadiz, Spain; wine tr., glass manu. *t.* p. 21,050.

Puerto Principe, interior *t.* *prov.* Cabaiguana, Cuba; founded by Velasquez, Columbus's lieutenant in 1515; p. 25,806.

Puerto Real, *st.* Spain, on B. of Cadiz, N. of San Fernando; summer rest, wine and oil tr.; p. 10,082.

Pukekohe, *t.* nr. Auckland *c.*, New Zealand, p. (dist.) 3,480.

Puket, or **Pongka**, *cap.* isl. Junketeylon, and chf. Siamese pt. on Malay Pen., W. ext.; tin mines; p. 20,560.

Pulaski, *t.* nr. Columbia, Giles co., Tennessee, p. 3,869.

Pulicat, *t.* on P. Lake, Madras, India, p. 6,246.

Pulkovo, or **Pulkowa**, *vil.* nr. St. Petersburg, Russ., seat of the Imperial Observatory.

Pulmitz, industri. *t.* nr. Dresden, Saxony, p. 3,896.

Pulteney Town, *ant.* in Scotland, part of the burgh of Wick, p. 5,340.

Pultask, *t.* Krasn. Poland, govt. Warsaw; copper wks., textile factories; p. 18,468.

Puna, bleak and uninhabited plateaus of Peru and Bolivia, alt. 12,000 to 18,000 ft. [local tr. p. 8,610.]

Punganur, *t.* in Arcot div., Madras Pres., India; gd. P. [Punjab, The, *prov.* N.W. Brit. India, occupies the N.W. angle of the northern plain of India; total area, 97,293 sq. m., p. about 70,000,000. The divists. of Delhi, Jullundur, Lahore, Kalandi, Derajat, and Peshawar, and all the *dist.* of these, together with the various nat. states, are dealt with alphabetically.]

Puno, *dep.* Peru; area 30,365 sq. m., p. 270,640; cap. P., t. bordg. on L. Titicaca; alt. 12,870 ft., p. 5,240.

Punta Arenas, *t.* in Magallanes, Chili; gd. tr.; p. 8,416. [4,648.]

Punxsutawney, *bor.* Penn. U.S.A., Jefferson co., p. 1,200.

Purbeck, *isle* of *per.* in S.E. Dorset, 12 m. by 7 m.

Puri, *dist.* Orissa, div. Bengal, Brit. India, area 2,473 sq. m., p. 1,000,000. This *dist.* has suffered dreadfully from famine and drought. Cap. Puri, or Jagannath (9. v.).

Purmerend, *t.* nr. Amsterdam, North Holland, p. 5,640.

Purnea, or **Purniah**, *dist.* in Bihar, Bengal, Brit. India, area, 4,993 sq. m., p. 1,880,000. Cap. P. on R. Saura, p. 14,500. [tr. centre, p. 13,540.]

Purnia, *t.* in Bihar, Manbhum *dist.*, Bengal, Brit. India, p. 1,200.

Purus, *r.* of Peru, trib. (1,400 m.) of R. Amazon.

Pushkar, *t.* and pl. of pilgrimage, Ajmer-Merwara *dist.*, Rajasthan, India; Brahman temple, p. 10,420.

Puteaux, *vil.* and resid. *dist.* on R. Seine, nr. Paris, France, p. 16,142.

Putignano, *t.* in prov. Bari, Italy, industri. *t.* p. 15,400.

Putivi, *t.* on R. Semgovt. Kurak, Russ., manu. *t.* p. 13,124.

Putnam, *f.* in dist. same name, W. cst. Ceylon, p. 5,445.
 Putnam, *f.* in Windham co., Connecticut, U.S.A.,
 thrivg. manufl., p. 7,294.
 Putney, *dist.* in bor. of Wandsworth, Surrey, Eng., *a*
 S.W. resid. and industr. Thames-side *q.* of
 London, p. 2,826.
 Putrid Sea, or Gulf of Siwaah, inlet of Sea of Azov.
 Putten, industr. *f.* nr. Harderwick, Gelderland,
 Holland, p. 5,542. [Amazon.
 Putumayo, or Ica, *r.* of Ecuador, trib. (760 m.) of R.
 Pay-de-Dôme, *pt.* of the Auvergne Mtns., France, alt.
 4,806 ft.; also dept. France, watered by R. Allier,
 area 3,090 sq. m., p. (decreasg.) 599,000; agr., vineyds.
 Cap. Clermont-Ferrand. [industr., p. 22,340.
 Pay, *le*, cap. Haute Loire dep., France; lace-makg.
 Pwllheli, *sp.*, *wat. pt.* and *bor.* Carnarvon, N. Wales,
 p. 3,346. [City; 35 m. long.
 Pyramid L., Western Nevada, U.S.A., nr. Carson
 Pyramid Peak, a summit of the Elk Mtns., Colorado,
 U.S.A., alt. 13,885 ft.
 Pyrenees, The, range of mtns. in S.W. Europe,
 dividing France from the Iberian penins., 270 m. long,
 highest peak Pic Nethou, or Maladette (*q.v.*); also
 name of mtn. range nr. Melbourne, Victoria.
 Pyrénées, Basses, *dep.* S.W. France, area 2,978 sq. m.,
 mainly agr. and live-stock rearg., p. 423,416. Cap.
 Pau (*q.v.*).
 Pyrénées, Hautes, *dep.* S. France, area 1,750 sq. m.,
 agr., vines, nuts, live-stock, marble quarries; p.
 272,195. Cap. Tarbes (*q.v.*).
 Pyrénées-Orientales, *dep.* S. France, washed by
 Mediterr. mean, area 1,599 sq. m., wheat, wine, silk-
 worm culture, stock-rearing; Cap. Perpignan (*q.v.*).
 Pyrgos, *f.* in Greece, prov. Elis and Achæia, nr. Patras;
 has suffered from earthquakes, p. 12,800.
 Pyritz, walled *t.* (with towers) in Pomerania prov.,
 Prussia, nr. Stettin; good grain dist.; p. 8,350.
 Pyrmont, *f.* nr. Hannover, Waleck, Germany; mineral
 springs; p. 1,865; also sub. Sydney, N.S.W.; stone
 quarries

Q

Quackenbruck, *f.* Osnabrück dist., Hanover, nr.
 Essen, p. 4,240.
 Quaggy, *r.* Kent, Eng., flows (10 m.) to join R.
 Ravensbourne (trib. Thames) at Lewisham.
 Quakertown, *bor.* Penn., U.S.A., 35 m. N. Philadelphia,
 p. 2,864.
 Quang-Ping, *c.* Pe-chi-li prov., China, p. 15,600; also
 c. Koei-Choo prov., China, nr. Koei-Yang, p. 18,480.
 Quang-Si or Kwang-Si, *prov.* S. China, borderg. on
 Tonquin, area 79,250 sq. m., p. 5,250,000, cap. Khung-
 Yuan; also c. Kiang-Si prov., China, nr. Yuen-nan,
 p. 30,500.
 Quang-Tong or Qwang-Tung, maritime *prov.* in
 S. of China, includg. Hainan Isl., and containg.
 cap. Canton, p. 30,000,000. [ir., p. 34,580.
 Quano, *f.* nr. Kaituma, E. cst. Hondo Isl., Japan, *gr*
 Quamtam, *f.* in Gyam, Upper Guinea, p. 15,000;
 imp. tr. centre.
 Quantock Hills, *range* S. of Bridgewater Bay,
 Somersetsh., Eng., highest pt., 1,262 ft.
 Qu'Appelle, *R.*, Assiniboia, Can., trib. (300 m.) on
 R. Assiniboine
 Quaregnon, *f.* in Hainault prov., Belgium, in
 Mons colls. dist., ironwks. and tobacco factories, p.
 16,845.
 Quarndon, *vil.* nr. Derby, Eng., medical spring and
 Quarnero, G. of, Adriatic Sea, between Hungarian
 cst. and Illyria. [France, p. 5,984.
 Quarouble, industr. *f.* nr. Valenciennes, dep., Nord,
 Quarr, *f.* in Sokoto, Soudan, Centr. Africa, p. 6,428.
 Quarry Bank, mfg. *f.* in Staffs., Eng., adjoining
 Dudley, p. 7,394.
 Quarter Ironworks and Darnagaber, Industr. dist.
 nr. Hamilton Lanarksh., Scot., p. 1,024.
 Quarto, *R.*, prov. Cordova (280 m.), Argentina; also
 industr. *f.* nr. Caplan, Sardinia, Italy, p. 7,085.
 Quarto, G. of, arm of the C. of Cagliari, Sardinia, *gr*
 Quathlamba, Kathlamba, or Drakenberg Mtns.,
 range betw. Basutoland and Natal, Brit. S. Africa,
 alt. 8,000 to 10,000 ft.

Quatre Bras, nr. Waterloo, S. Brabant, Belgium,
 battle betw. Wellington and Ney, June 16, 1815.
 Queanbeyan, *f.* on Murrumbidgee R., Murray co.,
 N.S.W., p. (dist.) 4,245.
 Quebec, *prov.* Canada, Brit. N. America, N. of New
 Brunswick and the U.S.A., area, 399,350 sq. m., p.
 1,750,000; agr. dairyg., mltg., fishg., cap. Q. C., 38
 k. St. Lawrence, fine harb., hand-made govt. bldgs.,
 p. 79,000. Largest c. Montreal (*q.v.*), council cap.
 Canada.
 Queda, *st.* Lower Siam, on W. cst. Malay Penins.,
 area 4,500 sq. m., p. 22,000; cap. Q. on B. of Bengal,
 p. 4,240.
 Quedlinburg, *f.* at foot of Hartz Mtns., Prussen, Saxony;
 famous for nurseries and seed farms; abbey ch.;
 p. 25,110.
 Queenborough, *f.* on R. Swale, Isle of Sheppey, Kent,
 Eng.; steam port for cross-Channel passengers and
 mails to Flushing; p. 2,468.
 Queen Charlotte's Is., group N. of Vancouver Isl.,
 off coast of Brit. Columbia, Graham Isl. and Moreau
 Isl. are the chief; p. 2,000 (including 700 native
 Indians). Valuable halibut fishing industry.
 Queen Charlotte Sound, *strait* separating Vancouver
 Isl. from the Brit. mainland, a continuation of John-
 stone Strait. [Eng., p. 6,125.
 Queensbury, Industr. *f.* nr. Halifax, W. Yorks,
 Queenscliff, *wat. pt.* at entrance to Port Phillip, Vic-
 toria, res., p. 2,864.
 Queen's County, Leinster, Irel., area 664 sq. m.;
 inland pasture and tillage, with mtn. and bog; p.
 (decreasg.) 54,302. Cap. Maryborough.
 Queensferry, or S. Q., *burgh* at S. end Forth Br.,
 Linlithgowsh., Scot., p. 2,812; Q.N. is a Fisherie
 vil. on the Forth, opposite.
 Queensland, Brit. *col.* N.E. Australia and st. of the
 Australian Commonwealth; area 684,497 sq. m., p.
 664,000. Great grassy plains and coast highlands;
 stock-farming and mining (gold, silver, and copper).
 Cap. Brisbane (*q.v.*).
 Queenstown, *sp.* co. Cork, Ireland; fine harbour and
 docks; p. 9,000. Also *t.* in Cape Colony, Brit. S.
 Africa, in the Great Kei R. valley; prosperous agr.
 region; p. 3,800. Also sm. *t.* on L. Wakitipu, New
 Zealand. [17,750,000; cap. Quel Yang.
 Quel-Chow, or Koei-Chao, *prov.* S.W. China, p.
 Quelimane, or Sao Martinho de Quelimane, *f.* in
 Zambezia dist., Portuguese E. Africa; tr. in rubber,
 almonds, corn, coffee, etc., p. 3,480.
 Quespart, or Chai-Ju, *st.* in the Yellow Sea, 60 m. S.
 of Corea (40 m. by 17 m.); used as a penal settle-
 ment; agr. and pearl-fishing (monopolised by the
 Japs.); p. 100,000. Cap. Chu-sung.
 Querétaro-Arteaga, *st.* Mexico, area 3,558 sq. m.;
 cereals, fruit, and minerals; p. 230,000. Cap. Queré-
 taro, c. at 6,304 alt., 134 m. N.W. of the C. of
 Mexico; fine govt. bldgs. and cathedral. Here
 Emperor Maximilian was executed; p. 36,500.
 Querfurt, *f.* nr. Merseburg, Prussian Saxony, on R.
 Querne, p. 5,120.
 Querimba, *isla.* off Portuguese E. Africa.
 Quesada, industr. *f.* nr. Jaen, Spain, p. 7,018.
 Qu saoy, *le*, fortif. *f.* nr. Valenciennes, dep. Nord,
 France, p. 4,248. [industr., p. 5,165.
 Quesnoy-sur-Deule, *f.* nr. Lille, dep. Nord, France;
 Quetta, *dist.* and *f.* Brit. Baluchistan, at end of Bolan
 Pass, on road to Kandahar. Military cantonment
 occupies valley 20 m. by 5 m.; and the place is the
 N.W. terminus of the railway to Afghanistan.
 Quetzaltenango, *c.* of Guatemala, on slope of Cerro
 Quetzado volcano; centre of trade for western port
 of the Republic; p. 28,600.
 Quiberon, *f.* on Q. Bay, nr. Lorient Morbihan dep.,
 France; p. 3,416. [thrivg. tr., p. 9,145.
 Quibor, *f.* Venezuela, 40 m. S.S.W. Barquisimeto;
 Quicamao, *f.* nr. Camos, prov. Rio de Janeiro, Brazil;
 industr. *f.* p. 10,488.
 Quickmere, mfg. *f.* in W. R. Yorks, Eng., on Lanes
 border, 37 m. E. of Oldham, p. 4,284.
 Quilevra, industr. *f.* in colls. dist. nr. Mons, dep.
 Hainaut, Belgium, p. 3,654. [ir., p. 10,865.
 Quilland, *f.* in Malabar dist., Madras India; active
 Quiliano, *f.* nr. Savona, Genoa prov. Italy; industr. *f.*
 p. 4,040.

Quillmanne, *z.* in Mozambique, S.E. Africa, on R. Q., one of the mouths of the Zambezi; Portuguese penal settlement, p. 6,220. [p. 3,869.]
Quilleau, *vil.* on R. Seine, dep. Eure, France; p. 3,424.
Quillota, *comm.* *z.* nr. Santiago, prov. Valparaiso, Chile, p. 13,685. [Ing to Zanzibar, p. 4,482.]
Quiloo, or **Kilwah**, *z.* on isl. of E. est. Africa, belong-
Quillon, *z.* on Malabar cst., Travancore st., Madras, India; gd. tr., p. 10,180; formerly Brit. mil. cantonment; now hdqrs. Travancore army.
Quimper, *z.* (fortif.) dep. Finistère, France, nr. Brest; pilchard fishy., p. 10,184.
Quimperlé, *z.* dep. Finistère, France, 34 m. E.N.E. Quimper; industr., p. 7,243.
Quincy, *z.* on Mississippi R., Adams co., Illinois, U.S.A.; manuf. and large R. trade, p. 38,058; also c. Norfolk co., Mass., U.S.A.; boot and shoe making, marble quarries, p. 37,014.
Quinhon, *z.* in Annam, Indo-China; gd. tr., p. 8,422.
Quintana, industr., *z.* nr. Badajoz, Spain, p. 5,098.
Quintana de la Orden, *z.* nr. Belmonte prov., Toledo, p. 8,148. [France, p. 4,683.]
Quintin, *z.* nr. St. Briac, dep. Côtes-du-Nord.
Quinto, *R.* Argentina, flows 50 m. S.E. from the Sierra de San Luis Mtn., and becomes lost in a morass.
Quinzano, *z.* nr. Brescia, Italy; gd. local tr., p. 5,454.
Quirindi, *z.* N.S.W., nr. the Liverpool range in Buckland co., p. (dist.) 4,890.
Qairiaga, *cat.* *z.* l. Africa, N. of Zanzibar, p. 4,122.
Quirigua, ruined auc. *z.* on R. Montagua, nr. Isabal, Guatemala; pyramid, etc.
Quistello, *z.* on R. Secchia, prov. Mantua, Italy; here the Imperialists defeated French and Sardinians, 1734, p. (commune) 11,540.
Quito, cap. *z.* Ecuador, in the Andes, 75 m. S. of the Equator, alt. 9,400 ft.; rubber and hide export, carpet, leather, and other manuf., p. 80,000.
Quitta, or **Prince's Town** (British) New Guinea, Gold Coast, W. Africa, p. 5,614. [Eng., p. 2,250.]
Quorndon, or **Quorra**, *z.* in hunting dist. nr. Leicester.
Quorra, *K.* of Africa; one of the names given to the R. Niger (p. 9.) below Timbuctoo.
Qvarnen, *Oestra* and *Vestra*, *straits* in the Gulf of Bothnia on the Swedish coast.

R

Raab, royal free c. of Hungary, at junctn. of R. Raab with an arm of R. Danube; cathed., impt. tr., p. 24,600; also R. of Styria and Hungary, flows (180 m.) to Danube at R. c.
Raalte, *z.* nr. Zwolle, Overijssel, Holland; industr., p. 5,043.
Raamsdonk, *z.* nr. Breda, N. Brabant, Holland.
Raasay, ist. E. of Skye, Inverness-sh., Scotl., 13 m. long, 31 m. wide.
Rabatsana, *z.* on R. Tara, dep. Tarn, France, p. 5,284.
Rabat, or **New Salée**, *z.* Morocco, at mth. of Bu Regreg; open to foreign tr.; leather and carpet manuf., p. 30,000. [p. (est.) 40,000.]
Rabba, *z.* and *z.* centre Candan, on R. Niger, Africa; **Racalmuto**, *z.* in Girgola prov., Sicily; industr., p. 14,129.
Raccugli, *z.* nr. Turin, Italy; local tr., p. 9,826.
Racine, *c.* of R. co., on L. Michigan, Wisconsin, U.S.A.; carriage and wagon wks., p. 39,002.
Radeutz, *z.* in Bukovina duchy, Austria, nr. Sereth; govt. stud farm, p. 15,264.
Radcliffe, *z.* nr. Manchester, Lancs, Eng.; paper mky., dye works, foundries, p. 26,083.
Radeberg, *z.* on Grosse Röder, nr. Dresden, Saxony; glass works, p. 15,602. [p. 9,864.]
Radevormwald, industr., *z.* nr. Barmen, Prussia, p. 100,500; cap. R., p. 15,108.
Radnash, *z.* in govt. Poltava, Russ.; industr., p. 10,464.
Radnor, impt. *z.* N. Wales; area 471 sq. m.; agt., p. 22,539; cap. New Radnor, anc. bor. 64 m. N.W. of Bristol; largest t. Knighton (p. 9.).
Radom, *govt.* Russ. Poland, ading. Galicia; area 4,765 sq. m.; agt., mining and live stock raising, p. 890,000; cap. R., t. 57 m. from Warsaw, p. 31,500.
Radomsk, *z.* nr. Kalisz, Poland; industr., p. 11,186.

Radomysl, *z.* on Peteroff R., Kioff prov., Russ.; tanneries and flour mills, p. 20,118. [p. 3,692.]
Radstock, *z.* nr. Bristol, Somerset, Eng.; collieries.
Rafadali, industr., *z.* Girgenti prov., Sicily, p. 9,424.
Ragatz, *west. z.* on R. Tannia, cant. St. Gall, Switzd.; hot springs, res. p. 2,860; visited by 50,000 persons annually; anc. abey. of Pfäfers, 2,697 ft. above sea.
Raglan, *vil.* nr. Monmouth, Eng.; picturesque ruined castle.
Ragusa, *z.* Syracuse, Italy, divided into R. Superiore p. (23,500) and R. Inferiore (p. 8,640); cheese factories; also a c. on the E. est. of the Adriatic, Dalmatia, Austria; oil, silk, and leather industries, p. (with garrison) 14,000.
Ragusa-vecchia, *mt.* *z.* in govt. dist. Ragusa, Salina, 6 m. E. of last-mentioned c.; site of anc. Epidaurum, p. (commune) 11,018.
Rahad, *R.* Abyssinia and Nubia trib. (260 m.) of Blue Nile. [centre, p. 11,424.]
Rahmaniah, *z.* nr. Rosetta, Egypt, on R. Nile, tr.
Rahon, *z.* on R. Sutlej, Jalandhar dist., Punjab, India, p. 12,580.
Rahway, *z.* on R. Ro, Union co., New Jersey, U.S.A.; residt. for New Yc k business men, p. 8,120.
Rajast, one of the Society Isls., largest of the Lee-ward group, 120 m. N.W. of U. I.
Rai Bareil, *dist.* in Lucknow div., Oudh, Brit. India, area 1,751 sq. m.; rice, wheat, opium, p. 1,034,950; cap. Rai Bareil, t., 48 m. S.E. of Lucknow, p. 13,045.
Rachur, *z.* in Haidarabad, India, impt. comm. centre, p. 22,426. [8,799.]
Raidrug, industr., *z.* Bellary dist., Madras, India, p. 10,464.
Raigarh, feudatory *st.* India, Chhattisgarh div., Centl. Provs., area 1,486 sq. m., p. 175,000; cap. R., t. (with riv. stn.) in iron ore dist., p. 5,012.
Rainford, *z.* in Ludlania dist., Punjab, India, p. 9,824.
Rainford, industr., *z.* nr. St. Helens, Lancsh., Eng., p. 3,593.
Rainier, *mt.* of the Cascade range, Washington.
Rainton, *E.* and *W.*, colliery *dist.*, nr. Durham, Eng.; joint p. 6,420.
Rainy L., on border of Canada and Minnesota, U.S.A., 55 m. long, drains by Rainy R. (100 m. long) to the Lake of the Woods.
Rajpur, *dist.* Chhattisgarh div., Centl. Provs., India, area 11,794 sq. m., p. (decennial) 454,590; rice crops; and cotton manuf.; cap. R., t., cotton-ment for wing of Madras native infantry, ruined fort, oil temples, p. 33,000. [industry, p. 5,124.]
Rajmases, *z.* nr. Valenciennes, dep. Nord, France, lace.
Rajamahendri, *z.* in Godavari dist., Madras, Brit. India, one of the deltas of the G. R.; good tr., railway bridge of twenty-one spans across riv. r. p. 32,460.
Rajapalayam, *z.* in Tinnevely dist., Madras, India, p. 12,544.
Rajapur, *z.* on R. Jumna, Banda dist., N.W. Provs., India, p. 7,864; also t. in Katnagiri dist., Bombay, India, p. 8,005.
Rajgarh, nat. *st.* Bhopal Agency, Centl. India; area (with Sutala) 655 sq. m., p. 120,000; cap. R. (or Bhora), t., p. 6,500.
Rajkot, petty nat. *st.* Kathiawar, Gujarat div., Bombay, India, area 283 sq. m., p. 50,000; cap. R., t., hdqrs. of the political agt. for Kathiawar.
Rajohahi, *div.* (co-extensive with N. Bengal) Brit. India, area 17,351 sq. m., p. 7,750,000, comprising dists. Rajshahi, Durgung, Dinajpur, Jalpaiguri, Bogra, Rangpur, and Patna. Also dist. Rajshahi, on N. bank of G. Ganges, area 2,230 sq. m., p. nearly 1,500,000; sericulture, hemp-growing; hdqrs. Rampur Boalia.
Rajppla, nat. *st.* betwn. the R.'s Tapti and Nerbudda, in Gujarat div., Bombay, India, area 1,514 sq. m., p. 200,000; cap. Nanded, on R. Karjan, p. 11,120; the old fort. cap. of Rajppla is now dismantled.
Rajput, *z.* in Fargana dist., Bengal, India, p. 11,242.
Rajputana, collect. of nat. India *states* twenty under the charge of a polit. agt. to the Viceroy, and the Brit. dist. of Ajmere Merwara; the various states are given in this "Gazetteer" alphabetically; total area 127,541 sq. m., p. 10,530,000; the agent resides at Mt. Abu; Rajputana was part of the Mogul empire, before its subjugation by the Mahrattas.

- Rakka**, fort. *t.* on Lower Niger, W. Africa, p. 11,420; also t. on Euphrates R., Asiatic Turkey, vilayet Haleb, p. 8,146. [manuf.; p. 7,018.]
- Rakonitz**, *t.* nr. Kladno, Bohemia; pottery and paper
- Raleigh**, *c.* Wake co., N. Carolina, U.S.A.; educat. centre; p. 12,600. [parallel with Radack chn.]
- Ralik**, chain of *isls.* in Marshall grp., Pacific O.
- Rambervilliers**, *t.* nr. Nancy, dep. Vosges, France, p. 5,382.
- Rambouillet**, *t.* nr. Versailles, dep. Seine-et-Oise, France; picturesque anc. chateau, formerly royal; p. 5,248.
- Rameswaram**, *isl.* (21 m. long, p. 27,60), Madura dist. S. India, sep. from mainland by Pambid chn.; also t. on same, p. 6,245, contg. a great Dravidian temple, one of the Hindu holy places of pilgrimage.
- Ramgarh**, *t.* in Jaipur, Rajputana, India, p. 11,500.
- Ramganga**, R. Brit. India, trb. (300 m.) of R. Ganges, which it joins nr. Cawnpore.
- Ramillies**, *vil.* N. Brabant, Belgium, 20 m. S.E. Brussels; Marlborough's gt. victory, 1706.
- Ramnad**, *t.* Madura dist., Madras, India, on pen. projectg. towards Kameswaram *isl.*, p. 14,000.
- Ramnagar**, *t.* on R. Ganges, adjoin. Benares, N.W. Provs., India, p. 12,100.
- Ramnuc Sarat**, *t.* in dist. same name Roumania; scene of several battles; p. 1,500.
- Ramnuc**, *vil.* on R. Olit. Valcea dist., Roumania; thermal springs; the reputed anc. Castra Trajani; p. 8,018.
- Rampur**, nat. state Rohilkhand, N.W. Provs., India, area 945 sq. m., p. 53,000; cap. R., t. on R. Kosila; pottery and damask manuf.; p. 78,216.
- Rampur Boali**, *t.* on R. Ganges; admin. hdqrs. of Rajshahi dist., Bengal, India; silk industries; govt. college; suffered from earthquake, 1897; p. 21,500.
- Ramri**, *isl.* in Arakan, off cst. Lower Burma, 50 m. long; also t. on same, p. 3,550.
- Ramsbottom**, *t.* in Heywood div., Lancash., Eng., on R. Irwell; calico printg., etc.; p. 15,147.
- Ramsbury**, *par.* on R. Kennet, Wilts., Eng., 2,350.
- Ramsey**, mkt. *t.* Hunts., Eng., p. 5,368; also spt. on N.E. cst. of Man, p. 4,124. [Engl. res. p. 29,605.]
- Ramsgrate**, *wat. pl.* on E. cst. *isl.* of Thanet, Kent.
- Ramtek**, *t.* in Nagpur dist., Centr. Provs., India, p. 8,014.
- Ranaghat**, *t.* in Nadiya dist., Bengal, India, p. 9,085.
- Rancagua**, *c.* nr. Santiago, Chile, p. (abt.) 8,000.
- Ranchi**, *t.* in Lohardaga dist., Chota Nagpur div., Bengal, India, p. 21,500.
- Rand**, gold-mining dist. Transvaal Colony, Brit. S. Africa. (See Witwatersrand.)
- Randazzo**, *t.* nr. Mt. Etna, Catania, Sicily, 2,474 ft. above sea level; old ducal palace; p. 8,546.
- Randers**, *t.* nr. Aarhus, Jutland, Denmark; mecheval monastery, exports dwt prod.; p. 22,110. [5,145.]
- Randolph**, *t.* nr. Boston, Mass., U.S.A.; industr.; p. 18,446.
- Randwick**, *ind.* of Sydney, N.S.W., p. 27,560.
- Ranea**, *R.* Switzer, flowg. (130 m.) G. of Bolivia.
- Ranenbun**, *t.* in Ryazan govt., Russ.; gardening and grain trade; p. 18,446.
- Rangoon**, *dist.* Lower Burma, Pegu div.; area, 4,236 sq. m., p. 450,000. Also c. on Hlaing R., cap. of Lower Burma; great tr. and many impt. manuf.; two cathedrals, many mosques, temples, and pagodas; p. (with Brit. mil. cantonmts.) nearly 250,000.
- Rangpur**, *dist.* Rajshahi div., Bengal, India, area 3,480 sq. m.; rice and jute crops; cap. R., c. on R. Ghaghat, damaged severely by earthquake in 1897, p. 15,200.
- Ranibennur**, *t.* Dharwar dist., Bombay, India, p. 10,846.
- Raniganj**, *t.* on Damodar R., Birwahn div., Bengal, p. 10,945. [India, perm. p. 6,014.]
- Ranikhet**, health *resort*, Kumaon dist., N.W. Provs.,
- Rani-nur**, famous *rock-cave*, Khandgiri Hill, Puri dist., Orissa, India.
- Rannock**, Loch, Perthsh., Scotl.; 9 m. long, 1 m. wide, drained to R. Tay. [industr.; p. 6,246.]
- Ransart**, *vil.* nr. Charleroi, Hamaut, Belgium.
- Rasallo**, winter *resort* of G. of R. Genoa, Liguria, Italy; medieval castle; lace-making, olive-growing; p. (commune), 10,650.
- Rappahannock**, *t.* Virginia, U.S.A., flows 200 m. to Chesapeake B., S. of the mouth of the Potomac
- Rappollsweller**, *t.* nr. Schletstadt, Alsace-Lorraine, Germany; walled; known as "the pipers' town"; p. 6,142. [largest of the group.]
- Rarastonga**, one of the Cook Isls., Pacific, 53 m. round.
- Raritan**, *t.* (p. 2,048) on R. R., flows (75 m.) in New Jersey, U.S.A., to Perth Amboy on R. Bay, S. of Staten Is.
- Ras-al-Had**, C. E. extrem. Arabia. [p. 10,120.]
- Ras-el-Khyma**, fortfd. *t.* on Persian G., Arabia, p. 11,500.
- Rasgrad**, *t.* nr. Ruschuk, Bulgaria, on R. Ak-Lom; battle between Russians and Turks, 1870 and 1877; p. 13,424.
- Ras Mohammed**, southernmost point, Sinai Penin.
- Raspopina**, *vil.* in prov. Don Cossacks, nr. Tsarityn, on R. Don, corn and cattle trade; p. 16,494.
- Rasra**, *t.* in Balha dist., N.W. Provs., India; p. 11,500.
- Rassein**, *t.* in the Jolrudja, Roumania, 25 m. long.
- Rastatt**, *t.* nr. Karlsruhe, Baden, Germany, formerly fortfd.; tobacco factories, etc.; p. 15,046.
- Rastenburg**, *t.* nr. Königsberg, E. Prussia; manuf.; p. 12,641. [W.R. Yorks, Eng., p. 8,655.]
- Rastrick**, industr. *township* on R. Calder, nr. Halifax, Rath, *t.* in Hampir dist., N.W. Provs., India, p. 15,100.
- Rathenow**, mftg. *t.* on R. Havel, Pruss., p. 23,524.
- Rathkeale**, mkt. *t.* nr. Limerick, Ireld., p. 2,500.
- Rathin**, or Rahery, *isl.* off Fair Head, N. of co. Antrim, Ireld., 5 m. by 1 m., p. 500.
- Rathmines**, S. *end.* of Dublin c., Ireland, p. 38,790.
- Ratibor**, mftg. *t.* on R. Oder, Silesia, Pruss., nr. Austrian frontier, p. 26,845.
- Ratisbon**, busy industr. *t.* on R. Danube, Upper Palatinate, Bavaria; Castro Regnum of the Romans, glass staining, &c., p. 48,946.
- Rat Isls.**, *grp.* in the Aleutian Archipelago.
- Ratlam**, nat. st. Malwa agcy., Centr. India, area 729 sq. m., p. 90,000; cap. R., t. and 17 jn. Rajputana; Malwa in centre, p. 22,580.
- Ratnagiri**, *dist.* Konkan div., Bombay, India, area 3,922 sq. m., p. 1,180,050; fishg. and maritime industries; cap. R., spt. with lighthouse and fort, p. 14,816.
- Ratnapura**, *t.* prov. Samanagamuwa, Ceylon; tea-plantg. and precious stone diggng., p. 4,100.
- Rat Portage**, *pl.* on Rainy R., Ontario, Can.; sturgeon fishg., p. 6,246.
- Raudnitz**, *t.* on R. Elbe, north. Bohemia; interestg. chateau of Prince Lobkowitz, with fine art and int. collections, p. 1,124. [Tibet.]
- Ravana-Hrada**, sacred *L.* at source of R. Sutlej.
- Ravenhead**, *t.* nr. St. Helen's, Lancash., Eng.; industr. p. 6,984.
- Ravenna**, *prov.* Emilia, Italy, area 775 sq. m., p. 250,000; Cap. R., c. on marshy plain nr. the Adriatic, 45 m. E. of Bologna, cathedral, archiepiscopal pal., and many fine bldgs., silk-worm culture, wine growg., lace manuf.; p. 70,000. [manuf., p. 14,126.]
- Ravensburg**, *t.* nr. Constance, Wurtemberg; flourishg. Ravenshorpe, industr. *t.* nr. Dewsbury, W.R. Yorks, Eng., p. 5,824.
- Raver**, *t.* Khandesh dist., Bengal, India, p. 7,642.
- Ravi**, R. of the Punjab, India, trib. (450 m.) of the Chenab.
- Rawalpindi**, *div.* (area 20,738 sq. m., p. 3,750,000) of N. Punjab, India, between Lahore and Peshawar. Also dist. of same, W. of R. Jehlam, area 4,844 sq. m.; mainly agr., p. (decreasg.) 780,000. Also c. (with mil. cantonm.) cap. of above, on R. Leh; fortfd., active tr. with Kashmir; p. 75,000. [p. 2,200.]
- Rawdon**, industr. *t.* nr. Leeds, W.R. Yorks, Eng.
- Rawitsch**, or Rawicz, *t.* ar. Posen, Pruss.; industr.; p. 14,846. [Eng. p. 17,100.]
- Rawmarsh**, mftg. *t.* nr. Rotherham, W.R., Yorks.
- Rawtenstall**, industr. *bor.* nr. Blackburn, Lancs., Eng.; p. 30,510. [N.S.W., p. 1,243.]
- Raymond Terrace**, *t.* on Hunter R., co. Gloucester.
- Razgrad**, *t.* on the Ak-Lom R., Bulgars. (See Razgrad.)
- Ré**, or Rhé, *isl.* off W. cst. Charente-Inférieure prov., France, opp. Rochelle, 18 m., by 4 m.; salt manuf.; p. 14,000. Chi. pl. St. Martin. [Richford.]
- R. & K. Shropsh.**, Eng. flows (20 m.) to R. Teme, at Reading, *bor.* on R. Kennet, Berks, Eng.; biscuit and other manuf.; seed-growg. and ukt. gardng.;

p. 75,214; also c. in Berks, co., Penn., U.S.A., on Schuylkill R.; ironworks; p. 66,071; also t. in Middlesex co., Mass., nr. Boston, U.S.A.; p. 5,467.
Recanatì, t. nr. Loreo, M. cerata, Italy; industri.; p. (communal) 20,685.
Recife, *sp.* Brazil. (See Pernambuco).
Recklinghausen, t. nr. Dortmund, Westphalia, Pruss.; collieries, quarries, and manuf.; p. 42,648.
Recoara, t. nr. Verona, Vicenza prov., Italy; industri.; p. 6,022; pop. war. pl. [Shrewsbury K.; p. 5,897.
Redbank, t. Monmouth co., New Jersey, U.S.A., on Red Bull, *vill.* on Sacramento R., Tehama co., California, U.S.A.; p. 3,043. [Eng.; p. 10,509.
Redcar, t. and c. *war.* p. Cleveland div., N.R. Yorks.
Reddish, *mfgr.* t. nr. Stockport, Lancs., Eng.; p. 9,000.
Redditch, t. co. Worcester, Eng.; needle and fish-hook manuf.; p. 15,463.
Redfern, S.S.W. *wh.* Sydney, N.W.S. p. 25,340.
Rede, R. Northumberland co., Eng., trib. (31 m.) of R. Tyne. [p. 12,000.
Redhill, t. and res. dist., Surrey hills, adjoin. Reigate.
Red Jacket, t. on C. P. Ry., Ashtabula, Can.; p. 2,426.
Redon, t. on R. Vilain, dep. Ille-et-Vilain, France; coasting tr. with Nantes and Brest, manuf. emery powder; fine old abbey ch.; p. 5,746. [and Nevis.
Redonda, *isl.* in Leeward grps., betwn. Montserrat and Redonda, t. on the Vigu estate, Fontevédras prov., Spain; old feudal castle; p. 11,000.
Red River, U.S.A., *trib.* Mississippi (1,600 m.), flows from New Mexico through the Staked Plain.
Red River of the North, flows 650 m., separating Dakota and Minnesota, U.S.A., to Assiniboine, Manitoba, Can. [p. 10,815.
Redruth, mkt. t., Cornwall, Eng.; tin-mine dist.,
Red Sea, or Arabian Gulf, arm of the sea separating Abyssinia, Nubia, and Egypt from Arabia, and continuing through the Suez Canal to the Mediterranean. Communicated with the Indian Ocean by the Straits of Bab-el-Mandeb. Length 1,400 m., greatest width 30 m.
Red Wing, c. Minnesota, U.S.A., on the Mississippi R. in Goodhue co., at head of L. Pepin; flour mills, grain tr., p. 2,048.
Ree, *Lough*, t. betwn. Roscommon, Longford, and Westmeath, Irel., an extension of R. Shannon, 17 m. long.
Reefton, *mfgr.* t. nr. Greymouth, N. Zealand, p. 1,148.
Regalbuto, industri. t. in Catania prov., Sicily, p. 11,025.
Reggio, *vill.* in Val d'Arno, nr. Florence, Italy, p. (communal) 11,540. [Ratisbon.
Regen, R. Bavaria, trib. (68 m.) of R. Danube, at Regensburg, alternative name for Ratisbon (*q.v.*).
Reggio di Calabria, t. on Straits of Messina, at S.W. extrem. Italy; silk and essential oil manuf.; suffered from earthquake 1783 and 1894; p. 47,680.
Reggio nell' Emilia, t. nr. Bologna, Italy, cap. Emilia prov.; silk-woom culture, cheese-mkng.; fine Ch. of the Madonna della Ghiara; p. 63,820.
Regina, *pt.* on Wacana Creek, Assiniboia, Can., cap. of Saskatchewan; gov. bldgs.; p. 31,000.
Regla, *vill.* of Havana, Cuba; fortified, p. 12,400.
Reichenbach, t. nr. Zwickau, Saxony, Germany; a silvers manuf. p. 26,420; also industri. t. in Prussia, Silesia, nr. Liegnitz, p. 8,912.
Reichenberg, t. in Bohemia, Austria, nr. the Prussan and Saxon frontiers; imp. tr. and *mfgr.* centre; p. 35,485. [Syring; p. 3,849.
Reichenhall, *war. pl.* nr. Salzburg, S. Bohemia; salt *Reigate*, *bor.* Surrey; mkt. and resid. t. nr. Surrey *Hill*, p. 28,505.
Reikiavik, t. cap. Iceland, on S.W. est., p. 1,424.
Reims, or Rheims, t. on R. Vesle, dep. Marne, France; famous Gothic cathedr.; champagne centre, cloth factories, woollen industries and tr., dye-works, p. (including garrison) 116,000. [p. 7,464.
Remedios, t. Santa Clara prov., Cuba; gdl. cat. tr.,
Remscheid, t. nr. Düsseldorf, Rhenish Pruss.; utlery manuf., p. 65,000. [wks., p. (communal) 21,460.
Renaix, t. nr. Ghent, Belgium; dye and bleaching
Reudersburg, t. on R. Elber, Holslein, Pruss.; fortifications, demolished by the Danes in 1812, p. 12,850.
Renfrew, maritime co. W. Scotl., S. of R. Clyde; area 245 sq. m., agr., *mfgr.*, and commel., p. 314,574; co. t. Renfrew, a burgh of the Kilmarlock grps. nr. R.

Clyde, p. 12,565; chf. industri. centres Paisley and Greenock (*q.v.*) [p. 7,840.
Rengo, t. nr. Rancagua, Cochagur prov., Chile, p. 17,840.
Renness, c. nr. Nantes, France; cap. Ile-et-Vilaine dep., France; in dairying and agr. dist., p. 62,520.
Resaca, *bor.* on Susquehanna R., Clinton co., Penn., U.S.A., p. 4,816.
Reston, t. on R. Leven, Dumfriesshire, Scotl., p. 5,474.
Reutli, t. nr. Bardsch, Ballia dist., N.W. Prov., India, p. 10,080. [p. 10,126.
Reutpur, t. Ghazipur dist., N.W. Prov., India, p. 10,080.
Republican Fork, or Pawnee R., *trib.* (550 m.) of R. Kansas, Colorado, Nebraska, and Kansas, U.S.A.
Repulse Bay, on S. side of Melville Penin., N. Canada.
Requena, t. in Valencia prov., Spain, on R. Magro; sulphur springs of Fuentepodida nr., p. 14,824.
Resht, or Rasht, t. nr. the Caspian, Persia; cap. Gilhad prov.; silk-woom culture, p. 30,840.
Ressia, t. nr. Naples, Italy; industri. and resid. t. (communal) 16,244. [Hudson Strait.
Resolution Isl., (Brit.) N. of Labrador, at entree.
Restigouche, R. Canada, (200 m.) pt. and boundry, betwn. Quebec and New Brunswick, falls into B. of Chaleur at Dalhousie. [p. 5,083.
Resuttano, t. nr. Caltanissetta, Sicily; industri., p. 13,386.
Reus, *sp.* Crete, N. est., 27 m. E.S.E. of Cana, Reunion (formerly Bourbon), French *44*, Indian Co., betwn. Mauritius and Madagascar, area 1,000 m., sugar growg.; p. 175,000; cap. St. Denis.
Reus, *mfgr.* t. Tarragona prov., Spain, nr. the Mediterranean, in fertile agr. regn., p. 27,108.
Reuss, R. Switzerland, Cant. Uri, flows 30 m. to L. Lucerne; also two principalities Germany; Reuss the Elder, in Thuringia, area 122 sq. m., p. 70,000, cap. Greiz; and Reuss the Younger, area 319 sq. m., p. 14,500, cap. Gera; both agr. [industri., p. 2,222.
Reutlingen, t. nr. Stuttgart, Württemberg, Germany; Reval, or Revel, *fort.* *sp.*, and state *44*, on G. of Finland, Esthonia govt., Russ., p. 66,814. [p. 6,420.
Revel, t. nr. Toulouse, dep. Haute-Garonne, France, Revelstoke, t. in Trout Lake dist., Brit. Columbia; mining centre, p. 2,018.
Revere, t. in Suffolk co., Mass., U.S.A., subn to Boston, p. 12,114; also t. on R. Po, nr. Mantua, Lombardy, Italy, p. 4,285.
Revilla Gilego, *isl.* grp. N. Pacific, belong. to Mexico, comprising Socorro (or San Tomas) and three scattered volcanic islets, total area 320 sq. m., uninhabited.
Rowa, nat. st. Baghelkhand agency, Cent. India, area 10,000 sq. m., p. 1,600,000; cap. R. t. 131 m. S. of Allahabad, p. 24,118. [p. 7,245.
Rewadanda, t. and *sp.* Kolaba dist., Bombay, India.
Rewa Kantha, collect. of 21 nat. *sts.*, Gujarat div., Bombay, India, area 4,980 sq. m., p. 479,080 (decreased 35 per cent. by famine, prin. 41, Rajpura (*q.v.*)).
Rewari, t. Gurgaon dist., Punjab, Brit. India, imp. tr. centre, turban and brass-ware manuf., p. 28,860.
Rezé, t. adjoin. Nantes, Loire-Inférieure dep., France, p. 8,110.
Rezhitza, industri. t. govt. Vitebsk, Russ., p. 11,425.
Rhein, *mfgr.* t. nr. Cologne, Rhenish Pruss., cotton, silk and iron industries, p. 24,124.
Rheine, t. on R. Ems, Westphalia, Germany, jute, tobacco and cotton factories, p. 10,849.
Rhein-Hessen, W. *prov.* Hesse-Darmstadt, Germany; area 531 sq. m., p. 320,000.
Rhenish Prussia, or the Rhine Province, w. most *prov.* Pruss., on both banks of R. Rhine, S. of Holland, area 20,416 sq. m., p. 5,000,000, wine-growg. and *mfgr.*
Rhine, R., rises in Switzld., canton Grisons, passes through Lake of Constance, skirts Baden, traverses Hesse, Rhenish Pruss., and the Netherlands (800 m.), flowing to N. Sea by two arms, Oude Rijn, and the Waal (the latter discharg. finally by the M.-use); famous for its beauty, especially betwn. Bonn and Bingen, ch. falls at Schaffhausen; once a natural barrier betwn. E. and W. Europe, the Rhine is now spanned by thirty railway bridges, and its navigat. was declared free in 1868.
Rhode Island, a New England st. of U.S.A., washed by the Atlantic, and surrounded by Mass. and

Connecticut, area 1,250 sq. m., divided by Narragansett B., with many isls., largest being that from which the st. takes its name, p. 450,000; cap. Providence (q.v.).

Rhodes, *is.*, off S.W. coast Asia Minor, in the *Ægean* S., area 563 sq. m., p. 30,000; cap. R., spt. with gd. tr., p. 10,000, mainly Greek Christians.

Rhodesia, local name of Brit. Zambesia; North Rhodesia forms portu. of Brit. Centrl. Africa, and South Rhodesia comprises the section of Brit. S. Af. stretchg betwn. the Zambesi and the Limpopo, and from Bechuanaland to Portuguese E. Af., thus includg. the former nat. terrs. Mashonaland and Matabeleland. Total area 450,000 sq. m., and pop. 1,750,000; cap. Salisbury (q.v.); gt. minl. wealth and agr. resources.

Rhône Gebirge, *mtn.* grp., Thuringia, Germ., highest pt., 3,300 ft. [also adjact. mntg. dist., p. 157,998]

Rhonda, R. Glamorgansh., Wales, trib. of R. Taff; Rhone, R. Switzld., and France, rsg. in the Rhône glacier of the St. Gotthard mtn. grp., and flowing 640 m. through the L. of Geneva and E. France to the G. of Lyons in the Mediterranean. Also name of dep., S.E. France, and watered by R. Rhône and its confluent R. Saône, which unite at Lyons, the cap. (q.v.); area 1,104 sq. m.; agr., wine-growg., and many manufs.; p. (inc. rsg.) 840,000.

Rhuddlan, or Rhyddlan, *l.*, on R. Clyd., Flintsh., Wales; one of the Flint bors.; p. 1,370.

Rhyl, *wt. pt.* N. Wales, betwn. Bangor and Chester, at entrance Vale of Clwyd; fine sands, bracing air, beautiful sceny.; p. 9,005.

Rhymney, *t.*, on R. R., Monmouthsh., Eng., nr. Merthyr Tydfil, in mining dist., p. 11,451.

Riazait, *govt.* Centrl. Russ., traversed by R. Oka, and adjact. Moscow govt., area 16,225 sq. m.; fertile agr. soil; p. 9,000,000; cap. R., t. on R. Trubej, trib. of the Oka; manuf.; p. 22,115.

Ribble, R. Yorks. and Lancs., Eng. (75 m. long), flows to Irish S. below Preston.

Ribchester, *t.*, on R. Ribbles, Lancs., p. 1,846.

Ribeira, *t.*, in Coruña, prov. Spain, on pen. of Arosa estuary; agr., cattle-rarg., fishery; p. 11,118.

Ribera, *t.*, nr. Girgenti, Sicily; industri., p. 9,010.

Ricamarie, *l.*, t. nr. St. Etienne, dep. Loire, France, p. 6,823.

Riccia, *t.*, in Campobasso prov., Italy; industri.; p. 9,864.

Richelieu, or Chambly, R. Quebec, Can. flows (80 m.) from I. Champlain to the R. St. Lawrence at L. St. Peter. [coal-mining, zinc-smeltg., p. 2,260]

Rich Hill, *t.*, on Osage R., Bates co., Missouri, U.S.A.;

Richibucto, *pt.* at mth. of R. R., Kent co., New Brunswick; gd. tr.; p. 4,345.

Richmond, *t.*, on R. Thames, Surrey, Eng., industri. and residu., beautiful park and riverside scenery, p. 33,223; also bor. on R. Swale, N.W. Yorks., Eng., p. 3,934; also c. on R. Thames (nr. the falls), Virginia, U.S.A., cap. of the State, gt. tobacco mfg. centre and mart, p. 127,628; also c. on branch of R. White-water, Wayne co., Indiana, U.S.A., manuf., p. 22,324; also c. of Madison co., Kentucky, U.S.A., in tobacco growg. and horse-rarg. regn., p. 4,808; also t. on N. cast. Jamaica, p. 6,910; also R. of N.S.W., flows 120 m. to Pacific below Moreton B.

Richterwell, *wt.*, on L. of Zurich, Switzld., p. 4,084.

Rickmansworth, mkt. *t.*, on R.'s Colne and Chess, Herts., Eng., p. 6,288.

Riddings, mkt. *t.*, nr. Alfreton, Derbysh., Eng., p. 6,012.

Rideau, Canal, from Ottawa R., Can., to Kingston on L. Ontario, 132 m. [Brit. S. Afr., alt. 3,109 ft.]

Riebeck's Casteel, *mtn.* Malmesbury div., Cape Col., Riesa, *t.*, on R. Elbe, nr. Meissen, Saxony, gd. ship tr. and manuf., p. 15,010.

Riesen Gebirge, *mtn. range* betwn. Pruss. Silesia and Bohemia, highest pt. Schnee Koppe, 5,775 ft.

Riesi, *t.*, nr. Tarranova, Caltanissetta, Sicily, industri., p. 13,400.

Rieti, industri., *t.*, in Perugia prov., Italy, an ancient Sabine *t.* in famous fertile dist., p. 18,644. [11,416]

Rietshiza, *t.*, on R. R., govt. Vitbeok, Russ., mfg.; Riga, *wt.* Russ., at i. d. of G. of R., Livonia, govt., grt.

industri. activity and shipbldg. tr., p. 300,000, mchny. mfg., and ry. carriage bldg., very imp. and flourishg. Righi, impos. *mtn.* nr. L. Lucerne, Switzld., alt. 5,995 ft.

Rimini, *t.*, in Forlì prov., Emilia, Italy, on the Adriatic est. minl. springs, sea-bathg., thvrg. industries, p. 22,265.

Rimnik, *t.*, on the R. R., nr. Bucharest, Roumania, industri., p. 8,416; also t. on R. Aluta, 100 m. N.W. Bucharest, Roumania, gd. local tr., p. 7,246.

Ringwood, mkt. *t.*, on R. Avon, nr. Christchurch, Hants., Eng., p. 7,151.

Rinteln, fort. *t.*, on K. Weser, nr. Minden, p. 4,216.

Rioabamba, *t.*, on San Juan R., Chimborazo prov., Ecuador, woollen mfg., Inca palace runs nr., p. 12,560.

Rio Bonito, *t.* Rio de Janeiro prov., Brazil, p. 8,416.

Rio Branco, *t.* of Brazil (700 m.) trib., Rio Negro.

Rio Cuarto, *t.* Cordoba prov., Argentina, p. 15,106.

Rio das Mortes, R. of Brazil (500 m.), trib. of the Araguay.

Rio de Janeiro, maritime prov., Brazil, area 26,634 sq. m., p. (excludg. capital c. and municipality) 1,360,500. Coffee plantations. Cap. Rio de J., on B. same name, largest c. in Brazil, p. (with dist. subs.) 1,000,000. Many fine bldgs., flourishg. tr. and industries; immense coffee export.

Rio de la Plata.—(See Plate R.)

Rio de Oro, Spanish col. N.W. coast Africa; sandy penins., Sahara est., 23 m. long and 1½ to 2 m. wide; probably the Caninis of Herodotus.

Rio de San Juan, R. (350 m.) of Utah, New Mexico, and Colorado, U.S.A.

Rio Dulce, A. Santiago st., Argentina, 400 m.

Rio Grande, R. Senegambia, Africa, flows (400 m.) to the Atlantic.

Rio Grande, R., head stream of the R. Paraná (q.v.).

Rio Grande del Norte, R. flows from Colorado through New Mexico, and divides Texas from Mexico State; falling after a course of 1,800 m. into G. of Mexico.

Rio Grande de Santiago, R. of Mexico (prin. in Jalisco), 500 m. long, flows to Pacific.

Rio Grande do Norte, prov., Brazil, area 22,156 sq. m., p. 280,500. Cap. Natal.

Rio Grande do Sul, prov., S. Brazil; area 110,216 sq. m., p. 450,816; cap. Porto Alegre; also name of t. in prov. in R. G. do Sul, at S. end Lagoa dos Patos; p. 20,002.

Rioja, *l.*, prov. Argentina, adjct. Chili; area 34,546 sq. m.; gold and silver mines; p. 73,450; cap. La Rioja; p. 6,250.

Riom, *t.* nr. Clermont, dep. Puy-de-Dôme, France; former cap. Auvergne; p. 11,046.

Rio Negro, R. S. America; rises in Colombia, and flows (1,350 m.) through Northn. Brazil to the Amazon; also R. of the Argentine, rising in the Andes, and flowg. through the terr. of Rio Negro to the Atlantic (650 m.); also name of terr. Argentina, S. of Pampa; area 75,992 sq. m., p. 10,000; cap. Viñedon; cattle-rearing regn.

Rionero, *t.*, nr. Melfi, Potenza prov., S. Italy; industri.; p. 12,546.

Rio Salado, R. Argentina; rises in the Andes, and flows 1,000 m. S.E. to R. Paraná at Buenos Ayres.

Rio Tinto, R. in Huelva prov., Spain; flows 60 m. to the Mediterranean. [and copper mines; p. 2,050.]

Rio Tinto, Las Minas de, *t.* nr. Huelva, Spain; lead Rionow, or Rhio, spt. R. Lugga Arch., Dutch E. Indies; p. (of residency) 25,100, (of t.) 4,614.

Ripatransone, *t.* nr. Fermi, Italy; industri.; p. 10,115.

Ripley, mkt. *t.* nr. Derby, Eng.; manuf.; p. 11,848; also t. on Ohio R., Brown co., Ohio, U.S.A.; p. 3,848.

Ripon, anc. c. N.R. Yorks., Eng., on R. Ure; fine cathed.; p. 8,218; also t. on Green L., Fond-du-Lac co., Wisconsin, U.S.A.; p. 4,024. [p. 10,120]

Riposto, *t.* nr. Taormina, E. coast Sicily; wine export; Riposenda, industri. *wt.* nr. Halifax, W.R. Yorks., Eng.; p. 5,498.

Risca, *t.* on R. Ebbw, Monmouthsh., Eng.; mining.

Righton, industri. *wt.* nr. Blackburn, Lancs., Eng.; p. 7,441.

Rishworth, *t.* nr. Halifax, W.R. Yorks., Eng.; p. 934

Riva, fortif. *z.* in Tyrol, Austria, nr. Italian frontier; [p. 7,140.]

Rivado, *spt.* on E. est. Galicia, B. of Biscay, Spain;

Rivarolo, *z.* subn. to Genoa, N. Italy; p. (commune), 9,230; also *z.* in the Orco valley, Turin, Piedmont, Italy (sometimes called "Little Turin"); p. 7,142.

Rivas de Sil, *spt.* Nicaragup, Cent. America; *gd.* est. tr.; p. 16,120. [abbey.]

Rivaulx, *z.* on R. Rye, N.R. Yorks, Eng.; ruined

Rive de Gier, *z.* on R. Gier, dep. Loire, nr. Lyons, France; mining centre; p. 16,416.

Riveira, *spt.* nr. Corunna, Spain; p. 9,488.

Riverdale, *dist.* W. prov. Cape Col., Brit. S. Af.; area, 2,466 sq. m.; p. 14,148; also vil. in same; p. 1,849. [p. 7,124.]

Rivesaltes, mkt. *z.* dep. Pyrénées-Orientales, France; Riviera, the belt of coast between the mtns. of the shore of the G. of Genoa, N. Italy, from Spezia to Nice; picturesque scenery, sheltered, mild climate; *gr. &* health resort of the wealthy.

Rivoli, *z.* 8 m. W. Turin, Italy; palace; p. 6,540.

Rivoli Veronese, *vil.* on R. Adage, Verona, Venetia, Italy; Napoleon's victory over the Austrians, Jan. 14th, 1797. [Asiatic Turk; *gd.* tr.; p. 30,000.]

Rizab, or **Rizab**, *z.* nr. Trebizond, on Black S.

Roanne, *z.* nr. St. Etienne, dep. Loire, France; anc. t. of the beguins, and later the Roman Rodunna. textile industries.

Roanoke Isl., off est. N. Carolina, U.S.A.; 13 m. long; Roanoke, R. of Virginia and N. Carolina (230 m.), flows into Albemarle Sound; Roanoke t. on R. R., in ironwks. dist., S. W. part Virginia, p. 34,874.

Robin Hood's Bay, picturesque *vlet.* with fishg. vil., on est. N. R. Yorks, Eng., nr. Whitby.

Rocca Strada, walled *z.* nr. Grosseto, Italy, p. (commune) 8,080. [p. 6,740.]

Roccella, *z.* nr. Gerace, Italy; fishg. and est. tr., Rochdale, textile mfg. *z.* on R. Roch, nr. Manchester, Lancs., Eng.; great co-operative centre, p. 91,437.

Rocheford, *z.* on R. Roche, nr. Chelmsford, Essex, Eng.; p. 1,750.

Rochefort, fortif. *spt.* on R. Charente, dep. C.-Inférieure, France; with arsenal and st. est. tr., p. (with riverside sub. of Tonniay-Charente), 36,412.

Rochelle, La, fortif. *spt.* on Bay of Biscay, cap. Charente-Inférieure dep., France; shipbldg., chemical wks., fisheries, p. 36,000.

Rochester, *z.* on R. Meridway, Kent, Eng. adjoining Chatham; cathedr., castle, p. 31,388; also c. Monroe co., New York, U.S.A.; *gt.* mfg. centre on Genesee R., with large shippg. tr., p. 218,149; also c. on Salmon Falls and Cohoeco R.'s New Hampshire, U.S.A.; boot factories, p. 9,012; also c. on Zumbro R., Olmsted co., Minnesota, U.S.A.; in grain-growg. dist., p. 7,465.

Roche-sur-Yon, La, *z.* on R. Yon Vendée dep., France; castle, p. 11,450, called formerly Bourbon Napoleonville.

Rockaway, summer res. on sandbar of Long Isl., now incorporated with Queens, one of the five boroughs of New York City, U.S.A.

Rockford, *z.* on Rock R., Winnebago co., Illinois, U.S.A.; machinery and furniture manuf., p. 45,401.

Rockhampton, *z.* on Fitzroy R., Livingstone co., Queensland; pt. in agr. and mining dist., p. 20,915.

Rock Hill, *z.* in New York co., S. Carolina, U.S.A.; industr., p. 7,068.

Rock Island, *z.* on R. Mississippi, R. Isl. co., Illinois, U.S.A.; flour mills, glass manuf., timber yds., p. 34,335.

Rockland, *z.* and *spt.* Maine, U.S.A., on Penobscot B., Knox co.; shipbldg., granite quarzgng. p. 8,200; also t. Plymouth co., Mass., U.S.A.; industr., p. 5,416. [granite quarries, p. 4,862.]

Rockport, *z.* on Cape Anne, Essex co., Mass., U.S.A.

Rock River, Wisconsin, U.S.A.; trib. (375 m.) of the Mississippi.

Rockville, *z.* on Hockanum R., Polland co., Connecticut, U.S.A.; silk and woollen mfg., p. 7,300.

Rocky Mountains, extensive *mte.* in N. America, extending along the W. portions of Canada and the U.S.A. from Alaska to Mexico. The highest accurately measured pt. in the United States system is Mt. Blanca (14,462 ft.); Mt. Brown, often

represented to reach an altitude of between 15 and 16 thousand ft., has been proved by careful survey to fall below 10,000 ft. Mt. St. Elias, in Alaska, nr. the boundary of Brit. N. America, is computed to be 18,000 ft. high, and was long held to be the highest peak in N. America, but is now known to be surpassed by the adjacent Mt. Logan, and by Mt. Orizaba, in Mexico.

Rodez, or **Rhodes**, *z.* on R. Aveyron, cap. A. dep., France, the anc. Sagodunum; cathedr., *gd.* tr., p. 17,124. [p. 6,114.]

Rodi, *z.* on Garganian promont., Adriatic est., Italy.

Roding, R. Essex, Eng. trib. (30 m.) of R. Thames.

Rodosto, *z.* on S. of Marmara, Roumelia, European Turkey; agr. and silkw. rearing, p. 35,560.

Rodrigues, Brit. Isl., Indian Oc., dependency, of Mauritius, area 49 sq. m., p. 2,120.

Roermond, *z.* on R. Maas, Limburg, Holland, Munster, cloth mfg., p. 9,468.

Robilkhanda, *div.* N.W. Provs., India, area 19,908 sq. m., p. 650,000; comprises dists. Bareilly, Bignaur, Budaon, Moradabad, Pilibhit, and Shahjahanpur, all of which see separately.

Rohri, *z.* on R. Indus, Shikarpur dist., Bombay, India, p. 10,540.

Rohtak, *dist.* Delhi div., Punjab, India, area 1,797 sq. m., p. 650,000; cap. R., t. 42 m. N.W. Delhi, p. 17,124.

Rokeby, *par.* on R. Tees, N.R. Yorks, Eng., at junctn. with R. Greta, celebrated by Scott.

Rokelle, R. Senegambia and Sierra Leone, W. Africa (flows 250 m. to the Sierra Leone estuary).

Roma, *z.* Queensland, in agr. dist. nr. Mt. Horrible, p. 1,948. [p. 14,016.]

Roman, *z.* on R. Moldava, Roumania; cathedr., *gd.* tr.,

Romana, *z.* on R. Isère, dep. Drôme, France, formerly seat of anc. abbey, p. 12,108.

Rome, *z.* on R. Tiber, in the Campagna, cap. Italy; one of the most famous c's in the world; centre of the Roman Catholic Ch., and former cap. of the greatest st. in the anc. world. Situated on the original "seven hills" of the old Roman metropolis, and in the valleys betwn. along the R., contains the celebrated cathedr. ch. of St. Peter, the Vatican, many churches and palaces, the castle of St. Angelo, and numerous monuments; besides a university and several notable musins. devoted to art and learning. Was created cap. of mod. United Italy in 1871. Flourishg. industries and trade; p. 546,000 (more than doubled since 1871).

Rome, c. Onieria co., New York, U.S.A., on the Mohawk R.; dairyng centre; p. 20,407; also c. on R. Coosa, Floyd co., Georgia, U.S.A., in cotton regn.; p. 7,480. [p. 16,424.]

Romen, or **Roumey**, *z.* in Poltava gov., Russ.; agr.

Romford, mkt. *z.* and residt. dist. nr. London, co. Essex, Eng.; p. 10,972. [textile factories, p. 9,466.]

Romilly-sur-Seine, *z.* nr. Troyes, dep. Aube, France;

Romney, New, *bor.* and Canque Port, S. Kent, Eng.; in the rich est. dist. Romney Marsh; old harbour silted up by shingle, and now a mile from sea; p. 1,333. Littlestone-on-Sa, adjacent, is a rising wat. pl.

Romadad, *z.* on Norway, in Trondhjem, prov.; area 5,679 sq. m.; p. 130,000. Cap. Molde.

Romsey, *bor.* co. Hants, Eng., New Forest div., on R. Test; old Norman abbey ch.; tanyards; p. 4,671.

Ronaldshay, N. and S. *1/2*s of the Orkneys (p. v.).

Roncavalle, *v. &* *mte.* *par.* in the Pyrénées, Spain, 20 m. N.E. of Pamplona, Navarre. Charles the Great defeated here by the Basques (or Moors) in 778.

Ronda, *z.* on the R. Guadalquivir, Malaga, Spain; chocolate and flour manuf.; p. 20,185. An anc. Moorish t. 42 m. N. of Gibraltar.

Roudout, *z.* (now incorporated with c. of Kingston) Ulster co., New York, U.S.A., on R. Hudson; coal tr.; p. 11,118. [p. 14,810.]

Ronsdorf, *z.* in Rhensish Pruss., nr. Barmen; ironwks.;

Rooker, *z.* Salazarpur dist., N.W. Prov., India; idlg. of the Bengal sappers and miners; p. 18,106.

Rosendaal, industr. *z.* nr. Breda, N. Brabant, Holland; p. 10,012.

Roraima, *mtn.* Brit. Guiana, alt. 9,000 ft.

Rorke's Drift, *missm. str.* Zululand, Brit. S. Africa; heroic stand by a small band of Brit. soldiers, 1873.

Rosario, *z.* in Argentina, on R. Paraná; great grain export; p. 120,000.

Rosecommon, inland *co.* Ireld., Connaught prov.; area 946 sq. m.; p. (dechning) 93,904. Cap. K., t. 96 m. from Dublin; p. 2,180.

Roscrea, mkt. *z.* on Little Brosna R., Tipperary and King's County, Ireld., p. 2,800. [Scotl., p. 1,308.]

Roseheartly, fishing *viz.* nr. Fraserburg, *co.* Aberdeen.

Rosenheim, *z.* on R. Inn, nr. Munich, Bavaria; famous for sulphur springs, a favourite wat. pl., with hnt. brine works; p. 16,124.

Rosetta, *z.* on W. branch of R. Nile, 43 m. N.E. Alexandria, Egypt; archaeological discoveries; p. 16,864.

Roskilde, or **Roeskilde**, nikt. *z.* Denmark, 20 m. W. of Copenhagen; fine cathedral, containing tombs of kings and queens of D., also royal palace; p. 8,502.

Roslavl, *z.* in Smolensk gov., Russia, nr. the Oset R.; old Lithuanian t., with various manufs.; p. 18,500.

Roslin, or **Rosslyn**, *viz.* on R. Esk, nr. Edinburgh, Scotl.; celebrated old castle and Gothic chapel.

Ross, mkt. *z.* on R. Wye, Herefordsh., Eng., p. 4,682.

Ross and Cromarty, coast and Highland *co.* Scotl.; total area 3,202 sq. m., p. 77,353; chf. t. Dingwall (p. v.).

Rossano, *z.* nr. G. of Taranto, prov. Cosenza, Italy; old t. under the Byzantine Empire; good modern trade; alabaster and marble quarries; p. (communal) 19,484.

Rossina, industr. *z.* in govt. Kovno, Russ., p. 12,475.

Rossland, *z.* in Kootenay mining dist., Brit. Columbia, p. 7,040.

Rosslau, *z.* on R. Elbe, Anhalt, Germany; has two castles; chemical and other industries; p. 212,418.

Rosswain, mftg. *z.* on R. Mude, Saxony, p. 7,008.

Rostock, flourishing *spz.* on R. Warnow (nr. the Baltic) nr. Stralsund, Mecklenburg-Schwerin, Germany; university; exports grain, flax, cattle, etc.; p. 57,464.

Rostov, *z.* on R. Don, Yek.-terrapoly gov., Russ.; a great grain mart and commercial and industr. centre, p. (including Nakhichevan and other suburbs) 150,000.

Rostov Velikiy, *z.* nr. L. Rostov (or Nero), Yaroslavl gov., Russ.; formerly had a famous fair, now declined; boot and shoe manufs., kitchen gardening; p. 15,820.

Rothenburg-an-der-Tauber, *z.* Middle Franconia, Bavaria, nr. Nuremberg; walled, with picturesque old gates and many mediæval bldgs., manuf. and tr.; p. 8,006.

Rother, *R.* Sussex and Kent (31 m.), flows to Eng. Channel; also R. Hants and Sussex (24 m.), trib. of R. Arun; also R., Derbysh. and Yorks, Eng., flows to R. Don (21 m.) at Rotherham.

Rotherham, *bor.* on R. Rother, nr. Sheffield, W.R. Yorks, Eng.; iron and chemical wks.; p. 62,507.

Rotherhithe, a S.E. Thames-side *dist.* of London, Eng., p. 66,061.

Roths, *burgh* in *co.* s. Banff and Elgin, Scotl., nr. R. Spey, p. 1,350.

Roseheartly, *burgh* in *isl.* and *co.* Bute, Scotl.; Clydeside tourist resort; p. 9,299.

Rotondo, *missm.* in Corsica, alt. 9,605 ft.

Rottenburg, *z.* on R. Neckar, Wurttemberg; old castle, cathedral, former Jesuit monastery, hop-growing dist.; p. 7,500.

Rotterdam, *spz.* and wealthy comm. *z.* cap. of S. Holland; gt. shipping tr. and many manuf., on R. Maas; p. 426,000 (increased from 160,500 in 1884).

Kotti, *isl.* (50 in. by 20 m.) off Timor, Malay Arch., Dutch poss.

Roubais, thriving and industr. *z.* nr. Lille, dep. Nord, France; on the Roubaix Canal 1 m. from the Belgian frontier; woollen manuf., grape and tomato forcing, gt. tr., many educat. instms. and fine bldgs.; p. 140,000.

Rouen, *z.* on R. Seine, dep. Seine-Inférieure, France; extensive cotton and woollen factories, magnif. cathedr. and churches; p. 116,000.

Roulers, *z.* on R. Lys, nr. Courtrai, W. Flanders, Belgium; cotton manuf.; p. 21,420.

Roumania, indpt. *kingdom* (since 1878) consisting of the old principalities of Wallachia and Moldavia, and the delta of the Danube and the Dobruja. Separated from Bulgaria by the Danube, and from Hungary by the Carpathian Mtns., while the Pruth forms the

Russn. frontier on the E. Not being a Balkan State, took no part in the war of 1912, but after its resumption in 1913 she intervened and exacted from Bulgaria as the price of peace some 2,000 miles of territory. Area 53,472 sq. m., p. over 7,000,000, cap. Bucharest (p. v.).

Roumelia, former *prov.* of Turkey, betwn. Servia and E. Roumelia on the N., and the Sea of Marmora and the Aegean S., Albania and the Black Sea W. to E.

Roumelia, East, nominally (by Treaty of Berlin 1878) a self-governing *prov.* of Turkey, but really a principality of Bulgaria S. of the Balkans; area 13,861 sq. m., p. 1,000,000; cap. Philippopolis (p. v.).

Roveredo, or **Rovereto**, one of the principal silk mftg. *z.* of the S. Tyrol, Austria-Hungary, on the R. Leno, p. 10,500.

Rovigno, *z.* in prov. Istria, Austria, on the Adriatic est.; centre of sardine fishg. industry; p. 10,816.

Rovigo, *z.* betwn. the R. s. Adige and Po, Venetia, Italy; gd. tr., fine campanile tower; p. 7,684.

Rovno, *z.* in govt. Volhynia, Russ.; an imp. tr. centre m 16th century, but wrecked by the Cossacks before its annexation to Russ.; good prest. tr. in provisions, milling industry; p. 25,000 [10,840.]

Rowandiz, fortif. *z.* Turkish Kurdistan, nr. Mosul, p. 10,000.

Rowley Regis, industr. *z.* afdjng. Dudley, Staffs, Eng., p. 37,000.

Roxburgh, inland *co.* S. Scotland, stretching over gt. part of the border line with Eng.; area 670 sq. m., p. 47,102; cap. Jedburgh (p. v.); also name of par. *co.* R., nr. Kelso, p. 1,024.

Royan, *z.* (industr.) in Charente-Inférieure dep., France, on coast 37 m. S. of Rochelle; fishery and tr.; p. 8,362.

Royston, mkt. *z.* Cambridgesh. and Herts, Eng., p. 17,069.

Royston, industr. *z.* nr. Oldham, Lancs, Eng., p. 17,069.

Rozsahegy, mkt. *z.* nr. the Vág, Liptó, Hungary; textile and paper manuf.; p. 8,460.

Ruabon, *par.* in colly. dist. Denbighsh., N. Wales, *z.* on R. Mersey; border; terraced bldgs. and tile works; p. 3,648.

Ruatan, *isl.* in B. of Honduras, 30 m. by 9 m., belongs to Repub. of H.

Rubicon, *R.* of Centl. Italy, flows to the Adriatic; identified by different authorities with the Urbino and Urso.

Ruby Mines, *dist.* in Mandalay div. Upper Burma; area 1,915 sq. m., p. 90,580. Hilly regn. of the Shan plateau, rich in precious stones; hdqrs. t. Mogök, in centre of the mining industry.

Rudauli, *z.* m. Bara Bhandi dist., Oudh, India, p. 12,120.

Ruddervoorde, industr. *viz.* nr. Bruges, Belgium, p. 5,423.

Rudesheim, *z.* on the Rhine, Rhenish Pruss., nr. Wiesbaden; famous for wine, p. 5,014. On the Mederwald hill above the t. is the natl. monument, "Germania," commemorative of the war of 1870-1871.

Rudolf, *L.* in E. equatorial Africa; area 3,500 sq. m., discovered 1889, by Teleki, it lies in Brit. terr., N.E. of the Victoria Nyanza.

Rudolstadt, *z.* on R. Saale, Gernny., cap. of principality of Schwarzburg-Rudolstadt; porcelain manuf.; p. 1,218, nr. the palace of Hendelsburg [9,910.]

Rudrapur, *z.* Gorakpur dist., N.W. Provs., India; p. 10,000.

Ruell, or **Ruel**, *z.* nr. Paris, Seine-et-Oise dep., France, 4 m. outside the fortifications of the cap., p. 20,268.

Rufiji, *R.* of Germ. E. Afr., flows (450 m.) to the Indian Oc. [famous school; p. 21,762.]

Rugby, mkt. *z.* on R. Avon, Warwicksh., Eng., p. 4,500.

Rugely, mkt. *z.* Staffs, Eng., on R. Trent, p. 4,500.

Rügen, *isl.* in Baltic, off est. of Pomerania, Pruss., area 372 sq. m., p. 48,000. Picturesque scenery, pop. bathing resorts, chf. t.s. Baren and Putbus (p. v.).

Ruhla, *z.* and summer rest. in duchies of Saxe-Coburg and Saxe-Weimar, Gernny., nr. Eisenach and the Thuringian Forest, in the valley of the Erb, mineral bath, res. p. 6,840.

Ruhrort, *z.* in Rhenish Prussia, nr. Düsseldorf, at the confluence of R. Rhur with the Rhine, shipping port of the Westphalian coal-field, p. 13,684.

Rukwa, *L.* in German E. Afr., continuant of the rift valley of Lake Nyassa, 30 m. by 12 m., formerly covered a much larger space; area 184 m. by 8 m.

Rum, *isl.* of the Inner Hebrides, *co.* Argyll, Scotl., p. 8,860.

Ruma, *z.* in Hungary, 35 m. N.W. of Belgrade, industr., p. 8,860.

Rumbeke, industr. *viz.* nr. Bruges, Belgium, p. 6,461.
Rumburg, *t.* on the Saxon frontier of Bohemia, Austria, textile and other industries, p. 10,318. [5,667.
Rummelsburg, *t.* nr. Coslin, Pruss., gd. local *tr.*, p. 10,318.
Runcorn, mkt. *t.* on R. Mersey, Cheshire, Eng., connected by the Ship Canal with Manchester, transporter bridge to Widnes, p. 17,354.
Runnymede, meadow on R. Thames, nr. Staines, Surrey, Eng.; celebrated as the spot on which King John was forced by the Barons to sign Magna Charta in 1215. [p. 10,520.
Rupar, *t.* on R. Sutlej, Ambala dist., Punjab, India, industr., p. 4,018. [to James B.
Rupelmonde, *t.* on R. Scheldt, nr. Antwerp, Belgium, industr., p. 4,018.
Rupert, R. Canada, flows 370 m. from Lake Mistassini
Rupert's Land, old name of part of the N.W. Territories, Canada, whose streams fall to Hudson B. and James B. [11,840.
Rurki, *t.* in Saharanpur dist., N.W. Provs., India, p. 11,896.
Rusara, *t.* on Little Gandra K., Darbhanga dist., Bengal, India, p. 11,896.
Rushden, *par. adjng.* Higham Ferrers, Northants, Eng., industr., p. 13,354.
Rusholme, *t.* on E. of Manchester, S.E. Lancs., Eng., industr. and resident., [p. 12,114.
Rushville, *t.* Rush co., Indiana, U.S.A., p. 4,260.
Ruska Poyana, peak of the Carpathian Mts., alt. 9,000 ft. [4,730.
Russell, *spt.* on B. of Islands, New Zealand, p. (dist.)
Russia, vast empire, embracing more than half the continent of Europe and one third of Asia; estimated area 8,600,000 sq. m. [p. 163,000,000. It extends from Poland in the W to Behring Strait, E., a dist. of 5,700 m., and from the Arctic to Southern Siberia N. and S., alt. 2,600 m. The State cap. is St. Petersburg (12 m.), and the empire has six great divinis; Russia proper and Poland, the Finland grand duchy, Caucasus, the Transcaucasian territory, Central Asia, and Siberia. In Europe, Russia has an area of a little over 2,000,000 Eng. sq. m., and a pop. of about 108,000,000; and the most imp. cities, after the cap., are Moscow, Warsaw, and Odessa (all of which see).
Rustchuk, *t.* on R. Danube, Bulgaria, opp. Gurgevo, in Roumania, arsenal, barracks, and many manuf., p. 33,084. [p. 10,068.
Rute, *t.* nr. Lucena, Cordova prov., Spain; industr.
Rutherglen, *bor.* on R. Clyde, Lanarksh., S.E. of Glasgow; industr., chemical and dye-works, rope and cotton-wool factories, p. 24,411. R. is one of the Kilmarnock Parly. burghs.
Ruthin, *t.* on R. Clwyd, Denbighsh., N.W., one of the Denbigh grp. of Parly. boroughs, p. 2,824.
Rutigliano, *t.* nr. Conversano, prov. Bari, Italy; industr., p. 8,018.
Rutland, midland co. Eng., smallest in country; area 1,471 sq. m., p. 20,347; agr., cap. Oakham (17 m.); also name of c. in the Otter Creek valley, Rutland co., Vermont, U.S.A.; marble quarries, machine and furniture manuf., p. 11,500.
Ruvigado, *t.* in Caudamarca st., Colombia, p. 10,896.
Ruvo, *t.* in prov. Bari, Apulia, Italy; cathed., olive oil presses, p. 17,286.
Ruyssede, industr. *t.* nr. Bruges, Belgium, p. 6,983.
Ryan, Loch, arm of sea on cst. Wigtownsh., Scotl., *Ryazan*, (See Riazan.) [8 m. by 2 m.
Ryazhsk, *t.* in Riazan (or Ryazan) govt., Russ.; grain tr. centre and gt. ry. junctn., p. 15,430.
Rybinsk, dist. *t.* in Yaroslavl govt., Russ., on R. Volga; com-trade centre, p. 28,086 (increased in summer by abt. 100,000 workers from the country dists.); has numerous breweries and manufs.
Rydal Water, picturesque L. nr. Ambleside, Westmorland, Eng.; vil. adjacent contains Rydal Mount, where the poet Wordsworth resided.
Ryde, *bor.* on N.E. cst. Isl. of Wight; yachting centre and wat. pl., p. 10,608; also t. on Paramatta R., co. Cumberland, N.S.W., p. 1,840.
Rye, cinque *port* and *bor.* on R. Rother, Sussex, Eng., nr. Hastings, p. (with Tenterden par.) 7,915.
Ryeshitz, old *t.* in Vitebsk govt., Russ.; anc. castle, p. 12,340.
Ryhope, industr. *dist. adjng.* Sunderland, co. Durham, *Rylo*, mfg. *t.* in govt. Kursk, Russ.; 15th century cathed., p. 13,204.

Ryssen, *t.* nr. Zwolle, Overijssel, Holland, p. 4,825.
Ryton, *t.* on R. Tyne, Durham, Eng., 6 m. W. New-castle; ironworks, p. 12,951.
Rzesaw, industr. *t.* on R. Wislok, Austrian Galicia; military depot, imp. horse fairs, cloth and linen factories, old princely chateau, p. 15,060, mostly Polish. [commcl., p. 28,618.
Rzhev, *t.* on R. Volga, Poer govt., Russ.; industr. and

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Saadabad, *t.* in Laristan, Persia, nr. Kuli Furkan Min., p. 8,500. [6,140.
Saadani, *t.* on cst. German E. Afr., opp. Zanzibar, p. 12,951.
Saale, R. Thuringia and Prussia; 510 km. (317 m.) of R. Elbe; also R., Lower Franconia, Bavaria, flows (59 m.) to R. Main at Gemünden; also R. of Salzberg and Bavaria, afflt. (70 m.) of R. Salzach.
Saalfeld, *t.* on R. Saale, Saxe-Meiningen, Gerny., sewing mach. factories, p. 10,864.
Saane, R., Switzerland, rises on border cant. Valais, and flows (65 m.) to R. Aar, nr. Bern.
Saanen, *t.* in the upper valley of K. Saane, cant. Bern, Swit., p. 4,018.
Saar, R. Alsace-Lorraine and Rhenish Pruss., rises in the Vosges, and flows (153 m.) to R. Moselle, nr. Treves.
Saarbruck, or **Saarbrücken**, *t.* Rhenish Pruss., on R. Saar, opp the sister t. of Sanct Jollann, mltg. centre in rich coal field, p. 30,500 (of Sanct J., 26,460).
Saargburg, walled t. Alsace-Lorraine, Gerny., on R. Saar, betwn. Strassburg and Nancy, glove and watch-spring factories, p. 3,954.
Saargemünd, *t.* nr. Saarbruck, Gerny., porcelain works and plush factories, p. 15,108.
Saarlouis, fortified t. Rhenish Pruss., on R. Saar, industr., p. 8,110. (in hop-grow. dist., p. 19,016).
Saatz, or **Saaz**, *t.* on R. Eger, nr. Carlsbad, Bohemia.
Sabadell, *t.* on R. Ripoll, Barcelona, Spain, linen and cloth mills, p. 25,214. [p. 20,500.
Sabanilla, or **Savanilla**, *spt.* on N.E. cst. Colombia.
Sabanayh, or **Savanayh**, *t.* nr. Ismid, Asia Minor, on L. same name, p. 4,805. [Inuit., 7,243.
Sabbioneta, industr. *t.* prov. Mantua, Italy, p. (com-
Sabine, R. Texas and Louisiana, flows (500 m.) through S. L. (an expans. of the R. 18 m. long) to Gulf of Mexico. [highest pt. 4,900 ft.
Sabine Mtns., a branch of the Apennines, E. of Rome.
Sable Isl. (45 m. long) off S.E. cst. Nova Scotia.
Sables d'Olonne, Les, wat. pl. and fishy port on B. of Biscay, dep. Vendée, France, p. 12,506.
Sacedon, *t.* nr. Guadalajara, Spain, medicinal springs, p. 2,563. [Venice, p. 5,679.
Sacile, *t.* on R. Livenza, Udine prov., Italy, nr. Sackett's Harbour, lake port, Jefferson co., New York, U.S.A., on arm of L. Ontario, N. of Syracuse, formerly an imp. naval stn.
Saco, *t.* on R. Saco, York co., Maine, U.S.A.; cotton manuf., p. 6,920. Near S. Old Orchard Beach, a pop. wat. pl. Saco R. flows (160 m.) from the White Mtns. in New Hampshire to Saco B. on the cst. of Maine.
Sacramento, c. California, U.S.A., cap. of st. and of S. co.; thriving manufs.; fine Capitol and R.C. cathed., p. 45,500. The R. Sacramento (500 m.) rises in Goose L., on the Oregon frontier, and on the slopes of Mt. Siesta, and flows S. to San Francisco B.
Sada, *t.* on B. nr. Corunna, Spain; local tr., p. 5,904.
Saddleback, mtn. nr. Keswick, Cumberland, Eng., alt. 2,847 ft.
Saddleworth, industr. township nr. Huddersfield, W.R. Yorks, Eng., p. 12,605; also dist. in Adelaide, S. Australia, p. 4,124.
Sadhaura, *t.* Ambala dist., Punjab, India, p. 11,115.
Sado, *isl.*, 32 m. of Nigata, Japan, area 336 in., minous, with famous gold and silver mines; p. 115,650. Port Elbasimato on the W. cst.
Sadowa, *viz.* N.E. Bohemia, Austria, nr. Königgratz; decisive battle, July 3, 1866.
Saffi, or **Asfi**, *spt.* W. cst. Morocco; poor harb., gt. grain and wool tr.; p. 15,650. [Chelmsford, p. 6,311.
Saffron Walden, *bor.* Essex, Eng., 24 m. N.N.W.

Saga, tr. *z.* Kiu-Siu Isl., Japan, p. 30,150.
Sagaing, *div.* Upper Burma (area 30,039 sq. m.), including the dists. of Upper and Lower Chindwin, Shwelo, and Sogaing (area 1,802 sq. m., p. 290,416); cap. S., opposite Ava, on the Irrawaddy R., with many pagodas, p. 10,000.

Sagan, or **Zagan**, *z.* nr. Liegnitz, Pruss. Silesia, on R. Boder; formerly a Wallenstein possn.; p. 14,088.

Sagar, *dist.* Jalapur div., Central Provs., India, area 4,005 sq. m., p. 582,110; cap. S., t. 45,580; also name of a sacred isl. of the Hindus at mth. of Hooghly R.

Sagastyr, *isl.* at mth. of R. Lena, Russ. Siberia; sometimes seat of an internat. Polar str.

Saghalin, or **Sakhalin**, Russ. *isl.* off E. cst. Asia, in S. of Okhotsk, sep. by G. of Tartary from mainld., and included in Primorsk govt.; 670 m. long; area 24,500 sq. m.; used mainly as a convict station; p. abt. 16,000, many of them Japanese, the isl. (sep. from Yezo by Strait of La Perouse) having been ceded to Russ. by Japs in 1875.

Saginaw, *c.* on S. R. S. co. Michigan, U.S.A.; mfg. centre in agr. and timber region; p. 50,510.

Sagua La Grande, *c.* Cuba, centrally situated on R. same name nr. N. cst. of isl., p. 14,644.

Saguena, *R.* Quebec, p. 11; length from L. St. John to R. St. Lawrence abt. 100 m.; of g. depth, with beautiful scenery.

Sahama, *mtn.* of the Andes, Peru, at. 22,350 ft.

Sahara, the gr. N. African desert between the Soudan and the Barbary States, and extending from the Pacific to the Atlantic, including Tripoli and Fezzan; area 3,500,000 sq. m.; the E. portion is known as the Libyan desert, that part E. of the R. Nile being often called the Nubian desert; there are numerous oases, with t's and tr. centres, and the p. (est. 2,500,000) is nomadic; the French Sahara extends 1,500,000 sq. m. from Algeria to L. Chad and Say on the Niger.
Saharanpur, *dist.* Meerut div., N.W. Provs., India; area 2,242 sq. m., p. 1,070,500 grain, cotton, sugar; cap. S., c. on Damaula Nadi R., 95 m. N.E. Delhi; active tr. p. 64,000. [Oudh, India.]

Sahet Mahet, ruined *c.* on Rapti R., Gonda distr., Sahibganj, civil str., adjoin. Gaya c., Gaya distr., Bengul, India, p. (s. with G.) 76,540. [14,804.]

Sahiswan, *c.* Bureid distr., N.W. Provs., India, p. 14,804.

Saida, *c.* t. Beyrut, Syria, on Mediterranean (c. 540 anc. Sidon) p. 15,485. [collage, agr. p. 6,145.]

Saidpat, *c.* Chingleput dist., Madras, India; govt. Saigon, *c.* on R. Saigon, French Cochln, China, 35 m. from the China S.; a large commrc. centre, with cathedral, citadel, arsenal, and naval yd., and a p. of 50,000, while Cholon, or Cholon, 3 miles away, has 150,000 permanent industr. results, mainly Ann viese and Chinese, besides a floating p. of 50,000 additional during the rice season. [outlet into L. Ladoga.]

Saima, *l.* in Finland, N. of Viborg; area 150 sq. m.

St. Abb's Head, rocky promontory (alt. 310 ft.) on cst. Berwickshi., Scot. [p. 7,508.]

St. Afrigue, *t.* on R. Sornegues, dep. Aveyron, France.

St. Agnes, *spt.* nr. Truro, Cornwall, Eng., p. 6,452; also one of the Scilly Isles, in S.W. of the grp., with lighthouse.

St. Albans, *c.* and industr. bor. Herts, Eng.; cathedr., p. 18,132; also t. in dairy farmg. dist. Franklin co., Vermont, U.S.A., p. 6,416.

St. Amand, *t.* on R. Cher, dep. Cher, France; industr., p. 8,432; St. Amant-le-Vieux, *t.* on R. Scarpe, Nord dep., France; ruined abbey, hot. min. springs, p. (communi.) 12,510.

St. Andrews, *burgh* and *wd. pt.* on St. Andrew's Bay, Fife, Scot.; university; p. 7,851; also spt. on Passamaquoddy B., New Brunswick; p. 3,140; also vil. nr. Montreal, Quebec, Can., p. 2,804.

St. Anne, *R.* Can., flows (120 mi.) to R. St. Lawrence, 50 m. above Quebec. [Eng. t. p. 9,840.]

St. Anne's-on-the-Sea, *wd. pt.* nr. Blackpool, Lancs.

St. Arnaud, *t.* in Kara Kara co., Victoria; farming dist.; p. 3,084. [Denholm; cathedr. p. 7,765.]

St. Asaph, *bor.* North Wales, in co.'s Flint and St. Augustine, *c.* St. John's co., Florida, U.S.A.; oldest t. in the States, fav. winter resort; p. 5,140.

St. Austell, *mkt.* t. nr. Truro, Cornwall, Eng.; in china clay and tin and copper mining dist.; p. 3,365.

St. Bartholomew, *isl.* in West Indies (French); area

35 sq. m.; p. 2,760; chf. t. Gustavia. One of the Lesser Antilles and a dependency of Guadeloupe.

St. Bees, *cst.* t. Cumberland, Eng., nr. Whitehaven; p. 1,260. Bees Head (promontory) is 2½ m. N.W.

St. Benoît, *t.* on isl. Réunion, Indian Oc.; p. 21,000; also vil. on R. Loire, dep. Loiret, France, nr. Orleans, with Benedictine monastery.

St. Bernard, *mtn.* pass in the Alps, between Valais and Piedmont, with famous hospice, alt. 8,150 ft. (see also Bernard, Great St., and Little St.).

St. Bride's Bay, at W. extrem. of Pembrokesh., Wales.

St. Brieu, *t.* nr. Bay of St. B., Côtes-du-Nord dep., France; ironworks, textiles, and cst. tr.; p. 24,504.

St. Catherine, *t.* on Welland Canal, Ontario, Can.; cycle and motor-car wks., and canning factories; p. 15,000. [lace-making; p. 16,085.]

St. Chamond, *t.* nr. St. Etienne, dep. Loire, France;

St. Charles, *c.* St. Charles co., Missouri, U.S.A., nr. St. Louis; tobacco factories, flour mills, etc.; p. 8,543.

St. Christopher, or **St. Kitts**, Brit. *isl.* of the Leeward grp., West Indies, area 68 sq. m.; p. 30,800. Cap. Base-Terre.

St. Clair, industr. t. nr. Pottsville, Schuylkill co., Penn. U.S.A.; p. 5,942; St. Clair R. (44 m.) separates Ontario, Can., from Michigan, U.S.A., and drains L. Huron to L. St. Clair (28 m. long, 12 to 15 m. wide).

St. Claude, *t.* at conf. of R.'s Tacon and Bienne, Jura dep., France; trolley stn. and ivory manuf.; cathedr.; p. 11,035.

St. Cloud, *t.* on the Seine, 6 m. S.W. Paris, France; with fine park and palatial chateau; p. 4,895; also c. on R. Mississippi, Minnesota, U.S.A.; tanneries, and sawmills; p. 9,101.

St. Croix, *c.* Minnesota and Wisconsin, U.S.A., trib. (200 m.) of the Mississippi; also vil. on French frontier of Switzerland, in cant. Vaud; p. 1,500.

St. Cunezon, mfg. c. on Lachine canal, Hochelaga co., Quebec, Can., p. 21,614.

St. Cyr, *vil.* in Versailles park, nr. Paris, France; with military academy, p. 3,315. [Wales, p. 2,088.]

St. David's, *smi.* t. nr. St. Bride's Bay, Pembrokesh.,

St. Denis, *t.* and north *sub.* Paris, France, industr. and residt.; p. 65,140; also spt., cap. of isl. Réunion, Indian Oc., p. 36,580. [cathedr., gl. tr. p. 20,180.]

St. Die, *t.* on R. Meurthe, Vosges dep., France;

St. Dizier, *c.* on R. Marne, Vassy, Haute-Marne dep., France; iron tr., p. 16,048.

St. Elias, *mtn.* nr. Maita, in the Mores, Greece, alt. 7,829 ft.; also mtn. N.W. Canada and Alaska, alt. 18,023 ft.

St. Etienne, *c.* cap. dep. Loire, France, nr. Lyons; active ribbon-weav. boot-lace, silk velvet, and iron mfg. centre, in coal-field dist.; p. 145,000.

St. Eustatius, *isl.* in Dutch W. Indies, nr. St. Christopher, area 9 sq. m., p. 1,200; cap. Orange (for St. Eustatius), p. 15,890.

St. Flour, *t.* in Cantal dep. France, nr. Aurillac.

St. Francis, *R.* Missouri U.S.A. trib. (450 m.) of R. Mississippi; forms boundary of Arkansas; also R. Quebec, Can., flows to the St. Lawrence in Lake St. Peter.

St. Gall, cant. Switzld., area 779 sq. m., pastoral, forest, and vineyds, p. 255,000; cap. St. Gall, on R. Steinach, nr. L. of Constance; active industr. centre, embroidery, Benedictine abbey, p. 34,000.

St. George, or Georgetown, *cap.* Grenada, W. Indies, p. 5,120; also spt., co. Charlotte, New Brunswick, p. 3,648; also isl. of the Bermudas, 31 m. long, cap. St. George's, p. 3,112. St. George B., W. cst. Newfoundland, 54 m. long; St. George's Channel, pt. of the Irish Sea, separating Wales from Ireland, 100 m. long by 60 m. to 75 m. wide; St. George's Isl. (19 m. long) in G. of Mexico; St. George's Sound, strait in G. of Mexico, separating St. G.'s Isl. from Florida.

St. Germain-en-Laye, *t.* on R. Seine, France, 8 m. N.W.W. from Paris; former royal chateau, p. 25,500.

St. Germans, *mkt.* t. Cornwall, Eng., nr. Plymouth.

St. Giles, industr. London *dist.*, in borough of Finsbury, p. 47,418.

St. Gothard, *mtn.* grp. of Lepontine Alps, Switzld.,

- tunnel (9½ m. long) connecting Swiss and Ital. valleys, pass (alt. 6,857 ft.) betw. Ticino vall. and L. of Lucerne.
- St. Gowan's Head**, *promontory*, Pembroke-shire, Wales.
- St. Helena**, Brit. *isl.* in S. Atlantic, 700 m. from Ascension, the nearest land, area 47 sq. m., p. (incl. military), 3,500. Jauvestown is the only port. Napoleon imprisoned here 1815-21, and Boer captives in 1900; *isl.* off east S. Carolina, U.S.A., nr. Charleston; noted for cotton; p. 6,754.
- St. Helen's**, *nftg.* *l.* glass, alkali, coal-mining, iron-wks.), Lancash., Eng.; connected by canal with R. Mersey; p. 96,556. Also *t.* nr. Ryde, I. of Wight, p. 4,264.
- St. Helen's Mount**, *pt.* in the Cascade range, Wash. St. Helier, *pt.* Jersey, Channel Is.; fort. and wat. pl.; p. 30,120.
- St. Henri**, *c.* Hochelaga co., Quebec, Canada, incorporated with Montreal; cotton and other manuf.; p. 25,120. [p. 4,223.]
- St. Hippolyte**, *t.* nr. Le Vigan, dep. Gard, France.
- St. Hyacinthe**, *c.* and *pt.* on R. Yamaska, Quebec, Canada; manuf.; p. 10,316.
- St. Ignace**, *c.* Michigan, U.S.A., port on Point St. I., Straits of Mackinac, p. 4,124. [nftg.] p. 7,915.
- St. Imier**, *vil.* nr. Brienne, cant. Bern, Switz.; watch St. Ingbert, glass and iron-wks. *l.* in colliery dist., Palatinate, Bavaria, nr. Zweibrücken, p. 15,420.
- St. Ives**, *mkt.* on St. I. Bay, Cornwall, Eng., p. 7,179; also *mkt.* *t.* on R. Ouse, Huntingdon, Eng., p. 3,015.
- St. Jean**, *t.* Quebec, Canada, St. Jean dist., p. 4,646.
- St. Jean Baptiste**, *t.* Hochelaga dist., Canada; industrial; p. 6,218. [Rend, Quebec, Canada.]
- St. Jean Chrysostome** de Châteauguay, *vil.* nr. St. St. Jean d'Angély, *t.* nr. Saintes, Charente-Inférieure dep., France; former Calvinistic stronghold; p. 7,802.
- St. Jean de Luz**, *est.* *t.* dep. Basses-Pyrénées, France, in G. of Gascony; former wharf; fishery pt.; p. 4,008.
- St. Johann**, Rheinh. Pruss. (See Saarbrück).
- St. John**, *isl.* E.N.E. St. Thomas, Danish W. Indies, area 42 sq. m., p. 1,100; St. John R., New Brunswick, flows 450 m. to B. of Fundy; at its mth. is the sp. c. of St. J., cap. of prov.; large corn and other tr.; p. 43,000; St. John is also name of large Canadian lake on Saguenay R., N. of Quebec.
- St. John's**, *fortd.* *spt.* *c.* cap. Newfoundland on E. est.; first Eng. settlement in America; gr. tr. in fish, cod, oil, &c., nearly burnt down 1899, fine Gothic cathedr.; p. 41,240. Also *t.* in Quebec, Canada, on R. Richelieu; grain and timber export; p. 4,720. Also *c.* cap. Antigua, W. Indies, p. 2,260. Also R. of Florida, U.S.A., flows (350 m.) to the Atlantic.
- St. John's Wood**, *residential* dist. N.W. London, Eng., artistic quarter, contains Lord's Cricket Ground.
- St. Johnsbury**, *t.* on R. Passumpsic, Vermont, U.S.A.; manuf.; p. 7,518.
- St. Joseph**, *c.* Buchanan co., Missouri, U.S.A., on M. R.; meat-packing; p. 20,000 (doubled in 10 years). Also *t.* Herndon co., Michigan, U.S.A., at mth. of St. J. R. (250 m. long); industrial; p. 5,722.
- St. Joseph's Bay**, *arm* of G. of Mexico, on east of Florida, U.S.A. [wine; p. 6,648.]
- St. Julien-en-Jarret**, *t.* on R. Gier, dep. Loire, France;
- St. Julien**, *t.* nr. Limoges, on R. Vienne, France; fine churches; shrine of St. Julien, the hermit; glove-making, leather dressing, porcelain wks.; p. 13,070.
- St. Just in Penwith**, *t.* Cornwall, Eng., nr. Penzance; p. 3,262.
- St. Kilda**, *rocky isl.* (most W. of group) of the Hebrides, Scotl., 3 m. long, p. 80; also wat. pl. Victoria, nr. Melbourne.
- St. Kitts**.—(See St. Christopher.)
- St. Lawrence**, *great R.* of N. America; length from the source of its headstream to St. Louis (which rises at the source of the Mississippi, and flows into R. Superior), to Cape Gaspé in the Gulf of St. Lawrence, 2,100 m. Forms the outlet of the great lakes (Superior, Michigan, Huron, Erie, and Ontario), and the boundary between the st. of New York, U.S.A., and Ontario, Canada. Navigable for large vessels to Montreal, and for smaller ships past Buffalo to the head of L. Superior. Contains the Thousand Islands and isls. of Jesus, Montreal, Orleans, etc. Width
- below Quebec, 7 m., to go at the mouth. The Gulf of St. L. (impt. fisheries) is an arm of the Atlantic, partly enclosed by Newfoundland and Nova Scotia. Cape St. L. projects into the G. at N. of Cape Breton Isl. St. Lawrence is also the name of an isl. of Alaska (100 m. long) in Behring Sea.
- St. Leonard-on-Sea**, *wat. pt.* Sussex, Eng., W. of Hastings, p. 28,000.
- St. Lo**, *t.* on R. Vire, dep. Manche, France; cloth manuf.; fine cathedral; p. 12,046.
- St. Louis**, headstream of the St. Lawrence, Minnesota, U.S.A., flows 220 m. to L. Superior. Also *c.* on the R. Mississippi, Missouri, U.S.A.; has very varied and extensive manufs., a vast ry. system, and two universities; p. (exclusive of suburbs) 600,000. Bridge, 2,225 ft. long, crosses R. to East St. Louis.
- St. Louis**, or Andar, *t.* at mouth of R. Senegal, E. Africa, cap. French possessions in Senegambia; p. 19,180.
- St. Lucia**, *isl.* of the Windward group, Brit. W. Indies; area 237 sq. m., p. 52,000; cap. Castries; exports sugar and cacao.
- St. Lucia Bay**, *inlet* of the Indian Ocean at mouth of Unvulzo R., Zululand, Brit. S. Africa, S. of St. Lucia Lake, a lagoon on the coast, 60 m. long.
- St. Malo**, *fortd.* *spt.* France, dep. Ille-de-Vilaine; castle and church (formerly a cathedral); ship-bldg. and trade with Eng., also fishing; p. 15,180.
- St. Mandé**, *vil.* outside Paris (E.N.E.) of Paris, France; industri. and residential; p. 9,974.
- St. Martin**, *isl.* of the Lesser Antilles, West Indies, partly belonging to France and partly to Holland; area of the French part, 20 sq. m., cap. Marigot; of the Dutch portion, 17 sq. m., cap. Philipsburg. Total p. 7,800.
- St. Martin-in-the-Fields**, *par.* in c. of Westminster, London, Eng.; industri. and resdt.; p. 18,112.
- St. Mary**, *t.* in Ohio, U.S.A., nr. Grand Reservoir, Aurora co.; p. 5,416.
- St. Mary Church**, *t.* on R. Daw, Glamorgansh., Wales, p. 6,849. [aud resdt.; p. 17,221.]
- St. Marylebone**, *bor.* of N.W. London, Eng.; industri.
- St. Mary's**, *t.* nr. London, co. Perth, Ontario, Canada, p. 4,816. [the Loch of the Lowes] 4½ m.
- St. Mary's Loch**, co. Selkirk, Scotl.; length (incl. gill) 4 m.
- St. Maurice**, *t.* on R. Marne, France; subm. to Paris (E.S.E.); p. 7,468; also vil. in cant. Valais, Switzl., nr. Lausanne; once a leading Burgundian t., 6th century abbey; p. 3,714; also R. of Quebec, Canada, (400 m.) of R. St. Lawrence.
- St. Michael**, *princ.* *isl.* of the Azores; area 300 sq. m.; hot sulphur springs, oranges, etc., Portuguese possn. (also called Sao Miguel), p. 125,000; cap. Ponta Delgada (p.v.). [Eng.; the anc. Ictus, alt. 230 ft.]
- St. Michael's Mount**, *castled rock* off S. coast Cornwall, St. Michael, *t.* on R. Meuse, nr. Nancy, France; industrial; p. 8,918. [Forth, Fife, Scotl., p. 2,018.]
- St. Monance**, or Abercrombie, fishg. vil. on F. of St. Moritz, picturesque vil., and health resort in the Engadine, Switzl., alt. 6,000 ft.
- St. Nazaire**, *t.* at mth. of R. Loire, nr. Nantes, France; docks and shipping; exports wine, sardines, silk, etc.; p. 49,000. [p. 4,171.]
- St. Neots**, *mkt.* *t.* Huntingdonsh., Eng., on R. Ouse, St. Nicholas, one of the Cape Verde *isls.*, p. 6,208; also mthg. *t.* nr. Antwerp, E. Flanders, Belgium, cap. of the anc. Waealand, p. 32,106; also *t.* nr. Nancy, on R. Meurthe, France, p. 6,124. [p. 2,845.]
- St. Ninians**, *t.* on R. Forth, co. Stirling, Scotl.; St. Omer, *fort.* *t.* on R. Ais, Pas-de-Calais, France; lace and other manufs., cathedral; p. 27,484.
- St. Ouen-sur-Seine**, *t.* subm. (N.) to Paris, France; gun-making, soap-bolling, rubber factories, p. 28,122.
- St. Pancras**, *bor.* of N. London, Eng.; industri. and resdt.; p. 218,453.
- St. Paul**, "twin city" with Minneapolis (p.v.), Minnesota, U.S.A.; gr. commerc. and industrial centre; sq. p. of St. Paul, 215,000; also sub. French isls. in Indian Oc. S. of New Amsterdam, 11 m. long; also sub. *isl.* N.N.E. of Cape Breton, at mth. of G. of St. Lawrence; also *spt.* in Isle of Réunion, p. 27,000; also R. of Liberia, flows 30 m. to the Atlantic nr. Monrovia. [prov. Angola, p. 15,120.]
- St. Paul de Loanda**, cap. Portuguese W. Afr., in

St. Paul's Bay, *baie* on N. cst. Malta; traditional scene of the shipwreck of St. Paul; also t. on R. St. Lawrence, 60 m. from Quebec, p. 4,084.

St. Peter, *Sancti Petri*, in Canada, expansion of St. Lawrence R. above Three Rivers, 20 m. long, 9 m. wide; also industri. vil. on R. Minnesota, Minnesota, U.S.A., p. 5,118.

St. Peter Port, *port* of St. Peter, Channel Is., w. of St. Peterburg (now Petropavlovsk), 1,000 N.W. Russ.; area 20,760 sq. m., hilly on Finland border, but mostly flat and swampy; contains 8 dists., and numerous t.s., many of them summer resorts of the people of the cap., p. (exclusive of the cap.) nearly 1,000,000. The c. of St. Peterburg, at the mouth of the R. Neva, the metropolis and seat of govt. of the Russ. Empire, covers an area of 424 sq. m., and possesses many imposing bldgs., palaces, and open squares; houses a university and cathedral. The Nevski Prospekt, the principal street, is one of the finest in the world. There are arsenals, barracks, and immense industri. and comm. establishments, with educational and artistic institutions, and an imperial library with over 1,000,000 vols. P. (about 2,000,000).

St. Pierre, princ. t. of French W. Indies, on Martinique Isl., destroyed by eruption of Mt. Pelée, May 8, 1902, 9,000 people of t. and neighbourhood being killed; also Isl. Indian Oc., dependent of Mauritius, p. 54,116.

St. Pierre and Miquelon, two isls. of France in the Atlantic, 10 m. from the Newfoundland coast; united area 93 sq. m.; p. 6,350; chf. t. St. P.; fishery industry. [and other manuf.; p. 34,120.]

St. Pierre-les-Calais, t. subn. to Calais, France; lace St. Pol, industri. t. Pas-de-Calais, France, 19 m. from Arras, p. 7,445.

St. Pölten, t. nr. Vienna, Lower Austria; cotton spinning and hardware manuf.; p. (including garrison) 76,422.

St. Quentin, t. dep. Aisne, France on R. Somme; lace, tulle, and other factories; manuf. works; p. 54,116.

St. Remy, t. nr. Arles, Bouches-du-Rhône dep., France; Roman antiquities; p. 6,244; also t. nr. Clermont, Puy-de-Dôme dep., France; p. 5,947.

St. Servan, *spl.* Ille-et-Vilaine dep., France, on R. Rance, opp. St. Malo, p. 13,416.

St. Thomas, Portuguese is. in G. of Guinea, nr. the Equator; area 358 sq. m.; coffee export, p. 19,420; also Isl. of the Virgin grp. W. Indies, purchased by the U.S.A. as a coaling stn. from Denmark, 1902; area 33 sq. m., p. 11,500; also c. on Kettle Creek, Elgin co., Ontario, Can.; ry. workshops and manuf.; p. 14,869. [Judith; military stn.; p. 15,824.]

St. Thomas' Mount, t. in Chengalput dist., Madras, p. 12,049.

St. Trond, t. nr. Tongres, Limbourg, Belgium; industri.; p. 12,049.

St. Valerie-en-Caux, *spl.* and *val.* pl. on Eng. Channel, dep. Seine-Inférieure, France, nr. Dieppe, p. 4,810.

St. Valerie-sur-Somme, t. at entree of R. Somme to Eng. Channel, France; here William the Conqueror embarked for Eng. in 1066; p. (commune) 1,668.

St. Vincent, Brit. is. W. Indies, one of the Windward grp. W. of Barbados; area 133 sq. m.; sugar and arrowroot culture; devastated by hurricane in 1898 and by eruption of the volcano Soufrière in 1902; cap. Kingstown; also one of the smlr. C. Verde isls., p. 1,700; also sml. is. in G. of Mexico nr. mth. of Appalachicola R., Florida, U.S.A. [p. 2,655.]

St. Vincent de Paul, t. in Isle Jesus, Quebec, Can. St. Vincent, G. of, area of sea indenting c. of S. Australia, 85 m. long. [Quarries; p. 8,850.]

St. Vrieix, t. on R. Loire, nr. Limoges, France; kaolin Ste. Marie, France is. E. of Madagascar; area 67 sq. m., p. 6,094.

Saintes, t. on R. Charente, dep. Charente-Inférieure, France, Roman antiquities, suffered in the Huguenot wars, thriving industries, p. 18,424.

Sakai, prosperous industri. t. and port nr. Osaka, Hondo, Japan, p. 60,140.

Sakata, t. in Ugo prov., Nipon Isl., Japan, p. 19,148.

Sakatal, *dist.* Transcaucasia, Russ., area 1,600 sq. m., Sakhalin. (See Saghalin.) [p. 82,600.]

Sakhalin-ula-Khoten, t. on R. Amur, Manchuria, nr. Blagovestchensk, prosperous tr., p. 6,460.

Sakmara, R. Russ., rises in Ural Mtns., trib. (330 m.) of R. Ural.

Sakura-jima, Japanese is. in B. of Kagoshima, 7 m. by 5 m., has volcano, celebrated for oranges, giant radishes, and hot springs. [Tcherkask.]

Sai, R. Russ., flows 250 m. W. to R. Don at Novo Salaisk, c. Vestmanland, Sweden, nr. the Selberg; silver mine, worked for 400 years, p. 6,660; also nr. Potenza, Salerno prov., Italy, industri., p. (commune) 6,548.

Salabina, t. in Santiago prov., Argentina, p. 8,847.

Salado, R. in Argentina, trib. (1,000 m.) of the Paraná; also R. of Arizona, headstream of the R. Gila; also sml. R. of Cadiz prov., Spain, flows to the Atlantic nr. Tánia; Salado B. is an indentata. of the Chilean cst. S. of Copapo.

Salagha, t. or Gold Coast, Upper Guinea, W. Afr., inpt. tr., p. (about) 12,000.

Salamanca, *prov.* W. Spain, in Leon, on R. Douro, area 4,940 sq. m., *vgr.* p. 327,000; cap. Salamanca t. on the Tormes R., contains the oldest Spanish university, many convents, Irish colony, two cathedrals, old Roman bridge, p. 25,000; also t. in Guanajuato st., Mexico, *grd. tr.* p. 18,146; also Isl. Colombia, off mth. of the Magdalena R.

Salamin, is. of Greece, in the Saronic G., opp. the harbor of Athens, length 10 m., the modn. Kolouri.

Salomon, or Solomon Isl., chain of large isls. in Pacific, S.E. of the Bismarck Arch.; total area 16,949 sq. m., p. (abt.) 150,000; northern part of the group (area 4,200 sq. m., p. 45,000) belongs to Germany; the rest of the isls. are under British protection.

Salang, is. off the cst. of Malacca, in the Indian Oc., belonging to Siam, p. 12,120.

Salangore, st. of the Malay Penin., on W. side, p. 13,480; cap. S., p. 4,189.

Salayer Isls., Dutch grp. S. of the Celebes, E. Indies, area of largest, 180 sq. m., total p. 600.

Salcombe, t. nr. Kingsbridge, Devon, Eng., p. 2,022.

Saldanha Bay, *baie* (17 m. long) on W. cst. Cape Col., Brit. S. Afr., 80 m. N. Cape Town, p. 6,542.

Sale, industri. t. on R. Mersey, Cheshire, Eng., 5 m. S. of Manchester, p. 15,046.

Sale di Martona, t. prov. Alessandria, Italy, industri.

Salch, *spl.* at mth. of R. Buragreb, Fez, Morocco, formerly a pirate hdqrs., p. 10,000.

Salem, *dist.* Madras Pres., Brit. India, area 7,529 sq. m., millet, rice, cotton, etc., p. 2,250,000; cap. S., c. on R. Tirumamuttar, weaving, cutlery manuf., *grd. tr.* p. 73,000.

Salem, c. on Massachusetts B., Essex co., Mass., U.S.A., 15 m. from Boston, inpt. mfg. centre, p. 43,697; also c. Columbus co., Ohio, U.S.A., steel industries, p. 8,510; also c. at mth. of Fenwick Creek, Salem co., New Jersey, U.S.A., in fruit-growing dist., p. 6,024; also c. on Willamette R., Marion co., Oregon, U.S.A., university, p. 4,308.

Salernina, R. Thessaly, Greece, flows from N. G. of Salamis, p. (Halcys) 12,018.

Salerni, t. nr. Palermo, prov. Trapani, Italy; the ant. Salerno, spt. c. of Campania, Italy, on N shore G. of Salerno; cotton-spinning, printing, leather works, good wine-growing; dist.; p. 47,244.

Salford, mfg. *bor.* on R. Irwell, Lancs., Eng., adjng. Manchester, p. 237,380.

Salghir, R. of Russ., in the Crimea, flows (100 m.) into the Putrid S., on the E. cst. [10,018.]

Salgy Tarjan, mining t. co. Nógrád, Hungary, p. 5,601; also on the R. Kur, Baku gov., Russ. Transcaucasia; fishery. Near are ruins of Herakleia, anc. cap. of the Shans of Shirvan, destroyed by the Mongols, 1285; p. 10,500 (chiefly Tartar). [5,043.]

Salida, c. Colorado, U.S.A., on the Arkansas R., p. 10,500; also c. of the Lipari is. in the Mediterranean, 6 m. long; also c. on the Smoky Hill R., Kansas, U.S.A., in farm regn, p. 6,240. [p. 6,555.]

Salins, t. nr. Besancon, dep. Jura, France; salt springs; Salisbury, c. on the Upper Avon, Wilts., Eng.; splendid cathedr., p. 21,019.

Salisbury Plain, an undulating upland N. of the city contains the prehistoric monumental remains of Stonehenge; near is Old Sarum, from which the episcopal see was transferred in 1220.

Salisbury, *c.* of N. Carolina, U.S.A., cap. Rowan co., p. 7,022; also *c.* cap. Rhodesia, Brit. S. Africa; also township, nr. Adelaide, S. Australia.

Salmon, R. into U.S.A., trib. (450 m.) of Snake R.

Salon, *c.* on the Canal de Craponne, Bouches-du-Rhône, France; soap and oil works; p. 13,124.

Salona, *t.* in Phocis dist., Greece, on site of anc. Amphrys, p. 4,860.

Salonica, *prov.* Turkey in Europe, area 19,375 sq. m., p. over 1,000,000; also *c.* cap. of prov. (the anc. Thessalonica), spt. at head of G. of Salonica, centre of import tr. for Macedonia and much of Albania; fine harbr., famous mosque of Santa Sophia, and Roman and Byzantine antiquities. Exports grain, cocoons, hides, wool, tobacco, etc.; p. 174,000 (one-half Jews, who have 25 synagogues).

Salop, alternative name of Shropshire (*q.v.*)

Salsette, *isl.* Thana dist. N. of Bombay, India, area 241 sq. m., p. 110,140; connected by bridge and causeway with Bombay; cave antiquities and temples.

Salta, N. *prov.* of Argentina, area 62,184 sq. m. agr. p. 138,540; cap. Salta, *c.* on Rio Salta; p. 21,504.

Saltair, *mtg.* *t.* on R. Aire, nr. Bradford W.R. Yorks, Eng., founded by Sir Titus Salt in 1853.

Saltash, *mtg.* *t.* on R. Tamar, Cornwall, Eng., nr. Devonport; p. 4,430.

Saltburn-by-the-Sea, *cst. wat. pl.* nr. Redcar, N. R. Yorks, Eng.; p. 3,324.

Saltsburgh, *mtg.* *t.* on R. Androssan, Ayrsh., Scotl., p. 8,585.

Saltville, *c.* cap. Coalhula st., Mexico, gld. tr., p. 21,263.

Salt Lake, Great, Utah, U.S.A., area 1,900 sq. m., alt. 4,250 ft. above sea-level, in "Great Basin" W. of the Rocky Mts., receives the Jordan R., no outlet.

Salt Lake City, on R. Jordan, Utah, U.S.A., nr. Gt. Salt Lake, headquarters of Mormonism, temple and university, p. 92,777.

Saltley, *t.* in Worcestersh., Eng., nr. Birmingham; ry. carriage wks. and various manufs., p. 10,054.

Salto, *t.* on Rio Uruguay, Uruguay, nr. Paysandu, large tr., p. 18,105.

Salur, *t.* in Vizagapatnam dist., Madras, India, p. 12,114.

Saluzzo, *t.* nr. Coni, N. Italy, cathed. and castle, p. (communi.) 16,540.

Salvador, *repub.* on Pacific cst. Centl. America, adjoin. Honduras and Guatemala, area 7,225 sq. m., agr. and minis., p. 1,050,116; cap. San Salvador, p. 65,124.

Salween, R. Burma (800 m.), wild and picturesque scenery, with many rapids, falls into G. of Martaban; also dist. in Tenasserim div., Lower Burma (called also the Salwin Hill Tracks), area 2,666 sq. m., p. (latest ret.) 19,500. Brit. admin. hdqrs., Papun, nr. the Salween R. and the Siamese border.

Salzach, or **Salza**, R. Austria, trib. (130 m.) of R. Inn.

Salzbrunn, *vil.* nr. Friburg, Prussn. Silesia, much-frequented mineral and saline springs, etc., p. 3,842.

Salzburg, *duchy and crownland* Austria, adjoin. Bavaria, and the Tyrol, area 2,762 sq. m. on northn. slope, Eastern Alps; contains many lakes and thermal springs, and has much minn. wealth, p. 214,614. Cap. S. on the Salzach R., picturesque tourist rest., with anc. citadel, birthpl. of Mozart, p. (in Judg. garrison) 34,112.

Salskammergut, *dist.* S.W. angle of Upper Austria, betwn. Lake of Traun and Styria, has valuable salt-mines.

Salzwedel, *t.* on R. Jeetze, Saxony, halfway betwn. Bremen and Berlin; linen and damask weav., p. 12,108.

Samakof, *t.* nr. Sophia, Bulgaria, industri., p. 10,042.

Samará, *penins.* (with bay and cape) in the Dominican repub., Hayti, on N.E. cst., length 40 m.; also *t.* on S. B., same name, with fine harbr., p. 3,000.

Samar, *isl.* of the Philippine grp., S. of Luzon, 147 m. long, 50 m. wide, p. of prov. (includg. sm. attached isls.) 184,000; cap. of Catbalogan.

Samara, fertile *agr. prov.* S.E. Russ., lying along the left bank of the Lower Volga, area 28,590 sq. m., p. (alt.) 4,000,000; cap. S., *t.* on R. Volga, and at head of Centl. Asian and Siberian rlys., thriving comm. centre, with gr. grain tr. and milling industry, p. 100,850.

Samarang, fort. *t.* Java, on W. cst., cap. of residency and one of the chief Dutch ports in the isl., gr. sugar and coffee export, p. 71,000.

Samarina, ancient *c.* of Palestine, cap. of Kingdom of Israel, no *v.* of Sebastieh.

Samarikand or **Samarcand**, *prov.* of Russn. Turkestan formed out of the Zerashan dist. in 1889, area 26,627 sq. m., p. 866,000; chiefly pastoral or agr., many nomadic Uzbeigs and Kirgiz, cap. S. *c.* on the Zerashan R., the anc. Mirakandaz, contains citadel and grave of Timur, active tr. in silk, cotton, &c., p. 81,050 (40,000 in native *c.*, rest in new Russn. town).

Sambalpur, *dist.* Chhattisgarh div., Centl. Provs., India; area 4,948 sq. m., nice crops, p. 835,460; cap. S., *t.* on R. Mahanadi, p. (with mil. cantonment) 15,580; ruins of fort, old temples.

Sambas, *t.* on W. cst. Borneo; gld. tr., p. 21,056.

Sambhal, *t.* Moradabad dist., N.W. Provs., India, p. 21,860.

Sambor, *t.* Austrian-Galicia, on R. Dniester; brine wells, brewing, damask, silk manu., p. 18,500.

Sambre, R. Belgium and N.E. France (110 m.) trib. R. Meuse at Namur.

Sambuca, *t.* nr. Girgenti, Sicily; industri., p. 10,015.

Saman, *prov.* Persn., N. of the desert at Yezd; cap. S., *t.* on R. Tashan, Teheran and Mashhad; exports almonds and pistachios, fine minaret, p. (alt.) 10,000.

Samoa, or **Navigator Isls.**, *archipelago* in Pacific Oc. betwn. New Hebrides and Tahiti; the two larger isls. of the grp. Savan (area 660 sq. m.), p. 13,500 and Upolu (340 sq. m., p. 17,000) were ceded to Germany in 1900, and Tutuila (54 sq. m., p. 3,000) and Manua, with Ofu and Olesaniga (20 sq. m., p. 2,000) to the United States, Gt. Britain withdrawing.

Samos, or **Susam-Adassi**, *isl.* (trib. to Turkey) off W. cst. of Minor in the Aegean S.; area 180 sq. m., p. 42,500; fine wine; cap. Vathy.

Samosata, or **Samsat**, *vil.* on site of anc. t. in Commagene, Syria, Turkey in Asia, on the Euphrates; former cap. of the Seleucid Kings; here the Persian "Royal Road" crossed the R., and the place was also the starting pt. of the grt. rd. to India.

Samothrace, a rugged Turkish *isl.* in the Aegean, alt. 5,248 ft., the "Thracian Samos"; sulphur springs, p. 3,500 (mainly Greeks); it has an area of 71 sq. m., and is frequently called Samothraki.

Samsat, *franch port* in Kwang-tung prov., China, on R. West; good tr. with Hong-Kong and by junks locally, p. 11,250.

Samsøe, *isl.* Zealand, Denmark, area 42 sq. m., p. 6,350.

Samsun, Turkish *spt.* on Black S., in Trebizonde vilayet; exports tobacco, grain, &c.; formerly a flourishing Greek settlement, pres. p. 13,500.

San, R. Austria, in Galicia, trib. (250 m.) of R. Vistula.

Sana, *t.* in Arabia, cap. of Yemen, under Turkish rule; fortified, manu. jewellery, arms, &c., tr. in silks, cottons, and china, p. 45,000 (30,000 Jews).

San Andrés de Palenque, *t.* in Spain, nr. Barcelona; comm. and industri., p. 15,120.

San Angelo, *t.* in Texas, U.S.A., on Concho R., p. 10,000.

San Antonio, *c.* at mth. of San Pedro R., Texas, U.S.A., gr. tr. in cattle, hides, etc., cathedral, fort, and arsenal, p. 66,614.

San Antonio de la Banos, *t.* nr. Havana, Cuba, mineral springs, p. 8,840. (p. (commune) 10,950).

San Benedetto, *t.* on R. Po, nr. Mantua, Italy, gld. tr., p. 10,000.

San Bernardino, *c.* at base of S. B. Range in fruit regn. of S. California, U.S.A., gld. tr. in oranges and lemons, p. 7,220.

San Carlos, *t.* nr. Valencia, Venezuela, p. 11,120; also *t.* nr. Chillan, Chile, p. 9,500; also *spt.* (San Carlos de Ancud) Philippine Isls., on Luzon cst., p. 26,246.

San Casciano, *t.* nr. Florence, Italy, industri., p. (commune) 13,460.

San Cataldo, *t.* Caltanissetta, prov., Sicily, gld. tr., p. 17,484.

San Sanchi, *t.* nr. Bhopal, Centl. India, Buddhist antiquities.

San Cristobal, *t.* in Mexico. Chiapa prov. (formerly Ciudad Real), and cap. of prov., p. 13,125.

San Cristobal, *t.* in Tachira prov., Venezuela, p. 12,194.

Santi Spiritus, *c.* in Santa Clara prov., Cuba, is grazing dist., p. 13,520.

Sanct Johann.—(See Saarbrück.)

Sanct Pönya, *t.* in Rhenish Pruss., nr. Düsseldorf, p. 6,489.

Sandal Magna, industr. *t.* nr. Wakefield, W.R. Yorks, Eng., p. 15,800.

Sandalwood Isl., in Malay Arch., S. of Flores, in Dutch resicry, of Timor, area 4,385 sq. m., very fertile, p. 200,000.

Sanday, a flat *isl.* of the Orkney grp., Scotl., p. 2,004.

Sandbach, mkt. *t.* on Trent and Crewe Canal, Cheshire, Eng., p. 5,723. [industr., p. 12,444.]

Sandee, New, *t.* in Austrian Galicia, nr. Cracow, Sandeford, famous old spa, Tarlsberg and Laurvik, Norway, sulphur baths, p. 4,983.

Sandgate, cst. *t.* nr. Folkestone, Kent, Eng., old castle, p. (exclusive military) 2,830.

Sandhurst, par. on R. Blackwater, Berks, Eng., military coll., p. 2,475; also c. on Bendigo Creek, Victoria, gold-mining dist., p. 40,120.

San Diego, *t.* on Pacific cst., California, U.S.A., fine harb., winter health resort, p. 35,578.

Sandoway, dist. in Aracan div., Lower Burma, area 3,794 sq. m., mainly rice crops, p. 92,460. Cap. S. t. p. 2,894. [yachting centre, p. 5,051.]

Sandown, *t.* in Isle of Wight, on S. Bay, nr. Rye, Sandringham, vill., with Royal res., nr. King's Lynn, Norfolk, Eng. [Madras, area 161 sq. m., p. 11,250.]

Sandur, petty st. S. India, surrounded by Bellary dist. Sandusky, c. on S. Bay (an arm of L. Erie), Ohio, U.S.A., gtl. tr. in coal, fruit, and food stuffs, p. 20,126.

Sandwich, anc. *hor.* and Cinque Port on coast of Kent, Eng., at mouth of R. Stour; golf links opposite the Downs; an impt. seaport in mediæval days; p. 3,040.

Sandwich Isls.—(See Hawaii.)

Sandy Hook, narrow *penins.* (8 m. long) projecting into lower bay of New York, U.S.A., p. 2,842.

San Felipe, vill. nr. Mirandaola, Italy; industr.; p. San Felipe, *t.* nr. Valencia, Venezuela, p. 6,180.

San Felipe de Acconagua, *t.* nr. Valparaiso, Chili, p. 15,084.

San Felipe de Jativa, *t.* in Spain, nr. Valencia, the anc. Setabis; noted in Roman times for its linen manuf.; old castle; p. 15,120.

San Fernando, *t.* Cadiz prov., Spain, on Isla de Leon; fine town-hall and fish-market; gardens and vineyards; p. 37,146.

San Francisco, spt. c. and cap. California, U.S.A., on the San F. bay (entrance "the Golden Gate"); large harbour; finest c. on Pacific coast; exports silver, gold, quicksilver, corn, wool, etc.; manufa., boots, cigars, iron, etc.; almost entirely destroyed by earthquake, and 1,000 lives lost, in 1906, but since rebuilt on greatly improved lines; p. 420,450.

Sangay, vol. *ano* of the Andes, alt. 17,120 ft. Sangerhausen, *t.* at foot of Harz Mtns., Prussian Saxony, p. 11,148. [militates, etc.; p. 4,090.]

San German, quaint old inland c. of Porto Rico; lies San Germano, *t.* nr. Venafrò, prov. Caserta, Italy; p. 12,546.

San Gimignano, *t.* in Siena prov., Tuscany, Italy; wall and towers frescoed cathedral; p. 2,120.

San Giovanni a Teduccio, *t.* at foot of Vesuvius, B. of Naples, Italy; iron mines, rty. workshops; p. 19,954.

San Giovanni in Fiore, *t.* nr. Cosenza, Italy; p. 11,878.

San Giovanni in Persiceto, *t.* nr. Bologna, Italy, p. (communal) 15,875.

Sangri, *isl.* group between Philippines and Celebes, under Dutch suzerainty; eruption of volcano on chf. isl. killed 12,000 inhabitants in 1850; p. (of grp) 150,000.

Sangli, nat. st. Docon div., Bombay, India; area 1,083 sq. m., p. 240,050. Cap. S. t. on R. Kistna, p. 15,126.

Sanguinetto, R. of Italy, flows to L. of Perugia; on its banks occurred, according to tradition, the battle of Trasymene. [Sacramento R.]

San Joaquin, R. California, U.S.A., trib. (400 m.) San Jose, *c.* in the beautiful fruit-growing valley of Santa Clara, California, U.S.A., p. 21,176.

San Jose del Interior, c. cap. of Costa Rica; many fine bldgs.; p. 25,415.

San Juan, R. Bolivia; trib. (300 m.) of R. Pilcomayo; also R. Mexico, trib. (150 m.) of Rio Grande; also R. of Nicaragua, outlet of L. Nicaragua, flows 90 m. to Caribbean Sea.

San Juan Bautista, c. on N. coast Costa Rica; fortifd., barracks, landlocked harbour; p. 30,500.

San Juan de la Frontera, prov. Argentina, next the Andes; area 29,700 sq. m., p. 130,000; p. 15,140.

San Lucas de Barrameda, *t.* nr. mouth R. Guadalquivir, Cadiz, Spain; wines and agr. prod.; mined castle; p. 2,837.

San Luis, c. Brazil, cap. Maranhão prov.; episcopal palace; p. 39,112; also t. in Santiago prov., Cuba, p. 6,128.

San Luis Potosi, st. Mexico, area 25,223 sq. m.; agr. and min.; p. 580,500; cap. San Luis Potosi, centre for smelting silver, lead, and gold refining, p. 72,640.

San Marco in Lamis, *t.* San Severo, Foggia, Italy, p. 17,120.

San Marino, smist. st. in Europe and smist. repub. in the world, lies on spurs of the Appennines between the provs. of Forlì and Pesaro, Italy, area 23 sq. m., p. 11,520; cap. San Marino, p. 1,684.

San Miguel, c. on the Rio Grande, Salvador, Central America; malarial swamps adjacent; p. 25,000.

San Miguel de Mayumo, *t.* Bulacan prov., Luzon, Philippine Isls.; cotton weaving, cabinet making; p. 20,860.

San Miguel el Grande, *t.* nr. Guanajuato, Mexico, p. (communal) 16,846.

San Miniato, *t.* in prov. Florence, Tuscany, Italy; cathedral, glass mfg.; p. 8,216. [agr.; p. 10,915.]

San Pablo, *t.* in Lagunit prov., Luzon, Philippine Isls.; San Pier d'Arena, *t.* snibn to Genoa, Italy, p. 24,118.

San Pu, R. of Tibet (850 m.), one of the head-streams of the Brahmaputra.

Sanquhar, *t.* on R. Nith, Dumfriessh., Scotl.; one of the Dumfries burghs; p. 1,508.

San Rafael, *t.* and summer resort, cap. Marin co., California, U.S.A., nr. San Francisco B., p. 4,284.

San Remo, famous seaside resort, Liguria, Italy, on the Mediterranean, nr. Nice; flower and orange growth; p. 22,180.

San Roque, *t.* in Andalusia, Spain, nr. Gibraltar, on N. shore of Bay of Algeciras, p. 7,820.

San Salvador,—(See Salvador.)

San Salvatore, *t.* nr. Alessandria, Italy, p. 7,850.

Sansanding, *t.* on R. Joliba, in Bumbarra, W. Africa, p. 40,000.

San Sebastian, fortifd. c., cap. prov. Guipuzcoa, Spain, summer rest. of the Court; captured by Wellington 1813; gtl. tr. and fisheries; p. 42,000.

San Severo, *t.* nr. Foggia, Italy; industr.; p. 22,114.

San Stefano, cst. *t.* on Bosphorus, Turkey, where peace with Russ. was signed in 1798, p. 4,240.

Santa Ana, c. of Salvador, Centl. America; municipal palace, barracks; p. 34,000. Also c. Orange co., California, U.S.A., in fruit-growing region, p. 5,215.

Santa Barbara, *t.* and winter resort at ft. of Santa Inez mtns., California, U.S.A., p. 7,216.

Santa Caterina, *t.* nr. Caltanissetta, Sicily, p. 7,864.

Santa Caterina, an Atlantic st. Brazil, area 27,434 sq. m.; considerable mineral wealth; p. 314,000; cap. Thonopolis or Desterro, on Santa Catarina Isl., fortified.

Santa Clara, *t.* in Cuba, cap. Santa C. prov., sugarcane dist.; p. 14,120; also vill. in California, U.S.A., p. 4,216.

Santa Cruz, c. on Monterey B., Santa C. co., California, U.S.A.; pop. seaside rest., p. 5,860; also Santa Cruz or St. Croix, one of the Virgin Isles, forms with St. Thomas and St. John a Danish col.; area 120 sq. m., p. 35,000; also t. Luzon, Philippine Isls., nr. Manila, p. 19,242.

Santa Cruz de la Sierra, dep. Bolivia; area 144,083 sq. m., p. 190,110; cap. t. same name, p. 9,456.

Santa Cruz de Tenerife, *sp.* cap. Canary Isls., N.E. cst. Tenerife, p. 16,815.

Santa Fé, cent. *prov.* Argentina; area 50,916 sq. m., agr. and stock-farmg., p. 850,000 (increased from 89,117 in 1860); cap. Santa F., t. on isl. in R. Salado, p. 49,000; also c. on plain at base of Sangre de Cristo range, New Mexico, U.S.A., alt. 6,924 ft., p. 5,624.

Santal Parganas, The, *dist.* S. Shugloor div., Bengal, India; area 5,459 sq. m., p. 1,810,000; cap. Dinkla.

Santa Maria, *t.* in prov. Caserta, Campania, Italy, on

site of anc. Capua; cathedr., glass and leather factories, p. (commune) 21,170.

Santa Maura, or **Leucadia**, one of the Ionian Isls., Greece; area 170 m.; the anc. Leucas; exports currants, wine, and oil.

Santander, maritime prov. N. cast. Spain; area 2,173 sq. m.; agr., grape growg., fishy., p. 310,000; cap. S. spt., gd. harb., and tr. p. 65,110; also name of st. in Colombia E. of the Magdalena; area 16,409 sq. m., p. 450,000; cap. Socorro.

Santarem, dist. in Portugal, in the fertile valley of R. Tagus; area 2,649 sq. m., p. 298,150; cap. S., t. (bridged) on height above right bank of Tagus; fine bridge, p. 8,805; also t. on R. Amazon, Brazil, p. 10,000.

Santa Rosa, t. amongst the Coast ranges, Sonoma co., California, U.S.A., in fruit and grain growg. region, p. 7,080.

Santiago, R. Ecuador, trib. (180 m.) of R. Amazon; also the most S. Isl. of Cape Verde grp.; area 500 sq. m., p. 38,000; cap. Porto Prieta.

Santiago de Chile, prov. C.; area 5,293 sq. m., p. 587,000; cap. S., c. on the Rio Mapocho, the most populous place on Pacific side of S. America; cathedr., university, gt. tr. and flouring industries, p. 276,000.

Santiago de Compostela, c. on R. S. tr. prov. Coruna, Spain; cathedr. (with tomb of St. James), university, etc., p. 25,640.

Santiago de Cuba, spt. c. on S. est. Cuba (former cap. of the isl.); exports sugar, coffee, tobacco, etc.; Spanish fleet destroyed by U.S.A. warships here 1898, town surrendering, p. 54,000. [p. 11,815]

Santiago de las Vegas, internal t. nr. Havana, Cuba.

Santiago del Estero, prov. Argentina; area 31,570 sq. m., p. 110,050; cap. t., same name, on R. Dulce, p. 18,248.

Santiago de los Caballero, t. on Yaque R., Santo Domingo (Haiti); large tobacco tr., p. 18,000.

Santipur, t. on R. Hooghly, Nadia dist., Bengal, India; centre of local wveg. industry, p. 31,056.

Santo Antonio, mnt. N. Isl. of C. Verde grp., mtious and fertile, p. 30,000.

Santo Domingo, or **San Domingo**. (See Hayti.)

Santo Francisco, R. Brazil, flows (1,600 m.) from Minas Geraes prov. to the Atlantic; navigable for 150 m. below the cataract of Paulo Afonso, and for several hundred miles above. [p. 43,150, cap. Thiera]

Santorini, volcanic Isl. of the Greek arch., 10 m. long; Santon, c. and spt. 2. Brazil; exports coffee, sugar, rum, and tobacco; p. 42,828.

Sao Leopoldo, German col. and t. nr. Porto Alegre, Brazil, p. (of dist.) 30,000. [to R. Rhône at Lyons]

Saône, A. France, rises in the Vosges, and flows 282 m.

Saône-Haute. (See Haute-Saône.)

Saône-et-Loire, dep. E. Central France, area 3,331 sq. m.; pastoral and vineyds., with consid. mineral wealth; p. 616,000 (slightly decreasing); cap. Macon (771).

Sao Paulo, c. cap. Brazilian prov. same name (112,330 sq. m., on Atlantic est.), one of the most flourishing comm. cities of S. Brazil; p. 280,000; gt. coffee export.

Sao Roque, c. in prov. Rio Grande de Norte, Brazil.

Sao Thom.. (See St. Thomas.)

Sapporo, admin. cap. isle of Yezo, Japan; garrison, and many flouring industries, p. 45,150.

Sarabat, R. Asia Minor, flows (180 m.) to G. of Smyrna.

Saragossa, prov. Spain, ading. Navarre, area 6,677 sq. m., p. 420,000, cap. S. c. on the Ebro; two cathedr., university, citadel, leaning tower; captured by the Moors in the 8th century; regained by Christians in 1118, and became cap. of Aragon; capitulated to France, after obstinate defence, in 1809; pres. p. 92,000.

Saran, dist. Patna div. Bengal, India, area 2,653 sq. m., p. 2,361,000; indigo industry; admin. hdqrs. Chajra (713,646).

Sarangpur, t. in Dewas st., Bhopal, Centr. India, p. 15,172.

Saransk, dist. t. in Russa. govt. Penza, or rly. from Moscow to Kazan; industri., p. 15,172.

Saraput, t. on R. Kanu, govt. Vyatka, Russ.; boot and glove factories; p. 2,648.

Saraswati, sacred r. of the Punjab, India.

Saratoff, prov. S. E. Russia, on right bank of Lower Volga, area 32,624 sq. m.; agr., manuf.; p. 2,500,000,

mainly peasantry; cap. S., t. on R. Volga, impt. tt. centre, p. 150,000.

Saratoga Springs, summer resort at foot of the Adirondack Mtns., New York, U.S.A.; res. p. 13,000; many hotels. [Isle, p. 15,300]

Saravia, t. in sugar-cane region. Negros, Philippine

Sarawak, st. in N.W. Borneo, area 42,000 sq. m., p. 600,000; governed by a Rajah, under Brit. protectn.; exports sago, rubber, etc.; cap. Kuching, p. 50,000.

Sarawan, prov. N. Baluchistan, area 15,000 sq. m., p. 50,000; cap. S., t. nr. Khelat, p. 2,850. [14,270]

Sardhana, t. in Meerut dist., N.W. Provs., India.

Sardinia, r. of the Mediterranean, included in Italy, and former kingdom, constructed out of duchy of Savoy, area 9,399 sq. m., mtious but fertile, p. 860,000; cap. Cagliari (771).

Sardis, ruined c. Asia Minor, anc. cap. Lydia, at ft. of Mt. Turolos, site occupied by mod. vil. Sart.

Sarguja, nat. st. Chitta Nagpur, Bengal, India, area 6,055 sq. m., p. 270,500. [Guernsey, pict. scenery]

Sark, one of the Channel Isls., 3½ m. long, 6 m. E. of Sark, t. Dordogne dep., France, nr. Perigueux.

Sarnen, cap. Obwalden div., cant. Unterwalden, Switzerland, p. 6,820. [Switzld., convents, p. 3,054]

Sarna, t. on R. St. Clair, Ontario, Can., oil tr., p. 8,755.

Sarno, t. in Salerno prov., Italy, industri., p. (comm.) 17,468.

Saro-patak, mkt. t. on R. Bodrog, Zemplen co., Hungary, old fort and castle, p. 6,802.

Sarpsborg, t. on K. Glommen, c. Samalenene, Norway, p. 7,010.

Sartar-Oe, isl. nr. Bergen, Norway, 20 m. by 7 m.

Sarthe, r. of France, trib. (8½ m.) of R. Mayenne; also dep. N.W. France, watered by R. Sarthe, area 2,472 sq. m. agr., vineyds., etc., p. 422,000 (slightly declining); cap. Le Mans (771).

Sartana, Old and New. (See Salisbury.)

Sarzana, t. Genoa prov., Liguria, Italy, nr. Spezia, cathedr., glass bottle factory, p. 15,000.

Saskatchewan, or **Nelson**, C. Canada, flows (1,730 m.) from Rocky Mtns. through L. Winnipeg to Hudson B.; also prov., Can., area 114,000 sq. m., p. 260,000.

Saskatoon, c. Sask., Canada, p. 12,000.

Sassari, t. on G. of Asinara, Sardinia, Italy, large cathedr., university, mod. Gothic palace, and old ducal pal. (now municipal offices), mtch. tobacco, and macaroni factories, p. 39,500; cap. of S. prov., p. 4,141 sq. m., p. 339,000.

Satara, dist. Deccan old, Bombay, India, area 4,987 sq. m., p. 1,190,000; cap. S., t. nr. confu. Rs. Kistna and Yelga, p. 30,000.

Satara Jagira, The, gr. nat. sts. Bombay, under Satara dist., B. Pres., India, total area 844 sq. m., p. 110,000.

Satorajauhely, t. cap. c. Zemplen, Hungary, tobacco fact., and wine growg., p. 17,186.

Satsuma, prov. Japan, in S. of Kiu-Siu Isl., famous for its Satsuma ware (pottery); cap. S., c.; the Satsuma Isls. are a grp. W. of the prov., the two princip. being Kami-Koshiki-jima (24 m. by 5½ m.), and Shimo-Koshiki-jima (8½ m. by 5½ m.).

Saugor. (See Sugar.)

Saugus, t. in Mass., U.S.A., nr. Lynn, on cst. Mass. Bay, p. 4,206.

Saujbulagh, t. Mukri dist., Azerbaijan prov., Persia; exports fruit, grain, and tobacco; p. 7,240.

Sault Ste. Marie, c. Michigan, U.S.A., at rapids of R. St. Mary, outlet of Lake Superior; timber tr.; p. 13,115; also pt. on Canadian side, opp. above, p. 2,120. [Isle, and Tonga, p. 5,460]

Savage Isl., or **Niue**, in Pacific Oc., betwn. Samoan Savall, largest of Samoan grp. (See Samoa.)

Savanna, c. Illinois, U.S.A., on Mississippi R., Carrol co.; p. 4,248.

Savannah, R. running betwn. Georgia and S. Carolina, U.S.A. (450 m.), flows to the Atlantic; also c. on S. R., Chatham co., Georgia, U.S.A.; manure manuf., timber yds., rice cling., etc.; p. 66,000.

Save, R. France, trib. (65 m.) of R. Garonne; also R. Croatia and Carniola, separately Hungary from Servia and Bosnia, trib. (50 m.) of R. Danube.

Savigliano, c. in Cuneo prov., Piedmont, Italy; silk manuf.; p. 11,540.

Savole, or **Savoy**, dep. S. E. France, on Italian border;

- area 2,389 sq. m.; corn and wine growg. ; p. 249,000 (decree). Cap. Chambéry (q.v.). (See also Haute-Savoie.)
- Savona**, *t.* on W. Riviera est., Genoa prov., Italy; iron and shipbldg. works; exports preserved fruits and tomatoes; p. 39,000. [arch. ; p. 16,120.]
- Savv**, *ist.* between Finlor and Sandalwood, Malay Sawantwari, or Savantwari *nat.* t. Konkani div., Bombay, India; area, 920 sq. m.; p. 220,000. Cap. S. (or Wari), t. ; p. 9,804. [24.46.]
- Sawbridgeworth**, *t.* on R. Stort, Herts; Eng.; p. 1,200. *man.*, cos. Tyroine and Londonderry, Ireland; alt. 2,236 ft.
- Saxe-Altenburg**, *duchy*, Thuringia, Cent. Germany; area 1,111 sq. m.; p. 217,000. Cap. Altenburg (q.v.).
- Saxe-Coburg**, *duchy*, divided by Thuringia, Wald, Germany; area 760 sq. m.; p. 260,000. Caps. Coburg and Gotha.
- Saxe-Meiningen**, *duchy* betw. Coburg and Gotha, Thuringia, Germany; area 953 sq. m.; p. 280,120. Cap. Meiningen.
- Saxe-Weimar**, *grd. duchy*, Germany, one of the Thuringian sts.; area 1,388 sq. m.; p. 246,146. Cap. Weimar [p. 1,404.]
- Saxmundham**, *mkt. t.* nr. Ipswich, Suffolk, Eng.;
- Saxonia**, *duchy*, S. Transylvania, area 3,243 sq. m.; p. 385,624; ch. t. Hermannstadt (q.v.).
- Saxon Switzerland**, *vineous dist.* Saxony, on banks of R. Elbe, S.E. of Dresden.
- Saxony**, Kingdom of, *st.* of German Empire; area 5,787 sq. m.; great min. wealth; p. 4,900,000. Cap. Dresden (q.v.). Also prov., Prussia, adjoin. above on W.; area 9,750 sq. m.; agr. and min. ; p. 3,000,000. Cap. Magdeburg. [Susquehanna; p. 5,864.]
- Sayre**, *bor.* Bradford co., Penn., U.S.A., on R. Schaffell Pike, nr. Cumberland, 10 m. from Keswick, highest in Eng.; 3,200 ft.
- Scala Nova**, *cap. t.* Asia Minor, nr. Smyrna, on G. of S. N., an arm of the Aegean S., p. 18,500.
- Scanderon**. (See *Alexandretta*.)
- Scandinavia**, the *gt. peninsula* of N. Europe, comprising the land occupied by the peoples of Sweden, Norway and Denmark (q.v.). [by 31 m.]
- Scarba**, *ist.* of Argyll, Scotl., off N. end of Jura, 31 m. long; p. 37,200; also *t.* in W. Indies, cap. Tolongo m., p. 1,250. [W. of Harris, 3 m. long.]
- Scarpas** or **Scarp**, *ist.* of the Outer Hebrides, Scotl.
- Scarpanto**, Turkish *ist.* of the Mediterranean, the anc. Carpathus, N.E. of Crete, 31 m. by 8 m., p. 5,000 (mainly Greeks). [R. Scheldt.]
- Scarpe**, R. France, dep. Pas-de-Calais, trib. (70 m) of Schaebeek, industri. t. Belgium, on R. Senne, subn. to Brussels, p. 47,800.
- Schaffhausen**, most N. *cant.* Switzld. on R. Rhine next Baden; area 113 sq. m., pastoral and afforested; p. 46,500. Cap. S. t. on the Rhine; cathedral; p. (incl. F.uerthal) 32,000, the Falls of Schaffhausen, at Lauten, nr. Neunhausen, constitute a cataract 60 ft. high, or, including the rapids, about 100 ft. the stream of the Rhine at the summit being 375 ft. wide.
- Schaumburg-Lippe**, *principality* of Germany, in the W. ser val., between the Prussian provs. of Hanover and Westphalia; area 131 sq. m., p. 45,000. Cap. Bückeburg, on R. Aue (q.v.).
- Scheidt**, or **Schelde**, R. of France, Holland and Belgium, rises in dep. Aisne and flows 248 m. to the N. S. by the estuaries into the Zuider, passing Tournai, Oudenarde, Ghent, Dendermonde, and Antwerp.
- Schemnitz**, *t.* in co. Honthe, Hungary, 67 m. N. of Budapest; imp. mining centre in dist. producing gold, silver, copper, and lead; p. 16,120.
- Schenectady**, *c.* in val. of R. Mohawk, New York, U.S.A.; manu. ; p. 72,826.
- Scheveningen**, *war. pt.* S. Holland, 2 m. N. of The Hague; large fishg. fleet, Korthuis and Kursal, res. ; p. 21,000. [Ign. distinction; p. 28,146.]
- Schiedam**, *t.* on R. Schie, nr. Rotterdam, Holland;
- Schiehallion**, *mn.* Perth, Scotl., nr. Aberfeldy, alt. 3,547 ft.
- Schlan**, *mfg. t.* in coal-field dist. Bohemia, Austria, nr. Prague, p. 9,825.
- Schlangebad**, *wat. pt.* nr. Wiesbaden, Pruss., in Hesse-Nassau prov.; mineral springs; p. 800.
- Schlei**, narrow *inlet* of the Baltic, Schleswig-Holstein, Germany, 35 m. long, penetrating to Schleswig, t. industri. ; p. 18,140; has cathedral.
- Schleswig-Holstein**, *prov.* Pruss., adjoining Denmark on the N.; area 7,337 sq. m., agr. and manu. ; p. 1,450,000; cap. Kiel, (q.v.). The N. part of the prov., Schleswig, and the S. div., Holstein, were both Danish duchies prior to 1866; and a large portn. of the inhabs. still speak Danish.
- Schlettstadt**, *fortd. t.* in Lower Alsace, on R. Ill, nr. Strasburg, taken by the Germans in 1870. Formerly a free muni. c., has two catheds. ; p. 10,120.
- Schlussemburg**, *t.* in govt. St. Petersburg, Russ., at issue of R. Neva from L. Ladoga; fortress prison; p. 5,860. [p. 20,425.]
- Schneidennühl**, *mfg. t.* in prov. Posen, Pruss.;
- Scholes**, *t.* nr. Leeds, W.R. Yorks, Eng., industri. ; p. 1,580.
- Schönbach**, *t.* in Eger dist., N. Bohemia; musical inst. manu. ; p. 4,500.
- Schönborg**, *t.* on K. Teso, Moravia, nr. Olmütz; textile ind. ; p. 12,018.
- Schöningen**, nr. Magdeburg, Brunswick, Germany; manu. t. with ruined ducal castle, brine-spring, and modn. manu. ; p. 8,466.
- Schorlau**, or **Teichau**, *t.* in Rodosto vilayet, Europe, Turkey; carpet and cloth factories; mosques and Christian chs. ; p. 12,000, half Greek.
- Schreckhorn**, *mt.* of Bernese Alps, alt. 13,386 ft.
- Schunja**, *t.* on R. Tesa, Vladimir govt., Russ.; textile and soap factories; p. 24,206. [indust. ; p. 4,622.]
- Schuyler**, *c.* Nebraska, U.S.A., on Platte R. ;
- Schuykill Haven**, *bor.* Penn., U.S.A. (p. 4,895) on S. R. which enters the Delaware below Philadelphia, length 120 m.
- Schwabach**, *t.* Middle Franconia, Bavaria, nr. Nuremberg; needle factories and gold and silver wire-works; p. 9,546.
- Schwarzburg-Rudolstadt**, *principality* of Thuringia, Germany; area 363 sq. m., mainly agr. ; p. 95,265; cap. Rudolstadt (q.v.).
- Schwarzburg-Sondershausen**, *principality* of Germany; betw. Pruss., Saxony and Saxony proper; area 333 sq. m., p. 84,202; cap. Sondershausen, on R. Wipper; p. 6,830.
- Schwarz**, or **Schwarz**, *t.* on R. Inn, in the Austrian Tyrol, dominated by the Château of Freundsburg; old mines and modn. manu. ; p. 7,012.
- Schwechat**, *t.* in Austria, nr. Vienna; large brewery and factories; p. 9,484.
- Schweidnitz**, *t.* nr. Liegnitz, Pruss., Silesia; textile indust. ; p. 30,000. [Bavaria; iron works; p. 16,124.]
- Schweinfurt**, *t.* on R. Main, Lower Franconia, Schwelm, industri. t. nr. Arnberg, Westphalia; p. 14,824.
- Schwetznitz**, *t.* (cap.) in Mecklenburg-Schwerin, Germany; industri. and educat. ; p. 40,000; also mfg. t. on R. Warthe, prov. Posen, Pruss.; p. 8,195.
- Schwerte**, *t.* nr. Hagen, Westphalia, Pruss.; nickel works; p. 14,827.
- Schwetz**, *t.* on R. Vistula, nr. Marienwerder, West Pruss.; old castle, damask-weaving; p. 7,802.
- Schwetzingen**, *t.* nr. Mannheim, Baden, Germany; grand-lucal castle, cigar manu., hop tr. ; p. 6,804.
- Schwibus**, t. Brandenburg prov., Pruss., nr. Frankfurt-on-the-Oder; old walls, anc. mkt. pl., and castle ; p. 1,445.
- Schwyz**, or **Schwytz**, a forest *cant.* Switzerland; area 350 sq. m., p. 50,000; cap. Schwyz, t. nr. L. of Lucerne, p. 7,500. [R. Danube.]
- Schyl**, R. Transylvania and Roumania, trib. (150 m) of Scacica, *sp.* S. est. Sicily, nr. Gurgenti; hdqrs. of Mediterranean coral fishy. ; p. 24,000.
- Scilla**, famous *promt.* on St. of Messina, Calabria, Italy; also *sp. t.* with citadel, on steep cliff overlooking strait; celebrated for silk and wine; p. 7,420.
- Silly Island**, *group* nr. Land's End, Cornwall, Eng.; total area 10 sq. m.; p. 2,800. Hugh Town, the cap. of the isls., is on St. Mary's, the largest of the group.
- Scio**, Turkish *ist.* W. est. Asia Minor; area 908 sq. m., devastated by earthquake, in 1881, p. 64,000, mainly Greeks; antimony and other mines, exports wine,

- fruits, and gum. The classical Chios Scio, or Castro, the cap. has a good harbor; *p.* 15,000.
- Scioto, R.** of Ohio, U.S.A., joins the Ohio at Portsmouth after flowing 250 m. from the W. and N.
- Scots, par.** (with palace seat of Earl of Mansfield), Perthshire, Scot., and a place of res. and coronation of the early Scottish kings. Thence Edward I. carried "the stone of destiny" to Westminster Abbey in 1296, *p.* 1,510.
- Scotland, the N. div.** of the Isl. of Gt. Britain; area (including the isls attached) 30,465 sq. m.; *grst.* length, 280 m.; *grst.* width, 150 m.; *p.* 4,750,445. Cap. Edinburgh, *chf. comm.* and *indust.* c., Glasgow, (*q.v.*). Very mountainous and picturesque in N. and N.W. (the Highlands) with many lakes. In the Lowlands mainly fertile, with much min. wealth. Fisheries *imp.* Divided into 32 counties, which see separately.
- Scranton, c.** on Susquehanna R., Lackawanna co., Penn., U.S.A.; in anthracite coal regn, iron foundries and silk manuf.; *p.* 120,000. [*indust.* *p.* 10,170.]
- Scunthorpe, t.** in Lindsey div. Lincolnsh., Eng.; *pop.* 12,000.
- Scutari, t.** on the Bosphorus, Asia Minor, opp. Constantinople, of which it is considered a suburb, *p.* (abt.) 50,000, mostly Turks; active tr. in Asiatic products; also Turkish tr. in Albania, at foot of Scutari L. (anc. cap. Illyria); exports, tobacco, grain, wool, etc. *p.* (est.) 20,000. Scutari L. lies on the borders of Montenegro and Albania in Europ. Turkey, and is 20 m. long, with outlet by the Bojana into the Adriatic.
- Seacombe, ecclesiast. dist.** Cheshire, Eng., N.W. Birkenhead, *p.* 7,140. [*p.* 4,787; golf-links.]
- Seaford, cst.** *wt. pt.* Sussex, Eng., nr. Newhaven.
- Seaforth, t.** in Huron dist., Ontario, Can., *p.* 3,648.
- Seaforth Loch, on E. side** Isl. of Lewis, Outer Hebrides, Scot., *q.v.*
- Seaham, Harbour, t.** nr. Sunderland, Durham, Eng.; coal tr. centre, glass bottle wks., *p.* 15,759.
- Seaton, t. nr.** Workington, Cumberland, Eng., *p.* 3,018. [Sunderland, Eng., *p.* 4,842.]
- Seaton Delaval, industr.** *townsh.* nr. Blyth, North-Suffolk, Eng.; *pop.* 1,200.
- Seattle, t.** on Admiralty Inlet, King co., Washington, U.S.A.; *rwly.* terminus, and timber centre, *p.* nearly 238,000 (increased from only 3,500 in 1880), has a great meat-packing tr., also State university.
- Sebastopol, or Sevastopol, strongly fortified.** Russn. *port.* in the Crimea, govt. Taurida; grain export and *pop.* w. pl., thriving tr., built on ruins of city after the famous siege of 1855. *p.* (including military) 72,000; *comm.* port transferred to Theodosia, Feodosia or Ka fa (*q.v.*). Sebastopol is also the name of a bor. in co. Grenville, Victoria, *p.* 2,946.
- Sebenico, (st. t.)** on the Adriatic, Austrian Dalmatia; fishy, and wine tr., *p.* (commune) 25,000.
- Sebastieh, vil. nr.** Nabulus, Palestine, on site of anc. Samaria (*q.v.*).
- Sechuan, t. nr.** Vienna, Austria; *resid.* *p.* 12,120.
- Se Chuen, or Se Tchuen, (q.v.)** W. China, *adj.* Tihet, area 185,045 sq. m., *p.* (est.) nearly 80,000,000; traversed by Yang-tse-Kiang.
- Secunderabad, Brit. mil. cantonment** (largest in India) in Nizam's Dominions, nr. Hyderabad, *p.* (of cantonment) 6,000 of t. 30,000.
- Sedalia, c.** on prairie in Pettis co., Missouri, U.S.A.; *rwly.* centre and works, *p.* 16,054.
- Sedan, t.** in Ardennes dep., France, nr. Mézières; formerly a strong fortress, scene of gt. German victory over French army, 1870; *weav.* *indust.* *p.* 19,500.
- Sedburgh, mkt. t. nr.** Ingletton, W.R. Yorks, Eng., *p.* 3,727.
- Sedgley, industr. t. nr.** Wolverhampton, Staffs, Eng.; *nail, rivet, chain, and lock works*; *p.* 16,520.
- Sedgemoor, nr.** Bridgewater, Somerset, Eng.; James II.'s victory over Monmouth, 1685.
- Sedlitz, or Sedlitz, vil. nr.** Saatz, Bohemia; noted for min. water springs.
- Seeland, or Zealand, (st.)** Denmark, betwn. Cattegat and Baltic, area (with isls. attached) 2,840 sq. m., *p.* 750,000; *chf. t.* Copenhagen, (*q.v.*) [*p.* 2,647.]
- Seigbally, t. nr.** Newcastle, Northumberland, Eng.; *pop.* 1,200.
- Sego, Lake, Russ.** (20 m. by 20 m.), 30 m. N.W. of Lake Onega, outlet into White S.
- Segovia, prov. of Old Castile, Spain, area 2,670 sq. m.,** *p.* 159,000; *agr., stock-keeping, and manuf.*; *cap.* S., walled c. nr. R. Eresma; paper-making and flour-mills, artillery school, *p.* 15,000. [Guardamar.]
- Segura, R.** Spain, flows (280-m.) to Mediterranean at Seville, *t.* in native st. Bhopal, Cent. India; Brit. cantonment (headq. of the Bhopal battalion), *p.* 16,814.
- Selm, R., Russ., Tchernigov govt., trib.** (500 m.) of R. Desna.
- Selne, R.** France, rising in Côte d'Or dep., and flowing 473 m. past Paris and Rouen to the Eng. Channel at Havre; also dep. France (with Paris as *cap.*), area 185 sq. m., *p.* 3,750,000 (less than 1,000,000 outside Paris); paper-making, leather dressing, and *agr.*, apart from the industries of the cap. (See Paris.)
- Selne-et-Marne, dep. N.** France; area 2,273 sq. m., *agr., stock raising, dairying, vineyards*, *p.* 358,500 (increasg.); *cap.* Melun.
- Selne-et-Oise, dep. N.** France; area 2,185 sq. m., *mkf. gdng., vineyards, agr.*, *p.* 720,500 (considerably increasing); *cap.* Versailles.
- Selne-Inférieure, coast dep. N.** France; area 2,448 sq. m., *pastoral, grain growg., dairying, and manuf.*, *p.* 850,000 (increasg.); *cap.* Rouen.
- Selangor, Malay st., under Brit. protectn., on W. side of Peninsula, p.** 90,000.
- Selby, mkt. and industr. t.** on R. Ouse, W.R. Yorks, Eng.; *anc. abbey ch.* *p.* 9,000. [750 m. to E. Bailk.]
- Seleng, R.** Mongolia and Transbaikalia, Siberia, flows Selenghinsk, Old and New, *two t.s.* *prov.* Transbaikalia, R. Siberia, on opp. banks of R. Selenga; formerly *imp.* tr. centres with China.
- Selkirk, hld. co.** Scot., between Midlothian and Dumfriess, Peebles, and Roxburgh; area 269 sq. m., *agr.* (*chf.* oat growg.), *weavg.*, etc., *p.* 24,600; *cap.* S., on Eddrick Water, one of the Hawick Burghs, *p.* 5,886.
- Selma, c.** on Alabama R., Dallas co., Alabama, U.S.A.; in cotton-growg. dist., *p.* 9,014 (more than half coloured). [*part* 1,486.]
- Selston, industr. vil.** Notts, Eng., nr. Mansfield.
- Selzerbunnen, nihil. spring** nr. Grosskarben, N. of Frankfurt in Hesse. [*fine pier*, *p.* 8,860.]
- Semaphorie, t. nr.** Adelaide, S. Australia; *est. wnt. pl.*, Semendria, *t.* on R. Danube, Servia, betwn. the Cataracts and Belgrade; old Roman settlement, triangular castle nearly 500 years old, garrison, fine grape growg. dist., *gd. tr.* in white wine and pigs, *p.* 7,024.
- Semenovka, or Semionovka, t.** in Chernigov govt., Russ., nr. Gomel, leather industry, *imp.* fairs, *p.* 16,848.
- Sempalatinsk, prov. Russ. Cent. Asia, in Steppes** governor-generalship; area 184,631 sq. m., *p.* 842,000, mainly Kirghiz nomad stock-keepers, bee-keepers, and peasants; *cap.* S., t. on the Irtysh R., busy tr. centre, *p.* 30,000.
- Semirychensk, prov. Russ. Turkestan, S. of Sempalatinsk; area 152,280 sq. m.,** *p.* nearly 1,100,000 (three-quarters Kirghiz, half of the remainder Russn., including many Cossacks), *agr.* stock-raising, bee-keeping, carpet and other manuf., *cap.* Vernyi, winters very cold in the Balkhash Steppes.
- Semlin, fort t.** Slavonia, nr. Belgrade, on R. Danube; *gd. tr.* with the Balkans, *p.* 14,150.
- Seneca Falls, vil.** on R. Seneca, at the Falls (50 ft. high), New York, U.S.A.; *manuf.*; *p.* 7,246. R. Seneca receives the waters of Seneca Lake (36 m. by 2 m.), also of Cayuga and other lakes.
- Senegal, R.** Western Africa, formed by the union of R.'s Bafing and Bokhoy, and flowing alt. 1,000 m. from the Kong mts. W. and N.W. to the Atlantic at St. Louis, above Cape Verde. Also name of French col. in W. Afr. betwn. R. Gambia S. and the Sahara N. and stretching from the French Soudan E. to the Atlantic on the W.; area (alt.) 80,000 sq. m., *p.* (est.) 1,250,000. *Cap.* St. Louis (*q.v.*). [3,680.]
- Senjen, est. off N.W. cst.** Norway, 45 m. by 30 m.; *p.* Sennar, *dist.* Soudan, N.W. of Abyssinia, on the Blue Nile, below Khartoum, an Egyptian prov. prior to the Mahdist revolt of 1881; area 60,000 sq. m.; inhabitants, *prc.* Arabs and negroes of the Fungit tribes. *Cap.* Sennar, c. of Blue Nile.
- Sens, c.** on R. Yonne, Y. dep., France; the *anc.* Agedincum; fine cathed., *p.* 14,864.
- Seoni, dist.** in the Satpura tableland, Jabalpur div.

Centl. Prov., Brit. India; area 3,798 sq. m., mainly forest; p. 327,000 (decreased by famine). Cap. S. t. halfway betw. Nagpur and Jabalpur; p. 12,000. Also name of a t. in Hoshangabad dist., Centl. Prov., India; p. 6,850.

Seoul, or **Hanyang**, chf. t. Corea; p. (est.) 300,000. It stands on the Han R., and Chemulpo is the port.

Sepsisenzergurg, industrial t. (with medicinal springs) in Háromszék co., S. Hungary; p. 7,480.

Septimer, *mtn. pass* in Swiss Alps, nr. Chur, cant. Grisons, alt. 7,611 ft. (wks.; p. 40,000).

Seraing, t. in prov. Liège, Belgium; extensive iron.

Serajevo, or **Bosnia Seral**; cap. Bosnia prov., Austria-Hungary.

Serampur, t. in Hooghly dist., Bengal, India, on rt. bank of R. H.; former Danish Settlement, sold to Britain in 1845; jute and paper mills; p. 40,500.

Serdofsk, t. in Saratoff govt., Russ.; grain tr.; p. 14,112. (18,646).

Serena, t. nr. Conquimbo, Chill, on Pacific cst.; p. Seres, Serros, or Siros, t. nr. R. Struma, Roumelia, Turkey; cotton tr. and carpet manuf.; p. 30,000 (half Bulgarians).

Sereth, R. Moldavia and Bukovina, trib. (293 m.) of R. Danube; also t. in Bukovina, on R. S., 24 m. S.E. of Czernowitz; p. 1,850.

Serghinsk, Upper and Lower, t.'s of E. Russ., govt. Perm, nr. Ekaterinburg; mpt. ironwks.; joint p. 30,000.

Sergipe, cst. prov. Brazil; area 15,000 sq. m.; sugar and cotton crops; p. 400,000 (three-fourths negroes). Cap. Aracaju; Sergipe (or São Cristóvão) is a t. in the prov.; p. 20,000.

Seringapatam, t. on Kaveri R., Mysore, India; famous for its shrine of Vishnu, its fortress, palace, and Hyder Ali's mausoleum; p. 13,000. Here Tippoo Sahib was slain in 1792.

Serpukhov, t. on R. Nam, govt. Moscow, Russ.; sacked by the Tartars in 1382; leather and cotton trade; p. 29,814. (peak 6,000 ft.).

Serra da Estrella, *mtn. range* Beira, Portugal; highest Serra de Monchique, *mtn. range* N. of Algarve, alt. 4,079 ft.

Servia, an indept. kingdom, ading Bosnia, Bulgaria, Macedonia, and Kossava, and divided by R.'s Danube and Sava from Austria-Hungary on the N.; area 47,200 sq. m.; p. some 500,000. At the close of the Balkan War (1912-13) Servia was allowed to absorb the whole of Old Servia, thus nearly doubling both territory and population; cap. Belgrade (q.v.).

Sesto Fiorentino, t. nr. Florence, Italy, p. (commune) 14,500. (p. 11,860).

Sestri Ponente, *stn.* nr. Genoa, Italy; shipbuilding; Sestri, mkt. t. on R. Rile, W. Yorks, Eng., nr. Skipton; caves with remains of extinct fauna; p. 2,350.

Setubal, t. on R. Sado, Lisbon dist., Portugal; boat-bldg., fishing, sardine-curing, etc.; p. 23,018.

Sevastopol, — (see Sebastopol.)

Sevenoaks, mkt. t. and result, dist. Kent, Eng.; fine parks, including Knole (Lord Sackville), Montreal (Lord Amherst), and Wilderness (Lord Hillingdon); p. (of urban dist.) 9,183.

Severn, R. W. of Eng. and N. Wales; rises in Montgomery-sh., and flows (180 m.) to Bristol Channel; also R. Canada, flows (30 m.) to Hudson Bay.

Sevier, Lake, Utah, U.S.A.; area 150 sq. m., 125 m. S.W. of Gt. Salt L.

Seville, *prov.* Spain; area 5,439 sq. m.; agr., mining; p. 390,000. Cap. S., on R. Guadalquivir; splendid Gothic cathedral; exports lead, iron, quicksilver, cork, oranges, wine, etc.; artillery works, porcelain, manuf., spirit distilleries, silk and tobacco factories; p. 130,000. (colch-brated porcelain manuf.; p. 7,124).

Sèvres, t. on R. Seine, dep. Seine-et-Oise, France; **Sèvres, Deux**, *dépt.* W. France; area 2,398 sq. m. (mainly agr.), p. (declining) 339,000; cap. Niort (q.v.).

Seychelles, group of 30 sm. Brit. isls., Indian Ocean, formerly dependt. Mauritius, now a separate Crown colony; largest isl. Mahe, princ. t. Port Victoria; total area 188 sq. m., p. 22,501. (16,846).

Seymour, co. Jackson co., Indiana, U.S.A.; manuf.; p. **Seyne**, or **La Seyne-sur-Mer**, t. nr. Toulon, dep. Var, France; shipbuilding; p. 25,000.

Shabatz, t. on R. Sava, Servia; old castle; exports

fruit, cattle, coal and pigs, principally to Hungary; p. 12,550. (trade; p. (with subs.) 18,500).

Shadrinsk, t. on R. Iset, govt. Perm, Russia; com

Shafterbury, *stn.* Dorset, Eng., 19 m. W.S.W. of Salisbury, p. 1,873.

Shahabad, *dist.* Persia div., Bengal, India, area 4,965 sq. m., p. (nearly) 2,000,000; cap. and administrative hqtrs., Arrah; also t. in Hardoi dist., Oudh, p. 18,850; also t. in Ambala dist., Punjab, p. 10,045; also t. in Rampur st., N.W. Provs., p. 8,464. (11,246).

Shahapur, t. in Sangli st., Bombay Pres., India, p. **Shahjahanpur**, t. dist. Rohilkhand div., N.W. Provs., India, area 1,744 sq. m.; cap. S., t. on R. Deoha (with milky. cantonmt.), p. 76,000; also t. in Gwalior, India, 60 m. from Indore, p. 9,554.

Shahpur, *dist.* Rawalpindi div., Punjab, Brit. India, area 4,840 sq. m., p. 500,000; cap. S., t. nr. Jhelum, p. 6,514.

Shahpura, t. S. st., Rajputana, India, p. 10,818.

Shahrud, R. Irar Ajemi, Persia, joins the Kizil-Uzen; also t. in Shahrud-Bostan prov., Persia, nr. Astrabad, consid. tr.; p. 20,000. (12,816).

Shaikpura, t. in Monghyr dist., Bengal, India, p. **Shamaka**, Old, t. in govt. Baku, Transcaucasia, Russ., on trib. of the R. Piragat, once a flourishg. council. pl., destroyed by Nadir Shah, and sev. times overgrown by earthquake, prodig. op.

Shamokin, *town* on Shamokin Creek, Northumberland co., Penn., U.S.A., iron-mty. centre in anthracite coal regn., p. 20,542.

Shanghai, *stn.* t. on Wu-sung R., prov. Kiang-Su, China, open to foreign tr., most imp. of the Chinese treaty ports, immense export silk and tea, estimated p. 670,000, including 6,800 foreigners (2,700 British).

Shang-I-Yuen, t. nr. Ning-Po, Che-Kiang prov., China, large tr., p. 93,000.

Shao-Kwan, t. and *port*, with garrison, Chihli prov., China, on rly. from Peking to Manchuria and the Liao-tung G., the limit of the Russian sphere of influence defined in treaty of 1860 with Great Brit.

Shanklin, cst. t. nr. Ventnor, Isle of Wight, picturesque wa. pl. p. (resident.), 4,751.

Shannon, R. Ireland, separating Connaught from provs. of Leinster and Munster, and flowing to Atlantic (254 m.) at Loughad.

Shan-Si, wild, and hilly *prov.* N. China, touching Mongolia, and bounded W. and S. by R. Hoang-Ho, area 300,000 sq. m., p. 10,730,000; cap. Tai-yuan.

Shan States, native sts. in farther India, partly under Brit. rule in Burma, partly indept. and partly under Siamese domination. (See Burma and Siam.)

Shan Tung, maritime *prov.* China, on the G. of Pe-chi-h and the Yellow Sea, area 55,777 sq. m., p. 39,500,000; contains on the cst. the treaty port of Chifu, Wei-hai-wai (leased to Britn.), and Kiao-chau (the German sphere of influence); cap. Tsi-nan, large ind. c. nr. the Hoang-Ho R. (Canton, p. 50,000).

Shao-Hing, c. Kiang Tung prov., China, N. of Shao-Hing, c. Che-Kiang prov., below the B. of Hang Chau and the treaty pt. of Shao-Shan, p. 500,000.

Shari, R. of French Soudan, West Africa, flows from the S. (about 700 m.) in L. Tchad, navigable for greater part of course. (9,840).

Sharon, t. Mercer co., Penn., U.S.A., ironwks., p. **Sharpness**, *stn.* co. Gloucester, Eng.

Sharpsburg, t. on R. Allegheny, Penn., U.S.A., in colly. dist., p. 8,240. (U.S.A., p. 5,408).

Sharsville, t. nr. Sharon, on the Shenango R., Penn.

Shas-si, c. and river *port* on the Yangtze, prov. Hupeh, China, open to foreign tr.; p. 80,000.

Shat-el-Arab, R. at head of Persian Gulf, Asia (120 m.), formed by union of Tigris and Euphrates.

Shatista, t. nr. Salonica, Roumelia, p. 7,800.

Shatak, t. in grazing dist., Tamboff govt., Russia, nr. Morsliansk; grain tr.; p. 15,120.

Shavil, t. Komo govt., Russia, nr. Nuttau, p. 14,116.

Sheboygan, c. on L. Michigan, Wisconsin, U.S.A.; furniture manuf.; p. 20,410.

Shechem, or **Nablus** (q.v.), c. Palestine. [Eng. p. 5,542.

Sheephead, industri. *stn.* nr. Longberough, Leicsh., **Sheerness**, ft. 546, and garrison t. Isle of Sheppey, Kent, Eng.; dockyard; p. 27,494.

Sheffield, industri. c. W. R. Yorks, Eng., on R.'s Sheaf and Don; g. cutlery and steel manuf. centre; n. test. 1901. 454,653.

Shehr-i-Subz, industr. *t.* nr. Samarkand, Asiatic Russ., p. 38,460.

Shelbyville, *t.* on Big Blue R., Indiana, U.S.A.; mfg. centre in colly. and agr. regn.; p. 8,225.

Shelf, industr. *t.* nr. Halifax, W.K. Yorks, Eng., p. 2,334.

Shelley, mfg. *t.* nr. Huddersfield, W.R. Yorks, Eng., p. 1,753.

Shelharbour, *bor.*, co. Camden, N.S.W., p. 1,914.

Shemaka.—(See **Shamaka**, Old.)

Shenandoah, *t.* in Schuylkill co., Penn., U.S.A.; in anthracite coalfield; p. 25,774; also K. Virginia, U.S.A., trib. (200 m.) of R. Potomac.

Shendamangalam, *t.* in Salem dist., Madras Pres., India, p. 18,120.

Shen-Si, *prov.* N.W. China, W. of Hoang-Ho R.; area 61,212 sq. m., p. 8,500,000; cap. Singan.

Shepherd's Bush, residential *sub.* W. London, Eng., p. 7,814. [Yorks, Eng., p. 1,879.]

Shepley, industr. *par.* nr. Huddersfield, W.R.

Shepparton, *t.* Victoria, 118 m. N.N.E. of Melbourne, p. (dist.) 4,177.

Sheppey, *isle of*, dist. N. cst. Kent, Eng., at mth of R. Thames; 9 m. long, 5 m. wide; p. 23,468.

Shepton Mallet, mkt. *t.* nr. Wells, E. Somerset, Eng., p. 5,011.

Sherborne, mkt. *t.* Dorset, Eng., p. 5,954.

Sherbrooke, *c.* at conflu. of R. St. Francis and Magog, Quebec, Can.; woollen and cotton manuf.; p. 17,224.

Sherkot, *t.* Bignaur dist., N.W. Prov., India.

Sherman, *t.* in Grayson co., Texas, U.S.A.; tr. in locally produced cotton and corn; p. 11,825.

Sherwood Forest, anc. royal woodland, Mid-England; remains; nr. Mansfield and Nottingham.

Shetland, or **Zetland**, *Isles*, Scotld., 50 m. N.E. of the Orkneys; about 100 in group, chf. Isl. Mainland (*p.v.*); total area 551 sq. m., p. 27,911; chf. *t.* Lerwick.

Shieryenne, *R.* Dakota, U.S.A., trib. (325 m.) of Red R.

Shields, North (See Tyne-mouth.)

Shields, South, *p.v.* co. Durham, Eng., in Parly. div. Jarrow; ship-building and colliery centre; p. 108,049.

Shifnal, mkt. *t.* nr. Shrewsbury, Shropsh., Eng., p. 3,045.

Shigatse, *t.* between Gyantse and Lhasa, Tibet, p. 8,140.

Shikarpur, dist. Sind, prov. Bombay, India, area 9,296 sq. m., p. (increasg.) 1,068,500; cap. S. t. on R. Indus, carpet manuf., large tr.; p. 54,116; also S. t. in Bulandshahr dist., N.W. Prov., India, p. 11,025.

Shikohabad, *t.* in Manipuri dist., N.W. Prov., India, p. 11,640.

Shikoku, *isl.* Japan, S. of Honko, area, 7,931 sq. m., p. Shikodo, *t.* nr. Bishop Auckland, Durham, Eng.; rly. wks.; p. 13,488.

Shilka, *R.* E. Siberia, trib. (760 m.) of R. Amur.

Shillong, *t.* Khasi Hills dist., Assam, Brit. Ind.; cantonment for battalion of Gurkhas; p. 7,640.

Shiloh, *place* in Hardin co., Tennessee, U.S.A.; great battle of American Civil War, 1862, Confederates defeated by Grant; General Johnston slain.

Shimizu, *R.* Africa, headstream of R. Nile, flows 300 m. to L. Victoria Nyanza.

Shimoda, *p.v.* Honko Isl., Japan, p. 11,000.

Shimoga, dist. Nagar div., Mysore, India, area 3,986 sq. m., p. 53,000; cap. S. t., p. 12,228.

Shimonoseki, *p.v.* S.W. point Honko Isl., Japan, p. Shing-King, *Chma*. (See Liao-Tung.)

Shla, Loch, Sutherland, Scotld., 164 m. long, discharged by R. Slun to the Ockel.

Shipka Pass, over the Balkans, 47 m. N.E. of Philippopolis; held by Russians against Suleiman Pasha in the Turkish War, 1877.

Shipley, worsted mfg. *t.* on R. Aire, 32 m. W. Bradford, W.R. Yorks, Eng., p. 27,710.

Shippensburg, *t.* Penn., U.S.A., in Cumberland co.; industr.; p. 5,116.

Shipston-on-Stour, mkt. *t.* Worcester-sh., Eng., p. 3,730,000; chf. t's Palermo, Catania, Messina, all of which see [London, p. (dist.) 9,140.]

Shiraz, *c.* cap. Faristan prov., Persia, beautifully sitd. in wine-grwg. dist.; seat of culture in Middle Ages; devastated by earthquake 1824 and 1853; p. 34,100.

Shire, *R.* of Africa, flows (360 m.) from L. Nyassa to R. Zambezi; on it are the famous Murchison Falls, up to which the R. is navigable.

Shirehampton, *vil.* on R. Avon, co. Gloucester, Eng., 5 m. N.W. of Bristol, p. (dist.) 3,416.

Shirley, *t.* Hants, Eng., ad'ng. Southampton, on N.W.

Shirwa, or **Chilwah**, shallow L. nr. Nyassa, and E. of Shire R., Africa, 40 m. long, 14 m. wide; has 4 isls.

Shklov, dist. *t.* on R. Dnieper, Moghilev govt., Russ.; tr. in agr. prod. and manuf. gds.; p. 11,420.

Shoa, *S. state* Abyssinia, S.E. Amhara, p. 1,500,000; cap. Licheh.

Shoalhaven, *R.* of N.S.W., flows 960 m. to the Pacific.

Shoeburyness, *vil.* on N. side of Thames estuary, Essex cst., Eng.; artillery ranges; p. 5,006.

Sholapur, dist. Deccan div., Bombay, Brit. India, area 4,542 sq. m.; agr. (with cotton manuf. at Barsi, nr. the Nizam's Dominions); p. 795,000; cap. S. t. 164 m. S.E. of Poona; large bazaar, temples, &c.; p. 76,420. [Distrl., p. 111,493.]

Shoreditch, *bor.* Middlesex, Eng., in E. London; in Shoreham, *mt. pt.* W. of Brighton, Sussex, Eng.; an old spt. and market *t.*, p. 7,550. [Kent, Eng.]

Shorncliffe, military *encampment*. S.W. Folkestone.

Short Heath, industr. *t.* nr. Wolverhampton, Staffs, Eng., p. 4,077.

Shoshone Falls, on Snake R., Idaho, U.S.A., alt. 28,111.

Shotts, mining *par.* nr. Glasgow, Lanarksh., Scotl., p. 17,211. [centre in cotton-crowd. dist.; p. 28,145.]

Shreveport, *c.* Caddo co., Louisiana, U.S.A.; mfg. Shrevebury, anc. *bor.* Shropsh., Eng., on R. Severn; fine churches, Shire Hall, Guildhall, &c., good local tr.; p. 20,330.

Shropshire, or **Salop**, N.W. midland co., Eng., bordering on Wales; area 1,343 sq. m.; fine pastoral country with hills and woodland, ag. and dairying, mining and manufs.; p. 246,305; cap. Shrewsbury.

Shumla, fortid. *t.* Bulgaria, 60 m. S.E. Rustchuk; shipper and cloth manuf., occupied by Russians 1879; p. 23,816.

Shusha, industr. *t.* Russn. Transcaucasia, 87 m. S.E. of Elizabetpol; silk-weaving and leather manuf.; p. 28,111. [p. 21,158.]

Shuster, *t.* in Khuzistan, Persia, nr. Dezful, p. 21,158.

Shwabo, dist. Sagayung div., Upper Burma, area 8,376 sq. m.; rice and Pari palm sugar grow; p. 300,000.

Shwedaung, *t.* in Pegu div., Lower Burma, on R. Irawadi, p. 13,146.

Siakot, dist. Rawalpindi div., Punjab, India, area 1,991 sq. m., p. 1,100,000; cap. S. t. 72 m. N.E. of Lahore; paper, cotton-cloth, and shawl-crowd manuf., military cantonment; p. 61,648.

Siam, *crty.* Indo-Chinese Peninsula, between Lower Burma and the Shan States, the Malay Peninsula, Cambodia and Annam; area 195,000 sq. m.; princ. product rice; p. 6,500,000; cap. Bangkok (*p.v.*).

Siberia, *terr.* of Asiatic Russ. from the Ural Mtns. to Sea of Okhotsk and Behring Strait, washed by the Arctic on the N., and bounded S. by Mongolia and Turkestan, area 4,833,496 sq. m., p. (est.) 8,000,000; climate mostly very severe, but has wonderful summer productivity in par. to vast minil. wealth; many great waterways and rly. connect. N. and S.; lowly plain N., interior a plateau traversed by mtn. chains, with large lakes; agr. pasturing, forestry; many large towns; chf. Toukh (cap. W.S.) and Irkutsk (cap. E.S.). The p. includes many thousands of political and other exiles from European Russ. [p. 23,000.]

Sibonga, *t.* in Zulu, one of the Philippine Isls., p. Sibpur, *t.* Hooghly dist., Bengal, India, subn. to Howrah (*p.v.*).

Sibesar, dist. Brahmaputra Valley div., Assam, India, area 2,855 sq. m., p. (rapidly increasg.) 610,000; flourishing tea-garden area, cap. S. t. on Dikhu R., p. 5,500.

Sicily, the largest *isl.* of the Mediterranean, former Kingdom and pres. compartment of Italy, area 9,935 sq. m., produces corn, oranges, olives, silk, sulphur, and salt; beautiful climate, elevated and minous, highest *pt.* the volcano Mt. Etna (*p.v.*), p. 3,750,000; chf. t's Palermo, Catania, Messina, all of which see [London, p. (dist.) 9,140.]

Sidcup, *vil.* and *res. dist.* Kent, Eng., 13 m. S.E. of Sidcup Hills, low mtn. range Perthshire and Forfarshire, Scotl. [Eng., at mth. of R. Sid, p. 5,624.]

Sidmouth, mkt. *t.* and *mt. pt.* nr. Exeter, Devon.

Sidney, *c.* on K. Miami, Ohio, U.S.A., industr., p. 6,120.

Sidon.—(See **Saida**.)

Siedlce, *govt.* East Poland, Russ., area 5,535 sq. m.; agr., stock-kgg., and forestry, p. 825,600, cap. S., t. 40 m. E. Warsaw, p. 25,000.

Siegburg, *t.* on R. Sieg, Bonn dist., Rhenish Pruss., royal projectile, tobacco and other factories, p. 16,974.

Siegen, *t.* on R. Sieg, nr. Cologne, Westphalia, Pruss., iron-mining and smelting, castles of former princes of Nassau, Siegen, p. 24,906.

Siemreut, *prov.* Siam, at N. end of Lake of Cambodia, grows poor rice, and has a p. of only 10,000, and a chf. t. with but 2,000 inhabs., but famous for the great ruins of Angkor, now covered by dense forest, and the extensive remains of Nakawn Luanq, cities of the Khmer race which flourished from the 8th to the 12th centuries.

Sienna or Siena, *t.* in Tuscany, Italy, 61 m. S. of Florence, many fine bldgs., university, cathedr., Palazzo, famous in development of architecture, industr., p. 30,000. [and colly. dist., p. 24,526.]

Siero, *t.* Oviedo prov., Spain, in agr., live-stock raisg.

Sierra Leone, Brit. col. settl., Senegambia, W. cst. of Afr., area 30,000 sq. m., p. 1,377,500, cap. Freetown or St. George (*q.v.*).

Sierra Morena, *min. range* Spain, betwn. Guadalquivir and Guadana basins, highest point, 5,500 ft.

Sierra Nevada, *min. range*, prov. Granada, Spain, highest summit, Mulhacen (*q.v.*); also mtn. chain, California, U.S.A., highest pk. Mt. Whitney, alt. 14,898 ft.

Sigmaringen, *t.* on the Upper Danube, Hohenzollern prov., Pruss.; castle museum, p. 4,806.

Sikkin, protected *st.* in the E. Himalayas, India, adjo. Tibet, Nepal, and Bhutan, area 2,818 sq. m.; has dense forests, with rich flora and Orchidaceae, but grows rice and Indian corn in the clearances; p. 88,000; chf. t. Tumlong.

Silchar, *t.* in Cachar dist., Assam, Brit. India, on R. Barak; hdqrs. Surma Valley Light Horse, p. 8,010.

Silchester, *par.* Hauts, Eng., betwn. Basingstoke and Reading; many int. Roman remains.

Silesia, *prov.* Pruss., bordering on Russia, Poland, area 15,566 sq. m.; rich in coal and iron, p. 5,250,000, cap. Breslau.

Silesia, Austrian, a crown ld. and duchy of cis-Leithan part of Austro-Hungary, area 1,977 sq. m., p. 760,500; collieries and dairy farming, silk flourishing, mfg. industries; cap. Troppau.

Silistra, *fortif. t.* on R. Danube, Bulgaria, below Rustchuk; mfg. centre in vineyard dist., p. 12,510.

Silkstone, colly. *vil.* nr. Rainsley, W.R. Yorks, Eng.

Silloth, *wat. pt.* on Solway Firth, Cumberland, Eng., p. 2,410. [p. 4,961.]

Silfeden, industr. *t.* nr. Keighley, W.R. Yorks, Eng.

Silvas, the great forest *plains* of the Amazon.

Silver City, Alberta terr., Can., with stn. on C. P. Ry., 938 m. from Winnipeg. [castle, p. 6,424.]

Silverdale, industr. dist. Staffs, Eng., ading. New-Silvertown, industr. riverside *dist.* on Thames, co. Essex, Eng., on W. Ham par., p. 6,120. [p. 10,000.]

Silves, *t.* on R. S. Faro dist.; walled (with castle), Simbirk, *govt.* E. Russia, along right bk. of Middle Volga, area 10,120 sq. m.; mial. and agr., p. 1,950,000, mainly peasantry. Cap. S., t. lying betwn. the R. Volga and Sviage; large tr., with famous horse fair.

Simcoe, Lake, N. of L. Ontario, Can., 70 m. by 18 m., discharges by R. Severn to Georgian Bay, I. Huron.

Simferopol, *t.* in Taurida gov., Russia, Crimea, on R. Salghit, nr. Sebastopol, p. 30,000.

Simla, *dist.* Delhi div. Punjab, Brit. India, area 102 sq. m. p. 40,500; cap. S. t. (alt. 7,875 ft. above sea), summer res. of Indian Viceroy and staff of the Brit. govt., hills around clothed with deodars and rhododendrons, the sanatorium of S. occupies a spur of the Lower Himalayas for about 6 m., and near are the subsidary sanatoria of Kasauli, Duggah, Sabathu, and Solon, and the cantonment of Jutogh, p. (alt.) 14,200.

Simla Hill States, a collectn. of 23 nat. Indian *sts.* surrounding the sanatorium of Simla, area 6,569 sq. m., p. 570,000.

Simon's Bay, Cape Col., Brit. S. Afr.; on W. side of Cape of Good Hope; has govt. arsenals and exten-

sive dockyards; Simon's Town, on the Bay, is so m. by rail from Cape Town. With the harbour and protecting fortifications, it forms the strongest and finest naval stn. in the Southern hemisphere; p. (of t.) 7,240.

Simpon, *min.* Switzerland, alt. 11,695 ft.; the pass over the Simpon (alt. 6,594 ft.) from Drono d'Ossola, Italy, to Brieg in the Rhône val., was originally made by Napoleon I. The Simpon ry. tunnel from Visp on the Swiss side of the mtn., to the val. of the Po at Iselle on the Italian, constructed with funds furnished by the two countries, consists of two parallel bores each abt. 60,000 ft. long, 57 ft. on the average apart, and connected by cross cuttings at about every 670 ft.

Sinal, *peninsula* betwn. Gs. of Akabah and Suez, at hd. of Red S.; area 11,055 sq. m., mainly desert; Mt. Sina (the Arab Tebel Musa, or "Mt. of Moses"), called also Horeb, is one of numerous mtns. on the penins.; alt. 7,363 ft.

Sinala, *sm. t.* in the Transylvanian Alps, Roumania, 15 m. from the Austrian frontier at Predael; fashionable summer rest., with royal res. of Peles; p. 2,466.

Sinaloa, or Chinaloa, *st.* Mexico, on G. of California; area 33,681 sq. m.; agr. and mining, rich in gold, silver, copper, iron, and lead; p. 286,000. Culiacan (*q.v.*).

Sind, or Schinde, *div.* of Bombay Pres., India; formerly part of the Mogul Empire; area 53,868 sq. m., p. 2,500,000. Comprises dists. Haidarabad, Karachi, Thar and Parkar, Sikarpur, and the upper Sind Frontier, with the nat. st. of Khairpur, all of which see. Admin. hdqrs. at Karachi, spt. for the Indus val (*q.v.*).

Singapore, Brit. *col.* at S. end Malay Penin., part of the Crown col. of the Straits Settlements; strongly fort. area 200 sq. m., p. 282,221 (less than 4,000 Europeans). There is an Admiralty dockyard, a cathedral and five Government bldgs.

Singbhum, *dist.* Chota Nagpur div., Bengal, India; area 3,375 sq. m., p. 560,000, increasing; admin. hdqrs. Chaitbassa.

Singora, or Sungkla (older Sangore), *port* on Malay Penin., settled at beginning of 19th cent. by Chinese from Amoy, who went under Siamese protectn.; p. 10,000, chiefly Siamese.

Sing Sing, former name of the prison *vil.* of Ossining, Westchester co., New York, U.S.A.

Sinope, Turkish *st.* in Kastamuni vilayet, Asia Minor, on Black Sea, p. 9,740.

Sion, *cap.* Valais cant. on R. Rhône, built on two castled hills; cathedr. The Sionne torrent roars past the picturesque l., p. 6,216.

Sioux City, on Missouri R., Woodbury co., Iowa, U.S.A., meat packing and various manufs., p. 47,808.

Sioux Falls, *t.* on Big Sioux R., Dakota, U.S.A., in rich wheat region, p. 10,418.

Siragani, *t.* on R. Jumna, Pabna dist., Bengal, gt. jute mfr., p. 20,555.

Sirdi Pul, *t.* nr. Balkh, Afghan, Turkestan, p. 15,118.

Sirmur or Sirmoor, nat. hill *st.* Punjab, India, W. of the Jumna, area 1,208 sq. m., betwn. Simla and Mussorie on the lower Himalayas, p. 140,000; chf. t. S. (or Nahani), 40 m. S. of Simla, palace of the Raja, p. 5,514.

Sirohi, *nat. st.* Rajputana Agency, India, area 1,966 sq. m., p. 154,000; cap. S. t. with sword manuf., p. 6,014.

Sirsa, *t.* Hissar dist., Punjab, India, hdqrs. t. of new absovd dist. Sirsa, active tr. centre for Rajputana, p. 17,114.

Sis (the anc. Siston), chf. t. Khozan Sanjak, vilayet Adana, Asiatic Turkey, on the Girgen bu, seat of an Armenian Catholicos, p. 11,408.

Sistova or Shistah, industr. *t.* on R. Danube, Bulgaria, nr. Shumtza, p. 11,894.

Sitapur, *div.* in N.W. Oudh, India, comprising Sitapur (area 9,951 sq. m.) Khoni and Hardoi dists., area 7,555 sq. m.; p. 2,000,000; cap. S. t. on R. Sarayan, has milt. cantonment, p. 25,172.

Sitka, formerly Novo Archangelak, *t.* of S.E. Alaska, on Baranof Isl., in Sitka Sound, chf. pt. Russ. America; gold mines and extinct volcano Mt. Edgecumbe near, p. 1,571.

Sittingbourne, mkt. *t.* on Milton Creek, nr. Canterbury, Kent, Eng., paper mills and brickwks., p. 8,382. [*S.* of Cairo, p. 36,110.]

Slut or Amout, t. on l. bank R. Nile, Egypt, 227 m. *Sivaganga, t.* in Madura dist., Madras, India, industr., p. 8,004.

Siva Rasi, t. in Tinnevely dist., Madras, India, p. 8,004.

Sivas, Turkish vilayet, Asia Minor, area 32,300 sq. m., rich in minerals, has minl. springs, with fertile grain-growing soil, fine orchards and vineyards, besides timber forests, p. over 2,000,000; cap. S., t. in the Kuzil Irmak valley, nr. Tokot, a very old pl. with anc. architect. remains and historic institns., once a Seljuk stronghold, sacked by Timur in 1400; in 1895; prea. p. 44,000, three-fourths Moslems.

Sivash or Putrid Sea, lagoon on E. side of Crimea.

Sivri-Hisar, t. in Angora vilayet, Asia Minor, nr. the site of the anc. Pessinus; tr. centre, with many Armenian residents, massacred in 1895; p. 11,474.

Skager Rack, arm of N. Sea, giving access to the Cattegat between Norway and Jutland, 70-90 m. wide.

Skaw, The, or Cape Skaw, at extreme N. of Denmark.

Skegness, wat. pl. on coast of Lincolnsh., Eng., p. 3,775. [*Eng.* p. 3,817.]

Skelmanthorpe, t. nr. Huddersfield, W.R. Yorks.

Skelmersdale, t. nr. Ormskirk, Lancs, Eng.; industr., p. 8,822. [*Yorks, Eng.* p. 10,495.]

Skelton-in-Clevedale, mkt. t. nr. Gulsborough, N.R.

Skilbreen, mkt. and spit, t. co. Cork, Irel., p. 3,612.

Sidclaw, mtn., Cumberland, Eng., E. of Bassenthwaite L., alt. 3,054 ft.

Skien, sp. on R. Skien, co. Bratsberg, Norway; saw- mills, ice, and timber trade; p. 12,860.

Skipton-in-Craven, t. on R. Aire, W.R. Yorks, Eng.; woollen factories; p. 12,981.

Skopin, t. in Ryazan govt., Russ.; corn, cattle, oil, and salt trade; flour mills; p. 16,088.

Skowhegan, t. on R. Kennebec, Maine, U.S.A.; manuf.; p. 4,814. [*suppl.*]

Skunk, R. Iowa, U.S.A. (775 m.), trib. of R. Missis- sippi, largest of the Inner Helvides, Inverness-sh., Scotl.; area 447 sq. m.; sheep-farming and fisheries; p. 14,750. Only town, Portree (p. 7).

Slagelse, old t. on isl. Zealand, Denmark; ruined monastery; Knights Hospitallers of Antvorkov; p. 9,014. [*Eng.* p. 5,571.]

Slathwaite, mkt. t. W.R. Yorks, nr. Huddersfield, Slatina, t. on R. Olit, Roumania, 87 m. W. Bucharest; anc. churches; p. 8,244. [*p.* 21,110.]

Slatoust, industr. t. in govt. Ufa, Astrakhan, Russ., bordering on the Bight of Benin; divided between Britain, France, and Germany. [mercantile] p. 18,106.

Slaviansk, t. on R. Toré, govt. Kharkov, Russ.; com. Slavonia, or Scлавonia, a crownland (with Croatia) of Hungary; area 8,987 sq. m., between the Military Frontier and the R. Drave; p. 1,250,000. Cap. Eszék (p. 7).

Sleaford, mkt. t. Lincolnsh., Eng., p. 6,428. [10,048]

Sleedrecht, t. on R. Meuse, S. Holland; industr.; p.

Sieve Bloom, hill range King's and Queen's co.s, Irel.; highest summit, 1,733 ft.

Sieve Donard, mtn. Irel., highest of the Mourne Mtns., co. Down, alt. 2,706 ft.

Silgo, coast co. Irel., Connaught prov.; area 737 sq. m., pasture, tillage, barren mtn. and turf; p. 78,850 (much declined). Co. t. S., on Sligo Bay; fisheries; p. 11,103.

Silven, or Silvano, t. nr. the "Iron Gate," mtn. defile, Eastern Roumelia, Bulgaria; famous for black wine; p. 25,000.

Siobodakot, t. on R. Vyatka, govt. V., Russ.; glue and match factories; p. 11,103.

Sioaim, industr. t. govt. Grovno, Russ., p. 22,608.

Slough, mkt. t. nr. Windsor, Bucks, Eng., nr. Burn- ham Beeches, and comprising pt. of par. of Stoke Poges (the village of Gray's famous "Elegy"), p. 14,985.

Sluis, or Sluys, vil. in Zealand, nr. Bruges; p. 1,812.

Smalensensk, prov., Norway, on Christiania Fjord, area 1,587 sq. m., p. 120,466; cap. Fredericksalid (p. 7).

Small Heath, industr. t. adjoining Birmingham, War- wickshire, Eng.; hardware manuf.; p. 13,110.

Smallthorne, t. nr. Burslem, Staffs, Eng.; pottery; p. 13,566. [*Staffs, Eng.* p. 70,081.]

Smethwick, mfg. t. Staffs, Eng., N.W. sub. of Bir- mingham, p. 13,566.

Smolchov, t. on R. Moldau, Bohemia, Austria; manuf. connected by bridge with Prague; p. 34,100.

Smithfield, t. nr. Sydney (N.S.W.), p. (dist.) 3,800.

Smith Sound, leads from Baffin Bay N. to Arctic O.

Smoky Hill, E. trib. (400 m.) Kansas R., Colorado and Kansas, U.S.A.

Smolenak, govt. W. Russia, lying E. of Moscow, area 21,638 sq. m.; forest, arable, and pasture; p. 1,950,000, mainly peasants; cap. S., c. on both banks of R. Dnieper; ry. and social centre, with some tr. and industries; p. 51,000.

Smyrna, c. at head of Gulf of S., Asia Minor, one of the princ. ports and tr. places of the Ottoman Empire; exports figs, mians, tobacco, carpets, rugs, etc. A very anc. and historic c., and the chief commercial centre of the Levant; p. 350,000 (one-half Greek).

Snæ Fell, highest mtn. in I. of Man, alt. 2,034 ft.

Snailth, mkt. t. W.R. Yorks, nr. Goole, on R. Aire, p. 4,579.

Snake R., or Lewis Fork, trib. of Columbia R., flows 1,050 m. from Wyoming to Washington, U.S.A.

Snehaestien, mtn., highest Dovrefjeld range, Norway, alt. 7,565 ft. [*tr.* p. 13,084.]

Sneek, t.riesland, Holland, nr. Leeuwarden; indus- tries, Siergeen, mtn. range Cape Colony, Brit. S. Afr., highest Compansberg, 8,500 ft.

Snatyn, t. on R. Pruth, Austrian Galicia; tanning, horse and cattle fairs; p. 12,006. [*Skyls, Scotl.*]

Snizort, Loch, arm of sea (14 m. long), coast of Isle of Snowdon, mtn. nr. Carnarvon, Wales (highest in Eng. and W.) alt. 3,571 ft.

Snowy R. (200 m.) N.S.W. and Victoria.

Sobraon, vil. on R. Sutlej, Lahore dist., Punjab, India; defeat of Sikhs, 1846, p. 4,246.

Socotra, t. Zala, arch. on S. Pacific, between the Low Arch and the Friendly Isls., under French protectn.; the chief are Tahiti (or Otaheite, p. 7), Raiatea, and Elmeo; total area 660 sq. m., p. 23,410.

Socorro, t. Boyaca st., Colombia, p. 16,100.

Socotra, Brit. isl. in Indian Oc., S. of Arabia, and E. of Cape Guardafui; area 1,382 sq. m., prod. aloes and dragon's blood, p. 4,800.

Söderhamn, sp. on Dalel, nr. the Gulf of Bothnia, Sweden; timber tr., p. 11,894.

Södermanland, prov., Sweden, E. of Svealand and S.W. of Stockholm; area 2,631 sq. m., p. 100,855.

Söderteige, t. co. Stockholm, Sweden; summer rest., mtn. springs and baths, p. 8,889.

Socrabaya, fortid. t. on N. cst. Java, opp. Madura isl.; naval arsenal, p. 130,000. [*p.* 140,000.]

Soerakarta, or Solo, t. in Java (nr. centre of isl.), Soest, t. nr. Dortmund, Westphalia, Pruss.; sugar factories, p. 17,445.

Sofala, dist., Mozambique, Portuguese E. Africa, N. of Inhambane; by some identified with the "Land of Ophir" of the Bible; it is a pestiferous region, and reaches along the cst. from Delagoa B. to the Zambezi; cap. S., at mth. of S. R., formerly a flourishing comm. place, prest. p. 1,620.

Sofia, fortid. t. on R. Isker, cap. Bulgaria, on a high plain 2,000 ft. above the sea, compassed by the Balkans; many industries, cathedral, morgue, university, royal museum; the anc. Sardica, and the Triaditza of the Byzantine Greeks, p. 75,000 (one-sixth Jews).

Soham, mkt. t. Cambridgesh., Eng., nr. Ely, p. 4,020.

Soligues, industr. t. on R. Seine, nr. Brussels, Belgium, p. 10,516.

Solismans, fortid. t. nr. Laon, dep. Aisne, France; cathedl., ruined abbey; old Frankish cap., often besieged; industr. and tr. in agr. produce, p. 13,425.

Sokat, t. on R. Bug, Austrian Galicia; silk manuf., p. 7,186.

Sokoto, native st. of centr. Soudan, between Bornu and Ganda; area 773,000 sq. m., p. (est.) 8,000,000; now included in Brit. protectorate of Northern Nigeria.

Sokotro, — (See Socotra).

Solent, The, channel separatg. N. cst. of Isle of Wight from the Hants mainland, Eng., from W. Cowes to the Needles.

Soleure, cant. N. Switzld.; area 305 sq. m., arable,

- pastoral, and afforested; p. 208,500; cap. S., t. on R. Aar, p. 8,500.
- Solferino**, *viz.* nr. Mantua, N. Italy, battle 1859.
- Solihull**, mkt. t. nr. Birmingham, Warwicksh., Eng., p. 3,404.
- Solingen**, t. nr. Cologne, Rhinish Pruss., duty centre (commune) 8,469.
- Solola**, t. on L. Atitlan Guatemala, anc. cap. of the Cakchiquel Indians; cloth and pottery manu.; p. 12,120.
- Solomon Isls.**, an archipelago in the W. Pacific, abt. 500 m. E. of New Guinea, p. 170,000. [p. 15,240.]
- Solor Isls.**, *grp.* of 4 isls. in Malay Arch., E. of Flores.
- Solway Firth**, *arm.* of Irish S. (40 m. long), betwn. Dumfriessh., Kirkcudbright, Scot., and Cumberland.
- Somaliand**, the Eastern Horn of Africa, between C. Guardafui and the Strait of Babel-Mandeb, S. to the Equator; Brit. Somaliand (or the Somali Coast Protectorate) stretches along the Gulf of Aden; area 68,000 sq. m.; cap. Berbera. The Italian Protectorate in Somaliand embraces about 70,000 sq. m. of territory (including Galaland) extending from the Juba R. northwd. to C. Guardafui along the coast, and bounded W. by Brit. E. Africa; French Somaliand, on the G. of Aden at the entrance to the Red S., is 40 m. long and about 125 m. wide.
- Somerset**, S.W. *co.* Eng., bounded inland by Gloucestersh., Devon, W. Wales, and Dorset; area 1,630 sq. m., pasture, arable, orchard, and woodland, with mines, quarries, and manu.; p. 458,074; imp. fisheries. Co. t. Bath (p. v.).
- Somerset, East**, t. Cape Col. Brit. S. Afr., 80 m. W. Graham's Town.
- Somersworth**, mkt. t. on Salmon Falls R., Strafford Co., New Hampshire, U.S.A., p. 7,246.
- Somerville**, c. on R. Mystic, subn. to Boston, Mass., U.S.A.; varied manu.; p. 77,545.
- Somme**, *est. dep.* N. France, area 1,423 sq. m.; mainly agr. with thriving textile industries; p. 238,000; cap. Amiens (p. v.). The R. Somme flows 130 m. in depts. Aisne and Somme to Eng. Channel. [of L. Wetter.]
- Sommen Lake**, of Sweden (25 m. by 8 m.). 15 m. E. Sommerfeld, t. Brandenburg, Pruss., on R. Lubis; cloth mkt.; p. 12,514.
- Son**, or **Sone**, R. cent. India, trib. (465 m.) of R. Ganges.
- Sonderburg**, *wdt. pl.* and *wdt. pl.* on est. Isl. Alsens, Schleswig-Holstein, Pruss.; castle (now mil. barracks); p. 5,848.
- Sondershausen** — (See Schwarzburg-Sondershausen.)
- Sondrio**, *prov.* Lombardy, Italy, on frontiers Tyrol and Switz.; area 1,259 sq. m., p. 126,540; cap. S., t. on R. Adda, amongst Southern Alps and nr. L. Como, silk industries, p. 9,011.
- Sonneberg**, t. in valley of Thuringian Forest, Saxo-Meiningen, Gerny.; famous for toy mfg.; p. 14,112.
- Sonora**, *st.* Mexico, on G. of California, area 76,922 sq. m., silver, cotton, fruit, and tobacco grow.; silver mining, p. 250,000. Cap. Hermosillo, p. 8,855; also S. vil. nr. Sacramento, California, U.S.A., in goldfield dist., p. 2,011.
- Sonpat**, t. nr. Delhi, Punjab, India, p. 13,884.
- Sonpur**, nat. st. Chhattisgarh div., Cent. Provs. India, area 606 sq. m., p. 170,215 (decreased by famine). Cap. S., t. on Mahanadi R., p. 6,420. [Parganas.]
- Sonthal Parganas**, The India. (See Santal Soochow, or Suchau, c. cap. prov. Kiangsu, China, treaty port, silk weaving industry, and silk fabric export, p. (estd.) 135,000.
- Southill**, industri. *township* adjoin. Dewbury, W.R. Yorks., Eng., p. 12,852. [Oedenburg.]
- Sopron**, *prov.* or Oedenburg, Hungary. (See Sorata, t. 27 m. W. La Paz, Bolivia, p. 16,210, nr. are 2 pks. of the Andes, also called S., alt. 25,286 ft. and 21,043 ft.)
- Sorau**, or **Zorow**, t. on R. Sorbach, Pruss., nr. the Silesian frontier, cloth and lining weav., p. 16,006.
- Sorel**, c. and *port* on R. St. Lawrence, Richelieu co., Quebec, Can., call port of Montreal and Q. river steamers, shipbldg., p. 7,122.
- Soria**, *prov.* of Old Castile, Spain, area 5,836 sq. m., p. (decling.) 149,000, agr. and cattle rearing, with cheese, timber, wool and salt export. Cap. S., t. on R. Douro, walls and old castle, p. 7,004.
- Soroki**, or **Soroka**, t. on R. Dniester, gov. Bessarabia, Russ., tr. in wine, corn, cattle, wool, and fruit, ruined Genoese castle, relic of former col. Othlonia, p. 16,000 (half Jews). [p. 13,072.]
- Soroti**, t. N.W. Provs., India, dist. Etah, *td. tr.*, p. Sorrento, *est. t.* nr. S. extrem. G. of Naples, Italy, fav. *wdt. pl.*, ancl. celebrated for its fine wines, p. (commune) 8,469.
- Sotteville**, *viz.* nr. Rouen, dep. Seine-Inférieure, France, cotton-spinning, and calico mfg., p. 20,228.
- Soudan**, or **Sudan**, extensive but ill-defined regn. Africa, reachg. from Senegambia and the Atlantic to Abyssinia and the Red S., and from Sahara and Nubia, N. to the Congo and Guinea S., densely populated, largely by negroes. The Egyptian Soudan stretches from the frontier of the Khedive's domain proper to L. Albert Nyanza N. and S., and from the Red S., and Abyssinia to Wadai E. and W.
- Sound**, The, *channel* betwn. the Cattegat and the Baltic, 3 m. across at narrowest pt. from Denmark to the Zealand *ist.*
- Soungaria**, *div.* Chinese Empire, on N.W. frontier, area 148,000 sq. m., p. (approx.) 600,000.
- South Africa** — (See Brit. S. Afr.)
- Southall**, mkt. t. Middlesex, Eng., 9½ m. W. London; industri. and residit., p. 26,327.
- Southam**, mkt. t. nr. Warwick, Eng., p. 1,811.
- South Amboy**, *spt. bor.* on Raritan Bay, New Jersey, U.S.A., asphalt works, p. 6,817.
- Southampton**, *city*, on Southampton Water, Hants, Eng., *stn.* for mail smrs., Indian and Col.; fine docks (inclg. largest dry dock in the world); p. (of partly bor.) 140,206.
- South Australia**, *st.* of the Australian Commonwealth; between West Australia and Queensland, New S. Wales and Victoria; 380,070 sq. m. mainly undulating or level; productive of great wheat crops, some gold, lead and copper; exports, corn, wool, and mutton; p. 408,558; cap. Adelaide.
- South Bend**, t. on St. Joseph R. Indiana, U.S.A.; agr. impl. manu. and wagon bldg.; p. 53,684.
- South Berwick**, t. York co., Maine, U.S.A., nr. Portland, p. 4,228.
- South Bethlehem**, t. on Lehigh R., Penn., U.S.A.; iron-works and ordnance factories; p. 14,728. Seat of Lehigh University. [p. 5,688.]
- South Blythe**, t. nr. Morpeth, Northumberland, Eng., Southborough, residit. t. nr. Tunbridge Wells, Kent, *fig.* p. 7,000.
- South Brabant**, *prov.* Belgium. (See Brabant.)
- Southbrige**, mkt. t. Worcester co., on border of Connecticut, Mass., U.S.A., p. 11,444.
- South Carolina**, U.S.A., one of the original *st.* of the Union, situate betwn. Georgia and N. Carolina on the Atlantic *est.* area 30,170 sq. m.; gt. cotton, rice, and tobacco output, p. 1,516,500; cap., Columbia; chf. pt. Charleston (p. v.). [for potatoes; p. 3,764.]
- South Ca. *e. par.* E.R. Yorks, Eng., nr. Hull; famous**
- South Chester**, *bor.* Penn., U.S.A., nr. Philadelphia; industri.; p. 7,614. [field; industri.; p. 3,124.]
- South Cressland**, t. in W.R. Yorks, Eng., nr. Hudders-
- South Dakota**, t. W. *st.* of the U.S.A., betwn. N. Dakota and Nebraska; area 77,850 sq. m., wheat growing; p. 584,560. Cap. Pierre.
- South Downs**, range chalk *hills* Sussex and Hants, Eng.; splendid pasturage.
- South Easton**, former *bor.* on Lehigh R., Penn., U.S.A., now incorporated with Easton (p. v.).
- Southend-on-Sea**, *wdt. pl.* Essex, Eng., N. side of Thames estuary, opp. Sheerness; very long pier; p. 62,723.
- Southern Alps**, centl. pt. dividing *range*, S. isl. New Zealand; highest pt. Mt. Cook (p. v.).
- Southern Ocean**, name at times applied to the ocean space between the Arctic Circle and the southern extremities of America, Africa, Australia, and New Zealand.
- South Framingham**, *viz.* Middlesex co. Mass., U.S.A., in Framingham t. (p. v.), p. 3,116.
- Southgate**, *par.* nr. Barnet, Middlesex, Eng.; residit., p. 33,613.
- South Georgia**, uninhabited Brit. isl. of S. Atlantic O. (attached to Falkland Isls. 300 m. away), area 1,570 sq. m. mountainous, peaks (5,000 to 8,000 ft.) snow-covered. [land, Eng.; p. 6,816.]
- South Gosforth**, t. subn. to Newcastle, Northumber-

- South Hackney, dist.** Middlesex co., Eng., N. London, p. 44, 118. [U.S.A.: p. 5,004.]
- South Hadley Falls, vil.** Connecticut R., Mass.,
- South Helton, dist. (colly.)** nr. Sunderland, Durham, Eng., p. 4, 125.
- South Holland, prov.** Netherlands on North Sea; area 1,162 sq. m., flat and intersected by streams and dykes; p. 98, 140; cap. The Hague.
- South Horsey, N. subn. dist.** London, Eng.; residit., p. 15, 883.
- Southington, t.** on Quinnipiac R., Hartford co., Connecticut, U.S.A.; cutlery and metal manuf., p. 6, 040.
- South Kensington, dist.** Middlesex co., in W. London; contains S. K. Museum, the Nat. Hist. collectn. of the Brit. Museum, the Imperial Institute, etc.; p. 10, 210.
- South Kingston, t.** Rhode Isl., U.S.A., p. 6, 547.
- South McAlester, c.** of the Choctaw Nation, Indian Terr., U.S.A.; in coal mine dist; p. 4, 816 (nearly all whites).
- South Maratha Jagira, grp.** of 10 nat. sts., Kolahpur Agency, Bombay, India; area 2,734 sq. m., p. 330,000. [p. 2, 742.]
- South Molton, bor.** nr. Barnstaple, Devon, Eng.
- South Norwalk, c.** at mth. of R. Norwalk, Fairfield co., Connecticut, U.S.A.; residentl., fine villas, p. 7, 020.
- South Omaha, c.** on R. Missouri, Douglas co., Nebraska, U.S.A.; gt. rly. and meat-packing centre, p. 32, 118.
- South Orange, t.** on R. Rahway, Essex co., New Jersey, U.S.A.; beautifully sit. at ft. of Orange mtn.; residit., p. 5, 008. [Eng., p. 2, 745.]
- Southwarran, industr. t.** adjng. Halifax, W. R. Yorks.
- Southport, bor.** and pop. cst. wat. pl. S.W. Lancash., Eng., on the Irish Sea, p. 51, 650; also wat. pl. nr. Brisbane, Queensland.
- South Portland, c.** on P. Harbr., Cumberland co., Maine, U.S.A., p. 6, 871.
- Southsea, dist.** S. of Portsmouth, Hants (v.), marine rest., p. 48, 415. [Horn.]
- South Shetland, arch.** in S. Atlantic, 600 m. S. Cape South Shields.—(See Shields.)
- South Stockton.**—(See Stockton.)
- Southwark, bor.** Surrey, Eng., S. of Thames opp. London City; wharves, warehouses, etc.; p. 19, 957.
- Southwell, mkt. t.** Notts, Eng., nr. Newark, Eng.; cathedral, lace and silk, p. 3, 311.
- South-West Africa, Germana,** comprises Damaraland and Namaqualand with est. line of 800 m., total area 322,450 sq. in., p. 300,000, mainly Bantu
- South-West Frontier Agency, India,** old name of Chota Nagpur sts., Bengal.
- Southwold, bor.** and wat. pl. nr. Lowestoft, Suffolk, Eng.; shrimp, sprat, and herring fishy., p. 2, 655.
- Sowerby, industr. t.** nr. Halifax, W. R. Yorks, Eng., on R. Calder, p. 3, 332; adjoins Sowerby Bridge, p. 11, 350.
- Soyland, t.** nr. Halifax, W. R. Yorks, Eng., p. 2, 995.
- Soyuz, R.** Russ., Chernigov gov., trib. (240 m.) of R. Dnieper.
- Spa, wat. pl.** nr. Liège, Belgium; picturesquely sit. amid wooded hills, res. p. 8, 346; has Casino, visited by 17,000 persons annually during the season.
- Spain, kingdom of** the Iberian Penin., S.W. Europe, area 106,171 sq. m., bordering on B. of Biscay, the Atlantic, and the Mediterranean; mountainous and well watered, with rich agr., grazing, and vineyd. dists., also, consid. min. wealth, manuf. and fisheries imp., commerce gt., p. about 20,000,000; cap. Madrid.
- Spalato, or Spalatro, c.** of Dalmatia, Austria, on the Adriatic; large shipping and genl. tr., p. 29, 115.
- Spalding, mkt. t.** on R. Welland, Lincolnsh., Eng., p. 10, 309.
- Spandau, t.** at conflu. R's Havel and Spree, Pruss.; gt. military centre, with school of musketry, and Red Tower containg. war chests, p. 70, 600.
- Spanish Town, Jamaica,** 10 m. W. of Kingston, on R. Cobre, p. 7, 125.
- Spawover, Point, t.** Maryland, U.S.A., on Patuxent R., picturesque valley of R. Shilka, Asiat Russ., p. 10, 000.
- Sparta, famous an. c.** of Laconia, in the Morea, Greece, on the R. Eurotas; flourished from the 9th cent. B.C. to 146 B.C., when it passed under Roman rule; also name of 25 places in the U.S.A., the most considerable being a c. of Wisconsin, on the La Crosse R., in Monroe co., p. 4, 816. [p. 5, 614.]
- Spartanburg, vil.** S. Carolina, U.S.A., cap. S. co., Sparte, Cape, N.W. extrem. Afr., at entree to Strait of Gibraltar, Morocco, [mune] 5,610.
- Spella, t.** nr. Foligno, Perugia prov., Italy, p. [com-Spencer, t. Worcester co., contl. Mass., U.S.A.; shoe-mkng., wire-drawg., p. 8, 118.]
- Spencer Gulf, bay of** S. Australia, 185 m. by 47 m.
- Spannymoor, mftg. t.** co. Durham, Eng., nr. Bishop Auckland, p. 17, 914.
- Spey, R.** Inverness, Elgin and Banff (the most rapid in Scotl.), flows 107 m. to Moray Firth.
- Speyer, or Spire, c.** cap. Rhenish Bavaria, on R. Rhine; fine cathedr.; its famous Diet of 1559 condemning the Reformation gave rise to the term "Protestant"; p. 18, 112.
- Spesia, cst.** t. Liguria, Italy, on B. of Spezia; arsenal, docks, and maritime industries; p. (commune) 66,500 [also spt. on same, p. 6, 510.]
- Spezzia, isl.** off S. cst. Argolis, Greece, 5 m. long; [Spice Isls.—(See Moluccas.)]
- Spilly, t.** nr. Boston, Lincolnsh., Eng., p. 1, 617.
- Spinazzola, t.** nr. Minervino, prov. Bari, Italy, p. 11, 500.
- Spitzfeld, fer.** of Tower Hamlets, E. London, Middlesex, Eng.; industr. (formerly a great silk-wvg. centre), p. 33, 498.
- Spithead, roadstead** Portsmouth Harbr., Hants, Eng.; also channel betwn. N.E. cst. Isc. of Wight and mainland
- Spitzbergen, isl.** grp. in Arctic Oc., betwn. Nova Zembla and Greenland; area alt. 28,000 sq. m., uninhabited, and claimed by Russia.
- Spitzen Pass, Rhaetian Alps,** betwn. Lombardy and the Grisons, Switzerl., alt. 6,539 ft.
- Spokane, t.** Idaho, U.S.A., flows (100 m.) to the Columbia at Washington; also t. on S. Washington at the fall; gt. timber tr., and many manuf.; destroyed by fire 1890, but quickly rebuilt; p. 105,000.
- Spoleto, t.** nr. Terni, Perugia, Italy; traffic industry, old citadel, p. 8, 124.
- Sporades, isl.** of the Grecian Arch., in the Aegean and neighbouring seas, belonging to Turkey and Greece, including Samos, Cos, etc.; see sep. entries.
- Spotsylvania Court House, c.** cap. S. co., Virginia, U.S.A.; scene of a great battle between Union and Confederate forces in American Civil War, 1864.
- Spree, R.** Saxony and Brandenburg, Pruss., flowing 227 m. past Berlin to the Havel at Spandau.
- Spreevald, marsh** of the middle Spree, Brandenburg prov., Pruss.; 27 m. long, 1 to 7 m. wide; p. 30,000, chiefly vegetable growing and pastoral peasantry.
- Spremburg, t.** on R. Spree, Brandenburg, Pruss., 78 m. from Berlin; cloth manuf., p. 11, 820.
- Springburn, a N.E. sub.** Glasgow, Scotl., p. 6, 998.
- Springfield, c.** on R. Connecticut, Hampden co., Mass., U.S.A., many manuf., p. 60,500; also c. on Saginaw R., Illinois, U.S.A., gt. ry. centre, p. 11, 678; also c. on R. Mad. Ohio, U.S.A., agr. mkt. manuf., p. 51,000; also c. of Greene co., Missouri, U.S.A., flour milling, has Congregational college; p. 35, 201.
- Springure, mining t.** in Drummond mtn. range, Queensland, p. 2, 816.
- Spring Valley, c.** in colliery region, Bureau co., Illinois, U.S.A., p. 7, 826.
- Springville, c.** Utah, U.S.A., nr. Provo City, p. 3, 120.
- Spurn Head, c.** N.E. Yorks, Eng., at mth. of Humber estuary.
- Srinagar, c.** on R. Jhelum, N. India; cap. of nat. st. Kashmir; lies in the W. Himalayas, 5,263 ft. above sea-level; manuf. carpets, papier-maché, silver and copper ware. The famous shawl-weaving industry is practically extinct. (great commerc. centre; p. (c. and immediate subv.) 122,000.)
- Srirangam, t.** in Trichinopoly, Madras, India; noted temple of Vishnu; p. 21, 800. [18,684.]
- Srivillipattur, t.** in Tinnevely dist., Madras, India, p. 14, 885.
- Sryetensk, Cossack t.** Transbaik., on railway in picturesque valley of R. Shilka, Asiat Russ., p. 10, 000.
- Stade, t.** nr. Hamburg, Hanover, formerly, fortified, p. 10, 512.

- Staffa**, *ist.* of the Inner Hebrides, 6 m. N. Iona, off W. cast. Mull, Scotl.; Fingal's Cave, 227 ft. long, with other basaltic caves.
- Stafford**, W. Midland co. Eng., area 1,771 sq. m.; rich in iron and coal, the "Black Country" being famous; has also large Potteries dist. and many thriving manufs.; with extensive brewery concerns; p. 1,399,718; co. t. Stafford on R. Sow, iron and salt wks.; p. 23,987; also S., Connecticut, U.S.A., 25 m. N.E. Hartford, p. 5,282. [p. 4,756.]
- Staines**, mkt. t. on R. Thames, co. Middlesex, Eng.
- Stainland**, industr. t. nr. Halifax, W.R. Yorks, Eng., p. 4,449.
- Stalybridge**, t. in Cheshire, Eng., nr. Manchester; cotton-spinng., weavng., and ironwks.; p. 26,514.
- Stamboul**, Turkish name for Constantinople (p. 2).
- Stamford**, mkt. t. on R. Welland, on border Lincolnsh. and Northants, Eng., p. 9,646; also c. Fairfield co., Connecticut, U.S.A., on shore of Long Island Sound, p. 25,738. [Astypalaia; belongs to Turkey.]
- Stampalia**, *ist.* Greek Arch., 30 sq. m. area; the anc. Standerton, t. on Vaal R., Transvaal Col., Brit. S. Africa, p. 4,814. [Eng.; industr. p. 7,280.]
- Standish-with-Langtree**, t. nr. Wigan, Lancash.
- Stanhope**, mkt. t. Durham, Eng., on R. Wear, p. 2,011.
- Stanisla**, t. on the Dérin Déré R., Philippopolis dep., Bulgaria; wine tr., p. 11,210.
- Stanislaw**, t. on R. Bistritz, Austrian Galicia; tanning, dyeing, etc.; p. 32,446. [San Joaquin R.]
- Stanislaus**, R. California, U.S.A., trib. (200 m.) of the Stanislaus, adjoing. Wakefield, W.R. Yorks; large industr. centre, p. 13,586; also smt. spt., cap. Falkland Is.
- Stanley Falls**, on the Upper Congo R., Africa, nr. the Equator, named after the explorer, the late Sir H. M. Stanley; also Stanley Pool, an expansion of the Lower Congo, 25 m. long, 16 m. wide.
- Stanthorpe**, t. in tin-mine dist., Queensland, 184 m. S.W. Brisbane, p. (dist.) 3,260.
- Stapleford**, mkt. t. on R. Erewash, Notts, Eng., p. 3,384.
- Stapleton**, former *vill.* on E. cst. Staten Isl., New York, U.S.A., now incorporated in Richmond, one of the bors. of New York City.
- Stargard**, t. (with old gates) Pomerania prov., Pruss., nr. Stettin, p. 28,240; ironfoundng., sugar refinng., etc., large tr.
- Starocherkasskaya**, Cossack t. on R. Don, nr. Novoherkassk, Russ.; cattle fairs, p. 11,560.
- Staroi Oskol**, t. on R. Oskol, Kursk govt., Russ.; tr. centre in prairie regn., p. 12,180.
- Start Point**, C. nr. Dartmouth, Devon, Eng.
- Stassfurt**, industr. t. nr. Magdeburg, Pruss., p. 16,144.
- Staten Isl.**, the most S. point New York st., U.S.A., 14 m. long; constitutes Richmond co., 5 m. S.W. of N.Y. city; also isl. of Tierra del Fuego, 45 m. long.
- States of the Church**, Italian *territoires* ruled over by the Pope, in his secular capacity prior to 1860, now absorbed by Bologna, Rome, and other provinces.
- Statesville**, c. N. Carolina, U.S.A., in Fredell co., p. 4,814. [falls 980 ft.]
- Staubach**, in cant. Bern, Switzld., nr. Lauterbrunnen.
- Staxton**, t. in upper Shenandoah valley, Virginia, U.S.A., p. 7,353.
- Stavanger**, *vill.* on the Bukkefjord, Christiansand, Norway; margarine and preserved food factories, woollen mills, fish curing and tanning, shipbldg., etc.; p. 31,240. [p. 9,146.]
- Staveley**, industr. t. nr. Chesterfield, Derbysh., Eng.
- Stavropol**, govt. of Russn Caucasus, area 23,398 sq. m., agr. and stock-keeping, p. nearly 1,000,000; cap. S. t. 760 m. N.W. of Tiflis, large trade, p. 46,410.
- Stawell**, t. co. Borung, Victoria, in the gold-mine dist., p. 5,340.
- Steele**, t. in Renish Pruss., nr. Disseldorf, p. 8,540.
- Streitlon**, *bor.* on Suqquelanna R., nr. Harrisburg, Penn., U.S.A.; steel foundries, p. 14,115.
- Stellaland**, *vill.* in Crown Col., Buchananaland, Brit. S. Afr., area 5,000 sq. m.; cap. Uijrburg, [p. 5,210.]
- Stellenbosch**, t. 25 m. E. of Cape Town, Brit. S. Afr.
- Stelvio Pass**, Tyrolean Alps, on rd. to Innsbruck from Milan alt. 9,047 ft.
- Stendal**, t. nr. Magdeburg, Prussn. Saxony; cathed., rly. wks., p. 18,263.
- Stepney**, industr. *par.* Tower Hamlets, E. London, Eng., p. 280,024.
- Steppes**, Governor-Generalship of the, *gov. of* Russn. Centl. Asia, comprising the Kirghiz Step. and regn. round Omsk, formerly included in Siberia, area 755,793 sq. m., p. 3,500,000; cap. Omsk (p. 2).
- Stirling**, c. on Loch R., co. Whitesides, Illinois, Sterilitas, t. on R. Eyelaga govt. Usa, Russ.; large cattle tr., p. 16,500, mostly Tartars.
- Sternberg**, t. nr. Brunn, Moravia, Austria; textile manuf., p. 15,216.
- Stettin**, *vill.* at mouth of R. Oder on the lagoon Stettiner Haff, cap. Prussn. prov. Pomerania; mpt. manufs. and large trade; old castles and fine churches; formerly belonged to Sweden; shipbuilding and iron industries very extensive; de p. water port at Swine-münde (p. 2). Hiders. and German Army Corps; p. (with subs.) 250,000.
- Steuenville**, c. on Ohio R., Jefferson co., Ohio, U.S.A.; mfg., centre in coal and natural gas region; p. 22,391.
- Stevenson**, mkt. t. nr. Hithum, Herts, Eng., p. 4,866.
- Stevens Point**, c. on R. Wisconsin, Portage co., Wisconsin, U.S.A.; timber tr., saw mills, etc.; p. 20,246.
- Stevenson**, t. in colliery dist. nr. coast, Ayrsh., Scotl., 20 m. S.W. of Glasgow, p. 8,295.
- Steyer**, *vill.* t. on R. Enns, Upper Austria, nr. Linz; bicycle and small arms factories; p. 18,110.
- Steysdorp**, t. in Transvaal Col., Brit. S. Africa; cap. Komatie goldfield.
- Stillwater**, t. on St. Croix R., Washington co., Minnesota, U.S.A.; large timber and river trade; p. 12,500.
- Stilton**, *vill.* in Huntingdonsh., Eng., 6 m. S.W. Peterborough; famous for cheese. [Balantrae.]
- Stincham**, R. Ayrsh., Scotl., flows 30 m. to sea at Stirling, mulland, Scotl., bordering on F. of Forth; area 456 sq. m., p. 161,003; coal-mining and agr., with textile manufs.; cap. Stirling, anc. burgh, overlooking the Forth; p. 21,200. Near is the Abbey Craig, with the Wallace monument, and the famous "hinks of Forth" towards Alloa, also the picturesque Bridge of Allan.
- Stockbridge**, mkt. t. on R. Test, Hants, Eng., p. 8,757; also t. and summer resort on the Housatonic R., in Berk. co., Mass., U.S.A., p. 13,464.
- Stockeran**, t. on arm of the Danube, Kornenburg dist., Lower Austria; large iron mkt. and timber trade, with felt factories; p. 11,825.
- Stockholm**, c. on isl., at the outlet of L. Mælær, Sweden; cap. of S., and called the "Queen of the Baltic" for the beauty of its surroundings. Royal palace, Houses of Parliament, national museum, old Franciscan church with tombs of kings and great men of Sweden, Commercial and industr. centre, with many acad. institutions; p. 350,000.
- Stockport**, mfg. t. on R. Mersey, Chesh. and Lancs., Eng., p. 118,693. [Eng.; p. 7,090.]
- Stock-bridge**, industr. t. nr. Sheffield, W.R. Yorks.
- Stockton**, industr. t. in San Joaquin co., California, U.S.A., p. 21,253.
- Stockton-on-Tees**, spt. and mkt. t., Durham, Eng.; grt. iron bridge connects the town with Thornaby and South Stockton across the R. (included in the parly. bor.) p. 22,158. Imp. iron and steel industries and large shipping trade.
- Stoke-upon-Trent**, county *bor.* (including Hanley, Stoke-upon-Trent, Fenton, Longton, and Stoke Rural), Staffordsh., Eng.; art. clina and pottery; p. 234,553.
- Stoke Newington**, dist. of Hackney bor., N.E. London, p. 50,083. [Eng.; p. 1,946.]
- Stokeley**, mkt. t. 9 m. S.E. Stockton, N.R. Yorks.
- Stolberg**, t. nr. Aachen, Rhenish Pruss.; an old Huguenot t. with flourishing iron, brass, and glass manufs.; p. 13,120. [p. 5,690.]
- Stone**, mkt. t. Staffs, Eng., on R. Trent, nr. Stoke.
- Stoneham**, t. in Middlesex co., Mass., U.S.A.; boot and shoe factories; p. 6,252. [St. o. l., p. 4,866.]
- Stonehaven**, *vill.*, *vill.*, and fishing t. Kincardinesh.
- Stonehenge**, prehistoric group of monumental stones on Salisbury Plain, Wilt., Eng.
- Stonehouse**, t. within the limit of Devonport, Eng., and forming with Plymouth "the Three Towns", separate p. of Stonehouse 16,120.

Stonington, *t.* of New London co., Connecticut, U.S.A., on Long Isl. Sound; manuf., p. 9,112.

Stonyhurst, Roman Catholic college and estab. nr. Clitheroe, N.E. Lancash., Eng.

Stony Point, *t.* on a rocky promontory, of R. Hudson, Rockland co., New York, U.S.A.; prominent in the Revolutionary war, p. 4,150. [Eng., p. 2,004.]

Stony Stratford, mkt. *t.* on R. Ouse, nr. Buckingham, Stomoway, *sp.* on Isle of Lewis, Ross-sh., Scotl.; herring fishy, and steamer stn., p. 3,806. [p. 5,216.]

Stoughton, industri. *t.* nr. Boston, Mass., U.S.A.

Stour, R. Suffolk and Essex, Eng., flows 42 m. to sea at Harwich; also R. of Somerset, Dorset, and Hants; trib. (55 m.) of R. Avon; also R. of Kent, flows 40 m. past Canterbury to Pegwell Bay; also R. of Worcestersh. and Staffs. trib. (20 m.) of R. Severn.

Stourbridge, *t.* on R. Stour, Worcestersh., Eng.; glass and fire-brick manuf., p. 17,316.

Stourport, mkt. *t.* Worcestersh., Eng., at conflu. of R.'s Stour and Severn, p. 4,432.

Stowmarket, *t.* on R. Gipping, Suffolk, Eng.; gun-cotton factory, corn tr., p. 4,230.

Stow-on-the-Wold, mkt. *t.* on the Fosse Way, Gloucestersh., Eng., p. 1,301. [by 6 m.]

Stradbroke, Isl., E. of Moreton B., Queensland, 33 m.

Strait Settlements, *city*, on and about Strait of Malacca; distinct from the Federated Malay States Protectorate; consists of Singapore, Penang, Province Wellesley, Dindings, and Malacca; total area 1,600 sq. m., p. 714,000; cap. Singapore (q.v.).

Strakonitz, *t.* nr. Klattau, Bohemia; textile industries (especially manuf. of red Turkish fez), p. 5,614.

Stralsund, *t.* *sp.* of Pomerania, Pruss., on the Strelasund strait separating Rügen Isl. from mainland; has gd. grain tr. and various manufs., p. 32,500; also govt. dist. W. Pomerania; area 1,548 sq. m., p. 220,228.

Strangford Loch, sea arm, co. Down, Ireland, 18 m. long, 6 m. at entrance.

Stranraer, *burgh*, Loch Ryan, co. Wigtownsh., Scotl.; crockeries and unimp. factories, p. 6,432.

Strassburg, fort *c.* Alsace-Lorraine, Germ., on R. Ill; captured from French 1870; fine cathedral, university, garrison of 15,000 men, imperial palace, many handsome new public bldgs., extensive tr., exports hops, sausages, famous pils., beer, etc., 182,140.

Stratford, *dist.* of E. London, Eng., in bor. of West Ham, Essex co., industri., p. 50,738; also *c.* on Avon R., Perth co., Ontario, Can., p. 15,084; also *c.* on Housatonic R., Fairfield co., Connecticut, U.S.A., p. 5,082.

Stratford-on-Avon, *t.* in Warwicksh., Eng.; birthplace of Shakespeare, memorial theatre, library, etc., p. 8,532.

Strathalbyn, *t.* nr. Adelaide, S. Australia, p. 1,012.

Strathaven, *t.* nr. Hamilton, Lanarksh., Scotl., p. 3,915.

Strathbungo, S. suburb *dist.* Glasgow, Scotl., p. 5,240.

Strathfieldsaye, *par.* co.'s Berks. and Hants, Eng., contains seat of the Duke of Wellington, presented by the nation to the great duke for services in the Peninsular War; also name of a township in Victoria, on Emu creek, 108 m. N.W. Melbourne.

Strathmore, *gd. valley* of Scotl., stretching from Dumbartonsh. to sea at Stonehaven, Kincardinesh.

Strathpeffer, *wat. pl.* (miln. springs) in Highland valley Ross and Cromarty, nr. Dingwall.

Strathspey, *valley* of the Spey, N. Scotl., 70 m. long.

Strasbourg, *t.* nr. Ratisbon and the Danube, Bavaria; industri., p. 18,084.

Stratham, *resid.* *par.* in bor. of Wandsworth, Surrey, S.W. London, Eng., p. 24,612.

Streator, *c.* on Vermillion R., LaSalle co., Illinois, U.S.A.; in coal and brick-clay regn., p. 16,050.

Street, *t.* nr. Glastonbury, Somerset, Eng.; p. 4,235.

Strehlen, industri. *t.* on R. Ollau, Prussn. Silesia; p. 9,124. [See also New Strelitz.]

Strelitz, Gross, *t.* nr. Oppeln, Prussn. Silesia; p. 4,200.

Stretford, industri. *t.* S.E. Lancash., Eng., sub. to Manchester on S.W.; p. 43,496. [13,016.]

Striegau, mltg. *t.* nr. Breslau, Prussn. Silesia; p. 3,806.

Stromboli, one of Lipari Isls., off N. coast Sicily; p. 1,800; noted for active volcano, alt. 2,098 ft.

Stromness, mkt. *t.* and *port* of Mainland, Orkney Isls., 13 m. W. Kirkwall; p. 1,666.

Strömö, *chf. isl.* of Faroe grp. (q.v.).

Stroud, mkt. *t.* nr. Gloucester, Eng., on R. Frome; umbrella and walking-stick manuf., p. 8,772.

Sty, *R.* of Galicia, Austria, trib. (110 m.) of R. Danube; also fort. *t.* on same nr. Lemberg; tanning and match-making; p. 26,271. [12,591.]

Studley, *par.* on R. Arrow, Warwicksh., Eng.; p. 3,824.

Stuhlweissenburg, *t.* nr. Pesth, Hungary; manuf.; p. 31,824. Has cathd., former pl. of coronatn. of Kings of Hungary. [also *c.* on same; p. 3,264.]

Sturgeon Bay, *town* of Green Bay, Wisconsin, U.S.A.

Sturminster Newton, mkt. *t.* on R. Stour, N. Dorset, Eng.; p. 1,874.

Stuttgart, *c.* nr. bank of R. Neckar, cap. of Württemberg, beautifully situated amid vine-clad hills; royal palaces and library, art museum, etc., lit. and educatnl. centre; piano and furniture making, cotton weaving, publishg., and paper industries; p. 285,240. [Minsk trib. (250 m.) of R. Tripet.]

Styr, *R.* Galicia, and the Russn. provs Volhynia and Styria, *crownland* of Cisleithan div., Austria-Hungary; area 8,670 sq. m.; mts. but well-cultivated, produc. corn, wine, and fruit; stock-rearing, poultry and bee-keeping industries; also various manufs.; p. 1,590,540. Cap. Graz. [Haue Taurn.]

Stryan Alps, *part* of the mtn. system E. of the Suan, *sp.* of Nubia, on Red Sea; Egypt; occupied by Brit. troops during Mahdist revolt in 1884 and later; grt. tr. in cotton, gum, senna, etc.; also *port* of embarkatn. for Meislen pilgrims to Jeddah, en route for Mecca; p. 12,340.

Su-Chow-Fu, *t.* on Lake of Imperial canal, prov. Kiang-Su, China; gt. commercia. and industri. centre; same as Soochow (q.v.).

Suczawa, *t.* in Buckovina, Austria, on the Roumanian frontier; former res. of Moldavian princes; fancy leather industries; p. 11,215. [p. 7,121.]

Sudan.—See Soudan.

Sudbury, *par.* on R. Stour, Suffolk and Essex, Eng.; Sudetic Mtns. *range* separatg. Bohemia and Moravia from Silesia; highest peak, Altvater, 4,880 ft.

Sudja, *dist.* *t.* govt. Kursk, Russ.; potteries and tanneries; p. 13,465.

Sueca, *t.* on R. Yucar, prov. Valencia, Spain; gd. tr. in fruit and agr. produce; p. 11,462.

Suez, *sp.* of Egypt, at hd. of G. of Suez (arm of Red S.) and S. entice, of Suez Canal, which crosses the Isthmus of S. to the Mediterranean at Port Said (59 m. long); the anc. Arsinoë; Suez has appropriate quays and harbours, and a p. of 20,545.

Sufeld Koh, *mt.* range Afghanistan, S. of the Kabul vall. and the Hindu Kush, highest summit, 14,200 ft.

Suffolk, most E. maritime co. Eng., bounded by Essex, Norfolk, Cambridge, and the N. Sea, area 1,475 sq. m., agr., fisheries and manuf., p. 394,080; co. *t.* Ipswich (q.v.).

Sugar Notch, *bor.* Penn., U.S.A., *t.* on Susquehanna R., nr. Wilkes Barre, Luzerne co., p. 4,140.

Suhl, *t.* nr. Erfurt, Prussn. Saxony, industri., p. 12,108.

Sulaiman, *prov.* Chitral, walled and armed with steel ordinance, mil. *t.* with arsenal and res. of governor-genl., p. 30,816.

Sulr, *R.* Munster prov., Ireland, flows 85 m. to the Barrow, Waterford Harb. [Bavonah, p. 11,246.]

Suk-el-Shuyukh, *t.* on R. Euphrates, Turkey, W. of Sukhum-Kale, *pl.* on E. coast Black S., Kutais prov., Caucasus, Russ., formerly the seat of anc. Dioskuria, and of a later Turkish fortress, gal. tr. in maize, p. 4,460. [India, opp. Rohri, gd. local tr., p. 32,584.]

Sukkur, *t.* on R. Indus, Shikarpur dist., Sind, Bombay.

Sulaiman Mtns., *range* boundg. the Punjab and Afghanistan, highest peak, Takht-i-Sulaiman, 11,205 ft.

Suleimaniéh, *t.* in Mosul vilayet, Asiatic Turkey, nr. Persian frontier, sometimes called the cap. of S. Kurdistan, active tr., p. 11,460.

Sulina, *t.* in Roumania, at mth. of Sulina branch of R. Danube, consid. grain tr., p. 5,812. [p. 4,268.]

Sulphur Springs, *t.* Texas, U.S.A. In Hopkins co., Sultampur, *dist.* Fyzabad, Oudh, Brit. India, area 7,710 sq. m., p. 1,101,450; cap. S., on R. Gumti, 80 m. S.E. of Lucknow, formerly a mil. cantonmt., p. 6,424.

Sulu, or Sooloo Isls., *arch.* betw. Borneo and the Philippine Isls., grp. long notorious as a haunt of

Malay pirates, total area 950 sq. m., p. 75,000; acquired by the United States, 1898.

Sumatra, *isl.* of the Malay arch., sep. from Java by Strait of Sunda, under Dutch influence, area 167,612 sq. m., p. 2,000,000; coffee, sugar, rice, pepper, mtnous., with minil. wealth (gold and tin).

Sumbawa, one of the Little Sunda *isls.* in the E. India arch., E. of Lombok, area (with neighbouring *isls.*) 5,240 sq. m., mtnous. (with volcano Tombora), belongs to Dutch confederated sts. in the "Government of Celebes and its dependencies," p. 150,000.

Sumburgh Head, S. extrem. Shetland.

Summerside, *cap.* Prince Co., Prince Edward Isl., on Bedeque Bay, p. 3,011.

Summerville, *t.* South Carolina, U.S.A., in Berkeley co., nr. Charleston, p. 5,420.

Summit, *c.* Union co., New Jersey, U.S.A., p. 5,785.

Sumter, *c.* S. Carolina, U.S.A., *cap.* S. co., tr. centre for agr. regn., p. 6,895. (Ukraine, p. 28,106.)

Sunzy, *t.* in Kharkov gov't, Russ., tr. centre for the Sunart, Loch, sea *arm.* (194 m. long), N. of Mull, on Argyll cst., W. Scotl.

Sunbury, *mkt.* t. Middlesex, Eng., on R. Thames, p. 4,607; also bor. Penn., U.S.A., on Susquehanna R., riv. wkshps., p. 10,240. (p. 5,284.)

Suncok, *t.* New Hampshire, U.S.A., on R. Merrimack.

Sunda, *isls.* Malay arch. comprise Java, Sumatra, and the other *isls.* of the same chain as far as Timor.

Sunda Strait, betw. Java and Sumatra, 13 m. wide, contains the volcanic *isl.* of Krakatau (*q.v.*).

Sundarbans, The tract of forest and swamp fringing the Gangetic delta, Brit. India, 105 m. long, 81 m. wide, reachg. from the mth. of the R. Hooghly to that of the R. Meghna. The jungle abounds with tigers and other wild beasts. Yields fine timber, clay, the hard sundi wood.

Sunday (or Raoul) Isl. one of the Kermadec (*q.v.*) grp. in Pacific, N. of New Zealand, annexed by Brit. 1885. (Into Alcoa B. N. of Port Elizabeth.)

Sunday R. Cape Col., Brit. S. Africa, flows 300 m.)

Sunderland, *tp.* at mouth of R. Wear, co. Durham, Eng., *ft.* shipbldg. and coal export centre, p. of par. (Includg. Monkwearmouth) and parts of Bishopwearmouth 151,162. Fine harbour, piers and docks.

Sunderland, North, *fishg.* *vil.* nr. Belford, North-umberland, Eng.

Sundevall, *tp.* Västernorrland co., Sweden, on a wide bay of the Baltic nr. Hemsöand, timber and wood-pulp industries, p. 15,084.

Sungari, *r.* Manchuria, trib. (Includg. the Nonni, over 1,000 m. long) of R. Amur.

Sungei-Ujong, nat. st. Malay Penin., attached (since 1876) to the Brit. protectorate of the Straits Settlements, p. 31,120. (8,450.)

Sungora, *t.* on G. of Siam, Lower Siam, nr. Ligor, p. 10,000.

Sunningdale and Sunninghill, *vills.* of Berks, Eng., nr. Staines and the R. Thames, resident.

Sunray Corner, mining *t.* N.S.W., 124 m. W. Sydney, p. (dist.) 2,425. (1,400 ft.)

Suntel, *grp.* of *mtns.* in Gerny., S.W. of Hanover, alt. 5,000 ft., mtd. sea Japan (length 240 m.) separatg. Hondo *isl.* from Kiu-Siu and Shikoku.

Superior, *c.* Douglas co., Wisconsin, U.S.A., at head of L. Superior, *gt.* tr. in grain, timber and coal, p. 40,500.

Superior, L. largest sheet of fresh water in the world, lying betw. Brit. N. America and the U.S.A., one of the chin. of great lakes in the St. Lawrence system, area 50,000 sq. m., outlet to L. Huron by the St. Mary's R., receives the waters of the St. Louis, Pigeon and Nipigon. (1400 m.) of R. Volga.

Sura, *r.* of Russ., govys. Simbirsk and Penza, trib.

Surat, *dist.* Gujarat div., Bombay, India, area 1,662 sq. m., p. 636,000. *Cap.* Surat c. on R. Tapi, cotton manuf., silk brocade and embdy., p. (with mil. cantonment) 120,000. Many wealthy Parsee merchants. The Surat Agency consists of 3 native sts., Dharampur, Sachin, and Baroda, area 1,051 sq. m., p. (decreasg.) 161,000. (Kingston, p. 17,713.)

Surbiton, *t.* (resid.) Surrey, Eng., on R. Thames, nr.

Surinam, *r.* Dutch Guiana, flows 300 m. to sea nr. Paramaribo. The Dutch col. of Surinam, of which Paramaribo is *cap.*, has an area of 46,060 sq. m., and produces cocoa and sugar; p. 86,000.

Surrey, S. co. of Eng. below the R. Thames, and comprisg. in its N. part the London bors. Wandsworth, Battersea, Clapham, Lambeth, Newington, Southwark, and Camberwell, besides the bors. of Croydon, Reigate, Kingston-on-Thames, and Guildford (the co. *l.*), area 758 sq. m., p. (of the adms. co. and co. boroughs in 1911) 675,985; of regn. div., 919,977.

Suruga, *cst.* t. Japan, 60 m. S.W. Tokio; large tr. and impt. industries; p. 35,000.

Sus, *prov.* S. Morocco, formerly an indep. country; very mtnous.; also R. of the prov. flowing (130 m.) W. to the Atlantic nr. Agadir (once the Portuguese Santa Cruz).

Susa, *tp.* Tunis on G. of Hanama; p. 8,240; also t. in Piedmont, Italy, on the Dora Riparia, nr. the French frontier; *clif.* t. of the Cottian Alps; cathed.; p. (commune) 4,418; also ruined c. on R. Kerkia, Persia; the Shushan of Scripture.

Suspension Bridge (or Niagara City), port of entry, New York, U.S.A., former t. 2 m. below the fall, and now included in township Niagara Falls.

Susquehanna R., New York, Pennsylvania and Maryland, U.S.A., flows 422 m. past Harrisburg to Chesapeake B. at Havre de Gras; also bor., Penn., on S. K., p. 4,810.

Sussex, *ant.* *co.* S. E. Eng., ading. Surrey, Kent, and Hants, and washed by Eng. Chan.; trav. E. to W. by the S. Downs; area, 1,458 sq. m., p. (1901 census, of the anc. co.) 663,416; agr., hops, fruit, with coast industries, and manuf.; co. t. Chichester (*q.v.*).

Sutera, *t.* nr. Caltonetta, Sicily, p. 4,810.

Sutherland, N. co. Scotland, N.W. Moray Firth, washed by Atlantic and N. Sea; area 2,102 sq. m., grazing and forest land, most sparsely pop. in Scotl.; p. 20,180; mtnous. with many lochs; co. t. Bormoch.

Sutlej, *r.* of the Punjab, India, rises in the Himalayas nr. Manasarovar L., Tibet, at an alt. of 15,000 ft. and flows S.W. (abt. 1,000 m.) to the Indus.

Sutna, *t.* (with Brit. mil. cantonment), in nat. st. Rewa, India, 10 m. from Allahabad, p. 5,515.

Sutton, *par.* and *vil.* nr. Croydon, Surrey, Eng.; industry and residential; p. 21,275. (p. 2,156.)

Sutton Bridge, *t.* on K. Nen, Lincs, Eng., nr. Wisbech, p. 2,170.

Sutton-Coldfield, *mkt.* and industry t. Warwickshire, Eng., nr. Birmingham, p. 20,132. (Eng., p. 21,707.)

Sutton-in-Ashfield, *mktg.* *t.* nr. Mansfield, Nottingham, p. 2,170.

Suwałki, *govt.* Russ. Poland, on Prussia border; area 4,846 sq. m., agr. and industry; p. 750,000, mainly peasantry; *Cap.* S., t. 75 m. N.W. Grodno, p. 28,500; trade in timber, cloth and manuf. 120 m. to G. of Mexico.

Suwannee R., Florida and Georgia, U.S.A., flows

Suzdal, *t.* in govt. Vladimir, Russ., on Kamenka R., seat of an old principality united with Moscow in 14th century, p. 7,124. (10,025.)

Suzzara, *t.* nr. Mantua, Lombardy, Italy, p. (com.) 10,025.

Svart Elf, *r.* Sweden, flows 100 m. to L. Sküzera.

Sven, *mkt.* *lev.* Sweden, region of lakes and *isls.*; area 2,380 sq. m., p. over 1,500,000. Embraces co. Stockholm, Upsala, Södermanland, Vermland, Örebro, Kopparberg, and Östmanland. (See sep. entries.)

Sveaborg, fort. t. Finland, in Helsingfors harb.

Svendborg, *tp.* S. ext. Funen, Denmark; manuf., earthenware and tobacco, exports, butter, etc., p. 13,056. (Industry, p. 12,655.)

Svenigorodka, *t.* nr. Borsguislar, Kiev govt., Russ.;

Sviatol, *c.* *hid.* on Arctic est., Russ., nr. entce. White S. (L. Onega and L. Ladaga).

Svir, *r.* Olonets govt., Russ. (125 m.) flowing between Swabia, former duchy of Gerny, on the Rhine, now absorbed by Baden, Bavaria, and Württemberg. Swabian Alps, mtns. of Württemberg, includg. the Swabian Jura, range betw. valleys of Neckar and Danube.

Swabia and Neuburg, governmentl. dist. Bavaria, N. of the Tyrol and Lake Constance, area 3,788 sq. m., p. 675,000; *cap.* Augsburg. (on Trent, p. 28,656.)

Swadincote, industrial t. Derbyshire, Eng., nr. Burton.

Swaffham, *mkt.* t. Norfolk, Eng., nr. King's Lynn, p. 2,274.

Swale, *r.* N. R. Yorks, Eng., trib. (60 m.) of R. Ure; also name of chan. betw. Isle of Sheppey and Kentish mainld., Eng., 16 m. long.

Swampscott, *est.* vil. nr. Boston, Mass., U.S.A., p. 4,841.

Swan, *R.*, W. Australia, flows to Indn. Oc. nr. Perth. Swanne, *mkt.* *t.* and *wat.* *pl.* on Isle of Purbeck, Dorset, Eng., stone quarries, p. 4,689.

Swansea, *spt.* on Swansea B., Glamorgansh., Wales; princ. st. of Brit. copper tr. and tin-plate manuf.; also many other industries connected with coal, iron, etc.; large export: p. S. bor., 65,000; S. co. bor., 714,673; S. dist. of parly. boros. (which includes Neath, Aberavon, Loughor, Kungif, and part of Swansea), 68,315. [U.S.A., p. 3,968.]

Swanton, industr. t. nr. L. Champlain, Vermont. Swat, *region* of Centl. Asia, W. of the Upper Indus, N.E. of Peshawur, on the N.W. frontier of India, peopled by the Yuzufzai race, hardy and daring mountaineers of Afghan descent.

Swatow, treaty *port*, Kwantung prov., China, on R. Han, great inland and export tr.; exports, sugar and tea; p. 30,000.

Swaziland, *intns. co.* Brit. S. Africa, on S.E. of Transvaal Colony, between Drakensberg and Lohombo ranges; area about 3,000 sq. m., p. (est.) 80,000. Passed over Brit. rule in 1900.

Sweden, country of N. Europe forming E. (and larger) part Scandinav. Pennins.; area 172,875 sq. m., p. 5,200,000. Mtns. low, but otherwise flat and cut up by R.'s and many L.'s, while one-fourth of the land is forest. Great timber export, mineral and mfg. industries, active agr. and dairying. Cap. Stockholm.

Swedesborough, t. on the Raccoon R., Salem co., N. Jersey, U.S.A., p. 3,944.

Sweetwater R., Wyoming, U.S.A., flows 175 m. E. to the N. Fork of the Platte R.

Swiellendam, *div.* Cape Colony, Brit. S. Africa, on coast; area 2,954 sq. m., p. 14,000. Cap. S., t. on Breede R. (one of the oldest Dutch settlements in S.A.), 140 m. E. of Cape Town, p. 3,500.

Swilly, Lough, arm of the Atlantic (25 m. long) coast of Donegal, Ireland.

Swindon, *mkt.* t. Wilts, Eng., nr. Marlborough; gtr. rly. wks. p. 50,771.

Swineford, t. on R. Moye, co. Mayo, Ireland, p. 1,650.

Swinemunde, fort. *spt.* Pomerania, Pruss., on Isl. of Usedom, on the Baltic; the output of Stettin (*q.v.*); shipping industries and large tr.; p. 11,246.

Swineshead, t. nr. Boston, Lincolnsh., Eng., p. 1,646.

Swinton, industr. t. nr. Manchester, Lancs, Eng., p. 30,759; also colliery t. nr. Sheffield, W.R. Yorks, Eng., p. 13,668.

Switzerland, *Repub.* Centl. Europe, area 15,090 sq. m., mainly mtnous, forest-clad, with glaciers and snowy summits. Many Ls., largest Geneva (*q.v.*), p. 3,750,000. Industries, pastoral and mfg. (embroidery, clock and watch making, silk spinning). Cap. Bern (*q.v.*). [13,214]

Syambazar, t. in Hooghly dist., Bengal, India, p. 4,162.

Sydney, t. Illinois, U.S.A., in Dekalb co., p. 4,162.

Sydenham, S.E. subn. *dist.* London, Eng., in Lewisham bor. (resid. *dist.* Crystal Palace), p. 8,140; also bor. New Zealand, adjoining Christchurch, p. 11,840.

Sydney, *c.* cap. N.S.W., princip., *spt.* Australia, on shore of Port Jackson B.; many beautiful bldgs. and parks, stretching S. to Botany B. Has university and large commercial and active industries; p. (with subs.) over 725,400. [Scotia, p. 10,608; iron and steel works.]

Sydney, *c.* Sydney, *spt.* Cape Breton Isl., Nova Scotia, p. 4,176.

Sylhet, *dist.* Surma Valley div., Assam, India; area 5,414 sq. m.; tea-gardens in the southern hills; p. (increasing), 2,250,000; cap. S., t. on R. Surma; nat. manuf., ivory and shell-carving; p. 14,000.

Symi, sm. Turkish *est.* nr. Rhodes, off W. cst. Asia Minor, the anc. Syme.

Syra, *isl.* of the Cyclades, in the Aegean S. (Greek), 11 m. long; rocky; p. 17,950. Cap. S. (or Hermoupolis), port of call for vessels plying betw. the Black S. and Constantinople.

Syracuse, *prov.* S.E. Sicily; area 1,445 sq. m.; p. 400,000; cap. S., t. on is. of Ortigia, off E. cst.; cathed.; exports olive oil, oranges, lemons, locust beans, almonds, wine, etc.; p. 34,116; also c. on

Onondaga Lake, O. co., New York, U.S.A.; p. 138,500.

Syr Darya, or Sir Daria, *govt.* Russ. Turkestan; in valley of S. D. or Jaxartes R. (*q.v.*); area 165,996 sq. m., p. 1,300,000. Cap. Tashkent.

Syria, *empire* Asiatic Turkey, stretching along E. shore of the Mediterranean and E. to the R. Euphrates. The prov., officially, excludes Palestine and Lebanon; area 146,000 sq. m.; p. 2,000,000. Cap. Damascus; *spt.* Beyrout.

Syston, *par.* nr. Leicester, Eng., p. 2,854. [p. 32,116.]

Syzran, t. in Simbirsk *govt.*, Russ.; leather manuf.; Szabadka, free town of Hungary, 106 m. from Budapest; p. 92,000. [industr. t. p. 24,154.]

Szaryas, t. on the Körös, Hungary, nr. Söngrad; Szathmar-Nemeth, t. (mfg.) on R. Szamos, nr. Debrecz, Hungary; p. 34,804.

Szawil, t. in Kowno *govt.*, Russ.; distilleries and tobacco factories; p. 22,118.

Szechuen.—(See Sechuen.)

Szegedin, t. on R. Theiss, Hungary, 700 m. S.E. of Budapest; great commercial and industr. centre, with many fine bldgs. and import educational intstitus.; p. 118,320.

Szeleschervar, old t. co. Fejér, Hungary; horse-breeding and trade; p. 36,525.

Szekevrd, t. nr. R. Danube, co. Polna, Hungary; silk, fruits, and famous red wine; p. 14,000.

Szerencs, *mkt.* t. Zemplén co., Hungary, nr. the Tokaj hills; large sugar refinery; p. 5,594.

Sziget, *cap.* co. Mátyás, Hungary, on R. Iza; in salt-mining dist.; p. 21,376. [p. 28,778.]

Szolnok, t. on R. Theiss, nr. Pesth, Hungary; manuf.; Szombathely, t. in Vasvár co., Hungary, nr. Pressburg; railway and industr. centre; p. 30,947.

Sztanicsics, mfg. t. nr. Zombor, Hungary, p. 8,492.

T

Taal, t. in Luzon, Philippine Isls.; beautifully situated in fertile ag. dist.; devastated by fire 1600; p. 33,500.

Taastrup, or Thorsenge, *ist.* Denmark, S. of Finen, 9 m. long, p. 4,685. [Tiberias, p. 5,200.]

Tabariyeh, t. on L. Tiberias, Palestine, the anc. Tabasco, maritime st. Mexico, on G. of M., adjoining Guatemala, area 10,075 sq. m.; cacao, sugar-cane, tobacco, rubber, pepper, maize, and hard-woods; p. 190,000. Cap. San Juan Bautista.

Table Bay, *mkt.* of Atlantic, cst. of Cape Col., Brit. S. Africa; on it is Cape Town.

Table Mountain, Cape Col., Brit. S. Africa, nr. Cape Town, alt. 3,600 ft.

Tabor, t. on hill betw. Jordantech L. and R. Luschnitz, Bohemia, Austria; on site of anc. Hussite fort of Kotnow; mineral baths, sugar and cloth factories, corn tr.; p. 11,724.

Tabor, Mt. (Jebel-el-tur), Palestine, S. E. of Nazareth; reputed scene of Christ's Transfiguration; alt. about 1,800 ft.

Tabriz, *cap.* *prov.* Azerbaijan, Persia; gtr. commercial centre, formerly chief emporium for the trade of Persia in the west, much of which is now diverted by the railway through the Caucasus; citadel and "Blue Mosque"; noted for orchards and gardens; p. 400,000. [San Cristoval.]

Tachira, st. on W. frontier Venezuela, p. 78,000; cap. Tacna, t. in Chili, dep. Tacna and Arica; industr.; p. 28,500.

Tacoma, *spt.* on Puget Sound, Pierce co., Washington, U.S.A.; called the "City of Destiny," large timber and grain tr.; p. 84,000.

Taconic, or Taghkanic Mts., range in Vermont and Mass., U.S.A., highest peaks, 3,872 ft. [16,500.]

Tacunga, t. in the Andes, Ecuador, nr. Quito, p. 16,500.

Tadcaster, *mkt.* t. on R. Wharfe, W.R. Yorks., p. 6,831. [Adeu, N. Africa, p. 5,120.]

Tadjura, or Tayura, French t. and port on Gulf of Tadjourah.—(See Palmyra.) [15 m. long.]

Tafel, or Tave, R. Penmurock and Carmarthen, Wales.

Tafalla, t. on R. Cidacos, prov. Navarre, Spain; old towered walls and citadel, wine, olive, wheat, dist.; p. 5,844. [past Merthyr Tydfil to Cardiff.]

Taff, R., Glamorgan and Brecon, Wales, flows (40 m.)

- Tahiti**, prov. Morocco, an oasis of the Sahara, E. of Atlas, chf. t. Abouani. [Russ., p. 65,000.
- Taganrog**, *spt.* on Sea of Azov, Yekaterinograd gov't.
- Tagavoto**, *spt.* Morocco, prov. Sisa, p. 18,500.
- Tagbilaran**, t. on Bohol Isl. in Philippine grp., p. 9,845.
- Taguayabon**, t. prov. Santa Clara, Cuba, p. 15,463.
- Tagus**, R. of Spain and Portugal, flows 540 m. to Atlantic at Lisbon. (Society Isl.)
- Tahiti**, princ. isl. of Society grp. (See Otahelita and Taimyr Penins., N. est. Siberia, terminates with Cape Chelyuskin.
- Tain**, *spt.* on Dornoch Firth, Ross and Cromarty, Scot.; one of the Wick Faily. burghs; p. 1,500.
- Tai-wan**, treaty port, cap. Formosa, on S.W. cst.; large tr.; p. 70,000.
- Tai-yuan**, t. on Fuen-ho R., China; cap. Shan-Si prov.; indu-trl and comm.; p. 250,000.
- Takaka**, t. in New Zealand, 68 m. from Nelson, p. 1,860.
- Takamatsu**, t. in prov. Sanuki, Japan; jst. commerce; p. 42,850.
- Takao**, open port, Formosa, S.W. of isl., p. 12,140.
- Takata**, t. in Echigo prov., Japan, p. 28,426.
- Takhtapul**, fort. t. Afghanistan, E. of Balkh, p. 7,840.
- Takt-i-Sulaiman**, highest pt. Sulaiman Mnts. (p.v.).
- Taku**, forts at mth. of R. Pichu, China, guarding entrance to Tientsin and Pekin; captured by Allies in 1900.
- Talavera**, c. on R. Tagus, nr. Toledo, Spain; fine streets and squares; fertile wine-growing dist.; Wellington's vict., 1809; 10,600. (bourn. dist.; p. 3,465.
- Talbot**, t. on Back Creek, Victoria, 121 m. N.W. Melbourne, t. in prov. T., Chile; impt. tr. centre; p. 43,625.
- Talienwan**, open B. on E. side of Liaotung Pen., Manchuria; leased to Russ. (with Port Arthur) prior to the war with Japan, 1904, in the naval acts. of which it figured prominently. [Staffs, Eng., p. 5,416.
- Talke**, or **Talko**, t. in the Hill, industr. t. nr. Newcastle.
- Tallalega**, c. Alabama, U.S.A.; in gold-mining dist.; college for coloured students; p. 6,000.
- Tallahassee**, c. Florida, U.S.A., cap. Leon co., p. 3,268.
- Tallahatchee**, R. Mississippi, U.S.A., flows (240 m.) S. to R. Yalabusha (150 m.) R. Coosa.
- Tallapoosa**, R. Georgia and Alabama, U.S.A., trib. Tamahebe, vil. nr. Suakin, Sudan; battle between Mahdists and British, 1884. (and coal tr.; p. 7,300.
- Tamaqua**, bor. Schuylkill co., Penn., U.S.A.; mining.
- Tamar**, R. Devon and Cornwall, Eng., flows 45 m. to Plymouth.
- Tamatave**, chf. *spt.* Madagascar, on E. cst., p. 8,246.
- Tamaulipas**, Mexican st. on G. of Mexico, S. of Texas; area 32,585 sq. m.; gt. min. and agr. wealth; p. 275,500; cap. Ciudad Victoria.
- Tambov**, *govt.* Centr. Russ., S.E. of Tula and Ryazan, area 25,710 sq. m.; agr. and stock-raising; p. 3,000,000; cap. T., t. on Tsna R.; gt. grain tr. and cattle mart; p. 50,000.
- Tamiae**, t. on R. Scheldt, Belgium, nr. Ghent; lace-making, cotton and woollen manuf.; p. 12,510.
- Tamnerioris**, t. in Finland, on rapids between Lakes Pyhä-järvi and Näsä-järvi; many textile factories and paper mills; p. 32,180.
- Tampa Bay**, W. coast Florida, U.S.A. (40 m. long); also t. on same, popular winter rest., with cigar factories; p. 37,782. [st to G. of Mexico.
- Tampico**, R. Mexico (800 m.) flows through Vera Cruz.
- Tamsui**, fort. treaty pt. N.W. Isl. of Formosa; p. 95,000. Bombarded by the French in 1884.
- Tarnworth**, bor. Warwick and Staffs, Eng., on R. Tame; anc. castle; p. 7,738; also t. on Pecl R., New S.W.; p. 6,215.
- Tana Elf**, R. of Norway (180 m.), most N.R. of Europe, flows to Tana Fiord, an inlet of Arctic Oc., 40 m. long.
- Tanaro**, R. N. Italy, trib. (125 m.) of R. Po.
- Tanawan**, t. on Luzon Isl., Philippine grp.; p. 14,244; also nm. t. on Leyte Isl., same grp.; 10,014; both industr. [p. 17,056.
- Tanda**, t. nr. Gogra R., Faizabad div., Oudh, India.
- Tanderagee**, mkt. t. nr. Newry, co. Antrim, Ireland; p. 1,614.
- Tanaka-shima**, isl. S. of Kiu-shu, Japan (94 m. long).
- Tanganyika**, gt. lake, E. Centr. Afr., 400 m. long, grest. width 45 m.; area abt. 12,700 sq. m.; 2,800 ft. above sea; discovd. by Burton and Speke in 1868, and since explored by Livingstone, Stanley, and others.
- Tangermunde**, t. on the Elbe, Pruss. Saxony, nr. Mühlberg; castle former res. Margraves of Brandenburg; sugar manuf., brewg., corn tr.; p. 14,000.
- Tangier**, *spt.* Morocco, on Strait of Gibraltar; ceded to Eng. in 1662 when Catherine of Braganza married Charles II., but abandoned to the Moors 23 yrs. later; sm. tr.; p. 45,000 (one-half Jews and Europeans).
- Tanjore**, *dist.* in S. Karnatic, Madras, India; a Maharrata st. wh. cause under Brit. rule at beginning 19th cent.; area 3,700 sq. m.; grows rice; p. 2,400,000. Cap. T., c. on R. Cauvery, unimpt. Brahman centre, with gt. Dravidian pagoda and Bull shrine; p. 58,500.
- Tantah**, t. on Nile delta, Lower Egypt, nr. Cairo; noted for fairs and Moslem religious festivals, attended sometimes by 200,000 pilgrims and traders; res. p. 35,000. Has mosque and Khedival palace.
- Tantalam**, isl. in Gulf of Siam, on E. cst. Malay Penins.; 40 m. long.
- Tanunda**, t. in S. Australia, in wine dist.; p. 2,160.
- Tappan**, B. an expans. of Hudson R., N. of New York, 12 m. long.
- Tapti**, R. westn. India; flows 450 m. to Gulf of Cambay at Surat from Betul dist., Centr. Provs.
- Tatari**, R. Brazil, Matto-Grosso prov., trib. (400 m.) of R. Paraguay.
- Tara**, R. Siberia, trib. (200 m.) of R. Irtysh; also t. in Tobolsk gov't, Russia, on R. Irtysh; p. 8,816.
- Taradale**, t. Victoria, nr. Melbourne, p. (dist.) 5,949.
- Tara Hill**, nr. Navan, co. Meath, Ireland, alt. 507 ft., famous for mass meetings from anc. times.
- Tarai**, *dist.* Kumaun div., N.W. Provs., India (now combined with Naini Tal), area 903 sq. m., mainly marshy jungle, p. 210,000, chf. t. Kasipur.
- Tararak**, *prov.* New Zealand, in N. Isl., area 3,183 sq. m., p. 17,024, cap. New Plymouth.
- Tarancon**, t. Cuenca prov., Spain, in wine and wheat growing plain watered by R. Rianzares; ducal palace, p. 5,450.
- Taranto**, t. in prov. Terra d'Otranto, Italy, on G. or T., an inlet of the Ionian S.; maritime arsenal, with gt. comm. and industr. interests, strong castle, famous for its oyster fisheries, p. 58,246.
- Tarapaca**, *prov.* N. Chile (formerly a part of Peru), area 19,300 sq. m., rich in nitrates, p. 101,460, cap. Iquique.
- Tarascon**, t. in Bouches-du-Rhône prov., France, connected by bridges with Beaucaire, on opp. bank of R. Rhône; old castle, famous festival, p. 10,024.
- Tarastcha**, t. in govt. Kiev, Russ., flour mills, p. 12,286.
- Tarazona**, t. in vine-clad mtnous dist. Saragossa prov., Spain, on R. Quenles, Gothic cathedr. ch., p. 8,900.
- Tarbert**, *spt.* vil. on Loch T. (Loch Fyne), cst. of Argyll, Scot., p. 1,840; also use of sea lochs (E. and W.) on the Kintyre Penins. and (also E. and W.) on coast of Harris Isl. in the Outer Hebrides.
- Tarbes**, t. on R. Adour, France, cap. of Hautes-Pyrénées prov., cathedr., paper and flax factories, p. 26,810. [industr., p. 5,812.
- Tarentum**, bor. on Allegheny R., Penn., U.S.A.; Targul Ocna, t. on Trotus R. nr. Jassy, Moldavia, Roumanian, salt mines, worked by convicts, p. (with penit. establ.) 8,900. [p. 11,860.
- Tarifa**, t. on Gibraltar st., prov. Cadiz, Spain, fish tr.
- Tarifa**, t. nr. Contra, Bolivia, gd. tr., p. 28,456, Franciscan convent. [S., p. 11,212.
- Tarkhu**, t. Darghestan prov., Russia, nr. the Caspian
- Tarn**, R. France; trib. (235 m.) of R. Garonne; has famous rocky gorge (31 m. long) in its upper course; also name of a prov. of N. France, watered by Tarn and its tributaries, area 9,232 sq. m.; wheat and wine, p. (declining) 395,000, cap. Albi, glass maky centre.
- Tarn-et-Garonne**, *dep.* of W. France, area 1,440 sq. m., corn, wine, and manufs., p. (declining) 194,000, cap. Montauban.
- Tarnopol**, t. in Lemberg, Austrian Galicia; milling, honey and wax trade; p. 31,468.

Tarnow, *t.* on R. Biala, Galicia, Austria; mfgt. centre (with garrison) in agr. dist.; p. 32,209.

Tarom, *dist.* Persia, N.W. of Kazvin, on borders of Gilan; cotton, olive groves, fruit, extensive alluvial

Tarporley, mkt. *t.* Chesl., Eng., p. 2,561. (Times)

Tarragona, coast *prov.* Spain, on the Mediterranean, area 1,457 sq. m.; vineyards and agr.; p. 340,000.

Tar, *fortid.* *spt.* at mth. of Francon R.; manuf., alcohol, liqueurs, chocolate, etc.; p. 25,000. The Roman Tarraco; sacked by Goths and Saracens; captured by British, 1705, and by the French in 1811.

Tarrasa, *t.* in Barcelona prov., Spain, in fruit and wine-growing dist.; royal college, thriving industries; p. 16,120.

Tarrowinees, *t.* on Owens R., Victoria, p. (dist.) 2,114.

Tarrytown, *viz.* Westchester co., New York, U.S.A., on Paypan Sea (Hudson R.); burial place of Washington Irving; p. 5,000.

Tarsus, anc. *c.* of Asia Minor, nr. Adana, surrounded by orange and citron groves; ruined Roman temple; p. 25,000. Birthplace of the Apostle Paul.

Tartary, or **Tatary**, *region* of Central Asia, now divided into Chinese or (E.) Turkistan and W. Turkistan, or Turkistan proper. In a more extended sense Tartary comprises Manchuria, Mongolia, Soungaria, the whole of Turkistan, and Russian

Tartary, *Central Asia*, with parts of Europe, s. of the Dnieper and Don, at different times dominated by the warlike Tartar tribes of the Middle Ages and their descendants of mixed race.

Tartary, *Gulf* of, arm of the Sea of Japan, separating Saghalien from the Siberian mainland.

Tashkent, *cap.* of the Russian genl.-governorship of Central Asia, on R. Syr Darya; has extensive silk manuf. and great commerce; p. 160,000 (of the Russian quarter, with military, 17,500).

Tasman, (or **Bell**) Bay, on N. coast S. Island, New Zealand, (towards an Diemen's Land), Brit. Isl.

Tasmania, *island*, a State of the Commonwealth of Australia; separated by Bass Strait; area 26,385 sq. m.; agr. and mining; exports corn, wool, gold, tin, etc.; p. 120,898; cap. Hobart.

Tata, *t.* Hungary, 57 m. W. of Budapest, nr. a romantic lake on shore of which stands the old castle of the Counts Esterházy, with a beautiful park; p. 7,350.

Tatar Bazarjick, on the Upper Maritza, E. Roumelia, Bulgaria; large trade in rice and silk cocoons; p. 17,400.

Tat-Sin-Lu, *fortid.* *t.* prov. Se-Chuen, China; large

Tatraf, *red.* *t.* in the Tatra Mts. (highest Carpathian group), Hungary, amidst wild scenery; pop. summer resort; res. p. 2,416.

Tauber, R. Württemberg, trib. (74 m.) of R. Main; the Taubergrund valley is famous for its wines.

Tauing-ngu, *dist.* Tenasserim div., Lower Burma, p. 130,000; cap. T., on Sittoung R., p. 17,526.

Taunton, *t.* on R. Tone, Somerset, Eng., cap. of co.; old castle, p. 22,553; also *c.* Bristol co., Mass., U.S.A.; cotton mfg., iron foundries, p. 34,564.

Tauisus, *mt.* *range* in Hesse-Nassau and Hesse-Darmstadt, Germ., between the R. Lahn and the K.'s Rhine and Main; highest pk. Grosser Feldberg, 2,890 ft.; well wooded and picturesque, with rich viney. dfts. on the lower slopes of the Rheingau, and many minl. springs (at Wiesbaden, Homburg, Ems, &c.).

Tauo, *t.* (22 m. by 13 m.) in N. Isl., New Zealand.

Tauranga, *t.* on Bay of Plenty, co. Auckland, New Zealand; in hot L.'s dist., p. 3,015 (include many Maoris). [penins.]; area 24,540 sq. m.

Taurida, or **Krim**, *govt.* S. Russ. (includg. the Crimean Taurus.—See **Tauria**).

Taus, *t.* on borders of the Bohemian Forest, chf. *t.* of a govt. dist., Bohemia; ribbons and hosiery manuf., p. 7,500. [240,000; cap. T., nr. Abo, p. 4,018.

Tavastehus, *govt.* Finland: area 8,333 sq. m., p. 17,500.

Tavistock, mkt. *t.* in valley of R. Tavy, nr. Plymouth; tr. in arsenic extracted from copper ore, p. 4,320.

Tavy, *dist.* in Tenasserim div., Lower Burma, between Siam and the Bay of Bengal; rice, p. 111,564; cap. T., on T. R., p. 12,262.

Tavrov, *t.* in Voronezh govt., Russ., on R. Don, p. 11,480.

Tary, R. of Devon, Eng., trib. (30 m.) of R. Tamar.

Taw, R. Devon, Eng., flows (50 m.) from Dartmoor to Bideford B.

Tay, R. Scott., flows 120 m. from Loch Tay (144 m. long) in Perthshire, to the Firth of T., which extends along the est. of Perthshire, and Fife past Dundee; the Tay Bridge crosses the Firth above Dundee, and is over 2 m. long.

Tayabasa, *t.* in Luzon, Philippine Is., on slope of extinct volcano Bandajio; convent, in rice and coconut growg. dist., p. 15,000.

Taylor, *c.* Williamson co., Texas, U.S.A., in cotton regn., p. 4,818. (U.S.A.), cap. of Christian co., p. 4,500.

Taylorville, *t.* on South Fork of Sagamon R., Illinois, p. 11,480.

Tayport, *t.* at mth. of Firth of T., Fifeshire, Scotl., opp. Broughty Ferry, p. 3,273. [rice dist., p. 19,850.

Tayang, *t.* in Pangasinan prov., Luzon, Philippine Is.; Taz, R. Siberia (300 m.), flows to Bay of Tasovsk in Gulf of Obi.

Tchad, Lake.—(See **Chad**).

Tchadyr-Dagh, *mt.* in the Crimea, nr. Simferopol, alt. 5,131 ft. [p. 20,118.

Tchenstokov, *t.* on R. Warthe, govt. Piotrkow, Russ., [Tchernigov.—(See **Chernigov**).

Tchistopol, *t.* on R. Kama, govt. Kazan, Russ., p. 19,864. [and carpet factories, p. 11,810.

Tchouria, *t.* in Rodosto viayet, European Turkey, cloth Tchorouff, *t.* on the North. Donets, Kharkoff govt., mil. estab., p. 12,417.

Teano, *t.* nr. Capua, prov. Caserta, Italy, cathd., 18,515.

Teatree Gully (or **Steventon**), *viz.* nr. Adelaide, S. Australia, p. 1,816. [11,214.

Tebbes, *t.* prov. Kuchistan, Persia; gd. local tr., p. 15,110. [U.S.A., p. 3,146.

Tecumseh, *t.* on Raisin R., Lenawee co., Michigan, p. 19,864. [and carpet factories, p. 11,810.

Teddington, *t.* on R. Thames, Middlesex, Eng.; subn. to London; p. (resid.) 17,840. [p. 14,500.

Tefsa, *t.* nr. Terodant, prov. Sus, Morocco; gd. tr., p. 15,110. [U.S.A., p. 3,146.

Tees, R. of N. Eng. flows (70 m.) E. to N. Sea, between Yorks and Durham.

Teffe, R. Brazil, trib. (500 m.) of R. Amazon.

Tefsa, *t.* on N. slope of Atlas Mts., Morocco, p. 11,213.

Tegucigalpa, *t.* on Choluteca R., Honduras, Eng.; subn. to the Republic; alt. 3,200 ft. above sea; united by bridge to Concepcion on opp. bank of R.; university; p. 34,224. [120 m. to 40 m. wide.

Tehama, *mt.* E. of Red S., W. Aralua, 550 m. long, Teheran (or Tehran), fertile prov. Persia; cap. Teheran

Tehran, *cap.* of the Empire; became the res. of the Shah at end of 18th cent.; stands 70 m. due S. of the Caspian, at alt. 3,447 ft.; area, within the bastions 74 sq. m.; p. (includg. the mil. garrison of 6,000, and the sub. of Shah-Abdul-Azim) 200,000; silk, tapestry, and cotton factories; has twelve gates, closed at night.

Tehr, *nat.* *st.* Bundeskhand Agency, Centl. India; area 2,000 sq. m.; p. 520,560; cap. T., t., p. 19,015.

Tehuacan, *t.* in Pueblo st., Mexico, p. 10,426.

Tehuacan, *st.* of separates the G. of Mexico from the Pacific st. narrows; p. 130 m. of Mexico; also *t.* on the T. R., nr. the Pacific st. of the isthmus; once an Indian cap.; p. 14,642.

Teign, R. Devon, Eng., flows (30 m.) to sea at Teignmouth from Dartmoor. (Eng.; yacht bldg.; p. 9,221.

Teignmouth, *spt.* and mkt. *t.* nr. Exeter, Devon, p. 11,480.

Teith, *sm.* R. Perthshire, Scotl., joins R. Forth, nr. Stirling. [p. 19,850.

Tekutahin, *t.* Moldavia, Roumania; gd. local tr.; p. 11,480.

Tel-el-Kebir, *viz.* Lower Egypt, 80 m. from Ismailia; here Wolsey defeated Arabi Pasha in 1882.

Tell, *c.* Indiana, U.S.A., on Ohio R., Perry co., p. 5,240. The cultivated land of Algeria lying along the Mediterranean coast is called "The Tell."

Tellcherry, *t.* and *spt.* Malabar dist., Madras, Brit. India, former French Settlement of Mahe and Cannanore; old fort; exports coffee, spices, sandalwood, and cocoa-nuts; p. 28,520.

Temasaltepec, *t.* in Mexico, 68 m. S.W. of the c. of Mexico; gd. tr.; p. 11,480.

Teme, *R.* on border of Wales and Worcestersh., Eng., trib. (70 m.) of *R. Severn*.

Temesin, mkt. *t.* nr. Buda, Hungary, p. 8,328.

Temeses, *R.* Hungary, flowg. (180 m.) to *R. Danube*, nr. Belgrade.

Temesvár, *t.* in Hungary, the most imp. commerc. and industri. centre of S. Hungary; fortress, castle, Roman Cath. cathedr. ; p. 58,225.

Temisicamague, Lake, Can., extensn. of the Upper Ottawa R., betwn. provs. Quebec and Ontario, 20 m. long. [Madawaska R.]

Temisicouata, Lake, Quebec, Can., 22 m. long. outlet Temnikov, *t.* in Tambov govt., Russ.; industri.; p. 15,288.

Temora, ming. and agr. township N.S.W., nr. Coota.

Tempe, romantic vale betwn. Mts. Olympus and Ossa, Thessaly, Greece, 6 m. long. [11,422.]

Templo, *t.* nr. Ozieri, Sardinia, Italy; corks, etc.; p. Temple, riv. *t.* in cotton-growg. dist., Bell co., Texas, U.S.A.; p. 8,650. [5,856.]

Templemore, mkt. *t.* on *R. Suir*, Tipperary, Ireland, p. To Muka, *t.* nr. Christchurch, N. Zealand, p. 3,120.

Temnyruk, *t.* on S. of Azov, N. Caucasus, Russ.; once a Turkish fortress; grain export centre; p. 15,027.

Tenasserim, div. Lower Burma, on Siamese border; area 36,086 sq. m., extendg. along cst. B. of Bengal; p. 1,150,000; admin. hdqrs. Moulmein. T. t. is on cst. of T. div., at mth. of *R. T.* (250 m. long).

Tenbury, mkt. *t.* ou *R. Teme*, Worcestersh., Eng.; p. 4,302. [Marthon B. p. 4,727.]

Tenby, cst. wat. pl. Pembrokeh., Wales, on Car.

Tenedos, isl. off W. cst. Asia Minor, 7 m. long; a Turkish possn. in the *Ægean S.*; noted in the legends of Trojan times; p. 8,000.

Teneriffe, largest of the Canary Is.; area 782 sq. m.; p. 108,000. Cap. Santa Cruz de Santiago; contains famous extinct volcano peak of T., alt. 12,182 ft.; exports wine, fruit, etc.

Tenger-Nor, *t.* Tibet, 224 m. N.W. Lhasa, 80 m. Teng-Chow, *st.* Shang Tung prov., China; p. (est.) 800,000; also c. Fo-Kien prov., China, nr. Amoy; p. 82,420.

Tenkasi, *t.* Tinnevely dist., Madras, India; p. 12,242.

Tennessee, S. centrl. st. U.S.A., betwn. Mississipp. R. and the Appalachian mtns., and S. of Kentucky and Virginia; area 42,050 sq. m.; cotton and agr. (chfly. Indian corn); p. 2,200,000. Cap. Nashville; chf. port, Memphis.

Tennessee, *R.* the largest and most imp. branch of the Ohio, formed by union of the Clinch and Holston R.'s from Virginia, flows through Tennessee to Paducah, Kentucky, 782 m. from source of Holston R. (famous steeple; p. 3,376).

Tenterden, mkt. *t.* nr. Rye, Kent, Eng.; ch. with Tenterfield, *t.* Clive co., N.S.W., nr. Queensland border; gold and tin mines; p. (dist.) 5,075.

Tepic, *terr.* Mexico, washed by Pacific; area 11,270 sq. m.; agr.; p. 150,282. Cap. T., nr. the port of San Blas; p. 15,014.

Teplitz, or **Teplitz**, wat. pl. Bohemia, 47 m. N.W. of Prague; textile and hardware industries; p. 26,104.

Teramo, prov. centl. Italy; area 1,067 sq. m.; p. 307,000. Cap. T., on Tardino R.; anc. Internunum; cathedr., Roman antiquities; gdc. tr.; p. (com.) 22,618.

Terceira, isl. of the Azores, N.W. of St. Michael, 28 m. long; p. 49,816. Cap. Angra.

Terek, *R.* of N. Caucasus, Russ., flows (350 m.) to Caspian S.; also Russian prov. watered by same; area 23,548 sq. m., malarial; p. 950,000, mainly peasantry; vineyards, stock-raising, bee-keeping; chf. t. Viadikavhas, silk-worm culture. Terek Pass, road over the mtn. barrier betwn. E. Turkestan and Asiatic Russ., connecting Khokand with Kashgar.

Terglou, mtn. of the Julian or Carnic Alps, N.W. Carniola, alt. 9,394 ft.

Tergovista, *t.* in Dambovitz dist., Roumania, on *R. Jomalita*, at foot of the Carpathians; former cap. Wallachia, many convents and churches; p. 6,540.

Tergu Jiu, *t.* in Gorj dist., Roumania, nr. the Transylvanian Alps, in anthracite coal regn.; p. 8,814.

Terina, *t.* in Hardamant, S. Arabia; comm. centre; p. 25,500. [industri.; p. 27,094.]

Tertissi, *t.* in prov. Bari, Apulia, Italy, nr. Molfeste.

Termini, *st.* Palermo, Sicily; tunny fishg., macaroni, olive oil, wine, sulphur; p. 35,128.

Terri, *R.* Shropsh., Eng., trib. (50 m.) of *R. Severn*.

Terzate, smt. isl. of the Moluccas, Dutch E. Indies; also spt. on same, p. 3,000; also Dutch residcy. of Malay Arch., includg. parts of Celebes, Jilolo, and smtr. isls.; area 155,800 sq. m., nutmeg export.

Terral, *t.* Perugia, Umbria, Italy, amongst the Apennines; iron and steel works, arms factory; p. 11,864.

Terodant, *t.* in Morocco, cap. Sis, p. (est.) 8,900.

Terracina, *t.* in prov. Rone, Italy, on Mediterranean cst. of the anc. Anxur, cathedr., excavatns, temple of Venus, 111 ft. long by 65 ft. wide; p. 6,500.

Terra Haute, *c.* on Wabash R., Vigo co., Indiana, U.S.A.; in coal and nat. gas regn.; p. 58,157.

Terranova, *t.* nr. Alcantara, Sicily, on S. cst., founded by Emperor Frederick II., nr. site of anc. Gela, p. (com.) 18,263.

Terrell, *c.* Kaufman co., Texas, U.S.A.; in cotton and timber dist.; p. 8,475.

Terret, *vat.* ading. Montreux, [area 45 sq. m.; p. 3,842.]

Terschelling, isl. Holland, at entce. to Zuider Zee.

Teruel, prov. Spain, in S. Aragon; timber forests, coal-bed, &c., area 2,393 sq. m.; p. 250,000. Cap. T., t. on *R. Guadalaviar*; cathedr.; p. 10,017.

Teschen, *t.* nr. Cracow, Austrian Silesia, former cap. Duchy of Teschen; state printing works, small arms factory; p. 21,643. [Southampton Water.]

Tetbury, or Antton, *R.* Hants, Eng., flows to head of Tetbury, *t.* nr. Cirencester, Gloucestersh., Eng.; p. 1,078.

Tetachen, *t.* on *R. Elbe*, N. Bohemia, nr. Saxon frontier: tourist centre connected by chain bridge with Bodenbach; fine chateau of Thun; p. 9,865. [industri.; p. 5,381.]

Tettenhall, *par.* nr. Wolverhampton, Staffs, Eng.

Tetuan, open port Morocco, on the Mediterranean, S. of Strait of Gibraltar, p. 22,424.

Teuk-Shan, *c.* 45 m. S.W. Tamsui, Formosa; p. 50,000.

Teutoburger Wald, mtn. range Germ., extendg. from nr. Osnabruck, Hanover, through Westphalia and Lippe; highest pt. 1,500 ft. [Twed.]

Teviot, *R.* Roxburghsh., Scotl., trib. (37 m.) of *R. Tewkesbury*, *bor.* Gloucestersh., on *R. Avon*, Eng., p. 5,267.

Texarkana, *c.* of Texas and Arkansas, U.S.A., the divn. passing down middle of main street; timber and cotton regn.; rlyway. workshops; total p. 12,620.

Texas, most S.W. of the Gulf Sts., U.S.A.; area 265,780 sq. m.; largest cotton prodg. dist. in the world; p. 3,920,126. Cap. Austin City; chf. port Galveston. [been the scene of many naval battles.]

Tezel, *isl.* N. Holland; area 83 sq. m.; p. 6,500. Has Teza, or Teja, *t.* nr. Fez, Morocco, p. 12,146.

Texcoco, or **Texcoco**, *L.*, 24 m. E. of c. of Mexico; area 77 sq. m.; less than 1 ft. deep; contains no fish; also t. on the banks of L., 16 m. E.N.E. of Mexico, anc. cap. of the Acolhuans; p. 15,000.

Tezze, magnificent ruins, S. of prov. Constantine, Algeria.

Thale, *t.* in the valley of the Bode, at foot of Harz Mtns., Saxony; nr. the Rastappe, the Haxentz, the saline springs of Habertsbud, and other picturesque places; p. 11,240.

Thames, *R.* Bucks and Oxfordsh. co.'s, Eng., trib. (35 m.) of *R. Thames*; also mkt. t. on same, Oxfordsh.; p. 2,957.

Thames, *R.* Eng.; rises in the Cotswold Hills, Gloucestersh., and flows past Oxford, Reading, Windsor, and London to N. S. (250 m.) at the Nore; also *R.* of Ontario, Can., flows 160 m. into L. St. Clair; also *R.* of Connecticut, U.S.A., flows (15 m.) into Long Is. Sound at New London; also *R.* of New Zealand, flows (86 m.) to Gulf of Hauraki.

Thames Ditton, *vat.* and residt. dist. on *R. Thames*, Surrey, Eng., opp. Hampton Court.

Thana, maritime divt., Konkan div., Bombay, India; area 3,578 sq. m.; p. 809,050; rice; cap. T., fort. t. on Salsette Creek, 21 m. from Bombay t., p. 15,000.

Thames, lake of N.E. extrem. Kent, Eng., formed by bifurcatn. of *R. Stour*, contains Margate, Ramsgate, and Broadstairs, with other wat. places, res. p. 82,589.

Thann, *t.* in Alsace-Lorraine, Germy., nr. Mülhausen, prod., wine, cotton, silk, and mchy. manuf., p. 7,680.

Thar and Parikar, *dist.* Sind. div., Bombay, India, area 2,799 sq. m., p. 390,000. Admin. hdqrs. Unmarket.

Tharand, beautiful *t.* and summer rest, on the Wilde Weisseritz, Germy., nr. Dresden, amid beech woods, res. p. 3,039.

Tharawaddi, *dist.* Pegu div., Lower Burma, N. of Rangoon, mainly forest, with expanses of rice fields in the clearings, area 2,851 sq. m., p. 400,645, chf. vil., Gyobingauk.

Thaso, or **Thaosa**, *isl.* of Turkey, in the Ægean Sea, length 25 m., area 138 sq. m., p. (mainly Greeks) about 10,000; also *t.* on N. cst., the anc. cap. under the Romans.

Thazun, *dist.* Tenasserim div. Lower Burma, area 5,069 sq. m., rice and tobacco, p. 361,450. Hdqrs. *t.*, p. 10,255.

Thaumakou, *t.* in Thessaly, Greece, nr. Larissa, p. 9,124.

Thaxted, *t.* on R. Chelmer, Essex, Eng., nr. Dunmow, p. 2,018. [The March.

Thaya, R. Lower Austria and Moravia, trib. (130 m.) of **Thayemyo**, *dist.* Pegu div. Lower Burma, forest, rice, and tobacco, area 4,750 sq. m., p. 240,000. Dist. hdqrs., T. t. on Irrawaddy R., p. (with wing of Brit. regt.) 21,456.

Thebes, ruined anc. cap. Upper Egypt, on both banks of R. Nile, site now partly occupied by villages Karnak and Luxor; also anc. c. Bcoitia, Greece, between Euboean S. and Corinthian Gulf, the mod. Thiva, p. (abt.) 4,000.

Thelani, N. (6,330 sq. m., p. 12,000) and S. (area 5,000 sq. m., p. 66,500), Shan states of Brit. Burma, oak, chestnut and pine forests, with clearings under rice. Hsevi, on the Nain Tu R., is cap. N. Theinni, Lashio is the hdqrs. t., Móng Yai is the cap. of S. T. Thelani, largest R. of Hungary, princ. trib. (240 m.) of the R. Danube, navigable from Tokay.

Theliosia, or **Teodolia**.—(See Kaffa.)

Theodule Pass, over the Alps between Valais, Switzld. and Piedmont, Italy, alt. 10,900 ft.

Theresienstadt, royal free and garrison *t.* dist. Leitmeritz, Bohemia, Austria, on the R. Eger; in the "Bohemian Paradise" fruit regn.; p. (including garrison of 4,000) 7,816; also *t.* (or Theresienopol), t. nr. Szegedin, Hungary; manuf.; p. (com.) 73,105.

Thereseia, *t.* cap. Piahy prov., Brazil; cotton and thread factory; p. 24,500.

Thermopylae, or **Pyria**, celebrated pass betwn. Mt. Æta and the sea, N.E. Greece; scene of struggle betwn. Persians and Spartans, 480 B.C.

Thessaly, or **Thessalia**, monarchy of Greece, on G. of Salonicia, ceded from Turkey in accdce. with Berlin Treaty, 1812; area 2,478 sq. m., p. 148,800; cap. Larissa, an anc. N.E. div., Classic Greece, bd. N. by Macedonia. [p. 4,778.

Thetford, *bor.* Norfolk and Suffolk, Eng., on R. Ouse; **Thian Shan**, or **Celestial Mts.**, lofty *cas.* N. frontier Chinese Turkestan; height, pks., 24,000 ft.

Thibaw, N. Shan st. Burma; area 4,284 sq. m., p. 75,000; prod. rice, cotton and tea; chf. t. T., on Thibet.—(See Tibet.) [Nam Tu R.

Thiel, or **Tiel**, *t.* on R. Waal, Gelderland, Holland; industri.; p. 9,877. [cutlery manuf.; p. 17,810.

Thiers, *t.* nr. Clermont, Puy-de-Dôme dep. France;

Thionville, French name of Diedenhofen, Alsace-Lorraine; capitulated to Germany, 1870.

Thirlmere, L. Cumberland, Eng., 5 m. S.E. Keswick, 3 m. long; furnishes part of the water supply of Manchester through a conduit of 96 miles.

Thirak, mkt. *t.* N.R. Yorks, Eng., p. 3,458.

Thomas, *t.* nr. Lisbon, Santarem dist. Portugal; famous Convent of the Order of Christ, and ruined Templars' castle; p. 7,075.

Thomas Plains, post *t.* Tasmania, 105 m. E.N.E. Launceston; p. (dist.) 1,214.

Thomaston, *vil.* on Nangattuck R. Connecticut, U.S.A.; p. 3,889; also *t.* nr. Rockland, Knox co., Maine, U.S.A., p. 3,604. [regt.) p. 4,478.

Thomassville, *t.* cap. T., co. Georgia, U.S.A.; cotton

Thompson, *t.* on French R., Connecticut, U.S.A., p. 6,973.

Thomsonville, *vil.* on Connecticut R., Hartford co., Conn., U.S.A., p. 4,865.

Thongwa, *dist.* Irrawadi div., Lower Burma; area 3,470 sq. m., p. 500,000; hdqrs. t. Maubin.

Thorenburg, *t.* cap. Torda-Aranyos, Hungary, nr. Klausenburg; industri.; p. 13,810.

Thorn, fortif. *t.* on R. Vistula, W. Pruss. p. (with garrison) 59,784.

Thornaby-on-Tees, *t.* (oppos. Stockton) N.R. Yorks; (inde. sep. municip. in 1895) included (as S. Stockton) in parly. bor. of S. (p.v.) with which it is connected by bridge; has iron industries, and manuf. blue and white pottery; municipality p. 18,605.

Thornbury, mkt. *t.* nr. Bristol, Gloucestersh., Eng., p. 6,024.

Thorne, mkt. *t.* nr. Goole, W.R. Yorks, Eng., p. 3,511.

Thornhill, mfg. *t.* nr. Dewsbury, W.R. Yorks, Eng., p. 11,305.

Thornley, *t.* nr. Durham, Eng.; industri. p. 3,820.

Thornliebank, *t.* nr. Pollokshaws, Renfrewsh., Scotl., p. 3,365. [Eng.] p. 7,002.

Thornton, *t.* industri. subn. to Bradford, W.R. Yorks, **Thousand Isles**, L. of the, expansion of the St. Lawrence R. at outfall of L. Ontario. The islets really number 1,500 to 1,800, and are partly sit. in New York State and partly in the Dom. of Canada; many of them are picturesque, and furnish summer holiday rests. The Kuriles S. of Kamchatka, are called the Thousand Isls. by the Japs., to whom they belong.

Thrace, or **Thracia**, anc. name of S.E. portions of what is now Turkey in Europe, successively under Macedonian, Roman, and Byzantine rule, before passing to the Porte. [manuf.; p. 3,216.

Thrapston, industri. *t.* nr. Northampton, Eng.; boot **Three Rivers**, c. and port. at conflu. R.'s St. Maurice and St. Lawrence, Quebec, Can.; wood pulp manuf.; p. 10,462. Also vil. on St. Joseph's R., Michigan, U.S.A., p. 3,087.

Throston, *t.* nr. Hartlepool, Durham, Eng., p. 4,819.

Thule, classic name of northernmost extrem. Britain; believed to have allusn. to Shetland.

Thun, *t.* on R. Aar, cant. Bern, Switzld. (p. 5,814); tourist centre nr. L. of Thun (12 m. by 2 m.).

Thur, R. Switzld., flows 70 m. N. and W. to R. Rhine, nr. Schaffhausen.

Thurgau, cant. Switzld.; area 387 sq. m., bounded by L. of Constance and Baden; p. 115,240. Cap. Frauenfeld (p.v.).

Thuringia, region of Cent. Germany, seated between Franconia, the Harz Mtns. and the R.'s Saale and Werra, and comprising in great part the mtnous. Thuringerwald dist.

Thuringian Forest, or **Thuringerwald**, wild wooded-hill range of Centl. Germany, 95 m. long, famous for romantic scenery and legends.

Thurles, mkt. *t.* on R. Suir, Tipperary co., Ireland; horse fair; p. 4,420. [p. 2,850.

Thurston, industri. *t.* nr. Barnsley, W.R. Yorks, Eng.

Thurston, *t.* on R. Soar, nr. Leicester, Eng., p. 8,865. [fishery centre.

Thursday Isl., Torres Strait, Queensland, pearl

Thurso, *t.* on T. Bay, Caithness; most N. *t.* on Scottish mainland; anc. stronghold of the Northmen; p. 3,335.

Tiaro, *t.* nr. Maryborough, Queensland, p. (dist.) 2,120.

Tiber, R. of Italy, flows (220 m.) from the Apennines to the Mediterranean, passing Rome.

Tiberias (see Tabariyah); **Tiberias**, Sea of, or L. of Galilee, Palestine, on R. Jordan, 14 m. by 8 m.; surface 755 ft. below sea-level.

Tibet, a lofty land of Centl. Asia, dependency of Chinese Empire; called the "Roof of the World," its lowest plains being 12,000 ft. above sea-level; area 651,700 sq. m., p. (est.) 4,000,000 to 6,000,000. Very much under priestly dominatn. and averse to western incursn.; exports wool, musk, gold, skins, and drugs. Cap. Lhasa (p.v.) reached by Brit. expedition, Aug. 1904, when tr. rights were secured in Tibetan territory by treaty between the Dalai Lama and Brit.

Ticino, or **Tessin**, cant. Switzld.; area 1,069 sq. m.; forests, vineyards, and agr., p. 140,280. Cap. Bellinzona, largest *t.* Lugano; also *t.* R. of Switzld. and Ital. trib. (130 m.) of Po.

Tickhill, *t.* nr. Rotherham, W.R. Yorks, Eng., p. 1,266.

Ticonderoga, *t.* Essex co., New York, U.S.A., an outlet of L. George to L. Champlain, fortified by French.

1755 (as Carillon); captured by British (under Amherst) 1759, p. 1,654.
Thameswell, *t. nr.* Burton, Peak of Derbysh., Eng., p. 1,654.
Thidore, one of the Spice Is., of the E. Indian Arch., under Dutch domination.
Thientan, *frontier port* prov. Chih-li, China, 70 m. S.E. Pekin; held on lease by Britain, France, and Germany; captured by the Allies, after the Boxer rebellion, July 14, 1900.
Tierra del Fuego, *arch.* in extreme S. America, sep. from Patagonia by Strait of Magellan, divided politically between Chili and Argentina; total area of the is. large and 20 sq. mls., 26,185 sq. m., p. (including abt. 1,000 aboriginal Indians) 8,000. Gold is obtained in the Argentine portn. of King Charles South Land, the largest isl. of the arch. (university, p. 11,470).
Tiffin, *c.* on Sandusky R., Seneca co., Ohio, U.S.A.;
Tiflis, *govt.* Transcaucasia, Russ; area 15,306 sq. m.; agr., cattle-rear., vineys, etc., p. 1,690,000. Cap. T., *c.* of R. Kura, also of Caucasus, on main route betw. Russ. and Persia; manuf. silk, cotton, leather goods, silver-ware, arms, etc., p. 185,000.
Tigris, *st.* of Abyssinia, in N.W. basin of the Mareb; formerly an indpt. kingdom; cap. Adowa.
Tigre, or Tegueña, R. Ecuador, trib. (400 m.) of R. Amazon.
Tigris, R. Asiatic Turkey, rising in mtns of Armenia and Turkestan flowing 1,100 m. to join the Euphrates 40 m. N.W. of Baira. The Biblical Hiddekel.
Tikari, *t.* in Gaya dist., Bengal, Indu; gd. tr., p. 12,864.
Tikvavin, *t.* at head of canal system, Nowgorod govt., Tilburg, *t. nr.* Breda, N. Brabant, Holland, flourish. woollen manuf., p. 55,116.
Tilbury, *ry.* and *stn.* *stn.* with strong fort and extensive docks, N. side of R. Thames, Eng., opp. Gravesend, 20 m. E. of London.
Tilchurst, *agr. subn.* to Reading, Berks, Eng., p. 4,824.
Till, R. N. Northumberland, Eng., trib. (32 m.) of R. Tweed.
Tillcoultry, *burgh*, Clackmannansh., Scotl., on R. Devon, nr. Alloa; wool factories; p. 3,705.
Tillett, *t.* on R. Niemen, nr. Meinel, E. Prussia; iron-works and machinery manuf.; p. 37,146.
Timaru, *t. nr.* Christchurch, New Zealand, p. 4,118.
Timbarra, *t.* N.W. in mining dist., 50 m. N. of Sydney, p. (dist.) 2,080.
Timbo, *t.* in Futa Jalon st., Senegambia, French W. Timbuctoo, or Timbuktu, chief *t.* in the French Soudan, 8 m. N. of the N. bend of R. Niger, or border of the Sahara desert; a great trade centre; p. 10,000 (had 50,000 inhabs. under Maudgaur rule).
Timimoun, *t.* in the oasis of Tuat, Sahara, p. 8,400.
Timor, *E. isl.* of the Malay Arch. (Lesser Sunda group); area 12,561 sq. m., divided between Portuguese Timor (7,450 sq. m., N. of the isl., port Dili) and Dutch Timor (5,111 sq. m., S. of isl., port Colopang). Exports coffee, sandal-wood, ponies, etc.; total p. (est.) from 750,000 to 1,000,000 (less than 600 Europeans). (p. 2,816).
Timor, mining *vill.* Victoria, 120 m. N.W. Melbourne.
Timor-Laut, or Temimber, *isl.* Dutch *isl. group* in Arafura Sea, 400 m. N. of Timor Isl.
Timor Sea, the part of the Indian Ocean N.W. of W. Australia and S. of Timor Isl.
Timperley, *sub.* Altrincham, Cheshire, Eng., p. 3,074.
TINGHA, tin-mining *t. nr.* Tamworth, N.S.W., p. (dist.) 2,898.
Tinnevely, *dist.* Madras, Brit. India, area 5,397 sq. m.; rice, coffee, cotton, tobacco; p. 2,000,000; cap. T., *t.* on Tambraparni R., p. 25,000.
Tino, or Tinos, *isl.* of Greece, one of the Cyclades group; area 81 sq. m., p. 12,480.
Tintagel, *vill.* nr. Launceston, Cornwall, Eng., with ruined castle, reputed birthplace of King Arthur; Tintagel Head is a rocky cliff on the coast.
Tintern, ruined medieval monastery on R. Wye, Monmouthsh., Eng., 4 m. N. Chepstow.
Tizna, R. Spain, prov. Huelva, flows (65 m.) to the Atlantic; also hills of Llanes, Scotl., highest peak 2,300 ft.
Tiznabad, *dist.* nr. Stalybridge, Cheshire, Eng., p. 2,193.
Tipparah, *nat. st.* (area 4,036 sq. m., p. 150,000) and Brit. *dist.* (area 2,491 sq. m., p. 2,250,000) N.E. Bengal,

India; prod., rice, jute, betel nuts. Admin. hdqrs., Comilla.
Tipperary, *inld. co. prov.* Munster, Ireld.; area 1,659 sq. m., pasture and tillage, p. (decreas.) 151,057; cap. t. Clonmel (g.v.) T. t. 29 m. S.E. Limerick; manuf., has 6,216 inhabs.
Tippermuir, or Tibbormore, 5 m. W. of Perth, the scene of the rout of the Covenanters by Montrose, Sept. 1st, 1644.
Tipton, *t.* Staffs, Eng., within limits of parly. bor. Wednesbury; has (Inch.) p. 31,763; also name of *t.* in T. co. Indiana, U.S.A.; in ser. regn., p. 4,418.
Tiptree Hill, Essex, 31 m. E. of William, the place where the late Mr. Mecllu had his model farm, 1841-1880.
Tirana, *t. nr.* Kroya, Albania; gd. tr., p. 11,117.
Tiraspol, *t.* on R. Dniester, Kherson gov., Russ.; flour mills, active tr. with Roumania, p. 29,185.
Tireboll, *t. nr.* Trabzon, Asiatic Turkey, p. 5,875.
Tireh, *t.* at foot of Mt. Mesogios, Asia Minor, connected by rail with Smyrna; raisins, corn, cotton, rice tr., p. 15,180.
Tirhut, a former *dist.* of Bengal, but since 1875 has been part of the districts of Darbhanga and Muzaffarpur.
Tirlemont, *t. nr.* Brussels, Belgium, on R. Geete; capt'd. by Marlborough 1705, p. 16,814.
Tirnovo, fort, *t.* on R. Jantra, nr. Sistova; former cap. Bulgaria; Hussardim mosque (now used as a powder and dynamite factory); taken from the Turks by Russ. in 1877, p. 13,182.
Tirol, or Tyrol, *prov.* Austn Empire; comprising the mountainous regn betw. Munich and Verona, the Brennan Pass furnishg. the connectg. way betw.; the Tirol embraces all the highest pks. of the Austrian Alps, culminating in the Orler Spitz (g.v.); area of the prov. (exclusive of Vorarlberg) 10,300 sq. m.; two-fifths forest, p. 100,500; cap. Innsbruck (g.v.); mountain pasture, vineys, silk industries.
Tirupati, or Tirupetti, *t.* in N. Arcot dist., Madras, Brit. India; famous hill temple or pagoda, a pl. of pilgrimage, p. 15,480.
Tirupatur, / Salem dist., Madras Pres., India, commel. Tiruvannamalai, *t.* S. Arcot dist., Madras, Brit. India, p. 10,715. Under Hindur Isl. (1759-1782) its fortified citadel a valuable military post.
Tiryas, an anc. *c.* of Argolis, 6 m S.E. of Argos, at the head of the Argolic G. The history of the place is mostly legendary, having to do with Perseus and Hercules. See Schliemann's *Tiryas* (1886).
Tisbury, *t. nr.* Salisbury, Wilts, Eng., p. 2,995.
Titchfield, *t. nr.* Fareham, Hants, Eng., p. 4,685.
Titicaca, Lake, betw. two ranges of the Andes, on borders Bolivia and Peru, 12,045 ft. above the sea; area 3,200 sq. m., av. width 27 m., gtt. length 105 m.; almost cut in two by penin. of Copacabana; nearly 700 ft. deep on E. side, shallow W. and S.; contains numerous isls., largest Titicaca, nr. the Penin. of C., a sacred pl. of the Incas, with ruined palace, convent, and Temple of the Sun. It is drained on the southern side by the Desaguadero. (p. 10,627 ft.)
Titlis, *mt.* Switzld., 20 m. S. of E. Lucerne, at Klusville, c. Crawford co., Penn., U.S.A., on Oil Creek; petrol regn., p. 8,414.
Tiumen, *t.* on R. Tura, Tobolsk govt., W. Siberia, Russ.; carpet and leather manuf., p. 18,618. Connected by rail with Perm, and is on the line of several trade routes. A great fair is held there in January.
Tiverton, *munic. bor.* Devon, Eng., 14 m. N. Exeter; lace manuf.; p. 10,205. The Earls of Devon used to have a castle here, but it was dismantled after its capture by Fairfax in 1645, and now the gateway is about all that remains.
Tivoli, *t.* in prov. Rome, Italy; sulphur baths, frequd. by 40,000 persons annually; p. 12,150. The Falls of Teverone (Anio) supply power for the electric lighting of Rome. The famous Villa d'Este is nr. Tivoli.
Tlaxcala, *st.* Mexico, ading. Puebla; area 1,595 sq. m.; agr.; p. 126,600; cap. T., p. 3,018.
Tlemcen, *t.* in Oran dep., Algeria; exports olive oil, grain, wool, onyx; p. 35,116.
Tobago, *isl.* Brit. W. Indies, and the most southerly

of the Windward grp.; discovered by Columbus in 1499, and named by him Assumption, and has belonged to Britain since 1763. Its present name is supposed to be derived from the fact that the Carib natives were greatly addicted to tobacco: area 114 sq. m.; exports sugar, rum, coffee, etc.; p. 18,800, nearly all negroes; cap. Scarborough on S. side.

Tobarra, *t.* in Albacete prov., Spain; industr.; p. 8,025. [Ballymote]

Tobercurry, a mkt. *t.* in co. Sligo, 9 m. S.W. of Tobermory, *sp.* on Isl. of Mull, Argyllsh., Scotl.; p. 997. [Irish]

Tobol, *R. W. Siberia*, Russ., trib. (500 m.) of R. Tobolsk, *govt.* W. Siberia, Russ., extendg. from the Arctic Oc. to the Steppes of Semipalatinsk and Akmolinsk; area 530,660 sq. m.; grain growg., dairying, and cattle raising; p. 1,000,000, nearly all peasantry; cap. T., *t.* on R. Irtysh; fishy. industries and tr.; p. 24,664.

Tocantins, *R. of provs. Para and Goyaz, Brazil*; flows 1,700 m. through the Para est. to the Atlantic; navigatn. interrupted by rapids 200 m. above Para.

Toddington, *t.* in Bedfordsh., 5 m. N. of Dunstable, p. of parish, 2,183. [Yorks. Eng. p. 25,452]

Todmorden, mkt. and mfg. *t.* on R. Calder, W.R. Tordaland, Germ. *protektorat*, W. Afr., on G. of Guinea; area 330 sq. m.; p. 2,000,000, chiefly Soudanese negroes; cap. Little Popo; Lomo the chief port.

Tokat, *t.* on R. Toranli Su R., Sivas vilayet, Asia Minor; copper and yellow leather manuf.; Armenian massacre 1895; p. 30,000.

Tokay, mkt. *c.* Zemplén, Hungary; vineyard dist.; p. 5,460. The imperial Tokay liqueur wines are famed for their quality.

Tokio (formerly called Yeddo), *c.* on Isle of Honshu, at head of B. of Yeddo; cap. of Japanese Empire; an immense commercial and industrial centre, covering an area of 100 sq. m. on both sides of R. Sumida, connected by rly. (18 m.) with pt. of Yokohama; wide streets, with ornamental trees betwn. carriage and footway, electric lighting, Imperial Palace, and other fine bldgs., but most of the houses are of wood; there are numerous gorgeous temples and spacious parks; p. 2,800,000.

Tokushima, large *t.* of Shikoku, Japan, on the N.E. coast; p. 67,500.

Toledo, *prov.* Spain; area 5,600 sq. m.; mtnous; till recently infested by brigands; agr. and vineyards; also stock raising; p. 392,410; cap. T. and on R. Tagus; with cathedr., and many specms. of Gothic, Moorish, and Castilian architecture in picturesque narrow streets; and famous Alcazar palace citadel; sword-making still flourishes; p. 25,160.

Toledo, *c.* on Maumee R., Ohio, U.S.A.; gt. rly. and mfg. centre, covering an area of 28½ sq. m.; p. 170,000.

Tolentino, episcopal *c.* of Central Italy, Macerata prov., 36 m. S.W. of Ancona; p. 5,000.

Tolima, *val.* of the Andes, Colombia, alt. 18,143 ft.; also *st.* in Repub. of Colombia, area 18,434 sq. m., p. 310,000; cap. Ibaqué.

Tolosa, *t.* prov. of Guipúzcoa, 15 m. S. of San Sebastian, p. 8,342.

Toluca, cap. *st.* of Mexico, in the Mexican Repub.; was an Aztec pueblo at the Spanish conquest; p. 24,116.

Tom, *R. Siberia*, trib. (400 m.) of R. Obi.

Tomasz-Mazowiecki, industr. *t.* Russn. Poland, in govt. Piotrków, p. 24,654. [form the Mobile]

Tomibbee R., Mississippi, U.S.A., flows 500 m. S. to Tombigbee.

Tombigbee, *t.* Ciudad Real prov., Spain; wine and brandy export; p. 9,255.

Tomintoun, *vil.* of Banffshire, nr. the Avon, 1,100 ft. above sea-level, 14½ m. from Ballindalloch.

Tompkinsville, now part of Richmond *bor.*, incorporated in New York City, U.S.A., on Staten Isl., just above the Narrows of N.Y. Harbor.

Tomsk, Russn. govt. W. Siberia, atjng. Chinese frontier, area 331,150 sq. m.; agr., dairying, stock raising, fisheries, mining, and manuf.; p. 3,170,000; cap. T., *c.* on Tom R., and a branch of Trans-Siberian rly.; university, cathedr., and many thriving industries; p. 70,000.

Tonawanda, industr. *vil.* on Niagara R., Erie co., N.Y., U.S.A., p. 8,084.

Tonbridge, *t.* on R. Medway, Kent, Eng., nr. Tunbridge Wells, and 2½ m. S.E. of London, p. 14,797.

Tong, *par.* in Shropsh., 5 m. E. of Shifnal.

Tong, *par.* (See Friendly Is.) [Eng. p. 7,014]

Tongre, *du.* (industr.) adjng. Bolton, S.E. Lancs., Tongkling. (See Tongkling.)

Tongres, episcopal *c.* of Belgium, prov. Limburg, 12 m. N. of Liège; there is a mineral spring near mentioned by Pliny.

Tonk, nat. *st.* Rajputana Agency, India, in six separated ports; total area 2,509 sq. m., p. 340,148; cap. Tonk, *t.* nr. the Banas R., walled with mud forts, p. 39,000. [France; industr.; p. 8,546]

Tonnelle, *t.* on R. Garonne, Lot-et-Garonne dep., Tonnere, *t.* on R. Armançon, Yonne dep., France, p. 5,894. [4,240]

Tonning, fort. *t.* on R. Eider, nr. Schleswig, Pruss., p. 5,894.

Tonquin, Tongking, or Tonkin, N. prov. of Annam; ceded to France in 1884; area 34,748 sq. m., p. (est.) 6,000,000. Hal-phong is the French mil. and admin. pt.; Hanol, on the Song Ka, or Red R., the largest *t.*

Tonsberg, *t.* (fort.) on B. nr. entrance to Christiania Fjord, Norway; hqrs. of sealing and whaling fleet, oil mls; p. 8,868.

Tombudra, *R.* rises in S.W. Mysore, and flows 400 m. N.E. to the Kistnal, below Karnul.

Toomyvara, *vil.* nr. Meneagh, co. Tipperary, Ireld., p. (dist.) 1,214.

Toowoomba, *t.* in Aubigny co., Queensland; centre of pastoral dist. Darling Downs; wine manuf.; p. 10,464.

Topeka, *c.* on Kansas R., Shawnee co., Kansas, U.S.A.; flour milling, large tr.; p. 43,684.

Tophane, *st.* Constantinople, with arsenal N.E. Toplitir, or Toplitir (7½), Holiestian Spa, [of Galata]

Topsham, mkt. *t.* Devon, on the Exe, 4 m. S.S.E. of Exeter, p. of par. 3,063. [nr. Venice, Italy]

Torcello, *isl.* (with anc. Byzantine cathedr.) on lagoon Torda, old *t.* nr. K. Aranyos, S.T. Kolosvar, Hungary;

salt-mines and baths, romantic "Cleft of Tordia" with caves and steep rocks in ravine near; p. 12,449.

Torgau, *t.* on R. Elbe, Prussn. Saxony; royal stud-farm of Gräditz in vicinity; p. 12,106.

Torjok, *t.* Tver gov., Central Russ.; a river port and episcopal see, 40 m. W.N.W. of Tver *co.*; p. 12,124.

Toro, old *t.* of Spain, trib. (150 m.) of R. Douro; passes Salamanca.

Tornea, *R.* Lapland, flows (230 m.) betwn. Sweden and Russ. to the G. of Bothnia.

Toro, old *t.* Zamora prov., Spain, on R. Douro; cathedr., convent, palaces; p. 8,486. [p. 6,564]

Török Becse, *t.* on R. Theiss, nr. Szegedin, Hanover;

Törökszentmiklos, mkt. *t.* on Alföld plain, *c.* Jász-Nagy-Kun-Szolnok, Hungary; agr. dist.; p. 22,427.

Toronto, cap. Ontario prov., Can., on B. of T., Lake O.; spacious harbor, university, extensive tr., and manuf.; exports grain, timber, cattle, etc.; fine parliament bldgs., parks, etc.; p. 376,000.

Torquay, mkt. *pt.* on Tor Bay, Devon, Engl.; p. 38,772.

Torquemada, *t.* nr. Palencia, Spain; p. 2,786.

Torre del Greco, *t.* on B. of Naples, Italy, at foot of Mt. Vesuvius; lava quarries, shipbldg. yards, coral fishy.; p. 25,468.

Torre dell' Annunziata, *t.* on E. side, B. of Naples, at S. foot of Mt. Vesuvius; royal arms factory, macaroni manuf., silkworm-breeding; p. 27,112.

Torredonjimeno, *t.* on R. Salado de Porcuna, prov. Jaén, Spain; wine, wheat, fruit; p. 11,100.

Torres Novas, *t.* Santarém dist., Portugal; jute, cotton and paper factories; p. 11,465.

Torrens L., 90 m. N. of Spencer's Gulf, S. Australia, named after Sir R. R. Torrens; it measures 130 by 20 m., and varies from the condition of a brackish lake to that of a tract of salt marsh.

Torre Pellice, *vil.* of Piedmont, 34 m. S.W. of Turin; the headquarters of the Waldenses.

Torres Strait, betwn. Cape York, Queensland, and New Guinea, 90 m. wide, dangerous navigation.

Torres Vedras, *t.* nr. Lisbon, Portugal; hot sulphur baths; here were the famous fortifications—the lines of Torres Vedras—constructed by Wellington in 1810; p. 6,888.

Torrevega, *spt.* Alicante prov., on S. cst. of Spain; salt-beds, fisheries, etc.; p. 8,065.

Torrige, *R.* Devon, Eng., trib. (37 m.) of R. Taw.

Torrington, *Great*, *t.* on R. Torrige, nr. Bideford, Devon, Eng.; silk-glove industry; p. 3,041; also *t.* on Naugatuck R., Litchfield co., Connecticut, U.S.A.; manuf.; p. 15,084.

Torry, a fishing *vill.* at the mouth of the Dee, in Kincardinesh., opposite Aberdeen.

Torshok, *t.* in Russ., 310 m. S.E. of St. Petersburg.

Tortola, one of the Virgin Isls., Brit. W. Indies, 12 m. long, 4 m. wide, p. 6,120.

Tortona, *t.* nr. Alessandria, N. Italy, the Roman Dertona, cathedral, p. (com.) 15,248.

Tortosa, *fort.* *t.* on R. Ebro, Taragona prov., Spain, wine, oil, and fruit, p. (with barracks), 24,056.

Tortugas, "an small *islets* off Florida, at the entrance of the Gulf of Mexico, 120 m. W.S.W. of C. Sable.

Tory Island, *isl.* 2½ m. long, 9 m. off the N.W. cst. of Donegal; it has a lighthouse and a signalling station connected with Londonderry.

Totana, *t.* on R. Sangonera, Murcia prov., Spain, wheat, olives, oranges, p. 11,821.

Totnes, *bor.* on R. Dart, Devon, Eng., originally walled, two gates remain, p. 4,128.

Totonacapan, *t.* on high plateau of Guatemala, amidst luxuriant gardens, hot min. springs, p. 25,000, mainly Queche Indians, skilled in furniture, pottery, and musical inst. manuf.

Tottenham, N. sub. London, co. Middlesex, Eng., p., includg. Wood Green, 137,457, industr. and residntl.

Tottenville, former *vill.* on Staten Is., now included in Richmond bor., and incorporated with New York City, U.S.A.

Toul, *t.* nr. Nancy, dep. Meurthe-et-Moselle, France, embroidery, pottery, works, artillery park, and fortif. hills, p. 9,328.

Toulon, *spt.* *c.* and naval stn. on Mediterranean, dep. Var, France, arsenal, fine buildings, shipbldg., lace-mkng., wine-grg., fisheries, p. 121,624.

Toulouse, *c.* on R. Garonne, dep. Haute-Garonne, France, imposing bldgs. and monuments, museums, university, learned societies, cathedral, suffered in the Huguenot wars, last battle of Penamur campaign fought here, p. 154,000.

Toung-ngu, *t.* in Burma, 170 m. N.E. of Rangoon, p. 21,500.

Touraine, former *prov.* France, now divided into Indre-et-Loire, and part of Vienne depts.

Tourcoing, *t.* nr. Lille, dep. Nord, France, flourishing textile industries, p. 83,114.

Tournai, *t.* on R. Scheldt, nr. Mons, prov. Hanault, Belgium, carpet mfg., p. 37,410.

Tours, *t.* on R. Loire and Cher, dep. Indre-et-Loire, France, splendid Gothic cathed., silk cloth, carpet and pottery mfg., p. 74,182.

Towanda, *bor.* on Susquehanna R., Bradford co., Penn., U.S.A., timber and furmg. rest., p. 5,011.

Towcester, *mkt. t.* Northants, Eng., on R. Tove, p. 12,856.

Tower Hamlets, *bor.* Middlesex co., Eng., in E. London, industr. and residt., contains the Tower of London, p. 442,430.

Tow Law, industr. *t.* nr. Durham, Eng., p. 4,327.

Townsville, *spt.* on Cleveland Bay, Queensland, p. 14,124. [dist.] 5,818.

Towong, *t.* on Murray R., Victoria, pastoral dist., p. 21,500.

Towton, *vill.* 3 m. S. of Tadcaster, W.R. Yorks., was the scene of a famous battle in 1461, when the Lancastrians were defeated.

Towy, *R.* S. Wales, flows 6½ m. S.W. to Carmarthen B.

Towyn, *mkt. t.* and *wal. pt.*, Merionethsh., Wales, p. 3,099. [Eng.] p. 136,150.

Toxteth Park, *township*, within parly. bor., Liverpool.

Toyama, *t.* on the W. coast of Japan, p. 59,300.

Tracadie, fishing *t.* on the E. coast of New Brunswick, Canada, 35 m. E. of Bathurst; has a leper hospital.

Trafalgar, *Cape*, on S.W. cst. Andalusia, Spain, between Cadix and Gibraltar; in the bay Nelson's crowning victory was gained, Oct. 21, 1805, costing the gallant admiral his life.

Trarford, a populous *sub.* of Manchester, at the end of the Ship Canal.

Tralee, *cst. t.* co. Kerry, Ireld., on R. Lee, p. 9,824.

Tramore, *mkt. t.* co. Waterford, Ireld., p. 2,021.

Tranent, *burgh*, co. Haddington, Scotl., in colly. dist., p. 4,369.

Trani, Italian *spt. t.* on the Adriatic, Brani prov., 28 m. N.W. of Bari; has a famous 12th century cathedral, p. 25,321.

Tranquebar, *spt.* Tanjore dist., Madras, India, inapt. msnr. stn., p. 6,248.

Transbaikalia, *prov.* of Siberia, Russ., E. of Lake Baikal and adjng. Chinese Mongolia, area 236,868 sq. m.; agr., with great min. wealth, p. 840,000; traversed by the Yablonoi Mtns. and the Siberian ry., cap. Chita.

Trans-Caspian Territory, *prov.* of Russ., E. of the Caspian, N. of Persia, and reachg. to Afghanistan, area 220,540 sq. m.; mining, agr., gding, cattle breeding, and many domestic industries, p. 330,000, largely nomad Turkomans and Kirghiz. Ashkhabad, 11,164, is the most populous t. in the terr., Merv and Krasnovodsk (*q. v.*).

Trans-Caucasia, *part* (S.E.) of the general govt. of Russ. Caucasus. (See Tiflis).

Transkei Territory, Cape Colony, lies between the Great Kei R. and Natal; formerly it constituted the chief part of Kaffraria, but is now divided into Griqualand E., Tembuland, Pondoland, and Transkei proper, area 2,552 sq. m., p. 181,000, of whom some 1,800 are Europeans.

Transleithania, those countries of Hungary lying beyond the R. Leythia, which forms the E. bdy. of Lower Austria.

Transvaal, The, Province of the Union of S. Africa, area 110,426 sq. m., p. 1,700,000, alt. 250,000 of whom are whites, mostly British and Boers; agr., with considerable min. wealth; cap. Pretoria; p. of Johannesburg municipality, 237,220.

Transylvania, formerly a sep. crownland of the Austro-Hungarian Empire, now in regl. in Hungary proper; surrounded and traversed by the Carpathians, area 21,152 sq. m., p. 2,500,000.

Trapani, *fort. spt.* Sicily, Italy, on W. cst., exports salt, wine, and fish, p. 68,114, formerly a Carthaginian stronghold.

Trappe, La, a narrow valley, nr. Mortagne, in the dep. of Orne, famous for its 12th century Cistercian abbey, which since 1602 has been the oriental headquarters of the Order of the Trappists.

Trappist, a sm. *par.* in Peeblesshire, 1½ m. S. of Inverhewan.

Trasimeno, or Lake of Perugia. (See Perugia.)

Tras-os-Montes, or Traz-os-Montes, former *prov.* N.E. Portugal, area 4,592 sq. m., p. 430,000, and now merged in dists. Braganza and Villa Real.

Trau, *spt.* Dalmatia, on the Adriatic, nr. Spalato, ruined Venetian fort, p. (com.) 17,500.

Traun, *R.* of Upper Austria, trib. (100 m.) of R. Danube, expands in the Salzammergut, nr. Gmunden, into the picturesque lake known as the Traun See, 8 m. by 2 m.

Traunstein, *t.* nr. Salzburg, Upper Bavaria, summer rest., with saline and winey baths, p. 8,024.

Trautenau, *t.* nr. Königgratz, Bohemia, at foot of the Riesengebirge, on frontier of Pruss. Silesia, manuf., p. 15,245.

Travancore, *nat. st.*, S. India, in connection with Madras; area 6,370 sq. m.; exports cocoa-nuts, timber, spices, coffee, tea, etc.; p. 3,000,000. Cap. Trivandrum.

Travers, *vill.* in the beautiful Val de Travers, Switzerland, Lake (50 m.) long, betwn. Minnesota and Dakota, U.S.A.

Traverse City, lake *port* of Michigan, U.S.A., on Grand Traverse Bay; timber industries and tr.; p. 10,416.

Travnik, the former *cap.* of Bosnia; 45 m. N.W. of Sarajevo; p. 6,100.

Trawden, industr. *township*, nr. Colne, Lancsh., Eng., p. 4,064.

Trebis, a southern *trib.* of the Po, and the scene of the defeat of the Romans by Hannibal, 218 B. C.

Trebizond, *villaget* Asiatic Turkey, on S. cst. Black Sea; area 12,367 sq. m., mountainous and afforested, with much fertile land and consid. min. wealth; p. 1,200,000. Cap. T. t. on Black Sea, mil. stn., large

- tr. and active industries, the anc. Trapezus, defended by citadel and forts; p. 40,000 (18,000 Christians); Armenian massacre, 1895. [R. Sirhowy, p. 23,604.]
- Tredegar**, mkt. and mining t. Monmouth-shire, Eng., on Treagar, t. of Cardiganshire, 10 m. N.E. of Lampeter; p. 2,931.
- Treig**, *Loch*, 5½ m. long, ¾ m. wide, and 784 ft. above the sea-level, in S.W. Inverness-shire.
- Treinta y Tres**, a *dep.* of Uruguay, deriving its name from the thirty-three (Treinta y tres) patriots who revolted against the Brazilian govt. in 1825; area 3,686 sq. m.; p. (abt.) 31,000.
- Tremadoc**, *viz.* in Carnarvonshire, 1½ m. W.N.W. of Portmadoc.
- Tremore**, *bor.* Penn., U.S.A.; industr.; p. 3,145.
- Trent**, R. Eng., rises in N. Staffs and flows (70 m.) through Derby-sh., Notts, and Lincoln-sh. to join the Ouse in forming the est. of the Humber; also small R. Dorset, Eng. (alternately called the Piddle), flows 20 m. to Poole Harb.; also R. of Ontario, Canada, flows 100 m. to B. of Quinte; also c. of the Austrian Tyrol, on R. Adige; extensive fortifications, silk manuf., sausages and comestibles, cathedr., and famous ch. of St. Maggiore, in which met the famous Council of T., 1545-63; p. 20,050 (including garrison of 2,500).
- Trenton**, *par.* and industr. dist. Staffs, Eng., on R. Trent, c. on Delaware R., Mercer co., New Jersey, U.S.A., cap. of the st.; iron-works, pottery, rubbler, and other manuf.; p. 9,815. Also c. on Grand R., Missouri, U.S.A.; tr. centre in farm region, p. 5,814. Also t. on R. Trent, co. Hastings, Ontario, Canada; p. 3,735.
- Treptot**, *Le*, *spt.* nr. Dieppe, dep. Seine-Inférieure, France; sea-bathing resort, fishy, ind.; p. 5,214.
- Tresilian**, *viz.* of Cornwall, 3½ m. E.N.E. of Truro; the scene of Sir Ralph Hopton's surrender to Fairfax in 1646.
- Treves**, anc. c. Rhine Prov., Pruss., on R. Moselle; cathedr. (containing the Holy Coat said to have been worn by Christ), visited by 50,000 pilgrims in 1844 and 1891, many Roman antiquities; p. 45,818.
- Treviglio**, t. nr. Bergamo, Lombardy, Italy; silk manuf.; p. 10,416.
- Treviso**, t. in Venetia, Italy, on plain between the Alps and G. of Venice; bombarded by Austrians, 1848. Iron-works and majolica ware; p. 41,475.
- Triabuna**, t. nr. Hobart, E. est. Tasmania, p. (dist.) 3,469. [Clock-wkgs., p. 3,545.]
- Triberg**, health *res.* Black Forest, Baden, Germany.
- Trichinopoly**, *res.* Madras, Brit. India; area 3,531 sq. m.; millet, rice, cotton, tobacco; p. 1,140,000; cap. T. on R. Cauvery; cigars from the Hindigul tobacco field, goldsmiths' work, pith modelling; p. 122,180.
- Triermain**, nr. Bewcastle, Cumberland, where stand the ruins of an ancient castle.
- Trieste**, t. on the Adriatic, prin. *spt.* of Austria-Hungary; shipbldg. and extensive commerce; cathedr., castle, Roman antiquities; many manuf.; p. (incl. garrison) 270,860. [p. 11,924.]
- Trifail**, t. on R. Sava, Styria, Austria; lignite wks.;
- Trikkala** (anc. Trika), t. in Thessaly, Greece, nr. Larissa; many mo-ques; grain tr.; p. 23,820.
- Trim**, t. on R. Boyne, co. L. Meath, Ireland, p. 1,554.
- Trincornali**, t. and naval *stn.* N.E. est. Ceylon; grand harbr.; garrison Brit. artillery and infantry; tobacco, rice, palms; p. (dist.) 29,774.
- Tring**, mkt. t. Herts, Eng., nr. Aylesbury; Rothschild museum and menagerie; p. 4,481.
- Tringano**, *spt.* Malay Peninsula, on G. of Siam, p. 30,000; also t. cap. of p. 15,800.
- Trinidad**, *isl.* Crown Col. Brit. W. Indies; area 1,754 sq. m.; sugar and cacao grow; also coffee, tobacco, bananas, oranges, and rubber; p. 274,894; cap. Port of Spain (*q.v.*); also uninhabited volcanic isl. S. Atlantic, 680 m. E. of Brazil; also t. nr. S. est. Cuba, 3 m. from Casilda port; exports honey; p. 11,800; also c. on the Purgatory R., Colorado, U.S.A.; riv. wks. in colly. dist.; p. 5,412. [Galveston B. (see m.) to]
- Trinity**, R. Texas, U.S.A.; flows (50 m.) to
- Trioli**, old up to a Turkish village, but since then an Italian colony of N. Africa, extendg. from the Sahara Desert to the Mediterranean; area abt. 400,000 sq. m.; p. 1,500,000; exports wools, skins, allé grass, ivory, feathers, etc.; est. formerly notorious seat of Barbary pirates; cap. T., *spt.* 300 m. S. of Sicily; mfg. carpets morocco leather, etc.; p. (est.) 40,000; also name of chf. t. (called Tarnabul locally) of Sanjak in Beirut vilayet, Syria, 2 m. inland from port El-Mina; exports sponges, silk thread, oranges, etc.; p. 20,416.
- Triopolitza**, t. nr. Argos, on the Morea, Greece, cap. of Arcadia, p. 10,618.
- Tristan d'Acunha**, *isl. group* (3) in S. Atlantic, 1,500 m. S.W. of St. Helena; annexed by Britain 1816; garrison withdrawn the next year, leaving 14 people behind. Present p. (60) descended from these and settlers from whaling ships. The isls., politically under Cape Colony, are visited once a year by a British warship.
- Trivandrum**, t. in Southern India, cap. st. Travancore (*q.v.*); cantonment for Nair brigade; wood-carving; p. 28,000.
- Troezen**, t. in Argolis in ancient Greece, subject first to Argos, later to Sparta, and, from 459 to 445 B.C., to Athens.
- Trois Rivières**, c. Quebec, Can., p. 14,000.
- Troitsk**, t. Penza govt., Russia, p. (industr.) 6,846; also Russian t. in Örenburg, W. Siberia; large trade; p. 26,000.
- Troitkosavsk**, t. nr. the Chinese frontier, Transbaikalia prov., Russia; chf. t. of dist., p. 11,225.
- Trollhatta**, *waterfall* in Gota R., S. Sweden (100 ft.); used largely for supplying power to industrial establishments. A canal was cut round the falls in 1844.
- Trömsö**, *spt.* on sm. isl. of T. in T. Sound, Finnmark, Norway; seal and walr. fishing and trade; p. 7,016.
- Tromsø**, *spt.* on W. coast Norway, S. side T. Fjord; exports timber and wood-pulp, butter, fish, copper; contains anc. cathedr., burial place of early Norwegian kings, and place of coronation of recent sovereigns; p. 40,183.
- Troon**, *spt.* and *wat. pt.* Ayr-sh., Scotl.; good harbour and graving docks; p. 6,028.
- Troppau**, fortif. t. on R. Oppa, close to Prussian frontier, cap. Austrian Silesia; hat and jute manuf.; p. (with garrison of 2,100) 29,118.
- Trossachs**, romantic *intr.* *defile* of Perth-sh., Highlands, nr. Callander, Scotl., tourist centre for beautiful loch dist.
- Trouville-sur-Mer**, *wat. pt.* at mouth of R. Touques in B. of the Seine, Calvados dep., France; boat-building, fisheries, etc.; p. 7,200. The t. of Deauville, across the Touques, has p. 3,015.
- Trowbridge**, mkt. t. nr. Bath, Wilts, Eng.; cloth works; p. 11,822.
- Troy**, anc. c. of the Troad, Asia Minor, famous in classic Grecian legend as the cap. of Ilium; identified by some as the modern Hisarlik, and by others as Binärashli. Also c. at mouth of Mohawk R. on the Hudson, New York, U.S.A.; great shirt mfg. centre; p. 26,850. Also c. on the Miami R., Ohio, U.S.A., p. 6,704.
- Troyes**, c. on R. Seine, Aube dep., France; former cap. Champagne; magnif. cathedr., hosiery manuf.; p. 53,217.
- Trujillo**, old t. in prov. Cáceres, Spain; wheat, wine, fruit, phosphorite, timber, Roman remains, p. 13,110.
- Truro**, c. at confl. R.'s Kenwyn and Allen, Cornwall, Eng., nr. Falmouth; cathedr. (completed 1889), tin-smelting, jam works, p. 11,325; also t. on the Salmon R., Nova Scotia, nr. Isl. of Cobequid Bay; p. 6,214.
- Tsarskoin**, fortif. t. on R. Volga, govt. Saratov, Russ.; est. transit tr. by river and rail, p. 48,526.
- Tsarsko-Selo**, t. nr. St. Petersburg, Russ.; two splendid palaces of the Czar, p. 16,000.
- Tai-nan**, a c. of China, on the left bank of the Ta-tsin R., 100 m. from the Gulf of Pe-chi-li, with manufs. of glass and silk; p. 247,000.
- Taitaihar**, t. of Manchuria on the Vladivostock portion of the Trans-Siberian Ry., 250 m. S.W. of Alguin, p. 83,000. [Tr., p. 11,400.]
- Taong-Gan-Kien**, t. Fo-Kien prov. China; black tea
- Tauruza**, t. on W. side isl. Honko, Japan, p. 20,864.
- Taurooka**, t. of Japan, 70 m. N.E. of Niigata, p. 27,600.
- Tau-shima**, Japanese *isl.* betw. Korea and the isl. of Iki; area 262 sq. m., p. 40,146. Chf. t. Izu-ga-hara.

Tuam, mkt. *t.* co. Galway, Irel.; Roman Catholic and Protestant cathedrals, p. 2,900.

Tuamotu, coral *arch.* in S. Pacific, part of French dependency, Tahiti; area of grp. 330 sq. m., (abt.) 7,000; gr. harbr. at Fakarava.

Tuat, oasis of the Sahara, S.E. of Morocco, under French dominatn., cap. Agnily.

Tübingen, *t.* on R. Neckar, Württemberg, Germy.; nat. university in which Melancthon, Reuchlin, and Bebel taught. The Tübingen school of theology was founded by F. C. Baur, and has now over 1,000 students; p. 17,248; printing works, factories, dye-works. Uhländ was a native of Tübingen, and there is a statue of him.

Tubual, or **Austral Isl.**, *grp.* in S. Pacific, belonging to France since 1881, p. 2,614; their chief products are oranges, bananas, cotton, sugar, and tobacco.

Tucson, *c.* on Santa Cruz R., Arizona, U.S.A.; in gold, silver, and copper mining regn., p. 8,765; was founded in 1850 by a Jesuit mission, and from 1867 to 1877 was the capital of Arizona.

Tucuman, *prov.* Argentina; area 8,296 sq. m., agr. and stock-raising, p. 260,824. Cap. T., c. on Rio Salí, p. 35,775.

Tudela, *c.* on R. Ebro, prov. Navarre, Spain; distilleries, fruit-preserving, factories, etc., p. 8,828.

Tucua, mining and farming, *dist.* N.S.W., 200 m. S.W. Sydney, p. 12.

Tugela, *r.* Natal and Zululand, Brit. S. Afr., flows Tula, *govt.* of Cent. Russ., S. of Moscow; area 11,654 sq. m., grain-growing, pasturage, stock-keeping, p. 1,775,000. Cap. T., t. on both banks R. Upa; gun factory, sugar mills, and many smlr. industries, p. 130,000 (doubled in last 20 yrs.) (22 m. wide).

Tulare, *L.* in T. co., California, U.S.A., 33 m. long, **Tulbagh**, *div.* W. prov. C. Colony, Brit. S. Afr.; area 4,070 sq. m., p. 13,600; cap. Ceres, (wilt. tr. in), p. 19,125.

Tulcea, *t.* on R. Danube, Roumania, a fish tr. and **Tulchin**, *t.* in Podolia govt., Russ.; founded by Hungarians, annexed by the Czar, 1793; flour and grain tr.; military depot, p. 21,573 (tr. p. 18,574).

Tulidja, *t.* in the Dobruja, Roumania, nr. Galatz; good **Tuli**, a *trib.* of the Lumpupa, also fort and station in Rhodesia. At the fort the trade route and telegraph cross the river from Bechuanaaland. [600.

Tulla, mkt. *t.* in co. Clare, Irel., 20 m. E. of Ennis, p. 1,100.

Tullamore, nikt. *t.* King's co., Ireland, on Grand Canal, nr. Portarlington, p. 5,640.

Tulle, *t.* cap. Corrèze dep., France; natl. smt. arms factory; p. 18,720. [p. 2,085.

Turnerbumba, *t.* nr. Albany, co. Selwyn, N.S.W., p. 1,100.

Tummel, R. Perthshire, Scotl.; flows 29 m. to R. Tay, through Loch Tummel.

Tunbridge Wells, mkt. *t.* and fash. indl. wat. pl. Kent, Eng., on border of Sussex, 5 m. S. of Tonbridge t. and rly. jcnctn. The chalybeite waters here date from 1600, when they were discovered by Lord North. There are the remains of an old Norman castle; p. 35,703.

Tundia, *R.* Rounicla, tribl (150 m) of R. Maritza.

Tungabhadra, *R.* S. India, formed by jcnctn. of R.'s Tungra and Bhadra, forms N. boundary of Madras, tribl. (400 m) of R. Kistna.

Tungu, or **Toungou**, *dist.* Teneasserim div of Lower Burma; area 6,177 sq. m.; rice and coffee culture; p. 302,614. Cap. T., p. (with mil. police britain.) 20,140.

Tunguska, a *trib.* of the Yenisei, in Siberia.

Tunisi, one of the Barbary states N. Afr.; now a French regency; area (without the Sahara dists. properly allotted to Algeria) 45,000 sq. m., p. 2,200,000; agr., stock-rearing, mineral and phosphate working, silk and carpet weaving, pottery manuf., fishy. (including sponges); also fruit and flower growing, and perfume distillation. Has a productive soil yielding excellent crops of grain; and dates, oranges, figs, pomegranates, olives, grapes, and other fruits are plentifully raised. There are valuable marble quarries. The pasturage is abundant, providing ample support for extensive flocks of sheep and herds of cattle. None of the rivers are open to navigation. Chief t. T., spt. on bay off G. of T., bazars, palace of the Bey; many industries, much tr.; p. 150,000. The ruins of anc. Carthage are to the N.E.

Tunstall, industr. *t.* nr. Newcastle, Staffs, Eng., colleries, potteries, and ironwks.; p. 39,292.

Tura, R. Siberia, in Russn. govts. Tobolsk and Perm (300 m.), trib. of R. Tobol.

Turfan, a *c.* in Eastern Turkistan, on the southern side of the Tian-Shan Mts., p. 37,300.

Turgai, *govt.* Russn. Centl. Asia, N. of S. of Aral, area 176,279 sq. m.; agr. and cattle breeding; p. 500,000 (largely nomadic Kirghiz); cap. T., t. off caravan road from Tashkent to Orsk, p. 2,460.

Turin, *c.* N. Italy, on R.'s Po and Dora; former cap. Piedmont and the Sardinian sts.; has cathedr., university, royal palace and castle, and Palazzo Carignano; thrivg. and varied manuf., and extens. tr.; p. (com., includg. garrison, 8,500 strong) 427,733.

Turkestan,—(See Tartary.)

Turkestan, or **Hazret**, *t.* in the Russn. Turkistan prov. Syr Darya, on high rd. from Tashkent to Orenburg; old mosque and pilgrim shrine; gt. cattle and wool fairs; p. 13,046.

Turkestan, *E.*, or **Chinese**, *dependency* of Chinese Emp. in Centl. Asia, included officially in the Chinese prov. Hsin-Kiang; sep. from W. or Russn. Turkistan by Pamir plateau; area 431,800 sq. m., largely desert; p. 1,200,000; exports rugs and carpets, etc.

Turkestan, *W.*, or **Russian Turkistan**, a *govt.-genl.* of Asiatic Russ., area 419,219 sq. m., domciled p. 6,200,000; agr., stock-kgg., and various mltg. industries; cap. Tashkent (p. v.).

Turkey, or the **Ottoman Empire**, large *st.* of the Eastern Hemisphere, consisting of Turkey in Europe and Asiatic Turkey, under the immediate rule of the Sultan, and of dependencies in Africa and Europe. The losses of territory in the war with the Balkan States in 1912-13 can hardly be definitely stated at the moment, so much of the delimitation still remaining in doubt. Portions have had to be ceded to Greece and Serbia, and for the formation of the new state of Albania. What was lost to Bulgaria seems to have been won back. Total area 1,200,000 sq. m., p. (est.) 30,000,000. Turkey in Europe now comprises about 12,000 sq. m., with a *p.* of some 2,800,000, including the vilayets of Constantinople and Adrianople, with the Muestasarat of Chatalja. The N.W. portion of Turkey in Europe extends to a line drawn from Enos in the Aegean to Midia in the Black Sea, and now also including Adrianople. Turkey in Asia comprises (with the Archipelago) 209,380 sq. m. in Asia Minor, 92,200 sq. m. in Armenia, 200,270 sq. m. in Syria and Mesopotamia and 173,700 sq. m. in Arabia. African Turkey includes the suzerain territories of Egypt, Cyprus, and Samos, together covering 368,700 sq. m.; cap. Constantinople. (See separate entries.)

Turk's Isl., *Int.* *grp.* in S. of the Bahamas, subject to Jamaica (p. v.).

Turkmanshai, *vil.* of Azerbaijan, 65 m. E.S.E. of Tabriz.

Turnau, *t.* on R. Iser, N. Bohemia, Austria; glass cutting; p. 6,500. Battle fought here on June 20, 1866, when Austrians were defeated by Prussians.

Turnbury, a ruined castle on the coast of Yorkshire, 6 m. N. of Clirvan. Supposed to be the birthplace of Robert Bruce. There is a lighthouse within the ruins. [4,614.

Turner, *vil.* Maine, U.S.A., on Twenty-Mile R., p. 1,100.

Turnham Green, *S.W. sub.* London, in Middlesex co., Eng., p. 5,216 [playing-card manuf.; p. 21,890.

Turnhout, *t.* nr. Antwerp, Belgium; lace-making.

Turnu Magurele, *t.* nr. the R. Danube, Teleorman dist., Roumania, almost opp. Nicopolis, Bulgaria; grain tr.; p. 9,146.

Turnu Severin, *t.* below the Iron Gate cataracts of R. Danube, Mehedin dist., Roumania; nr. are remains of Trajan's bridge, built A.D. 103; pig and cattle tr.; p. 19,415. [p. 2,624.

Turris, *burgh* nr. R. Deveron, Aberdeensh., Scotl.; Turton, *t.* nr. Bolton, S.E. Lancs., Engl.; industr. p. 12,651. [st. university; p. 5,018.

Tuscaloosa, *t.* on Black Warrior R., Alabama, U.S.A.

Tuscany, *compartimento* or former grand duchy, Italy; area 9,324 sq. m., p. 2,694,516. Includes provs. Arezzo, Florence, Livorno, Siena, Grosseto, Lucca, Pisa, and Massa and Carrara, which see.

Tusculum, in ancient times a *c.* of Latium, but now ruins, 15 m. S. of Rome.

Tuskar Rocks (with lighthouse) off cst. Wexford, Ireland.

Tuskegee, *t.* in cotton regn., Macon co., Alabama, U.S.A.; noted for educatn. instns., includg. college for coloured students; p. 2,300.

Tisbury, mkt. *t.* on R. Dove, Staffs., Eng.; p. 2,484. Here are the ruins of a pre-Norman castle, wherein Mary Queen of Scots was twice imprisoned.

Tuticorin, *sp.* Madras, Tinnevely dist., India; extensive tr. with Ceylon, conch shell fishy.; p. 28,114.

Tuttlingen, *t.* on R. Danube, nr. Schaffhausen, Wurtemberg; ruined castle of Honberg; textile industries, fruit tr.; p. 17,217.

Tuxedo, *t.* in Orange co., New York, U.S.A.,; Tuxedo L.; p. 2,302.

Tuxford, *t.* in Notts, 1½ m. N. of Newark, p. 2,300.

Tuy, *t.* on R. Minho, Pontevedra prov., Spain; cathedr., soap factories, tr. in agr. prod.; p. 11,082.

Tuz-Gol, salt L. Russn. Turkestan, 100 m. S. of L. Balkash; 90 m. by 30 m. [Asia Minor.

Tuz-Gol, or Tuz-Ghiel, salt L. (45 m. by 16 m.) Tver, *govt.* Centl. Russ., N. of Moscow; area 25,225 sq. m.; agr., stock-rearing, and many manuf.; p. 1,920,100; cap. Tver, *t.* on R. Volga; cotton mills, corn tr.; p. 60,487.

Twatt, or Twatt, *t.* in the Western Sahara, 100 m. S.W. of Tripoli; Ain Salah, principal t.

Tweed, *R.*, S.E. Scotl.; rises in Peeblessh., and reaches sea (97 m.) at Berwick, dividg. Berwicksh. from the Eng. co. Northumberland; famous for its salmon fisheries; and is renowned in literature and history, its course being through some of the most romantic scenery in Britain.

Tweeddale, old name for co. Peebles, Scotl.

Tweedmouth, *sp.* Northumberland, Eng., at mth. of R. Tweed; p. 1,696.

Twenty-four Parganas, The, *dist.* Bengal, Brit. India; area 2,108 sq. m.; p. 2,000,000; admin. hdqrs. Alipur, a S. sub. of Calcutta city.

Twerton, *par.* nr. Bath, Somerset, Eng.; brick and woollen cloth manuf.; p. 17,614.

Twickenham, *par.* and urban residt. *dist.* N. bank of R. Thames, Middlesex, Eng., 11 m. S.W. of London c.; p. 29,374.

Two Rivers, c. Wisconsin, U.S.A.; nr. Twin River Point on shore of L. Michigan; p. 4,816. [p. 12,582.

Tydesley, mftg. *t.* nr. Bolton, S.W. Lancs., Eng.; p. 1,200.

Tyler, c. Smith co., Texas, U.S.A.; mftg. centre in cotton-grow. dist., p. 9,018.

Tydrum, *vil.* in Perthshire, 36½ m. E. by N. of Oban.

Tyne, R. Durham and Northumberland, Eng.; formed by junctn. of N. and S. Tyne at Hexham, 30 m. from sea at Tynemouth and S. Shields; total length 80 m., forms a continuous harb. (with shipbldg. and other works) from Newcastle to Tynemouth.

Tynemouth, *bor.* Northumberland, Eng., at mth. of R. Tyne, on its N. bank, includg. in its area the townships of Tynemouth, North Shields, Cullercoats, Chilton, and Preston; favourite wat. pl., with old priory and castle, p. (of parly. bor.) 28,822.

Tyre, anc. c. of Phœnicia, site 47 m. S.W. Beyrouth.

Tyree, *ist.* of the Inner Hebrides, Argyllsh., Scotl., p. 2,828. It has many small lakes of fresh water, and contains numerous Scandinavian forts along its Tyrol.—(See Tirol.) [coast-line.

Tyranu, *t.* of Hungary, 30 m. N.E. of Presburg; once the residence of the Hungarian princes, p. 14,000.

Tyrons, ind. co. Utah, Ireland; area 1,860 sq. m., agr. and dairying; p. (decensus) 124,437; cap. Omagh (p.v.); also bor. Blair co., Penn., U.S.A., on Little Juniata R.; brownks.; p. 6,217.

Tyrrhenian Sea, part of Mediterranean, betwn. Italy and Corsica, Sardinia, and Sicily. [Galiccia, p. 8,012.

Tyumenia, *t.* (mftg.), nr. Stanislawow, Austrian Tzintzoutzan, *t.* nr. Valladolid, Michoacan st., Mexico, p. 5,448.

U

Ubaa Nor, L. in Khalkas country, Mongolia, 75 m. by 25 m.

Ucayale, R. of Peru, a head-strm. of R. Amazon, over 1,400 m. long, navigable for 1,000 m.

Uccle, *vil.* Belgium, in S. Brabant, nr. Brussels; industri.; p. 13,105.

Uckfield, mkt. *t.* Sussex, Eng., on R. Ouse, p. 3,344.

Udaipur, or Oodhpore (otherwise Mewar), nat. *st.* Rajputana Agency, India; area 12,861 sq. m.; p. (decpling) 1,020,000. Cap. U., c. on bank of large L. amid wooded hills, 2,469 ft. above sea-level; marble pal. of the Maharaja; temple of Siva; p. 45,800.

Uddevalle, *sp.* S. Sweden, on fjord connected with L. Wener; butter factories, porcelain wks.; p. 10,545.

Uddingston, *t.* on R. Clyde, co. Lanark, Scotl., 7½ m. E.S.E. of Glasgow; colleries, jam factory; p. 8,268.

Udine, *t.* betwn. Alps and G. of Venice, Italy; old castle (now barracks); silk, velvet, and cotton ind.; p. 48,102. [Cambodia; p. 12,640.

Udong, c. of the Malay Penin.; formerly cap. Uelzen, old *t.* on R. Ilmenau, Hanover; flax, tobacco, and ironwks.; p. 8,847.

Ufa, Russn. *govt.* of the W. Urals; area 47,112 sq. m.; agr., stock-raising, ironwks.; p. 2,900,000. Cap. U., at conf. of R. U. (flows 400 m. from the Ural Mtns.) with R. Belais; iron and copper foundries and mchy. works; p. 97,000.

Ufael, Upper and Lower; ironwks. in *govt.* Perm., Russ., nr. Ekaterinburg, p. (joint) 14,000.

Uffculme, *vil.* of Devon, on the Culm, p. 1,800.

Uffington, *par.* Berks, Eng., nr. Farnham; contains the figure of the "White Horse" (3¼ ft. long) cut in the chalk downs, traditionally ascribed to Alfred the Great.

Uganda, Brit. *protectorate* E. Centl. Africa; (approx.) area (includg. Usoga and Unyoro) 150,000 sq. m.; p. (abt.) 4,000,000; traversed by rly., with terminus at Kavirondo Bn., on the Victoria Nyanza; cap. Kampala; admin. hdqrs. Entebbe; exports: skins, ivory, chilies, cotton, and coffee.

Uglich, *t.* on R. Volga, Yaroslavl *govt.*, Russ.; pal. of Prince Demetrius (slain in 1591); cathedr.; ham and sausage export; p. 13,564.

Uhricksville, *t.* on R. Stillwater, Tuscarawas co., Ohio, U.S.A.; p. 4,418.

Uinta, a *mt.* range of Utah, U.S.A.; its highest points are Emmons (13,000 ft.), Gilbert Peak (12,687 ft.), and Wilson (12,300 ft.).

Uist, N. (17 m. long, 3 m. to 13 m. wide) and S. (22 m. by 7½ m.), *isls.* of the Outer Hebrides, co. Inverness, Scotl.; Lochmaddy in the N. isl. is a par. with large tr. with the crofters; total p. 9,500.

Uitenhage, *t.* nr. Port Elizabeth, Cape Col., Brit. S. Afr.; thrivg. centre agr. dist.; p. 6,416.

Ujjain, *t.* on R. Spira, nat. st. Gwalior, Centl. India; cap. Malwa in Hindu and Mahomedan days, and famous as the res. of Vikramaditya; centre of Buddhism tr.; p. 36,124.

Ujiji, *vil.* in sw. terr. same name (area 900 sq. m.) on E. shore L. Tanganyika, Germ. E. Afr., where Stanley found Livingstone, 1891.

Ujjain, *t.* Gwalior state, Central India; a sacred c. and formerly the cap. of Malwa, p. 41,000.

Ujvidek, *t.* on R. Danube, Bács-Bodrog co., Hungary; opp. Petervárad; tr. in fruit, wine, vegetables, corn; p. 30,824. [40 m. long.

Ukerewe, *isl.* in Victoria Nyanza L., Centl. Afr.; U-Kiang, R. of Se-Chuen prov., China, trib. (500 m.) of Yangtse-Kiang.

Ukraine, or Little Russia; comprises govts. Poltava, Kiev, Kharkov, and Chernigov (*q.v.*).

Uleaborg, N., *govt.* grand duchy Finland; area 63,970 sq. m., partly forest and partly agr.; p. 275,000. Cap. U., spt. on G. of Bothnia; exports pitch, timber, hides, butter; p. 16,000. Ulea Lake (40 m. long) lies S.E. of U. t.

Ulasatul, *t.* in N. Mongolia, and cap. of the country, p. (mostly Chinese) about 5,000. [p. 12,440.

Uludağ, *sp.* *t.* N.S.W., 159 m. S. of Sydney, p. 11,440.

Ullapool, *vil.* on Loch Broome, Ross-shire, 44 m. N.W. of Dingwall.

Ullswater, L. (8 m. long) on border Cumberland and Westmorland, Eng.; outlet by R. Eamont to the Eden.

Ulm, fort. *z.* on R. Danube (58 m. S.E. of Stuttgart), Württemberg; imp. rlyw. and strategic centre; cathedral with lofty tower (528 ft.); clocks, linen, cutlery, confection. *p.* 46,000. *p.* (dist.) 3,114.

Ulmara, *z.* on Clarence R. New S.W. nr. Griffith.

Ulster, N. prov., Ireland, N. of Connaught and Leinster; area 8,568 sq. m., *p.* 1,750,000; colonised by Scots and English in early part of 17th cent. In 1901 the population of Ulster comprised 1,582,826, of whom 699,202 were Roman Catholics, and 788,869 were Protestants, 425,526 of these being Presbyterians, and 360,373 Protestant Episcopalians. Comprises co. Londonderry, Down, Donegal, Monaghan, Tyrone, Fermanagh, Cavan, Antrim, and Armagh, all of which see sep.

Ulundi, *z.* in Zululand, Brit. S. Africa, where Cetewayo was defeated by Lord Chelmsford in 1879.

Ulv, *z.* of the Inner Hebrides, Argyll, Scotl., off W. coast of Mull; 5 m. long; *p.* 53.

Ulverston, industr. *z.* N.W. Lancash., nr. Morecambe B.; paper mills, hardware manuf.; consid. canal *z.* traf.; *p.* 9,552.

Uman, mfg. *z.* govt. Kiev, Russ., *p.* 17,128.

Umbagog L., (9 m. long), on boundary between Maine and New Hampshire, U.S.A., outlet by Umbagog, India. (See Umbagog.) [Androscoogin R.]

Umbria, *compartimento* Italy, between Tuscany and the Marches, and Rome and the Abruzzi; comprising the prov. of Perugia (*q.v.*), Romanized after defeat in the Samnite wars before the commencement of the Christian Era; and part of the States of the ch. before 1860, when it passed to the kingdom of Italy.

Umea, R. of Sweden, flows 250 m. to the G. of Bothnia; also *z.* on R. Umea nr. its mth.; timber *z.*; *p.* 4,618.

Umer, *z.* in Nagpur dist., India; *p.* 15,125, good Umreth, *z.* Kaira dist., Bombay, India; commercial centre; *p.* 18,884.

Unalaska, largest of Fox Is., in the Aleutian Chain, Alaska, U.S.A.; mtinous, and treeless, but with luxuriant herbage; good harbours; has several settlements; the vill. of Unalaska is the princ. port of Bering S., *p.* 450.

Unao, *dist.* Lucknow div. Oudh, Brit. India; area 2,778 sq. m.; N. of R. Ganges; grows corn, cotton, sugar-cane, and opium; *p.* 1,000,000. Cap. U., *c.*, nr. Cawnpore.

Ungeva B., arm of Hudson Strait, projecting into Labrador. Has large forests in the S., and in many parts minerals are abundant, iron ore being the most prominent. It is a wild and remote territory, chiefly inhabited by Indians, and is expected to show rich resources when properly opened up.

Ungvár, *z.* 195 m. E.N.E. Pesth, Hungary; industr. *z.*; *p.* 12,818.

Union, *z.* adjoining Hoboken West. New York, U.S.A., Union Springs, *z.* Alabama U.S.A., cap. Bullock *co.*, *p.* 4,819.

Ugahy, *z.* Igahy works, iron foundry, *p.* 7,765.

Uniontown, *hor.* Penn., U.S.A., cap. Fayette *co.*; United Kingdom. (See Britain.)

United States of America, *Federal Republic* (largest in the world) of N. America, embracing the Central portion from Atlantic to Pacific between Canada and the great L.S., N. to the G. of Mexico and Rio Grande del Norte, S. Area (including Alaska, purchased from Russia in 1867, and Hawaii) 3,622,933 sq. m. *p.* 102,000,000; cap. Washington; commercial metropolis, New York, both of which see, as also the separate States, alphabetically. The Spanish American War of 1898 resulted in the acquisition by the U.S.A. of the Philippines, Porto Rico, and Guahati. The U.S.A. are very rich in every kind of minerals, produce much timber, corn, fruit, and vegetables, and stand high in the world in stock-raising and manuif. (See Colombia.)

Unja, *z.* in Baroda st., Bombay, India, nr. Ahmabad, *gd. tr.*; *p.* 11,128.

Unley, *S. sub.* Adelaide, S. Australia, resident, and Unna, *z.* nr. Dortmund, Westphalia, Pruss., iron works, salt and coal mines, brickmfg., *p.* 16,425.

Unst, *z.* (most N.) Shetland grp., length 121 m.

Unstrut, R. Prussian Saxony, trib. (110 m.) of R. Saale.

Unter See, w. port. L. of Constance (*q.v.*) 13 m. long.

Unterwalden, old *cant.* Switzld., now sub. divid. into Obwalden and Nidwalden (total area O., 183 sq. m., N. 172 sq. m.), *p.* (O.) 15,500 (N.) 13,668. Bounded by Lucerne and the lakes of Uri, and Bern, the *canton* is largely afforested, and the *chf. ts.* are Sarnen and Stanz, mtn. pastures, and dairying.

Unyamwezi, *country* of E. Africa, E. of Tanganyika L., *chf. t.* Unyamwezi, 400 m. from cst., *p.* 5,500.

Unyora. (See Uganda.) *p.* 4,913.

Upland, *hor.* Penn., U.S.A., nr. the Delaware R., *p.* 4,569.

Upper Mill, industr. *township* W. R. Yorks., nr. Oldham, Eng., *p.* 2,654.

Upper Sind, Frontier *dist.* Sind Prov., Bombay, India, area 2,549 sq. m., *p.* 256,418. Admin. hdqrs. Jacobabad (*q.v.*) *field*, *p.* 2,818.

Upperthong, industr., *par.* W. R. Yorks., nr. Hudders.

Upholland, *a. z.* in Lancashire, 4 m. W. of Wigan, *p.* 4,800.

Uppingham, mkt. *z.* co., Rutland, Eng., nr. Oakham, famous sch., founded in 1284 by Archdeacon Robert Johnson (1540-1625), it was materially developed and improved by Edward Thring, who was headmaster from 1825 to 1889. *Eng.*, *p.* 2,511.

Uppsala, *ken* E. Sweden, N. of Lake Mälär, area 2,053 sq. m., *p.* 125,000. Cap. U., *t.* on R. Sala, 45 m. from Stockholm, university and cathedr., nr. is the fine chateau of Skokloster and the Ulfana agr. inst., *p.* 26,412.

Upton-on-Severn, mkt. *z.* nr. Malvern, Worcestersh., *Ural* Mtns., *gd. system* of Russ., separating Asia from Europe, 2,050 m. long, highest summit 5,286 ft. The Ural R. flows 1,000 m. S.W., and S. in Orenburg govt. to the Caspian.

Uralsk, *prov.* Asiatic Russ., in genl. govt. of the Steppe, S. of the Ural R., area 141,174 sq. m., *p.* 775,000, mainly nomad Cossacks and cattle-rearers. Cap. Uralsk, *t.* on Ural R., great grain trading, and cattle mart centre, *p.* 40,000.

Uran, *z.* in Thana dist., Bombay, India, 8 m. S.E. Bombay, *c.*, *p.* 10,864.

Ura-tyube, or Ora-tepe, *z.* in prov. Samarkand, Russ., Turkestan, citadel, *tr.* in camel-wool cloth and horses, *p.* 2,116.

Urbana, *z.* on Embarras R., Illinois, U.S.A., seat of st. university, *p.* 6,028; also *c.* of Champaign *co.*, Ohio, U.S.A. manuf., *p.* 6,945.

Urbino, *z.* in the Marches, Italy, amongst E. spurs of the Apennines, cathedr., grand-ducal palace, university, manuf. majolica and silk, *p.* 5,485.

Ure, R. N. R. Yorks, Eng., flows E. and S.E. to the Swale (50 m.) to form the Ouse *51,500.*

Urfa, fort. *z.* nr. Diabekr, Turkey, *gd. local tr.*, *p.* Urfahr, *z.* on R. Danube, Lower Austria, connected by iron bridge with Linz, *com. tr.*, *p.* 15,194.

Urgal, *z.* at the foot of the Pyrenees, in the Caledonian prov. of Lerida, *p.* 2,946.

Uri, *cant.* Switzld., S. of L. of Lucerne, area 415 sq. m., forest and mtn., traversed by St. Gothard rlyw. and R. Reuss, scene of many conflicts 12th to 18th cent., *p.* 20,187, cap. Altdorf or Altorf (*q.v.*)

Urr Water, *a stream* in Kircudbrightshire, having a course of 27 m. S. by E. to the Solway Firth.

Urubamba, *z.* on R. U., nr. Cuzco, Peru, *p.* 4,814.

Uruguay, R. S. America, rises in S. Brazil, and flows between Argentina and Brazil and Uruguay (50 m.) to the Rio Plata; also U. (or Banda Oriental del U.) repub. S. America, between Brazil, the Argentine, and the Atlantic, area 72,151 sq. m., *p.* (abt.) 1,700,000, cattle and sheep rearing, also fruit growing, cap. Montevideo (*q.v.*) Uruguay is divided into 19 departments. The president is elected for 4 years. Over 1,000 miles of railway have been opened in the country, and there are 4,000 miles of telegraph lines.

Urmiah, Lake of, nr. Tabriz, N. Persia (65 m. by 30 m.), salt and shallow; also *t.* nr. the l. fort., in Azerbaïjan prov., reputed birthp. of Zoroaster, *p.* 25,600.

Urumti, the capital *c.* of Chinese Zungaria, dominating the main route into Eastern Turkestan from Mongolia, situated at the N. base of the Tian-shan Mtns.

Urup, on the Kurile *isls.*, 30 m. long, 12 m. wide.

Uryupina, Cossack *vill.*, on R. Khoper, in Don Cossacks prov., Russia, gr. fair for cattle and hides, p. 10,349.

Uss, R. Russ., flows (200 m.) from the Urals to the Ussurga, a German possession in E. Africa, between the coast and Tanganyika.

Ussodon, *dist.*, Pomerania, Pruss., nr. Rügen, 30 m. long, 14 m. wide.

Ushak, *t.* in Brisa vilayet, Asia Minor, connected by rail with Smyrna and Konya, noted for pile carpet weaving, p. 12,000.

Ushant, *dist.* off French cat. nr. Brest ($4\frac{1}{2}$ m. long), contains vil. St. Michel, p. 25,000. It was off Ushant that Lord Howe gained his great naval victory on "the glorious first of June," 1794.

Ushaw, 4 m. W.N.W., the seat of St. Cuthbert's Rom. Cath. college.

Usk R. S. Wales and Monmouth, Eng., flows (77 m.) to Bristol Chan.; also t. on R. U. (one of the Monmouth Boroughs), p. 1,495.

Uskub, or Uakup, *cap.* of the vilayet of Kosovo, Europ. Turkey (compr. all N. Albania), on R. Vardar, the anc. Scopi, silk prodn., opium, fruits, corn, etc., p. 41,112.

Usoga, — (See Uganda.)

Ust-Belokalitvenskaya, *vill.* in prov. Don Cossacks, Russ., on the North. Donets R.; stone quarries, corn and cattle tr., p. 19,486.

Ust-Kamenogorsk, *dist.*, R. Irtysh, Semipalatinsk prov., Russ. Cent. Asia, cattle tr., p. 10,118.

Ust-Khopernskaya, *t.* at junct. of R.'s Don and Khoper, in Russn. prov. of the Don Cossacks, cattle and grain tr., p. 14,523.

Ust-Medveditsa, *t.* nr. Tsaritsyn, on R. Medveditsa, in Russn. prov. Don Cossacks; great cattle fair, military sch., p. 17,143.

Ustyug Velikiy, *t.* in Russn. govt. Vologda, on Sukhona R., great fair, fancy box and jewellery, and lock manuf.; also silver ware, p. 12,486.

Usumasinta, R. Mexico and Guatemala trib. (400 m.) of R. Tabasco.

Usuri, R. Manchuria, flows (340 m.) of Amur.

Usworth, *township*, Durham, Eng., sub. to Gateshead; industr., p. 5,788.

Utah, Westn. St., U.S.A.; area 83,190 sq. m., p. 374,000 (two-thirds Mormons); cap. Salt Lake City (*g.v.*); Utah L., 23 m. long, and 4,400 ft. above sea-level, discharges by the K. Jordoni to the Great Salt L. (*g.v.*). Utah was part of the territory obtained from Mexico by the U.S.A. in 1848, and from 1850 was occupied by the Mormons, but its area was reduced to its present proportions in 1868. The privilege of State recognition was not granted until 1894, when polygamy was renounced and Mormon supremacy ended.

Utakamand, or Ootacamund, *t.* in Madras, Brit. India; admin. hqrs. Nilgiris dist., summer cap. Madras govt., on a plateau 7,230 ft. above sea-level, mtn. surrounded by large artif. L. and beautiful scns., p. 15,081.

Utica, *c.* on Mohawk R., Oneida co., New York, U.S.A.; clothg. and other manuf., p. 74,419.

Utiel, *t.* nr. the Rio Magro, Valencia prov., Spain, N.W. of Requena; brandies, wines, etc., p. 11,888.

Utrecht, *prov.*, Holland, betwn. Gelderland and N. and S. Holland; area 534 sq. m., fertile agr. and stock-raising dist. S. of the Zuider Zee, p. 265,084; cap. U., *c.* on the Old Rhine; university, cathedr., chemical, and cigar factories, p. 124,120; also name of a t. in the Transvaal Col., Brit. S. Afr., cap. of U. dist., p. 10,615.

Utrera, *t.* in Seville prov., Spain; industr., p. 15,824.

Uttarpara, *t.* on R. Hooghli, H. dist., Bengal, Brit. India; famous library, p. 6,895.

Uttomster, *mtg.*, *t.* nr. R. Dove, Staffs, Eng., p. 5,719.

Uxbridge, *mkt.*, *t.* Middlesex, Eng., on R. Colne, 18 m. N. of London, p. 10,374.

Uxmal, ruined anc. *c.* Yucatan, Mexico, 70 m. S. of Merida; interesting temples, sculptures, etc.

Us, a *land* (in Biblical geography) E. of Palestine; placed by some scholars in the modern Hauran, Syria (anc. Auranitis of Bashan); the home of the patriarch Job. [the Caspian S.]

Usen (Gr. and Little), R.'s of Russ., flowing 290 m. to

Uses, *t.* dep. Gard, France, on R. Auson, nr. Nîmes; cathedr., campanile, anc. castle, mediæval palace, and clock tower, silk manuf., wine and oil tr., p. 4,054.

Uzkol, Cape, *promontory* on Ob Bay, N. Siberia.

V

Vaal, or Ky Gariep, R. Brit. S. Afr.; rises in Quathlamba Mtns., and flows (560 m.) betwn. the Transvaal and Orange R. Col. to join the Orange nr. Kimberley.

Valgrata, Russn. *dist.* in the Arctic Oc., betwn. the mainld. and Nova Zembla (70 m. by 35 m.); included in govt. Archangel, and visited in summer by hunters.

Valais, *cant.*, Switzerland, compr. of R. Rhône; area 2,025 sq. m.; surrou. mtns.; sparsely populated (120,000); cap. Scion (*g.v.*), 7,864.

Valdagno, *t.* nr. Vicenza, Italy; industr. p. (com.) 7,864.

Valdai Hills, *govt.* Novgorod, Russ.; watershed of Valdepenas, *t.* on R. Jablon, nr. Ciudad Real, Spain; in mining regn.; p. 1,624.

Val de Traversa, a *valley* rich in asphalt mines in the canton of Neuchâtel, Switzerland.

Valdivia, *prov.*, S. Chili; area 10,715 sq. m.; p. 20,813; cap. V., t. on Calle-calle R., nr. the sea (port Corral); brewg. and tanning, p. 10,118.

Valdosta, *c.* in Lowndes co., Georgia, U.S.A., nr. Florida border; rly. centre, p. 6,035 (half negroes).

Valeggio, *t.* on R. Mincio, nr. Verona, Italy; fortif. bridge, with causeway on Roman foundatns., 1,800 ft. long; p. 5,664.

Valencay, *t.* on R. Nahon, dep. Indre, France; castle prison of Ferdinand VII. of Spain; p. 3,846.

Valence, *t.* on the Rhône, dep. Drôme, France; metal founding, hostery manuf., tinned food prodn.; p. 20,454; vineyd. dist.

Valencia, *prov.*, Spain, on Mediterranean; area 4,329 sq. m.; agr. vineyds., olive, fig, and orange growg.; live stock rearg.; silk, tapestry, and carpet manuf.; p. 80,560; cap. V., t. on R. Guadalquivir, 3 m. from the Mediterranean; many manuf., exports wine, fruits, corn, etc.; university, museum, interestg. cathedr.; p. 220,340; also *c.* in Venezuela, cap. Carabobo, nr. L. of V. (30 m. long), W. of Caracas; gr. tr., p. 42,000.

Valencia de Alcántara, *t.* on R. Avid, prov. Cáceres, Spain, nr. the Portuguese frontier; garrison, dismantled castle; Roman ruins; agr. and antimony ming. dist.; p. 10,012.

Valenciennes, fortif. *t.* on R. Escaut, dep. Nord, France; famous for lace mfg.; metallurgical industries, starch, chemicals, etc.; p. 32,506. [p. 2,250.]

Valencia Isl., S.W. co. Kerry, Irel. (6 m. by 2 m.); Valenza, *t.* of N. Italy, 9 m. N. of Alessandria, on the Po, p. 7,644.

Valetta (or Valleria), *spt.* *c.* of Malta, on N.E. cat. of isl.; strongly fortif.; fine harbor; many relics of the occup. of the Knights of Malta; *p.* (exclusive of Brit. troops) 24,506.

Valguarnera, *t.* of Sicily, 16 m. E. of Caltanissetta, p. 15,676.

Valladolid, *prov.*, Centl. Spain; area 3,043 sq. m.; agr., vineyds., live-stock, mfg.; p. 286,715; cap. V., t. on R. Pisuerga; seat of army corps, university, cathedr.; thrivg. industries and tr.; p. 74,619; also *c.* nr. Merida, Yucatan; p. 5,247.

Vallecas, *t.* nr. Madrid, Spain; in flat fertile wine-growg. dist., through which flows the Manzanares R.; p. 10,615.

Vallejo, *c.* at the outlet of the beautiful Napa valley, Solano co., California, U.S.A.; exports fruit and corn; p. 8,716.

Valleyfield, *mtg.*, *t.* at ft. of L. St. Francis, Beauharnois co., Quebec, Can.; p. 12,675.

Valla, *mtg.*, *t.* in Spain, 12 m. N. of Tarragona, p. 13,706.

Valmy, *vill.* in the dep. of Marne, France, 30 m. N.E. of Châlons.

Valparaiso, *prov.*, Chili; area 1,637 sq. m., p. 286,050. Cap. V., *c.* and *spt.*, the most imp. port on the Pacific cat. of S. America, and the greatest mfg., commerc. and industr. centre of the Republic of C.,

- p. 128, 260; also name of a bor. Porter co., Indiana, U.S.A., clock manuf. and mch. wks., p. 6, 8, 24.
- Valton**, *viz* in Skye, about 133 m. from Portree, p. 364.
- Van**, fort. c. on E. side of L. Van (salt, 75 m. long), Turkish Armenia, S. of Erzeroum; military str.; massacres 1895 and 1896, p. 30,000. Cap. vilayet V., on Persian border; area 15,440 sq. m., mtous. and pastoral, sulphur springs, petrol. wells, p. nearly 300,000.
- Vancouver**, *isl.* off W. coast Brit. Columbia (278 m. long, 50 m. to 65 m. wide), p. 41, 100. Is. separated from the mainland by Queen Charlotte Sound, Johnstone Strait, and the Strait of Georgia. The shores are to a large extent rocky, but are relieved by numerous fine harbours. There are large forests yielding an abundance of timber, but only a small proportion of the land—perhaps a tenth—is available for agricultural purposes. Fruit culture, however, is profitably carried on in many sections of the island and in this direction the developments have been very considerable in recent years. The fisheries of Vancouver Isl. are also important. Gold, silver, copper, and iron are found in paying quantities, and there are excellent coalfields. Cap. Victoria, at S. end of isl., which is also cap. of colony; also name of a spt. in Brit. Columbia, terminus C. P. Ry. on Burrard Inlet, p. 330, 114; also c. Clarke co., Washington, U.S.A., nr. Portland; forest regn. and tr. centre for Hudson B., with military post at Fort Vancouver, p. 447, 8.
- Vannes**, *chf.* dep. Morbihan, France, on S. coast Brittany; shipbldg., ironwks., breweries, p. 25, 114.
- Vannes**, or **Vannes**, *viz* subn. (S.) to Paris, France; linen-leaching, p. 6, 410.
- Van Wert**, *cap.* of Van Wert co., Ohio, 27 m. W.N.W. of Lima, p. 6, 561.
- Var**, R. France, dep. Alpes-Maritimes, flows 60 m. S. to the sea; also dep. S. France, on the Mediterranean; area 2,323 sq. m., pasture, vineyds., sericulture, p. (increasg.) 330,064. Cap. Draguignan, Toulouse largest c.
- Varallo**, *t.* in Italy, 35 m. N.W. of Novaro, p. 3, 510.
- Varanger Fjord**, *del.* of the Arctic Ocean into Finnmark, Norway's most northerly prov.
- Varese**, *t.* nr. Milan, N. Italy; beautifully situated Lombard autumn rest., silk-spinning, gd. wme, p. 10, 445.
- Varinas**, *a t.* of Venezuela, 100 m. S. of L. Maracaybo, p. 7, 100.
- Varna**, fort. *t.* Bulgaria, on Black S.; *chf.* spt. of the country, with gt. grain tr., p. 20, 886.
- Varzin**, *viz*, in Fomerania, 25 m. S.E. of Kōsin. Prince Bismarck's country seat was near this place, p. 1, 300.
- Vasa**, *prov.* grand duchy of Finland, Russ.; area 1,684 sq. m., p. 460, 244. Cap. V., t. and port on G. of Bothnia; oats, butter and cattle export, p. 14, 118; officially called Nikolaistad since the gt. fire and rebuilding of the t. in 1895.
- Vásárhely**, or **Hodmező Vasárhely**, *t.* on L. Hodós, nr. Szegedin, Hungary; wine and tobacco manuf., p. 54, 125. [Hungary, nr. Veszprém, p. 4, 978.]
- Vasárhely**, or **Somogy Vasárhely**, *t.* on R. Torna, Vasilkov, *t.* (indust.), govt. Klev. Russ., p. 18, 829.
- Vaskut**, *viz* nr. Baza, co. Bacs, Hungary, p. 6, 731.
- Vattila-gundu**, *t.* Madras dist., Madras, India, p. 14, 433.
- Vaucluse**, *dep.* S.E. France, area 1,368 sq. m.; agr., vines, sericulture; p. 235,000 (decling.). *cap.* Avignon (*q.v.*). At the village of Vaucluse lived Petrarch, and here it was that he wrote many of his poems to Laura, who was a Frenchwoman living at Avignon. In this sequestered spot the poet devoted his genius to the immortal task of celebrating his passion in worthy verse.
- Vaud**, or **Pays de Vaud**, *cant.* W. Switzld., N. of L. of Geneva, area 1,247 sq. m.; timber forests and vineyds.; p. 300,000; *cap.* Lausanne (*q.v.*). The canton extends from the Jura to the Bernese Oberland. Its population is mainly Protestant, and wine is its principal product.
- Vauxhall**, *district*, *and* S.W. London, nr. Thames; *chf.* centre *pp.* *viz* *isl.* In the 18th and early part of the 19th century Vauxhall was famous for its gardens, where concerts and brilliant assemblies took place, and rank and fashion largely patronised the entertainments. Here the leading vocalists of the time made their appearance, and the *Wax*, balls, fireworks, balloon ascents, and other attractions drew large crowds.
- Veicht**, *arm* of R. Rhine, prov. Utrecht, Holland, flows from the Old Rhine (18 m.) to the Zuyder Zee.
- Veglia**, *del.* in the Adriatic, belonging to Austria, S.E. of Trieste, area 265 sq. m., p. 22,000.
- Vell** was one of the 12 *chefs* of the Etruscan confederacy, and was situated 12 m. N.W. of Rome. After many desperate conflicts with Rome, Vell was ultimately captured, 396 B.C., by Camillus, but not until it had withstood a siege of two years.
- Véja de la Frontera**, *t.* on R. Barbate, Cadix prov. Spain; beautiful agr. and stock-rear. country; p. 22, 106. [15,869.]
- Vejle**, *stet.* Jutland, Denmark; gd. harb., and tr.; p. Valbert, *t.* nr. Barmen, govt. Düsseldorf, Prussia; Industri; p. 11, 979.
- Veldes**, a summer *lake resort* in the prov. of Carniola, Austria, 30 m. N.W. of Laibach; celebrated for its sun-baths; p. 540.
- Veles**, *t.* nr. Tunja, Colombia; gd. tr.; p. 9, 425.
- Velaz Malaga**, *t.* in the prov. of Malaga, Spain, famous for its abundant crops of raisins, sugar, and olive oil.
- Velaz Rubio**, *t.* in the prov. of Almeria, Spain, in the Sierra Maria Mtns., commanding from its eminence an immense view of the country around.
- Velliko Mikhailovica**, *t.* in govt. Kursk, Russ.; grain and timber; p. 1, 300.
- Vellish**, *t.* nr. Dölna, govt. Vitebsk, Russ., p. 18, 170.
- Velletri**, *t.* at foot of the Alban hills, nr. Rome, Italy; good wine; p. 17, 368. At this spot Garibaldi gained a victory over the King of Naples, May 19, 1849. There is a cathedral of some historic note here, dedicated to St. Clement, and dating from the 12th century.
- Vellore**, *t.* on R. Palai, N. Arcot div. Madras, Brit. India; military cantonment, perfume distillery; p. 44, 105. There was a serious outbreak in 1866 by Sepoy soldiers, who mutinied, and put many European officers and residents to death.
- Vendaisais**, an anc. French co. betw. the Durance and the Rhône, now incorporated in Venduse.
- Vendée**, or **La Vendée**, *dep.* W. France, on B. of Biscay, area 2,694 sq. m.; agr., pasturage, vineyds., fishery, sea-salt, and some manufs.; p. (increasg.) 441,000; *cap.* La Roche-sur-Yon. The Vendéens, it will be remembered, offered a strong resistance to the French Revolutionists of 1793. Also *V.*, a R. in dep. same name, flows (46 m.) to Sèvre-Niortaise.
- Vendôme**, *t.* on R. Loire, dep. Loire-et-Cher, France, nr. Tours; industri.; p. 9, 848. Once gave the name to a county and duchy, the former dating from 1255, the latter from 1595. Vendôme has the ruins of a famous Renaissance abbey, a church of the Trinity going back to the 12th century, and some remains of an 11th century castle belonging to the Dukes of Vendôme.
- Vener**, or **Wener**, the largest of the Swedish lakes, 2,150 sq. m. in extent, discharging itself on the S. through the Göta.
- Venetia**, *compartimento* N.E. Italy, betw. the Alps and the Adriatic, area 9,476 sq. m., p. 3, 527,000; embraces provs. Vicenza, Verona, Venice, Udine, Treviso, Padua, Belluno, and Rovigo (all of which see sep.); *cap.* Venice.
- Venev**, *t.* in govt. Tula, Russ., p. 5, 812.
- Venezuela**, *República* S. America, on Caribbean cst. adjoining Brazil, area 394,000 sq. m.; agr., coffee, cocoa, and sugar-growing, stock-raising; p. 2, 800,000; *cap.* Caracas (*q.v.*). Venezuela is very mountainous, and includes vast extents of lake, swamp, and forest. The Andes extend through the country from the south of Lake Maracaybo to the Cordillera de Merida (15,500 ft.). There are eight separate river systems, the chief of which is the Orinoco. Formerly there were several active volcanoes in the country, but these long since ceased to be a menace. Earthquakes are not infrequent, and occasionally cause great disaster. The population is mostly half-breeds, pure negroes or whites being comparatively few. In later years the mineral resources

- of Venezuela, which are exceedingly rich, have attracted much European capital and labour, and the commerce of the country has become very active and important.
- Vengurla**, *cf.* Ratnagird dist., Bombay, India, p. 19,142, ceded to Britain in 1818.
- Venice**, maritime c. Italy, at head of the Adriatic, situated on 80 isls. in the lagoons; splendid arch. rich in art treasures and historic associations; great com. and industr. activity; p. (exclusive of garrison) 175,000. In shipbuilding to-day Venice ranks next after Genoa among Italian cities. Austria became possessed of Venice on the apportioning of the old Napoleonic possessions, but the Venetians, led by Daniele Manin, rose against their oppressors in 1848-9, when the struggle for Italian independence really began; but it was not until 1866 that Venice was able to free itself from Austrian rule and become part of the new kingdom of Italy. Also prov. Italy; area 934 sq. m., p. 465,416. [p. 14,652.]
- Venlo**, Dutch t. on the Meuse, 20 m. W. of Crefield, Vennach, *loch*, Perthshire, Scotl. (33 m. long), expansion R. Teith. [industry; p. 8,804.]
- Venosa**, t. in prov. Potenza, Italy; cathedral, pottery Ventimiglia, t. and coast resort nr. Nice, Italy, p. 5,619. Cathedral and Roman antiquities.
- Ventnor**, salubrious port, *cf.* S. coast Isle of Wight, p. 1,971; 12 m. W. of R. Southampton, beautiful scenery, mild climate, much resorted to by invalids in winter.
- Vera**, t. in prov. Almería, Spain, nr. coast, p. 8,964.
- Vera Cruz**, c. and port Gulf of Mexico prov. Vera Cruz, Mexico; exports ores, precious metals, textiles, raw cotton, and petrol; p. 29,717. V.C. prov. has area 29,210 sq. m., p. 1,000,000. Contains volcano Orizaba (*q.v.*). Fine new harbour, waterworks and drainage constructed in recent years.
- Vercelli**, t. on R. Sesia, Novara prov., Piedmont, Italy; university, fine church S. Andrea; large rice export; p. (including garrison) 35,448. Is a great railway centre, and possesses a fine museum of Roman antiquities.
- Verden**, t. on R. Weser, Hanover, Prussia; Gothic cathedral dating from the 13th century, and of great interest for its architectural beauty and historic associations; p. 10,112.
- Verdun**, fortif. t. on R. Meuse, France; 12th century cathedral, confectionery, liqueur, and hardware factories; p. (declining) 13,450; t. *pub.* Can., p. 12,000.
- Vereeniging**, t. in Transvaal Colony, on the Vaal, 35 m. S. of Johannesburg; the peace treaty between the British and the Boers was signed here May 31, 1902.
- Vergara**, t. on R. Deva, in Basque prov., Guipuzcoa, Spain; quaint old houses, thriving modern manuf. (paper and textiles); p. 6,615.
- Veria**, t. in vilayet of Salonica, Turkey, 40 m. W. of the city of Salonica. In ancient times it was known as Berrhōa, and was one of the chief Macedonian towns. St. Paul preached at Berrhōa in 54 A.D. By the Turks it is called Katerini; p. 8,900.
- Verkhne-Dneprovsk**, t. nr. Ekaterinoslav, Russia; flour mills; p. 12,460.
- Verkhoyansk**, t. in the Yakutsk prov. of E. Siberia, on the Yana R., 400 m. N.N.E. of the city of Yakutsk. It has the reputation of being at the coldest part of the Asiatic continent, with a mean winter temperature of 55° F.; p. 360.
- Verkhue-Udinsk**, t. E. Siberia, Asiatic Russia, at junction of R. Selenga and Uda, nr. Lake Baikal; good trade, great annual fair; p. 9,822.
- Verkhue-Ural'sk**, t. on Upper Ural R., govt. Orenburg, Russ.; tanneries, distilleries, tr. with Kirghiz Cossacks; p. 13,205.
- Vermont**, New England, st. U.S.A., nding. Quebec prov., Canada; area 9,595 sq. m., traversed by the Green Mtns., p. 30,648; agr., mills, and manuf. Cap. Montpelier (*q.v.*). Vermont lies W. of New Hampshire, and is the only entirely inland State of New England. It derives its name from the Green Mountains (Vermont), four of whose peaks have an altitude of over 4,000 ft., but are green to their tops. The minerals of the State include granite, marble, and slate, of which there are extensive quarries; and the proportion of area devoted to cereals is larger than that of any other New England State. It excels
- in maple-sugar production, its yield of which nearly equals one-third of the total production of the country. Champlain was the first white man to set foot in Vermont. This was in 1609, and the first permanent settlement was established at Battleboro in 1724. Vermont is the fourteenth State of the Union, and took its place among the States in 1791.
- Vernon**, t. on R. Seine dep. Eure, France, p. 8,015. Also t. (containing Rockville c.) Tolland co., Connecticut, U.S.A.; manuf. silks, cotton, and woollens; p. 8,546.
- Vernoye**, t. Russn. Turkestan, cap. Semiretchinsk govt.; large tr.; p. 12,500.
- Verona**, fortif. c. on R. Adige, Venetia, Italy; beautiful cathed.; Roman antiquities; palace of the Scaligers (now law courts and gaol); active tr. and industries; p. 82,000; also prov. of Venetia comparto; area 1,188 sq. m., p. 475,416. The historic, artistic, and literary associations of the city of Verona are of high importance. It is one of the cities of the Quadrilateral, and a fortress of the first class. Its ancient amphitheatre, which belongs to the 2nd or 3rd century A.D., has a lesser diameter of 404 ft. There are also remains of Roman gateways and a theatre. The cathedral is of the 12th century, and possesses an altar-piece by Titian; and there is a Romanesque basilica (St. Zeno), a larger and finer edifice than the cathedral. The ancient castles of Theodoric and the Scalas are now utilised for military purposes, and the tombs of the Scala family, with their exquisite wrought-iron railings (1350-80), are among the wonders of the city. The picture gallery of Verona contains some noted examples of the art of the Paduan, Venetian, and Veronese schools. Verona was the birthplace of the poet Catullus and of the painter Paul Veronese, and was the scene of Shakespeare's *Romeo and Juliet* and *Two Gentlemen of Verona*.
- Versailles**, c. Seine-et-Oise dep., France, 12 m. W.S.W. of Paris; famous royal palace; here King William of Prussia was proclaimed German Emperor in 1871, after the Franco-Prussian War; mkt. gdng; distilleries, etc., p. 61,000. Versailles is the see of a bishop, and has a public library of 50,000 volumes. Its famous royal palace, now a great public show-place, was built by Louis XIII. (though on a comparatively small scale at first) on the site of an ancient priory. It was Louis XIV., however, who caused it to be extended to something like its present proportions, under the superintendence of Mansard, and the palace continued to be the favourite royal residence down to the Revolution of 1789. It was Louis Philippe who converted the palace into a public museum. Its pictures include many of the best battle-pictures which French art has produced, those by David, dealing in the main with Napoleon's various campaigns, being of chief interest.
- Vesec**, fortif. t. nr. Temesvár, Hungary, p. 25,114.
- Vesulam**, on R. Vesur opp. St. Alban, Hert., Eng.; site of ancient Roman c. [centre; p. 52,48.]
- Verviers**, t. nr. Liège, Belgium; gt. cloth manuf.
- Vervins**, t. in the dep. of Aisne, France, 26 m. N.E. of Laon, p. 3,429.
- Vesenskaya**, t. in prov. Don Cossacks, Russ., on R. Don, in gdng. and cattle-breeding dist; p. 30,460.
- Vesoul**, t. nr. Besançon, Haute-Saône dep., France, on R. Durance; p. (com.) 10,088.
- Vesuvius**, famous active volcano, S. Italy, on side of Bay of Naples; alt. 3,958 ft. Its eruption in A.D. 79 destroyed Pompeii and Herculaneum, and frequent eruptions have since occasioned havoc. The last serious eruption took place in 1906, when two villages were destroyed by streams of lava and falling ashes, and even doing damage to roofs in Naples. The slopes of Vesuvius are exceedingly fertile and include some choice vineyards, from whose produce high-class wines are made. An observatory was built at the foot of the crater in 1844, which for nearly thirty years was presided over by Professor Palmieri, who contributed much to the advancement of astronomical and meteorological science by his observations. A funicular railway from the base of the mountain to the edge of the crater has existed since 1880.

Vassprism, industr. & nr. Buda, Hungary; large tr. in grain and wine; p. 13,816.

Vevey, & on L. of Geneva, cant. Vaud, Switzld., p. 10,125. Vevey is a charmingly picturesque health resort, 11 m. E. ofusanne, and on the N. shore of Lake Geneva. The English regicides, Ludlow and Broughton, are buried in the old church of St. Martin's here, which dates from the 15th century.

Vexjö, & cap. of Kronoberg co., Sweden, 60 m. W. by N. of Kalmar. Among the local industries match-making and iron-founding are the chief; p. 7,456.

Vézère, R. France, trib. (100 m.) of R. Dordogne.

Via-Mala, a famous Rhine gorge nr. Thusis, canton Grisons, Switzerland; the road and the river intertwine in the most picturesque fashion, showing half-open galleries and tunnels, with precipitous rocks on either side, many to a height of 1,600 ft. in places.

Vianna do Castelo, sp. Portugal, at mth. of R. Lima, nr. Oporto; manuf. lace and milk foods; exports lampreys and salmon; p. 10,114; also name of dist.; area 866 sq. m., grows wine; extensive butter-dairy; p. 225,600.

Viareggio, sea-bath, *rest.*, on the Mediterranean nr. Pisa, Tuscany, Italy; p. 17,116. Here there is a monument to the poet Shelley, whose body was washed ashore at Viareggio after he was drowned.

Viatska, R. Russ., trib. (500 m.) of R. Kama; also govt. Rost. (area 29,117 sq. m., p. 3,105,000), and t. cap. same, on R. V., p. 26,119; gd. trade. (p. 12,444).

Viazna, & in Smolensk govt., Russ.; industr.;

Viborg, govt. in S.E. Finland, Russ., on B. of V., G. of Finland; area 16,627 sq. m.; p. 250,184. Cap. V., t. 85 m. N.W. St. Petersburg; castle, great timber export; p. 22,480; also old mkt. t. in mid-Jutland, Denmark; cathedral; distilleries, cloth factories, iron foundries; p. 8,812.

Vicenza, & on R. Bacchiglione, 40 m. W. of Venice, Italy; fine cathedral, and for Palladio; silk-spinning, majolica, and textile industries; piano, watch and furniture making industries; p. 51,510. Many of the fine buildings of Vicenza were built by Palladio, who was a native of Vicenza. A beautiful campanile, 270 ft. high stands in the centre of the Piazza dei Signori, a very large and handsome square. The Duomo is a fine Gothic structure of the 13th century. Also N. of prov. of Venetia comp., Italy; area 1,052 sq. m.; p. 500,000.

Vich, or Vigue, & nr. Barcelona, Spain; cathedral, flourishing manuf.; p. 12,140.

Vichy (or Montiers-les-Bains), *wat. M. dep.* Allier, France, 35 m. S. of Moulins, mineral springs, large export of waters; p. 14,500 (annual visitors nearly 50,000). The famous Vichy waters were known to the Romans, as is evidenced by the remains of marble baths still existing. Napoleon III. did much to popularise both the resort and the waters. The latter rise in copious springs at the foot of the volcanic mountain ranges of Auvergne, and are used both for medicinal consumption and for bathing.

Vicksburg, & Warren co., Mississippi, U.S.A.; on cliffs above a "cut-off" L. on M. R.; mfg. centre in cotton and timber region; prominent in American Civil War, Confederate surrender 1863; p. 20,814.

Victoria, state of the Australian Commonwealth, separated by R. Murray from N.S.W. on N. Area 87,884 sq. m., mtuous., with fertile plains, and fine forests; agr., stock-raising, gold-mining, etc.; p. 1,337,000. Exports—wool, corn, flour, etc. Cap. Melbourne (p. 21). Victoria is, next to Tasmania, the smallest State of the Australian Federation. Seen as early as 1770 by Captain Cook, it was not until 1801 that the harbour of Port Phillip was discovered, and was not permanently taken possession of and colonised before 1835. From 1836 to 1851 Port Phillip was administered from Sydney, but in the latter year was constituted as the colony of Victoria. The colony has an extreme length of 420 m. from E. to W., while its greatest breadth is only 230 m. It has a coast line of 600 m. From 1851, when gold was first discovered in Victoria, it has been a very productive gold region, being responsible for more than half the yield of all Australia, over £300,000,000 worth of the precious

metal having been obtained altogether up to the present time. Victoria has also contributed largely to the world's wealth in its wool production, its flocks of sheep numbering some 12,000,000 animals. Its chief cereal crop is wheat. There are five different railway systems in the colony, controlling over 3,000 miles of line. Also cap. Brit. Columbia, on isl. Vancouver (p. 21), p. 32,000; also sp. and ch. t. Hong-Kong, on N.W. coast; immense tr.; p. 135,000. Also t. on R. Uruguay, Entre Rios, Argentina, p. 4,827; also sp. cap. Espírito Santo, Brazil, p. 5,814; also t. nr. Caracas, Venezuela, p. 7,952; also vil. on Huon R., Tasmania, p. 3,411; also t. on Guadalupe R., Victoria co., Texas, U.S.A., p. 3,855.

Victoria, East, div. C. Colony, Brit. S. Africa; area 270 sq. m.; p. 9,874. Chf. t. Alice.

Victoria Lake, on Pamir highland, 13,870 ft. above sea-level, is 17 m. long and 3 m. broad; and is supposed to be the chief source of the Oxus. It occupies a section of the Pamir frontier between Russia and Afghanistan.

Victoria Land, *terr.* in Arctic regions, S.E. of Prince Albert Land; also region of the Antarctic, discovered by Ross in 1841.

Victoria Nyanza, largest known lake of Africa, lies on the Equator; area 25,000 to 26,000 sq. m., discharging to the N. by R. Nile, 3,705 ft. above sea-level. This far-extending sheet of water was discovered by Captain Speke in 1858, the story of his finding it and his description of its principal features causing a considerable sensation when published. Subsequently, in 1861-2, he and Grant visited it; and later (1875 and 1889) Stanley explored it, and added greatly to our knowledge of the lake. The Kagera is the chief feeder of the lake, whose native name is Ukerewe. There is to-day railway connection between the lake from Port Florence to Mombasa on the Indian Ocean. The entire east of the lake and lands was surveyed in 1906 by Commander Whitehouse.

Victoria, West, div. Cape Col., Brit. S. Africa; area 15,815 sq. m., p. 15,116; cap. V. W., t. 410 m. N.E. Cape Town; p. 864.

Vienna, & on branch of R. Danube, Lower Austria, cap. emp. Austria; university, fine cathedral, St. Stephen, Rathaus, Parliament bldg., magnif. Prater park, immense industr. activity, thriving commerce and manuf.; p. (including garrison) 27,000 strong; 2,201,100. Vienna is one of the most strictly modern cities of Europe, its Inner City and Ringstrasse forming very handsome and fashionable quarters. The Cathedral of St. Stephen (1300-1510), with a steeple 450 ft. high; the Imperial Palace, the Hofburg; and numerous palaces of the Austrian nobility, are among the striking features of the Inner City; and in the Ringstrasse are the chief public and commercial buildings, including the Exchange, the Rathaus, the Parliament House, the Law courts, the Imperial Museum, and the University. Of Vienna's many public parks, the Prater, 7 sq. m. in extent, is the chief; it was opened in 1766. Maria Theresa, Maria Antoinette, Johann Strauss, Czerny, Schubert, and Baron Hubner were natives of Vienna.

Vienne, R. France, trib. (220 m.) of the Loire; also dep. W. France, watered by R. V.; area 2,712 sq. m., agr. and vineyards; p. (decling.) 333,516; cap. Fontiers. Also t. in dep. Isère, France, nr. Grenoble, on R. Rhone; textile ind. and glove factories; p. 23,208.

Vienne, Haute. (See Haute-Vienne.)

Viersen, & nr. Dusseldorf, Rhensh. Prus.; velvet, plush, silk, and cotton industries; p. 25,125.

Vierzon, industr. & nr. Bourges, dep. Cher, France, p. 10,116.

Vigan, & nr. Nîmes, dep. Gard, France, p. 5,615; also t. in S. Illocos, prov. Luzon, Philippine Is.; agr. and local industries; p. 19,416.

Vigevano, an Italian cathedral c., 22 m. N.W. of Vigò, fort. & t. on Rio del Vigò, prov. Galla, Spain; imp. fishery and shipping industries; p. 27,810. Vigo has often been subjected to attack. It was taken by Drake in 1582 and again in 1589; by Lord Cobham in 1719; and the combined British and

- Dutch fleets, under Sir George Rooke and Admiral *Val Almonde*, captured or destroyed a combined Spanish and French fleet here in 1704.
- Vijayanagar**, a ruined city in the Bellary dist. of the Madras Presidency, India, 40 m. N.W. of the city of Bellary. From the 14th to the 16th century Vijayanagar was the capital of a Hindu kingdom.
- Vilkomir**, *t.* in Kovno govt., Russ., nr. Vilna; *gd. tr.*; p. 16,897.
- Villa Clara**, *t.* nr. Trinidad, Cuba; *industrial*, and com.
- Villa del Pilar**, *t.* of Paraguay, 204 m. from Asunción; large orange output; p. 5,966.
- Villafraanca**, *t.* in Verona prov., Lombardy, Italy; silk manuf.; p. 7,846.
- Villafraanca de los Barros**, *t.* Badajoz prov., Spain; wine and corn country; p. 10,022.
- Villajoyosa**, *est. t.* on Mediterranean, prov. Alicante, Spain, opp. isl. of Benidorm; fisheries and domestic manuf.; p. 9,754.
- Villa Nova de Gaia**, *t.* on R. Douro, Portugal; sub. to Oporto; pottery, wine casks, tobacco, and glass factories; p. 15,215.
- Villanueva de la Serena**, *t.* S. of R. Guadiana, prov. Badajoz, Spain; in wine, wheat, hemp, and fruit-growing; dist.; p. 11,893.
- Villanueva y Geltrú**, *est. t.* Barcelona prov., Spain; fishy, and agr. centre; p. 12,114.
- Villa Real**, *dist.* Portugal; area 1,717 sq. m.; p. 29,714; cap. V. R., *t.* on R. Corgo; p. 6,888.
- Villa Rica**, *t.* (90 m. E. of Ascension) Paraguay; in agr. and timber reg.; p. 26,246.
- Villefranche de Rouergue**, *t.* on R. Aveyron, nr. Toulouse, France; *industrial*; p. 11,420.
- Villefranche sur Saône**, *t.* dep. Rhône, France; 19 m. N.W. Lyons; cotton and thread factories; p. 16,028.
- Villena**, *industrial t.* Alicante prov., Spain; p. 15,218.
- Villeneuve-sur-Lot**, *mfg. t.* dep. Lot-et-Garonne, France; p. 14,815.
- Villeneuve-sur-Yonne**, *t.* dep. Yonne, France; p. 15,556.
- Villengen**, *t.* nr. Schönenau, Baden, Germany; chief seat watch-mkng. ind., Black Forest; p. 8,263.
- Vilna**, Lithuanian govt., W. Russ., on border of Poland; area 16,421 sq. m.; forest, agr., cattle-breeding; p. 1,998,500. There are numerous tracts of marshland and many lakes, and among the chief industries are flour, saw, and paper mills, breweries, distilleries, glass works, brick works, etc. Cap. V., *t.* on R. Viliya; hqrs. of gov.-genl. of the Lithuanian prov.; *gd. industrial*, and *commerc.* centre; Roman C. cathedral, ruined castle; p. 175,600; grain and timber export.
- Vilvorde**, *t.* on R. Senne, Brabant, Belgium; oil and chemical factories; p. 13,810.
- Vimiera**, *t.* in Estremadura, Portugal, nr. Torres Vedras; Wellington's victory, Aug. 21, 1808; p. 2,563.
- Vinaroz**, *spt. t.* nr. mth. of R. Ebro, Spain; ship-bldg., p. 10,112.
- Vincennes**, *t.* with castle and wood, 4 m. E. of Paris, France, p. 18,500. The ancient castle was destroyed in the 14th century, and was long used as a State prison, in which at different times Henry IV., Condé, Diderot, Mirabeau, and others were confined. It was in the castle moat that the Duc d'Enghien was shot. Since 1831 the old edifice has been utilised as a fort. Also c. on Wabash R., Indiana, U.S.A.; *ry. centre*, p. 12,118.
- Vindhya**, *mtn. range* separatg. the Deccan from the Ganges basin, India, alt. of highest summit, 4,500 ft.
- Vinegar Hill**, nr. Enniscorthy, co. Wexford, Ireland; battle 1798.
- Vinh**, *t.* cap. prov. Vinh, French Indo-China, betwn. Hanoi and Huế, *t.* of prov. 1,550,000.
- Vinita**, *t.* of the Cherokee natn., Indian Terr., U.S.A., p. 2,416.
- Vinnitsa**, *t.* on Bug R., govt. Papiola, Russ., p. 19,886.
- Vionville**, *spt. t.* Metz, Lorraine, Germany.
- Virangam**, *t.* nr. Ahmadabad, Bombay, India; *tr. centre*, p. 19,225.
- Viravallu**, *t.* in Tamevelli dist., India; flourishing.
- Vire**, *t.* nr. Caen, dep. Calvados, France; interestg. anc. bldgs., ruined chateau, granite quarries, grain *tr.*, p. 6,354.
- Virginia**, an Atlantic st. U.S.A., S. of Maryland; area 44,450 sq. m.; tobacco culture, p. 2,062,197; cap. Richmond (*g.v.*). Virginia is separated from Maryland by the Potomac R. and Chesapeake B. From E. to W. its greatest length is 475 m.; its greatest width 190 m. The Appalachian Mtns. on the W. are of low range. Besides the Potomac, the chief rivers are the Kappahannock, the York, the James, the Blackwater, and the Roanoke. Virginia is famous for its Natural Bridge in Rockbridge co., and for its mineral springs. "Virginia leaf" tobacco is the finest quality that the United States produces. It was at Jamestown in this state that the first representative assembly in America was held, and its early history is full of romantic incidents. In the struggle for independence, Virginia took the lead, and provided men like Washington, Jefferson, Madison, and Patrick Henry to do battle for the cause. In the civil war it furnished the great Confederate commander, Robert E. Lee, and on its soil the last battle of the war was fought and the final surrender made. (See also W. Virginia.)
- Virginia City**, on R. above Mt. Davidson, Nevada, U.S.A., alt. 6,205 ft. above sea; silver mining dist., p. (much decreased) 3,124.
- Virginia Water**, artificial L. nr. Windsor Park, 23 m. S.W. London, Eng.; residential dist., p. 1,462.
- Virgin Isles**, *gvp.* in the W. Indies, E. of Porto Rico, comprising a pres. of the Brit. Leeward Isl. Col. certain dependencies, of Porto Rico, and the isls. St. Croix, St. Thomas, and St. John (all of which see). Total area 275 sq. m., p. 56,000.
- Vishni-Volotchok**, *t.* Tver govt., Russ.; *gt. local tr.*, p. 16,418.
- Vienagar**, *t.* in Baroda, Bombay Pres., India, p. 20,128.
- Vistula**, *R.* rising in Austr. Silesia, and flowing 693 m. past Cracow and through Russ. Poland and Pruss. to the Baltic nr. Dantzig. Its three head waters are the White, Little, and Black Vistulas, and in its long course it receives as tributaries the waters of the Bug and other streams. From Cracow to the sea it is navigable.
- Vitebsk**, *gvp.* W. Russ., ading. Baltic Provs.; area 17,440 sq. m., forests, agr., and *gdg.*, p. 1,558,560; cap. V., *t.* on R. Dvina, 354 m. W. of Moscow; *gt. tr.* in corn and cattle, p. 68,816. It is a river port and episcopal see, with a fine cathedral dating from 1664.
- Viterbo**, *c. prov.* Rome, Latium, Italy; fine ch. of Santa Maria della Verità, with 15th century frescoes (now used as public hall), anc. Etruscan cemeteries near, alum mines, match manuf., p. 16,000.
- Viti Levu**, largest of Fiji isls. (90 m. by 50 m.), p. 71,480.
- Vitim**, *R.* E. Siberia, flows from nr. L. Baikal 900 m.
- Vitré**, *t.* on R. Vilaine, dep. Ille-et-Vilaine, France; picturesque Breton commune, with castle and fine Gothic ch., p. 12,112.
- Vitry le François**, *t.* (fortif.) on R. Marne nr. Chalons, France; bell foundg., &c., good *tr.*, p. 8,564.
- Vitrua**, *cap. t.* Basque prov., Alava, Spain, p. 30,180; Wellington's victory, June 21, 1813.
- Vittoria**, *t.* nr. Modica, prov. Syracuse, Sicily; silk manuf., p. (com.) 26,120.
- Vittorio**, *t.* nr. Treviso, Venetia, Italy; summer rest., saline and sulphur springs, has cathedr., silkworm breeding and silk spinning centre, p. 11,800.
- Vivero**, *t.* prov. Lugo, Galicia, Spain; good coasting trade and fishery; p. 12,824.
- Vizagapatam**, *dist.* Madras, Brit. India, area 17,225 sq. m.; rice, millet, oil-seeds; p. 3,000,000. Cap. V., *spt. t.* exports rice and sugar, weaving and ornamental wood box-making; p. 35,028.
- Vizeu**, *dist.* Portugal (anc. prov. Beira Alta), area 1,020 sq. m., p. 410,500. Cap. V., *t.* nr. Oporto; cathedral, Roman ruins; p. 6,065.
- Vizianagram**, *t.* in Vizagapatam dist., Madras, India, nr. the spt. of Bidadipatam; res. of the first Hindu nobleman of Madras, many fine buildings, good *tr.*; p. 33,864.
- Vlaardingen**, fishing *t.* on R. Maas, Holland, nr. Rotterdam, p. 11,183. The herring fleet of V. is large and important, and is responsible for much of the town's prosperity.
- Vladikavkaz**, fortif. *t.* on R. Terek, N. Caucasus,

Russ.; *impt. mill. centre* (garrison 12,000, besides Cosacks), many factories and distilleries; stands at the foot of the main Caucasian chain and is an important railway terminus; p. 55,000 (3,000 only in 1860).

Vladimir, govt. Central Russia, between Nijni Novgorod and Moscow, area 18,864 sq. m.; *manuf. and agr.*; the govt. is, next to St. Petersburg and Moscow, the most prosperous in the country from an industrial point of view, the various textile manufactures of cotton, woollens, worsteds, linen and silk being carried on very extensively. Fruit culture is also a flourishing industry. The chief minerals are alabaster, porcelain clay, and limonite; the soil, which is generally of a sandy nature, produces oats, rye, millet, barley, flax and potatoes. There are numerous lakes and marshes; p. 1,900,580. Cap. V., old c. on R.'s Lybed and Klyazma; p. 30,875. There are many ancient buildings of interest, including the cathedral of the Assumption (1158), the church of St. Demetrius (1597), the church of the Nativity (1519), containing the tomb of St. Alexander Nevski, the archiepiscopal palace, formerly the convent of the Nativity, and the "golden gate" or triumphal arch, built in 1198, and restored under Catherine II. Vladimir was founded in 1116 by Vladimir Monomakh, becoming the capital of a line of grand princes who succeeded to those of Kiev among Russian rulers.

Vladimir-Volynsk, t. in govt. Volhynia, nr. the frontiers of Russia proper, Poland, and Galicia; large churches (ruined); frequently besieged by Tartars; p. 9,854.

Vladivostok, chf. Russian spt. and naval station on the Pacific. Cap. of the viceroyalty of E. Asia, Siberia; terminus of the Trans-Siberian rly.; p. 62,000. The harbour of Vladivostok is considered to be one of the finest in the world. It was founded as a port and station in 1861.

Vlieeland, Friesian isl. at entrance Zuyder Zee, N. Holland, 10 m. by 11 m. [p. 12,340.

Vodina, t. nr. Salonica, Roumelia, Turkey; good tr.; Voghera, t. nr. Alessandria, prov. Pavia, Italy, p. (com.) 17,540.

Voll, Loch, Perthshire, Scotl. (3 m. long), W. of Lochearnhead.

Volon, t. nr. Grenoble, dep. Isère, France; p. 12,460.

Volons, Loc. mtn. range Haute-Savoie dep., France, 20 m. E. Geneva; highest summit, 4,873 ft.

Volcan de Agua, conical mtn. nr. Guatemala t. Central America; discharges water, destroyed Old Guatemala by flood in 1541; alt. 12,197 ft.

Volcano Iala, three smt. Japanese isls. in the Pacific, named Iwo-jima, Minami-Iwo-jima, and Kita-Iwo-jima; latter is largest and most N.; Minami-Iwo-jima (the most S.) rises 3,000 ft. from the water.

Volchansk, t. in Kharkov govt. Russ., nr. Bylegorod; tanneries and distilleries; p. 12,862.

Volga, R. Russ., rises on Valdai plateau, govt. Tver, flows in a serpentine course 2,325 m. to the Caspian at Astrakhan; has very heavy traffic over a navigable length (with canals and trib. Ra.) of nearly 20,000 m. The waters are frozen in winter and traffic is suspended. It has important fisheries. Among its tributaries are the Oka, Kama, Mologa, and Vitka. The principal towns on the Volga are Jaroslavl, Kostroma, Nijni Novgorod, Kazan, Simbirsk, Stavropol, and Samara.

Volhynia, govt. S. W. Russ., on Austrian frontier, area 57,473 sq. m., p. over 3,000,000. Forest land in N., agr. S.; *gdng.*, bee-keeping, stock-raising, also many factories; there are deposits of porcelain clay, iron ore, krollin, coal, lignite, graphite, jasper and amber, and large tracts of black earth; cap. Zhitomir.

Volkov, R., Russ., flows (130 m.) from L. Ilmen to L. Ladoga.

Volkovyak, anc. t. govt. Grodno, Russ.; long the scene of dispute between princes of Lithuania and Volhynia; annexed by the Czar after first divn. of Poland; p. 11,134.

Volo, spt. t. nr. Issa, at head of G. of V. in Thessaly, Greece; *gd. harb. and tr.*; p. 17,145.

Vologda, govt. European Russ., bordering on the Ural Mtns., area 150,498 sq. m., p. (declining) 1,360,500. Forest-clad; *agr. and dairying* in the clearings; there is considerable mineral wealth, salt and iron being

found in abundance; the main industries, however, are connected with timber; and textile factories, oil works, paper-mills, and bristle works are numerous; cap. V., t. on V. R., p. 56,500; large tr. with St. Petersburg in agr. prod. [p. 26,456.

Volak, t. on R. Volga, Saratov govt., Russ.; *gd. tr.*; Volta, R. Upper Guinea, flows (500 m.) from the Kong Mtns. and Ashantee; also smt. t. nr. Mantua, Italy; Austrian victory over Sardinians, 1848.

Volchansk, (See Volchansk).

Volterra, t. nr. Pisa, Tuscany, Italy; the national museum in Tagassi Palace contains a fine collection of Etruscan antiquities, and there is a Romanesque cathedral of great interest, dating from 1120; saline spring, alabaster industries, p. 7,814.

Voltri, cat. t. nr. Genoa, Liguria, Italy, pilgrimage shrine, shipbdg. and ironworks; here Austrians defeated the French under Massena in 1800, p. 7,960.

Voorse, isl. of S. Holland, betwn. mth. of the Meuse and Rhine, Vliet.

Vorarlberg, prov. Austria, W. of the Tyrol, area 2,004 sq. m., hilly, with mtn. valleys; goat and cow-kpg., weaving and embroidery, p. 120,815, cap. Bregenz (g.v.).

Voronezh, govt. S. Russ., area 25,448 sq. m.; agr. stock-rearing, with woodwk. and domestic manufs., p. 3,400,000, principally peasants; among the mineral deposits are porcelain clay, ochre, iron ore, sulphur, and pent; there is a large trade done in market gardening; and the industries include flour mills, sugar refineries, soap works, tobacco factories, iron foundries, and bell-making establishments; cap. V., on V. R. nr. its junctn. with R. Don. Here Peter the Great in 1695 laid the foundation of the Russn. fleet; import comincl. centre, p. 88,568.

Vorontzovka, spt. in govt. Voronezh, Russ.; ride manuf. and *impt. fals.* p. 12,822.

Vorovagaa, vul. co. Saros, N. Hungary; opal mine; a stone, said to be worth a million sterling (now in Court museum at Vienna), was found here.

Vosges, mtn. chain E. France and Alsace-Lorraine, Gerny, 120 m. long, extending from Basel on the N., they run along the left side of the Rhine Valley, and give forth the rivers Saar and Moselle on the N.; highest summit, the Ballon de Guebwiller (g.v.); also E. frontier dep., France, area 2,305 sq. m., agr., dairying, vineys., textile inds., p. (increasing) 400,000; cap. Epinal (g.v.); standing on the Upper Moselle. The mountains are well wooded, and the plains exceedingly fertile, while the deposits of coal, silver, lead, copper, and lithographic stones are extensive. There are also many mineral springs, including those at Plombières and Contrexéville, which are much resorted to by invalids.

Voekresensk, t. in govt. Moscow, Russ., p. 6,724.

Vostitza, a Greek t. on the Gulf of Corinth, 25 m. from Patras, p. 5,412.

Voznesensk, t. on R. Bug, govt. Kherson, Russ.; cathedral, four large fairs annually, distilleries, p. 26,465.

Vranja, t. nr. the Macedonian frontier, Servia; garrison; flax and hemp culture and manuf., p. 22,806; near is the health rest. (warm sulphur springs) of Vranjska Banya.

Vratsa, t. on R. Vratsanska, Bulgaria; wine, silk, jewellery; Tcher Ress atrocities in 1876 and 1877, occasioning bombardment and capture by Russ.; p. 14,874.

Vryb, cap. Brit. Bechuanaland, S. Afr.; goldfield in neighbourhood, p. 5,812. Vrybush occupies a position near a head-stream of the Vaal R. 125 m. N. of Kimberley. It is of growing importance and has many public buildings, including government buildings, churches, schools, hospitals, etc.

Vryheid, chief t. of a col. district in the extreme N.E. of Natal, to which colony it was transferred from the Natal in 1902.

Vulcano, mont S. isl. of the Lipari grp., 12 m. N. of Sicily. [Roumania and Transylvania.

Vulcan Pass, in the Carpathian Mtns., between Vyatka. (See Vyatka.)

Vyasma, t. of Central Russia, 90 m. E.N.E. of

- Smolensk, famous for its manuf. and its gingerbread, p. 18,348.
- Vyerny, fortified. *f. prov. Semirychensk, Asiatic Russ.*, at ft. of Trans-Ili Alatau, alt. 2,430 ft.; destroyed by earthquake in 1887; distilleries, oil wks., etc.; p. 3,116. It is a considerable trading centre, possesses a horticultural college and a cathedral, and has some noted Nestorian inscriptions of the 8th century.
- Vyrrwy, *L.*, art. reservoir, Montgomerysh., Wales, with a dam 1,180 ft. long, furnishing water to Liverpool; 5 m. long, with an area of 1,122 acres. This artificial lake holds 2,203,000,000 cubic feet of water. It was eleven years in construction.
- Vyshevolotkaya Sistema, canal linking the R.'s Volga and Neva, Russ. 540 m. long; val. medium water transit for goods from the Caspian to the capital. [4,824.]
- Vytygra, *f. nr. L. Onega, govt. Olonets, Russ.*; p. 1.
- W
- Wa, *f. on Black Volta R., nr. the Lobi bdy. of the Gold Coast interior, Brit. W. Africa*; p. 5,245.
- Waag, *R. Hungary, trib. (200 m.) of K. Danube.*
- Waai, southern *arms R. Rhine, separates from main stream nr. Arnhem, and flows through Gelderland to Gorinchem, where it is joined by the R. Meuse, and pursues its course through several mouths in S. Holland to N. Sea.*
- Wabash, *R. Ohio and Indiana, U.S.A., trib. (550 m.) of R. Ohio. The Wabash and Erie canal is 476 m. in length—the longest in the United States; also c. cap. W. co., on R.W. Ind., U.S.A.; rwy. centre*; p. 9,764. [p. 4,044.]
- Wabasha, *f. Minnesota, U.S.A., on R. Mississippi*
- Waco, *c. on Brazos R. Texas, U.S.A.; shipping point for cotton crop*; p. 26,428. Waco, known as the "Geyser City," has sixteen artesian wells, is the capital of McLennan county, and 186 m. N.W. of Houston. Its Baylor University is a well-known institution.
- Wadai, kingdom of central Soudan, W. of Darfur and E. of Lake Chad, under French influence; area (abt.) 200,000 sq. m.; pastoral; inhab. by Mohammedan negroes of the Maba tribe; p. 3,000,000 to 4,000,000. There is a large exportation of ostrich feathers and ivory from Wadai; *chf. t. Alabahr.*
- Wadebridge, a small Cornish *stn.* 7 m. N.W. of Bodmin.
- Wadiali, *f. left bank of the Upper Nile, Africa, 40 m. N. of the Albert Nyanza, formerly the cap. of Emin Pasha's equatorial prov. Has been under British influence since 1894.*
- Wadhwan, *st. in Gujarat div., Bombay, India; area 237 sq. m.; p. 43,200; cap. W. t. junctn. of Kathiawar rwy system with Bombay and Baroda line*; p. 2,902.
- Wadnagar, *f. nr. Visnagar in Baroda, India; p. 16,110.*
- Wadley, *dist. (industri.) on R. Don, sub. (N.W.) to Sheffield, W.R. Yorks, Eng.*; p. 9,245.
- Wadsworth, *township, next Hebdon Bridge, W.R. Yorks, Eng.; manuf.*; p. 4,918.
- Wady Halfa, *place at the second cataract of R. Nile, S. Egypt. There is steamer communication with Assuan, and with Khartum by rail.*
- Wady Musa, the modern name of Petra, N. Arabia. The tradition is that the stream which here issued through the gorge at the entrance to the city was that which was set flowing by Moses striking the rock. [Ghent and N. and W. of M. Scheide.]
- Waesland, *dist. E. Flanders prov., Belgium, N.E. of Wageningen, f. Netherlands, prov. Gelderland 11 m. W. of Arnhem, p. 9,874.*
- Wagga-Wagga, *f. on R. Murrumbidgee, N.S.W., 309 m. S.W. of Sydney; has a great railway bridge over the Murrumbidgee River; p. 6,084; gold-mining.*
- Wagram, *vil. nr. Vienna, Lower Austria; here Napoleon defeated the Austrians in 1809.*
- Wahoo, *vil. Nebraska, U.S.A.; imp. rwy. centre*; Saunders co.; p. 4,818.
- Wahatch Mtns., on W. border Great Basin, Utah, U.S.A.; alt. of highest summit, 11,500 ft.
- Wai, *f. on Krishna R., Satara dist., Bombay Presidency, India, 30 m. from Poona. Contains large Hindu temples and is a great resort of pilgrims, p. 14,000.*
- Waikato, *R. N. Isl. N. Zealand, flows 200 m. to W. Haur. Rises on the slopes of Mount Ruapehu in North Island and runs through L. Taupo, and 4 m. below the lake passes over Huka Falls (30 ft.). Is navigable for steamers for 75 m. from its mouth. It was in the Waikato Valley that the most serious encounters between the British soldiers and the Maoris took place in 1863-1864.*
- Waikouaiti, *f. nr. Dunedin, N. Zealand, p. (dist.) 1,460.*
- Waimate, *f. nr. Christchurch, N. Zealand, p. 2,414.*
- Wainad, upland *dist. of Malabar dist., India; high tableland among the W. Ghats; area 999 sq. m.; 2,000 ft. above sea; p. 80,500; gold-mining.*
- Wainfleet, *mkt. f. on R. Steeping, Lincolnsh., Eng., p. 1,453.*
- Wainganga, *R. India, 330 m. long, one of the head streams of R. Godavari.*
- Waiping, *f. prov. Che-Kiang, China, S.W. of Hang Chow; comm. centre*; p. 120,000.
- Wairakei, *f. on L. Taupo, N. Zealand; health rest.*; p. 1,120.
- Wairoa (or Clyde), *f. on W. R., New Zealand, p. (dist.) 1,865.*
- Waitaki, *f. nr. Christchurch, New Zealand, p. 1,473.*
- Waitara, post *f. nr. New Plymouth, New Zealand, p. 1,264.*
- Waitomo Caves, on the Waitomo R., New Zealand.
- Waitzen, *a. f. on the Danube, 20 m. N. of Budapest, p. 17,000.*
- Wakamatsu, *f. in Japan, main island, 35 m. S.E. of Nigata, largely engaged in the manufacture of lacquer ware.*
- Wakaiti, beautiful *L. (50 m. by 24 m.) S. Isl., New Zealand; 1,200 ft. deep, 1,070 ft. above sea.*
- Wakayama, *f. on the main island of Japan, 35 m. S.W. of Osaka. Is largely engaged in the cotton industry, p. 77,100.*
- Wakefield, *mfg. c. W.R. Yorks, Eng., on R. Calder, 9 m. S. of Leeds; cathedr.; p. 51,516. Has been the seat of a bishopric since 1888. Upon a nine-arched bridge across the Calder here stands a small chapel founded by Edward IV. Wakefield has many historic associations; it was the scene of the battle in 1460, when the Lancastrians defeated the Yorkists; also t. in Middlesex co., Mass., U.S.A.; industri.*; p. 10,816.
- Wakkerstroom, *dist. Transvaal Col., Brit. S. Africa, bounded N. by the Vaal R.* [p. 11,109.]
- Walajpet, *f. nr. Arat, N. Arcot div., Madras, India.*
- Walata, an *oasis* of the W. Sahara, some 260 m. N.W. of Timbuctoo.
- Walcha, *f. in agr. dist. nr. Armidale, N.S.W., p. 1,400.*
- Walcheren, *W.-most isl. prov. Zealand, Holland; 12 m. long, low-lying, agr. 41,000. The Walcheren Expedition of 1805 was one of the most disastrous incidents of British naval history of the period.*
- Waldeck-Pyrmont, *principality* Germany, between Westphalia, Hesse-Nassau, Lippe, and Hanover; area 432 sq. m., p. 50,000, agr. and stock-feeding; a large part of the principality is covered with forest, and there are important mineral springs at Pyrmont and Wildungen; *cap. Arolsen (p. 2,211).*
- Walden, *vil. New York, U.S.A., Orange co., p. 4,118.*
- Waldenburg, *f. on R. Mulde, Saxony; industri.*; p. 3,180; also t. on R. Polanitz, Prussia, Silesia; *mfg. centre (porcelain and fire-clay), colliery dist.*; p. 18,120.
- Waldenses, plains of Piedmont, known as the "Four Valleys" (20 m. by 10 m.), W. of Saluzzo in the Italian Alps, p. 20,000. Many of the sturdy Reform band of Waldensians have emigrated (there are over 6,000 in Uruguay and the Argentine).
- Waldoboro, *f. Maine, U.S.A., in Waldo co., p. 4,116.*
- Wales, *principality* S.W. of Great Britain; washed by Irish Sea, St. George's Channel, and Bristol Chan.; area 7,562 sq. m., mountainous, with much mineral wealth; divided into N. and S. W., each containing 6 cos.; p. 1,760,601; good pasturage. Wales has four episcopal sees, but the main portion of the

population is Nonconformist, and anxious for disestablishment of the English church in the principality. There are university colleges at Bangor, Aberystwith, and Cardiff, and a Welsh University for the affiliation of these colleges was established in 1894. The coal and iron industries of Wales have been immensely developed during the last fifty years. Chief c. Cardiff (q.v.).

Walface Bay, Brit. *harb.* and *settlement* S.W. Afr. surrounded by Germ. terr., annexed in 1884 to Cape Col.; area 430 sq. m., p. 780.

Walford, *par.* on R. Wye, Herefordsh., Eng., p. 1,314.

Walhallia, *i.* in co. Tanji, Victoria, p. 1,846.

Walham Green, *sub.* of London, and dist. of Middlesex, 6 m. W.S.W. of St. Paul's.

Walkeins, *industri.* dist. nr. Eccles, S.E. Lancs., Eng., p. 5,416. [to Newcastle; industri., p. 14,085.]

Walker, *i.* on R. Tyne, Northumberland, Eng., *sub.*

Walkerburn, *vic.* of Peebleshire, on the Tweed, nr. Innerleithen; woollen factories, p. 1,200.

Wallacetown, *dist.* on R. Ayr, within the burgh of Ayr, Scotl., p. 6,246.

Wallachia (part of the anc. Dacia) *div.* Roumania, betwn. the Carpathians and the Danube and the Black Sea and Servia; area 30,000 sq. m., p. (abt.) 4,000,000; united with Moldavia in 1861 into the Roumanian principality.

Wallis-Wall, *cap.* W.W. co., Washington, U.S.A., on Mill Creek, in wheat region, p. 13,116.

Wallan-Wallan, post *t.* nr. Melbourne, Victoria, p. 1,655. [in copper ming. dist., p. 3,800.]

Wallaroo, *sp.* on W. Bay, Spencer Gulf, S. Australia.

Wallasey, *industri.* dist. adjng. Birkenhead, Cheshire, Eng., p. 78,514.

Wallenstadt, *L. cant.* St. Gall, Switzd. (11 m. long) nr. L. of Zurich; also sm. t. on E. end of L., p. 5,014.

Wallerawang, *i.* 105 m. W. of Sydney, N.S.W., ming.

Wallingford, *bor.* on R. Thames, Berks., Eng., old castle, p. 2,716; the Thames is crossed here by a bridge 300 yards long. The place was fortified by the Romans, destroyed by the Danes in 1006, but rebuilt. In Henry VIII.'s time there were 14 parish churches in the t.; only three of these now remain—St. Peter, St. Leonard, and St. Mary. Blackstone, author of the famous legal *Commentaries*, lies buried in the church of St. Peter; also t. nr. the Quinpin R., New Haven co., Connecticut, U.S.A., silver-plate works, p. 10,124.

Wallis Is., *grp.* in S. Pacific, nr. Samoa, Germ. possn., largest (and only inhabited) isl. in the arch., Uvea, p. 3,000.

Wallasey, *i.* on R. Tyne, Northumberland, Eng., nr. Newcastle, at end of the old Roman wall, colly. dist., p. 41,464.

Walmer, *cst.* *t.* Kent, Eng., nr. Deal (included in Cinque Port of Sandwich), contains W. Castle, the official res. of the Lord Warden, Duke of Wellington died here in 1842. The castle was built by Henry VIII. Bathing rest, p. 5,347.

Walpole, *vic.* nr. Boston, Mass., U.S.A., p. 3,849; also vil. on Connecticut R., New Hampsh., U.S.A., p. 3,556.

Walshall, *industri.* *t.* nr. Birmingham, Staffs., Eng., mfg. bits, bridges, saddlery, etc., p. 92,130. [5,126.]

Walsham, *mfg.* *t.* nr. Rochdale, S.E. Lancs., Eng., p. 1,454.

Walsham, *N.*, mkt. *t.* Norfolk, Eng., p. 4,254. S. Walsham is an adjacent vil. 5 m. nearer Norwich.

Walsingham, *i.* in N. Norfolk, 5 m. from Fakenham. Here is a mixed Augustinian priory of the 12th century, famous for its image of "Our Lady of Walsingham." It was to this shrine that Henry VIII. made a barefoot pilgrimage.

Walsoken, *i.* on N. border Norfolk, Eng., adjng. Wisbech, p. 3,410. [5,443.]

Waltershausen, *i.* nr. Gotha, Gerny., *industri.*, p. 1,314.

Waltham, *c.* nr. Boston, Mass., (U.S.A.), machine-made watches, p. 28,000.

Waltham Abbey, or **Waltham Holy Cross**, *i.* on R. Lea, Essex, Eng., 12 m. N. of London; abbey founded by King Harold, cordite factory, p. 6,796.

Walthamstow, *sub.* S.W. Essex, Eng., *sub.* to London; *industri.* and *resid.*, p. 124,597.

Walton-in-le-dale, *township* on R. Ribbles, N.E. Lancs., Eng.; *industri.*, p. 12,335.

Walton-on-Thames, *par.* nr. Kingston, Surrey, Eng.; anglers' rest., p. 12,895. The Metropolitan Convalescent Institution, founded in 1840, is here.

Walton on the Hill, *mfg. sub.* Liverpool, Lancs., Eng., p. 75,602.

Walton-on-the-Naze, *cst. wal. pt.* Essex, Eng., res. p. 2,173.

Walworth, *dist.* S. London, Eng., in bor. Southwark.

Walvisch Bay,—(See Walvisch Bay.)

Wan-chow-fu, *t.* and treaty port prov. Che-Kiang, China, on R. Gow, nr. sea, p. 80,000.

Wandiwaah, *t.* of the Madras Pres., N. Arcot dist., nr. Chengalpai. Here Sir Eyre Coote defeated the French in 1760.

Wandbeck, *i.* in prov. Schleswig-Holstein, Pruss.; spirit manuf., geographs, etc., p. 30,819.

Wandsworth, *bor.* Surrey, on R. Wandie and R. Thames, S.W. London, Eng.; mfg. and *resid.*, p. 311,402.

Wanganui, *R.* New Zealand (N. Isl.) flows (60 m.) to sea at New Plymouth; also t. on same, p. 5,019.

Wangaratta, *i.* co. Bogong, Victoria; agr. and fruit growg. dist., p. 2,445.

Wanlockhead, mining *vil.* 8½ m. E.N.E. of Sanquhar, Dumfriesshire, p. 670.

Wansbeck, *R.* Northumbld., Eng., flows 23 m. E. past Morpeth; gives names to W. parly, *div.* N. co. colly. dist. [resid.]

Wanstead, *i.* Essex, Eng., 7 m. N.E. London, p. 12,821.

Wantage, mkt. *t.* Berks., Eng., in vale of the White Horse, 26 m. W. of Reading. The first steam tramway in England was started here in 1875. It is 2½ m. long and connects with Wantage Road station. King Alfred was born at Wantage, and there is a marble statue of him. Bishop Butler was also a native of Wantage; p. 3,608. [p. 4,888.]

Wapakotia, *i.* nr. Piqua, Anglaize co., Ohio, U.S.A.,

Wapping, *industri.* Thames-side dist. E. London, Eng., below the Tower, p. 3,846.

Wappinger's Falls, *vil.* Dutchess co., New York, U.S.A., on Wappinger's Creek, nr. the R. Hudson, p. 4,204. [industri., p. 11,596.]

Warasdin, fort. *t.* on R. Drave, Croatia, Austria;

Waratah, *i.* Northumbld. co., N.S.W., colly. and vineyd. dist., p. 3,486.

Warburg, *industri.* *t.* on R. Diemel, Westphalia, Pruss.; was an anc. Hanseatic t., p. 7,742.

Wardell, *i.* on cst. nr. Ballina, N.S.W., p. (dist.) 2,163.

Warriah, *dist.* Nagpur div. Centl. Provs., India; area 2,458 sq. m., large cotton crop, p. 385,000 (decreased); cap. W., t. on the Wardia R.; cotton factories, p. 9,718.

Wardha, *R.* of W. dist., Centl. India, flows 554 m. to join R. Wainganga, affl. of R. Godavari.

Wardour Castle, Wilts, the seat of Lord Arundell of Wardour, 15 m. W. of Salisbury.

Ware, mkt. *t.* Herts., Eng., on R. Lea, p. 5,842. The great grove of Ware, for so long associated with the place, was removed to Rye House in 1859. There are the remains of a priory, dating from 1233, and a fine cruciform church. Also t. co. Hampshire, Mass., U.S.A.; cotton and woollen manuf.; p. 8,610.

Wareham, mkt. *t.* nr. Dorchester, co. Dorset, Eng., p. 2,002. This old t. was a Roman station, and has a grassy vallum, still complete on three of its sides. By a fire that occurred in 1762, a large part of the t. was destroyed. [p. 5,904.]

Warendorf, *industri.* *t.* nr. Münster, Westphalia, Pruss.; in pastoral dist., N.S.W., on Gwydry R., Burnett co., (dist.) 3,888.

Wark Castle, an old ruin on the Tweed, 8½ m. W. by S. of Cornhill, Northumberland. The castle of the Percies here, now in ruins to a great extent, was built in the 12th century. The old Norman church has been restored. [R. Coquet, p. 11,764.]

Warkworth, *sp.* Northumberland, Eng., nr. Thirby.

Warley, *industri.* *t.* nr. Halifax, W.R. Yorks., Eng., p. (dist.) 3,643.

Warmunui, *t.* nr. Liegnitz, Prussn. Silesia; *industri.*;

Warmunui, mkt. *t.* Westbury div., Wilts, Eng., p. 5,492.

Warnsdorf, *i.* Rumburg dist., Bohemia, nr. Saxon frontier; cotton spinning, calico printing, velvet, silk, and linen manuf.; p. 22,669.

Wazora, *f.* Chanda dist., Cent. Provs., India; colliery region; p. 11,144.

Warragul, *f.* nr. Melbourne, Victoria; live-stock sales; p. (dist.) 4,893.

Warren, *c.* on the Mahoning R., Trumbull co., Ohio, U.S.A.; coal and iron mining dist.; p. 9,028. Also bor. on the Allegheny R., Warren co., Penn., U.S.A.; in oil region; p. 10,426.

Warrenpoint, *f.* (spt.) at head of Carlingford Lough, co. Down, Ireland, p. 1,874.

Warrensburg, *f.* on Black R., Johnson co., Missouri, U.S.A.; in farming dist.; p. 4,754.

Warrington, *f.* on R. Mersey, Cheshire and Lancs, Eng.; wire pins, files, and tool mfg.; p. 72,178. Warrington is mentioned in *Domesday Book* as Wallintun, and in olden times often figured in history, being of strategic importance because of its bridge over the Mersey. Here the Scots were defeated in 1268, the Royalists in 1651, and a remnant of Prince Charles Edward's army routed in 1745.

Warrnambool, *spt.* Villiers co., Victoria; wat. pl.; exports dairy prod.; p. 6,506.

Warsaw, *govt.* Russian Poland, on bank of R. Vistula and Lower Bug R. down to Prussian frontier; area 6,749 sq. m.; agr., stock-raising, machinery, and sugar factories; p. (over) 5,000,000. Cap. W. c. on left bank of Vistula (spt. cap. Poland); fort. and industri. centre (garrison 31,000), iron and steel works, boot and shoe factories, tr. in corn, leather, sugar, etc., hop and wool fairs; colleges and fine buildings, gardens and squares; p. (about) 700,000. Connected by bridges with the sub. of Praga (*q.v.*).

Warsaw, *f.* on R. Mississippi, Hancock co., Illinois, U.S.A.; p. 4,142; also c. on Tippecanoe R., Kosciusko co., Indiana, U.S.A.; p. 4,564.

Warsop, *f.* of Notts, 5 m. N.N.E. of Mansfield.

Warthe, or **Warta**, *f.* of Russn. Poland, Posen and Brandenburg, Prussia, 111 m. l. of R. Oder; also t. on R., W. govt., Kalisz, Russn. Poland; p. 5,262.

Warwick, English midld. co., contains the Forest of Arden, Stratford-on-Avon, Coventry, and a large portn. of Birmingham; area 902 sq. m.; rich in coal, iron and limestone; p. 1,040,668. Cap. Warwick, c. on R. Avon. Warwick Castle is one of the most interesting historic edifices in the country, standing on a rocky elevation overlooking the Avon. A fortress built by King Alfred's daughter Ethelfleda, stood here in 915, but the present great castle, covering 3 acres, dates from somewhat later times, the oldest portion is Caesar's Tower, 147 feet high, and Guy's Tower, belonging to the 14th century. About 1759 the castle, which had fallen into ruins to a great extent, was restored by the then Earl of Warwick at a cost of £50,000. A fire on 3rd Dec., 1871, destroyed the great Hall, but six years later the damage was made good, and to-day this old feudal castle is one of the finest in the country to be still occupied. Of the many royal edicts who have been entertained within the walls of Warwick Castle may be mentioned Queen Elizabeth, James I., William III., Edward VII., and George V. Large ch. of St. Mary, with Beauchamp Chapel and memorials; p. 11,856; also t. in co. Merivale, Queensland; corn and vineyard dist.; p. 4,014; also cotton mfg. t. Kent co., Rhode Isl., U.S.A., on Narragansett Bay; p. 23,224.

Waseca, *vul.* W. co., Minnesota, U.S.A., nr. Owatonna; p. 6,240.

Wash, *f.* flowing 50 m. from co. Rutland, Eng., to R. Welland, Lincolnsh.; also estuary of R. Welland, Witham, Ouse and Nen; co.'s Lincoln and Norfolk, 22 m. long, width at mth. 14 N. Sea, 15 m. Much land has been reclaimed on both sides of the channel of the Ouse. Rennie, the architect, put forward a proposal to reclaim 150,000 acres by draining the Wash, and the project has been agitated again of late years, but has never been seriously undertaken.

Washita, *f.* nr. New Orleans, Louisiana, U.S.A.; 12 m. long.

Washburn, *c.* Wisconsin, U.S.A.; on Chagamenet R.

Washburne Mtns., range in the Yellowstone Natl. Park, U.S.A.; highest summit, 10,345 ft.

Washington, *st.* N.W. portn. U.S.A. on Pacific

Oc., adjng. Brit. Columbia; area 1,167,000 sq. m.; rich in coal, iron and other minls., with much forest and agr. land; p. 550,100. Cap. Olympia; chf. c.'s, Seattle and Tacoma (*q.v.*). Also c., cap. of U.S.A., in dist. of Columbia, on the R. Potomac; contains the Capitol (covering 31 acres), with Senate Chamber, House of Representatives, Supreme Court, Library of Congress, etc.; also President's residence (The White House), Patent Office, Post Office, Smithsonian Instn., National Museum, Carnegie Instn., Columbian University, etc.; p. 332,128. Also c. in coal regn. Indiana, U.S.A.; p. 9,740; also mfg. box (iron, brass, glass, etc.) in Washington co. Penn.; p. 8,015; also c. Fayette co., Ohio, in farmg. dist.; p. 5,760; also spt. on Pamlico R., S. Carolina; p. 6,212. Also name of many co.'s, and smaller t.'s and villa. in U.S.A.

Washtia, *f.* Arkansas and Louisiana, U.S.A. trib. (400 m.) of Red R.

Wasmes, *f.* nr. Mons, prov. Hainault, Belgium, in Le Borinage coal dist., p. 15,206. 13 m. long.

Wast Water, Lake, Cumberland, Eng., nr. Keswick.

Watchet, a *spt.* of Somerset, on the Bristol Channel, 264 m. N.W. of Taunton.

Waterbury, *c.* on Naugatuck R., New Haven, Connecticut, U.S.A.; manuf. watches, pins, and brass-crocks; p. 74,000.

Waterford, *govt.* Munster prov., Ireland, washed by St. George's Channel; nitrous, area 721 sq. m.; agr., live-stock, fisheries; p. (declining) 83,766; co. t., W. c., on R. Suir, an anc. Danish stronghold; resisted Cromwell in 1649; but taken by Ireton 1650; gd. tr. in dairy prod.; p. (on extended area) 27,430. Also t. on R. Hudson, Saratoga co., New York, U.S.A.; manuf.; p. 6,518.

Waterloo, *vul.* S. Brabant, Belgium, 9 m. S.S.E. of Brussels; Napoleon's defeat by Wellington, June 18, 1815.

Waterloo (with *Seaforth*), *vul.* pt. at mouth of R. Mersey, Lancs, Eng., 5 m. N.N.W. of Liverpool, p. 26,390; also c. on Cedar R., Blackhawk co., Iowa, U.S.A., mfg. centre in agr. dist., p. 27,000; also vil. Laurens co., S. Carolina, U.S.A., p. 5,244; also t. on Seneca L., New York, U.S.A., p. 4,140.

Waterlaid, *vul.* on R. Doon, Ayrsh., Scotl., p. 1,580.

Watertown, *c.* on Black R., Jefferson co., New York, U.S.A., carriage works, foundries, and manuf.; p. 26,114; also t. on Charles R., Middlesex co., Mass., U.S.A., contains national arsenal and the cemetery of Mt. Auburn, p. 11,425; also c. on R. Rock, Dodge and Jefferson co.'s, Wisconsin, U.S.A.; university, manuf., p. 8,500. (p. 2,916).

Water Valley, *vul.* Yalabusha co., Mississippi, U.S.A.,

Waterville, *c.* on R. Kennebec, Maine, U.S.A.; cotton factories; university; p. 11,084.

Watervliet, *c.* (formerly vil. of W. Troy) on R. Hudson, Albany co., New York, U.S.A.; govt. arsenal; p. 15,060.

Watkins, *mkt.* t. on R. Colne, Herts, Eng. (connected with Bushey by bridge); cocoa and other manuf.; p. 40,953. There is a fine old church of the Perpendicular order, restored in 1871, which contains monuments of the Morrisons and Cassells, Earls of Essex, whose seat, Cassiobury, is close to the town.

Wath-upon-Deane, Industri. t. nr. Barnsley, W.R. Yorks, Eng., p. 11,830.

Watkins, *vul.* on Seneca L., Schuyler co., New York, U.S.A.; adjacent to picturesque Watkins Glen, p. 4,226.

Watling Isl., one of the Bahamas *grps.*, 18 m. long (generally supposed to be the San Salvador of Columbus); p. 2,285.

Watling Street, one of the principal Roman *roads* of Britain; ran from Dover through Canterbury to London, and thence by St. Albans and Stony Stratford along the present Warwicksh. border to Wroxeter on the R. Severn, and north to Chester, with divergent branches.

Wallingford, *f.* of Oxfordshire, 8 m. N.E. of Wallingford, p. (of par.) 3,967.

Watson, *f.* on Iroquois R., Illinois, U.S.A., industri.

Watson's Bay, New South Wales, 7 m. N.E. of Sydney; a favourite seaside resort.

Watsontown, bor. Penn., U.S.A., on R. Susquehanna, Montour co., industr.; p. 5,046.

Watsonville, c. California, U.S.A., nr. the B. of Monterey; p. 4,933. [p. 12,415.]

Wattenscheidt, t. nr. Arnhem, Westphalia; industr.; p. 5,121.

Wattson, mkt. t. on R. Wissey, Norfolk, Eng.; p. 5,121.

Wayland Wood, which tradition fixes upon as the scene of the old ballad of "The Children of the Wood," is close by.

Watrelos, t. nr. Lille, dep. Nord, France; industr.; p. 5,124.

Waukegan, c. on L. Michigan, Illinois, U.S.A.; cap. of Lake country; engaged in the manufacture of brass and iron goods; a favourite summer resort; gd. harb. and tr.; p. 12,087.

Waukesha, vil. on R. Fox, W. co., Wisconsin, U.S.A.; magnesian springs, health rest.; the seat of the Carroll Presbyterian College; p. 8,122.

Waupata, c. W. co., Wisconsin, U.S.A.; p. 4,164.

Waupun, vil. nr. Fond du Lac, Wisconsin, U.S.A.; p. 4,086.

Wausau, c. Marathon co., Wisconsin, U.S.A., on Wisconsin R., in white pine regn.; timber works; p. 15,103.

Waueson, vil. Fulton co., Ohio, U.S.A.; industr.; p. 5,121.

Waverley, R. Norfolk and Suffolk, Eng.; flows 50 m. to sea, nr. Yarmouth.

Waverley, sub. of Sydney, N.S.W.; boot-making and baking-powder factories; p. 24,700.

Waverly, vil. on R. Chemung, Tioga co., New York, U.S.A.; tr. centre in dairy regn.; p. 5,020; also vil. nr. Baltimore, Maryland, U.S.A.; p. 5,745 also t. on Cedar R., Bremer co., Iowa, U.S.A.; p. 4,808.

Wavertree, dist. S.E. Lancs, Eng., subn. (S.E.) of Liverpool; industr. and residt.; p. 15,240.

Wavre, t. nr. Brussels, S. Brabant, Belgium; mfg.; French victory over Prussians here on morng. of battle of Waterloo; p. 8,200. [co. 1 p. 5,019.]

Waxahachie, t. Texas, U.S.A.; ry. centre in Ellis Waycross, t. in Ware co., Georgia, U.S.A.; p. 7,486.

Wayland, vil. on Sudbury R., Mass., U.S.A.; p. 3,451. [p. 6,214.]

Waynesboro, t. Franklin co., Penn., U.S.A.; industr.; p. 11,416.

Wazan, sacred c. of Morocco, S.E. of Tangiers, and much resorted to by Pilgrims.

Wazemmes, t. France, subn. (S.W.) to Lille, industr.; p. 19,800.

Wazirabad, t. nr. R. Chenab, Gujranwala dist., Punjab, India; boat-bldg., iron manu.; p. 16,018.

The Alexandria railway bridge across the Chenab, built in 1876, is a fine structure.

Waziristan, sectn. of mtn. dists. N.W. frontier, India, lying betwn. the Tochi and Gomul R.s., contiguous to the Afghan border; inhabited by a fierce indept. tribe who have given the Brit. Indian authorities great trouble by their raiding; punitive expedition, 1894, led to the occupn. of the Tochi valley by Brit. troops; Kanigoram, the Wazir cap., has a consid. iron tr.

Weald, The, wooded and pastoral tract S.E. Eng., extending from Folkestone, Kent, through parts of Surrey, Hants, and Sussex to the sea about Beachy Head.

Wear, R., Durham, Eng., rises on the western border of the county, flows 60 m. to N. Sea, at Sunderland, where great coal export and shipbuilding industries are carried on.

Westberly, bor. Penn., U.S.A., in Carbon co., nr. Manch Chunk.

Weaver, R. Cheshire, Eng., trib. (45 m.) of R. Mersey.

Weaver Hills, Staffs, Eng., nr. E. bdr. of co., alt. 1,300 ft.

Webb City, Jasper co., Missouri, U.S.A., in lead and zinc regn.; p. 11,565.

Weber Canon, picturesque spot on the R. Weber, trib. of the great Salt Lake, north Utah, U.S.A.; traversed by Union Pacific R.V.

Weberster, t. in Worcester co., Mass., U.S.A., on the French R.; textile and boot factories; p. 6,622.

Wedmore, bor. nr. Axbridge, Somerset, Eng., p. 3,216.

It was at this spot that the treaty of peace was signed between King Alfred and Guthrum the Dane in 878.

Wednesbury, mkt. t. nr. Birmingham, Staffs, Eng.; stoneware, potteries, iron and coal indus. les; p. 5,121 (of partly bor. 76,978). There is an old church dedicated to St. Bartholomew, said to stand on the site of a temple to Woden. This church is of the 12th century, but has been several times rebuilt and restored, little of the original edifice now remaining. A castle was founded at Wednesbury by Ethelred, Edward the Elder's sister. But in spite of these historic associations, Wednesbury is very modern in its general aspect, and owes its prosperity to the mineral resources of the district and the very active part it has played in the development of the iron, steel, machinery, and allied trades.

Wednesfield, t. near Wolverhampton, Staffs, Eng.; lock and key manu.; p. 6,452.

Weerde, industr. t. nr. Limburg, Holland, p. 8,025.

Wei-hai-wei, Brit. naval stn., N.E. co. Shantung penins., China, nr. the treaty port of Chefoo; held under lease; area (includg. the nat. t. with 800,000 p.) abt. 120 sq. m. Harb. and port fortified.

Weimar, c. on R. Ilm, nr. Erfurt, Gerny., cap. of grand-duchy Saxe-Weimar; many learned and scientific instns.; "the German Athens"; Goethe's house contains the Goethe and Schiller archives, and other interesting collections; the Stadtkirche, dating from 1706, contains many interesting tombs, including those of Bernhard of Weimar and Herder; and among the other buildings are the ducal palace as rebuilt in 1790-1803 after being burnt down in 1774, and the court theatre where Wagner's "Lohengrin" was first produced by Liszt; p. 35,480.

Weinberge, t. in Bohemia, Austria, subn. to Prague, p. 54,280; industr. and residnt.

Weinheim, t. on the "Mountain Road" at the foot of the Odenwald, N. of Heidelberg; castles and house of Teutonic Knights; wine, fruit, etc.; p. 12,321.

Weipert, t. on slope of the Erzgebirge, Baden dist., Bohemia; chf. centre of the Austrian lace and fringe-making industry; p. 10,824. [p. 4,424.]

Weir, c. Kansas, U.S.A., in Cherokee co.; industr.; p. 11,416.

Weissenburg, t. in Lower Alsace, nr. Strassburg, Germany, on K. Lauter; formerly a fortif. free imperial c.; paper and colour printing, match manu.; stormed by the Prussians and Saxons, 1793; decisive German victory over the French, 1870; p. (including garrison of 2,000) 7,240. Wine and fruit grown.

Weissenburg-am-Sand, old walled t. of Middle Franconia, Bavaria, nr. Nuremberg; Roman remains; fortalice of Wilsburg (2,060 ft. high) overlooks the t.; gold and silver fringe manu.; p. 6,740.

Weissenfels, t. on K. Saale, nr. Merseburg, Prussian Saxony; mfg. centre in coal dist.; p. 30,202.

Weisshorn, the great Alpine peak rising W. of the Zermatt Valley (14,804 ft.), first climbed in 1861 by Prof. Tyndall.

Weiskirchen, industr. t. nr. Temesvar, Hungary; p. 11,022.

Weiskirchen, or Mährisch-Weiskirchen, t. on R. Betschwa, nr. Olmutz, Moravia; chocolate, liqueurs, and preserve manu., textile industries; p. 7,942.

Welbeck Abbey, the seat of the Duke of Portland, 3 m. S. of Worksop, Notts, standing in a park 10 m. in circumference. The mansion occupies the site of an old Premonstratensian abbey.

Welland, R. Northants and Lincolnsh., Eng., flows (70 m.) to the Wash. (125 m. long) W. of the Niagara.

Welland Canal, connects Lakes Erie and Ontario.

Welle-Makua, R. of Equatorial Africa, flows W. from nr. Wadatal, the Upper course of the Mbembi or Ubangi R., trib. of the Congo; explored by Stanley, Schweinfurth, and Greenfell.

Wellesley Isls., group in the Gulf of Carpenteria, belonging to Queensland.

Wellingtonborough, mkt. t. on R. Nen, Northants, Eng., 20½ m. E.N.E. of Northampton. It has ancient associations, including a chalybeate spring, the Red Well, to which Charles I. is said to have resorted. In 1798 it was almost destroyed by fire. It contains an old parish church, restored 1851-74; a grammar school, founded in 1505; and a corn-exchange. Iron-smelting is one of the local industries; leather manu.; p. 19,758.

Wellington, mkt. *t.* nr. Shrewsbury, Shropshire, Eng., p. 7,850. Its ancient name was Watling Town, because it stood on the line of Watling Street. Also mkt. *t.* nr. Taunton, Somerset, Eng. This was the town from which the famous warrior duke took his title, the manor, which had been held by King Alfred, Asser, Aldhelm, the Protector Somerset, and the Pophams, being purchased for him in 1813; a considerable industry in woollen and worsted goods is carried on here; p. 7,634. Also *t.* in Hutt co., on Port Nicholson, N. Island, New Zealand, cap. of the col., fine harbour, imp. tr.; Wellington was settled in 1840, and became the seat of government in 1855; its principal buildings are Government House, the House of Legislature, Anglican and Roman Catholic cathedrals, public museum, colleges, etc.; and there is a public park, with botanical gardens, of 100 acres; p. 52,114. Also prov. containing same, 300 m. by 80 m., p. 127,000. Also a cent. pastoral dist. N.S.W., area 16,695 sq. m. Also *t.* on Macquarie R., in W. co., N.S.W., p. 3,216. Also *t.* in Paarl div., Cape Colony, Brit. S. Africa, 45 m. from Cape Town, p. 2,805. Also isl. off W. coast Patagonia (100 m. long), belonging to Chili.

Wellington Lake (area 54 sq. m.), in Gippsland co., Bruce, Victoria; Wellington Mtn., nr. Hobart Town, Tasmania, alt. 4,770 ft.

Wells, *t.* at foot of Mendip Hills, Somerset, Eng.; cathedral, bishop's palace. Wells is a place of great antiquity. The present see was founded by Edward the Elder in 909, although 200 years earlier King Ina established a house of secular canons there. Among its bishops of Wells the names of Wolsey, Fox, Laud, and Ken occur. The cathedral, though small, is considered to be perhaps the most architecturally beautiful of English ecclesiastical edifices, its famous west front, with its 600 matchless sculptured figures, 127 of which are life-size or colossal, being of remarkable beauty and grandeur. The central tower is 160 ft. high, and the two western towers 130 ft.; p. 4,655. Also vil. York co., Maine, U.S.A., p. 3,854.

Wells, or Wells next the Sea, *spt.* *t.* Norfolk, Eng., nr. Holkham Bay, p. 2,565. [10,112]

Wellston, *c.* Jackson co., Ohio, U.S.A., ry. centre, p. Wellsville, *c.* in colly, and farming dist. Columbiana co., Ohio, U.S.A., on the Ohio R., p. 6,400.

Wells, *t.* on R. Traun, nr. Linz, Upper Austria; old castle (in which Emp. Maximilian died, 1551); corn and cattle tr., mchyn., gunpowder, felt and paper factories, *p.* (including garrison) 13,108.

Welshpool, *bor.* on R. Severn, Montgomerysh., Wales, nr. Is Powis Castle, the seat of Earl Powis, the descendant of the Herberts, who owned the castle from the days of Elizabeth, and of the Clives; p. 5,275. One of the Montgomery boroughs.

Welwyn, *par.* of Herts, 5 m. N. of Hatfield. Young, the author of *Night Thoughts*, was vicar of Welwyn, and lies buried in the churchyard.

Wem, mkt. *t.* nr. Shrewsbury, Shropsh., Eng., p. 722.

Wembley, Middx., an urban *dist.* 21 m. E.S.E. of Harrow, p. 10,657. Wembley Park, opened in 1894 as a pleasure resort, is much visited, but the tower, which the late Sir Edwin Watkin, Bart., projected, was only completed to the first stage, and finally pulled down in 1907. The district is now becoming largely residential.

Wemyss, *par.* of Fife, 3 m. N.E. of Dysart, and including the vills. of East and West Wemyss, combined p. 3,800.

Wemyss Bay, *strm.* *river* and hydropathic *rest.* Renfrewsh., Scotl., 8 m. S.W. Greenock.

Wen-Chow, Chinese treaty *port.* in the Prov. of Chekiang, p. over 80,000. [5,814]

Wendel, *t.* on R. Biles, nr. Treves, Rhenish Pruss., p. Wendover, *a par.* of Bucks, 5 m. S.E. of Aylesbury, and lying under the Chiltern Hills. Up to 1832 it returned members to Parliament, p. 2,000.

Wener, large *L.* Sweden, W.N.W. of L. Wetteren, with which it is connected by canal (thence with the Baltic); area 1,740 sq. m., 112 m. long, 18 m. wide, 35 m. almost divided by a peninsula and an isl. *gr.*, the western half being called L. Dalbo.

Wenersborg, *lake port* Sweden, on a tongue of land betw. the R. Gota and the Väsabotten (the

southmost bay of L. Wener); connected by the Dalsland canal with Frederikshald in Norway; mals and paper factories, p. 6,500. Founded in 1642, W. has several times been burnt down. **Wengern Alp**, *a height* in the Little Scheideck pass, Bernese Oberland, Switz.; magnif. view, alt. 6,728 ft.

Wenham Lake, Massachusetts, 22 m. N.N.E. of Boston, famed for its large yield of ice. There is a lake of the same name at Drobak, near Christiania, in Norway.

Wenlock, or Much Wenlock, *c.* Shropsh., Eng.; iron and coal dist., p. 15,224. It is a municipal borough, comprising in addition to Much Wenlock, Broseley, Coalport, Madeley, Ironbridge, and Coalbrookdale, Wenlock was incorporated by Edward IV. in 1448, and returned 20 members to Parliament until 1885.

Wensum, *R.* Norfolk, Eng., trib. (30 m.) of R. Yare. Wentworth Forest, an ancient wooded tract in Mowmouthshire, 41 m. S.S.E. of Usk.

Wentworth Castle, the seat of the Wentworth family, erected 1730-68, 3 m. S.W. of Barnsley.

Wentworth Woodhouse, 41 m. N.W. of Rotherham, in the West Riding of Yorkshire, the seat of Earl Fitzwilliam. In the 17th century it was the home of the ancestor of Fitzwilliams, the great Earl of Stratford ("Thorough").

Wentworth, *t.* in Co. W., on Darling R., N.S.W., pastoral dist., p. 1,864.

Wepener, *c.* nr. Caledon R., on border Basutoland and Orange R. Col., Brit. S. Afr., battle April, 1900.

Werdau, *t.* on R. Pleisse, nr. Zwickau, Saxony; textile and mchy. manuf., p. 21,680.

Werden, *t.* on R. Rhur, in the Rhine Prov., Pruss.; Benedictine abbey; cloth mfg. centre in colly, and quarry dist., p. 11,065. [Pruss., p. 12,608]

Wermelskirchen, industrial *t.* nr. Dusseldorf, Rhenish Westphalia, *t.* on R. Holtenauer, alt. 600 ft. Harz mtns., Saxony prov., Pruss.; castle, p. 10,140.

Werra, *R.* Germany, a headstream of R. Weser; rises in Sixte-Meiningen, and flows (170 m.) through Thuringia to the Fulda at Münden. [dist., p. 1,862]

Werrabee, *vil.* nr. Melbourne, Victoria; pastoral Werriogee, *t.* on the Belgian frontier with considerable tobacco factories, p. 9,300.

Wesel, fort, *t.* Rhine prov., Pruss., nr. Duisburg, on R. Lippe; museum and meteorological stn., p. 53,306.

Weser, *R.* W. Germany, flows from the conflu. of Fulda and Werra R.'s at Münden (270 m.) past Bremen to N.S. east of the R. Elbe at Bremerhaven.

Weser Mtns., terraced nitrous. regn. on both sides of R. Weser, from Münden to Minden; highest pk. 1,650 ft.

Wessex, the ancient kingdom of the West Saxons, including Berks, Hants, Wilts, Dorset, Somerset, Devon, and Cornwall.

West Australia.—(See Australia, Bay.)

West Bay City, on R. Saginaw, Bay co., Michigan, U.S.A., opp. Bay C.; pine-timber industries, p. 13,460.

West Bethlehem, *bor.* Penn., U.S.A., in Clarion co., p. 5,610.

Westboro, *t.* (mfg.) Worcester co., Mass., U.S.A., p. 4,417.

West Boylston, *vil.* nr. Worcester, Mass., U.S.A.; West Bromwich, mfg. *bor.* on R. Tame, Staffs, Eng., nr. Birmingham; mchyn., tools, and metal works; West Bromwich is called *Bromwich* in the Domesday record, and in the 12th century was the seat of a Benedictine priory. There are no relics of olden days remaining, however, the town being of wholly modern aspect, owing its expansion from the position of the small village of a hundred years ago to its present extent and prosperity to the rich fields of coal and iron in its vicinity; p. 68,345.

Westbrook, *c.* on R. Presumpscot, Cumberland co., Maine, U.S.A.; paper, cotton, and silk factories; p. 7,520.

Westbury, old *t.* nr. Salisbury, Wilts, Eng., woollen factories, brickwks. Until 1892 it returned two members to Parliament and was allowed to send one member from that date to 1895, when the privilege was taken from it, and it became incorporated with the county representation. The famous Westbury White Horse, 175 ft. long, is on the S.

slope of Westbury Down, and is supposed to commemorate King Alfred's defeat of Ethandun in 878; p. 3432.

Westbury-on-Severn, *t.* 8 m. S.W. Gloucester, Eng.; industri; p. 1,822.

West Calder, *t.* 2½ m. S.W. Edinburgh, Scot.; p. 4,412.

West Chester, *bor.* in mkt.-gding. dist., Chester co., Penn., U.S.A.; residit. sub., Philadelphia; p. 10,346.

West Cleveland, *sub.* of Cleveland, Ohio, U.S.A., on L. Erie; p. 6,246. (N.E.); industri; p. 40,120.

West Derby, *t. sub.* to Liverpool, Lancs., Eng. (on West Duluth, *vil.* sub. to Duluth, Minnesota, U.S.A., on L. Superior; p. 5,640).

Westeraalen, *grp.* of *isls.* on N.W. cst., Norway, separated from the Lofoten Is. by the Raftund.

Westeraa, *t.* on N. bay of L. Mælar, Westmanland, Sweden; Gothic cathed. (with val. episcopal lib.); 16th centy. castle; p. 12,104.

Westham, *mkt. t.* nr. Sevenoaks, Kent, Eng., on Surrey border; p. 2,784. Birthplace of General Wolfe.

Westerkirk, *par.* in Dumfriesshire, 6 m. N.W. of Langholm.

Westerly, *vil.* on Rhode Isl., 44 m. S.S.W. of Providence, p. 7,800.

Western Isles.—(See Azores and Hebrides.)

Westmorland, *t.* Herrodslee, [p. 14,614.

Westfield, *t.* Hampden co., Mass., U.S.A.; manuf.; West Field, *channel* sep. Lofoten Is. from Norwegian mainland.

West Flanders, *prov.* Belgium, adjoin. N. S. and French border, area 1,249 sq. m. (See also Flanders.)

Westfield, *t.* of Massachusetts, 9 m. W. of Springfield.

Westford, *t. nr.* Lowell, Middlesex co., Mass., U.S.A., p. 4,610.

Westgate-on-Sea, *cst. wat. pl.* nr. Margate, Kent, Eng., p. 4,444.

West Ham, *Parly. bor.* Essex, Eng., subn. to E. London; industri; and residential; bordered by R's Thames and Lea; p. 289,102.

West Hartlepool, *t.* [within Parly. limits of Hartlepool (*q.v.*), Durham, Eng., p. (sep.) 63,932.

West Haven, *bor. subn.* to New Haven c., Connecticut, U.S.A., p. 5,680.

West Hoboken, *t.* on Hudson R. clif., N. of Jersey City, opp. New York, U.S.A.; silk factories; p. 35,403.

West Houghton, *mfg. t. nr.* Wigan, S.E. Lancs.

West India Is., or Antilles, *group* in the Atlantic, extending between the coasts of Florida and Venezuela, separating the Caribbean Sea from the G. of Mexico; comprising the Bahamas, the Greater Antilles (Cuba, Hayti, Jamaica, Porto Rico, and the Caymans), the Virgin Is., the Lesser Antilles (including the Leeward and Windward grps.), and the Is. of Venezuela belonging to that State. From the 17th to the 19th centuries the French, English, and Dutch were in frequent conflict regarding the possession of these various islands.

West Indies, *group* in the Atlantic, secured Martinique, Grenada, St. Vincent, and Guadeloupe between 1635 and 1719; the Dutch obtained Tobago and Curaçao in 1632; and the English took possession of St. Christopher, Barbadoes, Antigua, Dominica, and the Grenadines between 1623 and 1763. Later, England wedded St. Vincent, Grenada, and St. Lucia from the French. (See separate entries.)

West Indianapolis, *t.* in Indiana, U.S.A., subn. to I. city; residential; p. 6,146.

Westland, *prov.* New Zealand (S. is., W. cst.), sep. from Canterbury prov. (of which it was formerly a part) by the Southern Alps; 200 m. long, 30 m. wide, p. 20,000; chf. t's, Greymouth and Hokitika (*q.v.*); muntins, gold mining.

West Lothian.—(See Linlithgowshire, Scot.).

Westmanland, *prov.* Sweden, N. of L. Mælar, area 2,631 sq. m., p. 146,118; cap. Westeraa (*q.v.*).

Westmeath, *indl. co.* Leinster prov., Ireld., area 708 sq. m.; pasture and tillage, with much bog; p. (declining) 59,812; dairying; co. t. Mullingar.

Westminster, *c.* on N. bank of the Thames, Middlesex, Eng., W. of London; contains Houses of Parliament, Westminster Abbey, Government offices, Royal Palaces (Buckingham P. and St. James'), Roman Catholic Cathedral, National Gallery, Tate Gallery

of British Art, and many other fine bldgs.; industri. and residential, as well as official; p. 160,277.

Westminster, *t.* in Maryland (nr. Baltimore), p. 3,822.

Westmount, *t.* Queb., Can., p. 15,000.

Westmorland, *co.* of N.W. Eng., adjoining Cumberland, W. and N., and touching Morecambe B., area 783 sq. m., covering part of the Lake Country (Windermere, Ullswater, Grasmere, etc.); agr., lead-mining, quarrying; p. (slightly declining) 63,575; cap. Appleby; most p. t., Kendal. There are numerous mountains, including Helvellyn (3,118 ft.) on the Cumberland boundary, Bow Fell (2,959), Fairfield (2,950), Dufton Fell (2,803), and Dun Fell (2,780); the moorlands are of great extent, and woods and plantations cover over 17,000 acres.

West Newbury, *vil.* nr. Boston, Mass., U.S.A., p. 3,018.

Weston-super-Mare, *wat. pl.* Somerset, Eng., on an inlet of Bristol Channel, p. 23,235. A hundred years ago it was only a small fishing village, but its sheltered and picturesque situation and bracing air gradually attracted many visitors, and it is now a fashionable resort, with esplanade, promenade pier, and public gardens. [U.S.A., p. 8,124.

West Orange, *industri. t.* Essex co., N. Jersey.

Westphalia, *W. Prov.* Pruss. (former duchy and sometime pt. of a kingdom); adjoins Holland, Hanover, and Rhens; area 7,798 sq. m., dairying, gding., agr., horse-breeding; contains also princip. coalfields of Germany; p. 4,130,000. The archbishops of Cologne, as Dukes of Westphalia, had control of the duchy from 1180 to a much later period. In 1807 Westphalia formed part of the kingdom ruled over by Jerome Bonaparte, and in 1813, when Jerome was deposed, the province as it now exists was assigned to Prussia. The industrial wealth of Westphalia and its modern prosperity have been built up on the rich mineral treasures found beneath its soil, and including iron, copper, lead, zinc, sulphur, antimony, etc. Cap. Munster.

West Pittston, *bor.* in anthracite coal regn. Lackawanna co., Penn., U.S.A.; p. 6,246.

West Point, *military stn.* (seat of the U.S. Military Academy), Orange co., New York, U.S.A., on W. bank Hudson R. [Westport B., p. 4,450.

Westport, *mkt. and spt. t. co.* Mayo, Ireld., on West Frussa, *prov.* F., adjoin. Baltic and Russn. Poland; area 9,248 sq. m., p. 1,500,000. Divided into the govts. of Marienburg and Dantzig (*q.v.*).

West Randolph, *vil.* nr. Montpelier, Orange co., Vermont, U.S.A., p. 3,120.

Westray, one of the Orkney Is., 23 m. by sea from Kirkwall, Scot.; 10 m. long; p. 2,200.

West Russia, part of the Czar's domain comprising the govts. of Grodno, Mohilev, Vilna, Vitebsk, Kovno, and Minsk (*q.v.*). [p. 3,428.

West Rutland, *vil.* in co. R., Vermont, U.S.A.

West Springfield, *t.* (industri.), Hampden co., Mass., U.S.A., p. 8,144.

West Troy, *now Watervliet* (*q.v.*).

West Turkestan.—(See Turkestan.)

West Virginia, an E. central st. U.S.A., bounded by the R. Ohio, the Alleghany Mtns., Virginia, Maryland, Kentucky, and Penn.; area 24,780 sq. m.; coal, salt, petrol; agr. and grazg.; p. 1,750,000 (rapidly increasg.). Cap. Wheeling. The Appalachian coal-field extends over nearly the whole of the State, which ranks fourth among the States in its coal output. Of its many mineral springs, the White Sulphur Springs are the most famous. Until the civil war this State was included in Virginia, but the northern and western counties, which had remained loyal to the Federal government, were constituted the State of Virginia by themselves, West Virginia, which had rebelled, being also made a State to itself.

Westward Ho, picturesque cst. *vil.* Blideford B., Devon, Eng. p. 5,864; Military colt. The name is derived from Charles Kingsley's well-known romance. There are excellent bathing opportunities, and there is a fine golf course.

Westwood, *t.* in mining dist. nr. Rockhampton, Queensland, p. 8,644. [Eng., p. 5,346.

Wetheral, *t.* on R. Eden, nr. Carlisle, Cumberl.,

Wetherby, mkt. *t.* on R. Wharfe, W.R. Yorks, Eng., p. 2,416. [Pruss. Saxony, p. 12,465.]
Wetlin, industri. *t.* on R. Saale, nr. Schwarzwald, Pruss. Saxony, p. 12,465.
Wetter, or **Wetter**, *t.* Sweden, 25 m. S.E. of L. Wener (p. 101); area 133 sq. m. part of an extensive canal system; nr. S. end is the picturesque isl. of Veling (8 m. by 5 m.) with ruined palace. Over ninety small tributaries run into it. Its waters, which are of a beautiful green, are noted for their irregular risings and fallings, and for corresponding variations in the weather.
Wetteren, *t.* in Belgium, nr. Ghent, on the R. Scheldt; textile manuf., p. 16,112.
Wetterhorn, famous *peak* of Bernese Oberland, Switzerland, alt. 12,105 ft., 10 m. S.E. of the L. of Brienz.
Wetzlar, *t.* on R. Lahn, nr. Coblenz, Rhenish Prussia; in iron-mining regn.; once an impl. t. and seat of the Supreme Court of the Empire; cathedr., ruined mediæval castle, p. 9,823. The scene of Goethe's *Sorrows of Werther* is laid in Wetzlar.
Wexford, maritime co. of prov. Leinster, S.E. Ireland; area 901 sq. m., pasture, tillage, dairy, stock-breeding, fishery, p. (falling) 10,529. There is only one hill of any particular height, and that is Mount Leinster, on the border, 2,610 ft. The Slaney is the chief river, and empties itself into sea through Wexford harbour. There are valuable fisheries. Several old castles survive, as well as the monasteries of Dunbrody, Tintern, and Ross. Cap. W. t. on R. Slaney, p. 12,455. Some of the old fortifications and part of St. Selisker's priory remain. Cromwell took the town in 1644. In the insurrection of 1798 many serious disturbances took place both in Wexford city and in other parts of the county.
Wexjö, or **Wexlô**, *t.* on L. Sodre, Kronoberg, Sweden; 13th cent. cathedr. (lately restored), royal palace and castle (ruined), p. 7,576. [Thames.]
Wey, R. Hants and Surrey, Eng.; trib. (35 m.) of R. Weymouth, *par.* of Norfolk, on the est., 13 m. E.N.E. of Walsingham. [Eng., p. 6,266.]
Weybridge, *par.* on R. Thames and Wey, Surrey.
Weymouth, industri. *t.* (boot and shoe manuf.) Norfolk co., Mass., U.S.A., p. 11,642; also pt. on St. Mary's B., co. Digby, Nova Scotia, p. 1,886.
Weymouth and Melcombe Regis, *cor.* and *wt.* pt. on Weymouth B., Dorset, Eng., p. 2,235. The two quarters of the town are separated by the Wey, which, after broadening into a tidal "Backwater," makes its way to the sea. Old Weymouth is on the S., and modern Melcombe Regis facing the bay. Bes to the N. in older times they were separate boroughs, and each returned two members to Parliament until 1821, when they were constituted one conjoint borough, returning two members between them. The two towns are connected by a bridge erected in 1881. Weymouth attained great popularity through the frequent visits of George III. Thomas Love Peacock was a native.
Whalley, *vil.* of Lancashire, on the Calder, 31 m. S. by W. of Clitheroe; has a ruined Cistercian abbey (1195). [area 71 sq. m., p. (about) 1,000.]
Whalsay, a Shetland *is.*, 13 m. N.N.E. of Lerwick.
Whangarei, *t.* at mth. of W.R., New Zealand; farming and fruit grow., p. 2,140. [dist., p. 2,346.]
Whangarua, *t.* nr. Auckland, New Zealand; mining.
Wharfe, R. W.R. Yorks, Eng., flows 60 m. to R. Ouse, nr. Cawood. [Eng., p. 3,884.]
Wharfedale, *colly.* *vil.* 6 m. N.W. Sheffield, Yorks.
Wharton, *township*, nr. R. Weaver, Cheshire, Eng.; salt works, p. 4,104. [p. 4,125.]
Whitcheater, industri. *t.* Keokuk co., Iowa, U.S.A.
Whitcomb, *t.* nr. Haverham, W. co., Washington, U.S.A.; good tr., p. 5,914.
Whedding, *c.* on R. Ohio, cap. of W. Virginia, U.S.A.; gt. rly. and riverside comm. centre, iron and steel manuf., p. 40,128. [alt. 2,414 ft.]
Wheranda, *mt.* nr. Ingleton, W.R. Yorks, Eng.
Whickham, industri. *t.* nr. Gateshead, Durham, Eng., p. 12,332.
Whitby, *colly.* *t.* nr. Coatbridge, Lanarksh., Scotl., p. 5,025.
Whitby, *ham.*, *vil.* Isle of Wight (in wh. is situated the former marine Royal res., Osborne House, given

by King Edward VII. to the British nation on his coronation).
Whitburn, *cat. par.* nr. Sunderland, Durham, Eng., p. 2,814; also burgh on R. Almond, Linlithgowsh., Scotl., p. 2,875.
Whitby, *cat.* and *wt.* pt. facing the German Ocean, at mth. of R. Esk, N.R. Yorks, Eng.; fisheries, jet manuf., shipbuilding, famous abbey, p. 12,132. The two sides of the town stand on either side of the harbour, with a stone bridge, with a swivel, connecting them. The older portions of the town are on the east side, and comprise a number of steep, narrow streets, rising to the heights above, on which stands the old parish church of St. Mary, and the ruins of St. Hilda's Abbey, the latter founded in the 7th century, and after being destroyed by the Danes in 867 was refounded in 1078 as a Benedictine Abbey for monks. The church is of Norman origin, and is approached from the town by a stone stairway of nearly 200 steps. Captain Cook was a native.
Whitby (formerly Windor), *t.* on L. Outarico, Can., p. 3,814.
Whitchurch, mkt. *t.* nr. Basingstoke, Hants, Eng.; p. 1,935; also mkt. *t.* nr. Shrewsbury, Salop, Eng., p. 5,771; also *vil.* on R. Taf, Glamorgansh., Wales, nr. Llandaff.
White, R. Arkansas, U.S.A., trib. (350 m.) of R. Mississippi; also R. Indiana, U.S.A., trib. (350 m.) of R. Wabash. [R. Tweed.]
Whiteadder, R. Berwicksh., Scotl.; trib. (34 m.) of Whitechapel, *E. dist.* of London, Eng.; industri., mostly in the Tower Hamlets; p. 34,118. [3,814.]
White Creek, *wt.* nr. Troy, New York, U.S.A.; p. 11,642.
Whitefield, *t.* nr. Tewkesbury, Gloucestersh., Eng.; industri., p. 6,967.
Whitehall, *t.* at head of L. Champlain, Washington co., New York, U.S.A.; p. 5,240; timber tr.
Whitehaven, *t.* in Egremont div., Cumberland, Eng.; iron-ore smelting, coast tr.; p. 19,048. The prosperity of Whitehaven has resulted from the possession of valuable local deposits of coal and iron-ore, which have provided the means for the successful carrying on of many industries, including ironworks, iron-shipbuilding, collieries, iron-mines, etc. The harbour has a wet-dock of 5 acres. Paul Jones attacked Whitehaven in 1778.
White Horse, the name given to the figure of a horse cut out on a hillside by removing the turf from the surface. Several of these exist in various parts of the country, the largest being at Uffington, Berkshire. It measures 355 feet in length, and can be seen for many miles. There are other white horses at Stratton Hill, Westbury (p. 101), Cherhill, Marlborough, and Pewsey.
Whitekirk, *par.* on the Haddingtonshire est., possessing a church once a great resort of pilgrims, 41 m. S.E. of North Berwick.
White Mtns., part of the Appalachian system, New Hampshire, U.S.A.; highest summit, Mt. Washington, 5,805 ft.
White Plains, *t.* Westchester co., New York, U.S.A.; residential; here in 1775 Genl. Howe defeated the American forces; p. 7,754.
White R., rises in Arkansas and flows through that state and Missouri to the Mississippi near the mouth of the Arkansas; has a course of 800 m., 300 of which are navigable.
White Sea, or G. of Archangel, *inlet* of the Arctic Oc., N. Russia, area 47,346 sq. m. It is frozen over from early September to late May, and has direct communication with the Dnieper, the Volga, and the Black and Caspian Seas.
White Sulphur Springs, a *wt.* pt. of West Virginia.
Whitewater, *vil.* Wisconsin, U.S.A., nr. Milwaukee; p. 4,816.
Whithorn, *royal burgh* Wigtonsh., Scotl., p. 1,080; 21 m. N.W. of the Isle of Whithorn, and 21 m. S. of Wigtown. St. Ninian founded a church here in 397, and was buried here in 432. At one time it was the seat of a bishopric, the see of Galloway, an old priory being made the cathedral, which was much resorted to by pilgrims.
Whitkirk, *wt.* nr. Leeds, W.R. Yorks, Eng.; industri.; p. 3,419.

Whitley, *cat. vil.* on Whitley B., nr. North Shields, Northumberland, Eng.; p. 378.

Whitney Mtn., a peak of the Sierra Nevada, California, U.S.A.; alt. 14,960 ft.

Whitstable, *spa.* and *cat. rest.* nr. Canterbury, Kent, Eng.; famous for its oysters; p. (of par., includg. *Sessalier*), p. 584.

Whittingham, *par.* in Haddingtonshire, 3 m. S.E. of East Linton; includes the seat of the Rt. Hon. *x.*

Whittingham, or Whittington Moor, *colly. townsip.*, nr. Chesterfield, Derbysh., Eng.; p. 272.

Whitlessy, or Whitlessy, *mkt.* t. Cambridgesh., Eng.; p. 424.

Whitwick, *industri.* t. nr. Loughborough, Leicestersh., Eng.; p. 548.

Whitwood, t. (*mfg.*) nr. Pontefract, W.R. Yorks, Eng.; p. 548.

Whitworth, *industri.* t. nr. Rochdale, S. Lancash., Eng.; p. 872.

Whydah, *cat.* t. Dahomey, on lagoons nr. W. cat. Africa; under French ind.; p. 15,000.

Wichita, R. Texas, U.S.A.; flows 225 m. to the Red R., Clay co.; also t. in the Arkansas valley, Kansas, U.S.A.; meat-packing centre in agr. and stock-raising regn.; p. 29,450.

Wick, *spa.* and *burgh*, Caithness, Scotl.; herring fisheries centre, one of the Wick parly. burghs, p. 986. The royal burgh, with its pleasant suburbs of Lousburgh and Pultneytown, stands on the south bank of the Wick River. [8,866]

Wickham, *sub.* of Newcastle, N.S.W.; *industri.* p. 284.

Wickham Market, t. on R. Deben, Suffolk, Eng., p. 284.

Wicklow, *maritime co.*, Leinster prov., Ireld., on E. cat. S. of Dublin; area 781 sq. m., pastoral and agr., p. 60,003 (decreasg.) princ. peasantry; the Wicklow mountains attain their highest point in Lugnaquilla (3,099 feet), and their slopes reveal many beautiful glens, including Glendalough, Glendalure, Inail, the Glen of the Downs, and Avoca. Beside the Liffey and the Slaney, both of which rise in Wicklow, there are numerous picturesque mountain streams, and several beautiful lakes, though small; chf. t.'s W. (cap.) Bray, and Arklow (*q.v.*). (Sudbury, p. 963)

Wickwar, t. in Gloucestershire, 4 m. N. of Chipping-Widdin, fort. t. on R. Danube, Bulgaria; ruined mosque and palace, p. 15,118.

Widnes, t. on R. Mersey, Lancs, Eng.; *manuf.*, p. 29,455. Was incorporated in 1902, and has industries of iron, copper, soda, candles, soap, manures, etc. 13 m. E.S.E. of Liverpool.

Wied, *km.* R. Gerny, joins R. Rhine at Newuld; also name of former countship of German Emp. situate in this dist.

Wieliczka, salt-mining t. nr. Cracow, Austr. Galicia; celebrated subterranean chapels, with altars and ornamentatn. in rock salt, p. 6,015. [6,448]

Wielun, t. nr. Kalisz, Russn. Poland; *industri.*, p. Wiesner Neustadt, Lower Austria.—[See Neustadt.]

Wieringen, *str.* and t. in Zuyder Zee, N. Holland, p. 289.

Wiesbaden, t. and pop. *wat. pl.* on S. slope of the Taunus, Hesse-Nassau, Pruss.; minl. baths (via. by 120,000 persons annually), many fine bldgs., p. 170,000. Known in Roman times, it later obtained ill-repute as a gambling place, but is now a prosperous health resort. It has many hot springs, the principal one being the Bolling Spring, 130° F. The chief buildings are the palace (1840), the Kursal (1810), town-hall (1888), and a Greek chapel (1829) built by the Duke of Nassau as a mausoleum for his wife.

Wieselburg, t. on brch. of R. Danube, nr. Pressburg, Hungary, p. 5,216.

Wigan, t. S.W. Lancs. Eng.; cotton and iron mfg. centre in colly. dist., p. 89,171. Standing in the centre of a great coalfield, it has been able to play a considerable part in the development of the Lancashire industries, and has iron foundries and railway-wagon works, cotton factories, paper mills, etc., besides doing a large trade in coal. The Royalist Earl of Derby occupied the town in 1646 but it was twice taken by the Parliamentarians, and in 1659 Lord Derby was defeated by Lilburne. Leland the antiquary was a native of Wigan.

Wight, Isle of, Eng. Chan., included in co. Hants;

area 146 sq. m., undulating and agr. with numerous wat. places all round the isl.; the Romans had stations at Carisbrooke and Brading. It came under Saxon rule in the seventh century, and after the Norman Conquest was granted first to the Fitzosbornes and later to the Redvers family, who held it until it passed into the hands of the Crown in 1264. Prior to 1832 the island returned six Members of Parliament, two each for Newport, Yarmouth, and Newtown; now it only returns one Member for the whole island. Newport (*q.v.*) is the ch. t., Cowes (*q.v.*) princ. port, p. 88,193.

Wigton, *mkt.* t. of Cumberland, with *manuf.* of woollens, 12½ m. S.W. of Carlisle, p. 3,689.

Wigtown (or West Galloway), *maritime co.* on Irish Sea, S.W. Scotl.; area 485 sq. m.; oats, wheat, agr., dairying, p. 37,990 (decreasg.) Cap. W., on W. Bay; fishery, p. 1,268.

Wi-ju, a t. of Korea, near the Chinese frontier to the south of the estuary of the Yalu; p. 3.

Wildbad, a t. of Württemberg, in the Black Forest on the Euz, 33 m. S.E. of Carlsruhe, and famed for its salt baths; p. 3,500, over 7,000 visitors annually.

Wilcania, *township*, on Darling R., N.S.W., in pastoral dist., p. 2,140.

Wilderness, swampy *regn.* N.E. Virginia, U.S.A., S. of Cape of Fear but indecisive fighting American Civil War, 1864.

Wilhelmshaven, *naval str.* of the Germ. Emp., fort in Jähde terr. on the N. S. nr. Bremen; also sea bathg. rest., p. 25,560. Inaugurated by King William I. in 1869, it has since been developed and defended until it forms a fortress of the first order, with forts, moles, dry-docks, and stores of vast extent.

Wilkesbarre, t. on R. Susquehanna, Luzerne co., Penn., U.S.A.; in anthracite coal, regn., p. 67,105.

Wilkinsburg, *par.* Allegheny co., Penn., U.S.A., subm. to Pittsburgh, p. 12,224.

Willemsstad, *cap.* Curaçoa, Dutch W. Indies, p. 10,824.

Willenhall, *infig.* t. Staffs, Eng., nr. Wolverhampton, p. 18,858. [industri., p. 154,267]

Willenden, N.W. *sub.* London, Eng.; residential, and Williamette, R. Oregon, U.S.A., trnb. (300 m.) of Columbia R.

Williamsburg, t. (collegiate) of James City co., Virginia, U.S.A.; famous st. cap. battle 1862, p. 2,214; also vil. Hampsh. co., Mass., U.S.A., p. 4,124. The William and Mary College (1693) is here.

Williamsport, t. on Susquehanna R., Lycoming co., Penn., U.S.A., riv. centre, timber tr.; p. 31,860, 70 m. N. of Harrisburg.

Williamstown, *port* nr. Melbourne, Victoria; shipbldg., p. 14,516; also vil. nr. Greenville, S. Carolina, U.S.A.; p. 3,120.

Willmantic, t. on R. W., Windham co., Connecticut, U.S.A.; thread and textile factories; p. 2,215.

Willington, *township*, in colly. dist. co. Durham, Eng.; nr. Bishop Auckland; p. 7,734.

Willington Quay, t. on R. Tyne, Northumbld., Eng.; nr. North Shields; p. 9,116; *industri.*

Williton, a t. of Somerset, 24 m. N.W. of Taunton; p. 1,204.

Willoughby, *sub.* of Sydney, N.S. Wales, 5 m. N. of the city; contains numerous factories and market gardens.

Willunga, *township*, nr. Adelaide, S. Australia, p. 1,443.

Wilmington, t. on Delaware R., Delaware co., Delmar, U.S.A.; shipbldg., iron foundries, machine-factories, p. 87,120; also c. on Cape Fear R., Hanover co., N. Carolina, U.S.A.; was chief Confederate port during the civil war; gt. tr. in cotton, timber, and naval stores; p. 25,554.

Wilmalaw, *industri.* t. on R. Bollen, nr. Stockport, Cheshire, Eng.; p. 8,153.

Willadea, t. nr. Bradford, W.R. Yorks, Eng.; p. 2,958.

Wilson's Promontory, S-most *headland* of Victoria, projectg. into Bass Strait.

Wilton, old *mkt.* t. Wilts, Eng., nr. Salisbury; carpet mfg., p. 2,124. Former capital of Wessex and the seat of a bishopric until 1093; it was at Wilton House here, the mansion of the Earls of Pembroke, that Sir Philip Sidney wrote a portion of his Arcadia.

Wiltshire, S.W. inland co., Eng., N. of Hants and

Dorset; area 1,354 sq. m.; agr. and pastoral; p. 266,876. It is chiefly an agricultural county, and the Calne district is famous for its Wiltshire bacon. At Bradford and at Trowbridge the manufacture of broadcloth and carpets have long been carried on. Wiltshire was occupied by the Romans, and the defeat of the British in 525 at Old Sarum by the Saxons was the first important victory of the latter. Cap. Salisbury.

Wimbledon, *t.* and residt. dist. Surrey, Eng., a S.W. sub. of London, with famous common; p. 54,876.

Wimborne, or Wimborne Minster, mkt. *t.* nr. Poole, Dorset, Eng.; p. 3,711. A nunnery was founded here about 705, which Edward the Confessor converted into the minster, with its fine central and west towers, and containing the tomb of Ethelred I.

Wimmeria, N.W. dist. Victoria, Australia; area 25,000 sq. m.; pastoral.

Wimpfen, *t.* nr. Heilbronn, Hesse, Gerny., on R. Neckar; battle 1622; p. 2,842. [Africa; p. 3,216.

Winburg, *t.* on Oet R., Orange River Col., Brit. S. Wincanton, mkt. *t.* nr. Glastonbury, Somerset, Eng.; p. 2,693. [p. 2,946.

Winchcomb, mkt. *t.* nr. Cheltenham, Gloucester, Eng.; Winchelsea, *t.* nr. Hastings, Sussex, Eng.; formerly an import, walled spk; p. 1,714. Old Winchelsea stood 3 to 4 to the sea. Edward III. built New Winchelsea, three of the gateways of which, and parts of a Franciscan monastery, still remain. [p. 842.

Winchendon, *vill.* nr. Worcester, Mass., U.S.A.; p. Winchester, *c.* on R. Itchen, Hants, Eng.; anc. cap. of the Saxons; fine cathed., college, barracks; formerly famous for woollen manuf.; Winchester College was founded by William of Wykeham, in the 14th century, much of the original edifice still remaining. The hall is 53 ft. long. The hospital of St. Cross, a mile distant from the city, was founded by Des Bails in 1132, but rebuilt later by Cardinal Beaufort; p. 23,360. From the 8th to the 13th century Winchester almost rivalled London in civic importance. King Alfred was educated here and resided here, founding the "New Monastery," later called St. Grimbald's. William the Conqueror had a palace at Winchester. In the monastery rebuilt in the 12th century, and here, in 1867, were discovered the bones of five persons, supposed to be those of King Alfred, his queen, two sons, and St. Oswald. Henry III. was born in the castle. Cromwell took the castle and city in 1645. The large hall, 110 ft. long, and one of the towers of the castle are all that remain of the castle. Here Charles II. had a red brick palace (now a barrack). The cathedral contains the tombs of Rufus, Cardinal Beaufort, Wykeham, Waynflete, Gardiner, Izaak Walton, Jane Austen, and many others of note.

Winchester, *t.* on Mad R., Litchfield co., Connecticut, U.S.A.; cutlery manuf.; p. 8,500. Also *t.* in Blue Grass; agr. and stock-raising region, Kentucky, U.S.A.; p. 6,757. Also *t.* in Middlesex co., Mass., U.S.A., sub. to Boston, p. 8,514. Also *c.* in the Shenandoah valley, Virginia, U.S.A.; Sheridan's victory over the Confederates, 1862; p. 5,200.

Windau, Russian *vill.* in Courland, 120 m. N.E. of Memel, p. 8,000.

Windermere, largest Eng. L. (104 m. long, 1 m. wide), in Westmorland and Lancs. outlet to Morecambe Bay; also smt. *t.* on E. shore of L., p. 5,147.

Windham, *vill.* nr. Norwich, W. co., Connecticut, U.S.A.; p. 8,914; industr. [p. 7,495.

Windhill, mkt. *vill.* Bradford, W.R. Yorks, Eng.

Wind River Mtns., Wyoming, U.S.A. 8th range of the Rockies; highest pt. Fremont's Peak, alt. 13,576 ft.

Windrush, *R.* Gloucestersh. and Oxfordsh., Eng., trib. (30 m.) of R. Thames.

Windsor, *bor.* of Berks., Eng., on R. Thames; famous royal castle (founded by William the Conqueror) and park, St. George's Chapel, and the 'Royal Mausoleum'; p. 15,370. Edward III. and Henry VI. were born in Windsor Castle, and George III., George IV., and William IV. died there. Among the monarchs buried there are Henry VI., Edward IV., Henry VIII., and Charles I. It was here that Edward III. established the order of the

Garter. There are extensive cavalry and infantry barracks in the town; Cumberland Lodge, Frogmore, and Windsor Forest are near, and Old Windsor is an adjoining par.; while Eton (p. 21), across the R. in Bucks, is included in the par. limits.

Windsor, *c.* and *port.* on the Detroit R., Ontario, Canada; opp. Detroit *c.*; bicycle and machinery works; p. 15,715. Also *t.* on Connecticut R., Hartford co., Conn., U.S.A.; industr.; p. 3,917. Also *spt.* on Minas Par., Nova Scotia (contains King's College), p. 3,695. Also *bor.* on Hawkesbury R., nr. Sydney, N.S.W., p. 2,854.

Windward Isle, Crown col., Ct. Brit., in the West Indies, comprising S.E. portion Lesser Antilles (St. Vincent, Grenada, Grenadines, Tobago, and St. Lucia; all of which see separately); total area 664 sq. m.

Windward Passage, channel (60 m. wide) between Windward, *par.* in Yorks, 124 m. E.S.E. of Hull. The birthplace of Andrew Marvell.

Winfield, *c.* on R. Walnut, Cowley co., Kansas, U.S.A.; collegiate and commercial centre in agr. dist.; p. 6,014. [industr.; p. 6,558.

Wingate, township Durham, Eng., nr. Hartlepool; Wingfield, *par.* in Suffolk, near Harleston. There is an ancient castle here built by the De la Poles.

Wingfield, South, *par.* in Derbyshire, near Alfreton. It was at Wingfield Manor House where Mary Queen of Scots was imprisoned.

Wingham, *t.* in farming dist., N. of Sydney, N.S.W., (p. dist.) 7,042.

Winnebago, L. nr. Milwaukee, Wisconsin, U.S.A., 27 m. long, outlet by Fox R. into Green Bay.

Winnipeg (formerly Fort Garry), *cap.* of the province of Manitoba, Can., at jctn. of Red and Assiniboine Rs.; the principal commercial centre of the Canadian N.W.; p. 120,000, immense wheat export. Incorporated in 1873. Is a substantially built, modern town, with wide streets, tramways, electric light, etc. It has the university of Manitoba, Government offices, city hall, and huge grain-elevators and flour-mills.

Winnipeg, L. Canada, 40 m. N. of Winnipeg *c.*, 260 m. long, 25 m. to 60 m. wide; contains several large isls. (Reindeer, 70 sq. m., Big Isl., 60 sq. m.); receives the waters of the Winnipeg R. (flows 200 m. from the L. of the Woods), the Red R., and the Saskatchewan R.; discharges by the Nelson R. to Hudson Bay.

Winnipegosis, L. of Manitoba and Saskatchewan, Canada; area (exclusive of isls.) 2,000 sq. m.; 50 m. W. of L. Winnipeg, into which it empties.

Winnipisagoes, L. nr. Concord, New Hampshire, U.S.A.; noted for its beautiful scenery; 24 m. long; empties by the W. R. into the Merrimac.

Winona, *c.* on the Mississippi R., Minnesota, U.S.A.; *vill.* centre, tr. in corn and timber; p. 20,494.

Winoski, or Onion R., Vermont, U.S.A., flows (90 m.) to Champlain; also Winoski Falls, *vill.* of Chittenden co., Vermont, on R., p. 2,648.

Winschoten, industr. *t.* nr. Groningen, Holland, p. 7,864. [Eng.; salt wks.; p. 10,772.

Winsford, *t.* on R. Weaver, nr. Northwich, Chesh.

Winslow, mkt. *t.* of Bucks, 51 m. S.E. of Buckingham; p. 1,800.

Winster, *vill.* of Derbyshire, 4 m. W. by N. or Matlock; p. 800.

Winston, mkt. *t.* nr. Salem, N. Carolina, U.S.A.; tobacco and cotton factories; p. 11,416. Also *vill.* on R. Tees, Durham, Eng., nr. Barnard Castle.

Winterbergen, *min. range* Cape Col., Brit. S. Africa; highest summit, 7,865 ft.

Winterhoek Mtns., *range* nr. Port Elizabeth, Brit. S. Africa; highest pt., 4,000 ft. (Madison co.), p. 4,622.

Winteret, *t.* nr. Des Moines, Iowa, U.S.A., cap.

Winterlow, *par.* in Wilts, 6 m. E.N.E. of Salisbury, and associated with memories of Hazlitt.

Winterow R., *t.* nr. Arnheim, Gelderland, Holland; industr.; p. 8,846.

Winterthur, *t.* on R. Eulach, cant. Zurich, Switz.; formerly a free imperial *c.*, industr. and comm.; p. 25,000. [Humber; p. 1,486.

Winterton, mkt. *t.* Lincolnsh., Eng., nr. Barton-on-Wippen, R. Pruss. Saxony, trib. (50 m.) of R. Un-

- strut; also another R., Prussn. Saxony, trib. (40 m.) of R. Saale; also R., Westphalia, flows (50 m.) to R. Rhine, nr. Cologne. [Industri., p. 6,242.]
- Wipperfurth, *t.* Rhinisch Prussia, 23 m. N.E. Cologne; *Wirksworth*, *t.* in Derbysh., Eng.; lead mining; p. 6,252.
- Wirral, industri. *dist.* W. Cheshire, Eng., between Wirbach, or Wirbeach, *t.* on R. Nene, Isle of Ely, Cambridgesh., Eng.; exports coal; p. 10,282. The parish church is interesting and has a fine tower. A castle, founded by the Conqueror in 1071, rebuilt by Bishop Morton in 1483, restored by Bishop Andrewes, again rebuilt by Cromwell's secretary, Thurloe, from designs by Inigo Jones, was kept up until 1816, when it was finally demolished. Many Catholic recusants suffered imprisonment in the castle under Elizabeth.
- Wisby, old *port*, Gotthland isl., W. cost. Sweden; cashed. Many antiquities of the Stone, Bronze, and Iron Ages; p. 8,500. During the 10th and 11th centuries it was one of the leading commercial cities of Europe, and a principal centre for the operation of the Hanseatic League. Its prosperity was lost, however, in 1561, when Valdemar III., of Denmark, took possession of it. The ancient walls and towers are still standing.
- Wisconsin, R. intersecting st. same name, U.S.A.; trib. (500 m.) of Mississippi; also N. cent. U.S.A., adjng. L. Superior and L. Michigan; area 56,040 sq. m., agr. land and rolling prairie, dock-kpg., corn-growing, timber tr., and mining; admitted as a State in 1848; p. 2,350,000. Wisconsin contains some 2,000 small lakes, the largest of which is Winnebago, 28 m. long and 10 m. broad. Nearly half a million people are engaged in agriculture in the State. It has twice suffered from devastating forest fires—in 1871 and 1894—over 1,000 lives being lost in the 1871 fire. From 1793 to 1815 Wisconsin was under British control; was forced into a U.S. territory in 1825 and extended to the Dakotas, but the Mississippi was made its Western boundary in 1836; was admitted a State in 1848. Cap. Madison (p. v.).
- Wiahaw, *burgh* Lanarksh., Scotl., nr. Glasgow; railway works, engineering and other factories; p. 25,263.
- Wimke, R. N.R. Yorks, Eng., trib. (24 m.) of K. Swale.
- Wismar, *fortd.* *port*, on the Baltic, Mecklenburg-Schwerin, Germany; the Fürstentum, a former ducal residence, dates from the 14th century; and four gates of the old town remain: good trade; p. 21,816.
- Wissembourg, *t.* mfg. *t.* in Lower Alsace, 42 m. N.N.E. of Strassburg; previous to 1871 a French fortified town near the frontier of the Bavarian palatinate. At this spot, on the 4th Aug., 1870, occurred the great battle between the French and German armies, resulting in the first important victory of the latter.
- Witham, R. Rutland and Lincs., Eng., flows (80 m.) to the Wash; also *t.* nr. Chelmsford, Essex, Eng.; agr. centre; p. 3,549.
- Wihlmann, coast bathing *resort*, E.R. Yorks, Eng., nr. Patrington, *port*, (resid. *dist.*), p. 2,792.
- Witlington, industri. *t.* S.E. Lancs., Eng., within parly. limits of Manchester; p. 38,614.
- Witkowitz, mining *t.* in dist. Mährisch-Osttau, Moravia, p. (mainly German) 24,125.
- Witley Bay, fishing *settlement*, Newfoundland, nr. St. John's, p. 1,214.
- Witney, mkt. *t.* in Woodstock div., Oxfordsh., Eng., blanket and glove factories; Witney blankets have long been famed; p. 3,592.
- Wittenburg, *t.* on R. Ruhr, Westphalia, nr. Arnsberg; iron, glass, and machinery *manuf.*; p. 28,555.
- Wittenberg, *fortd.* *t.* on R. Elbe, Prussn. Saxony; castle-church, textile factories, flower cultivation; p. 20,324. Luther, Melancthon, Frederick the Wise, and John the Steadfast lie buried in the Schloss-Kirche, which was restored and reopened in 1892.
- Wittenberge, *t.* in Potsdam Govt., prov. Brandenburg, Pruss.; fine bridge over K. Elbe; woollen cloth *manuf.*; p. 18,018.
- Wittingham, *t.* on Goldbach R., S. Bohemia, Austria; artificial fish ponds, beer brewing, etc.; p. 5,570.
- Witt-Land, former *terr.* German E. Africa, now Brit. protectorate, at mouth of Tanu R.; area 1,200 sq. m., p. 25,000.
- Witwaterand, gold-mining *dist.* Transvaal Col., Brit. S. Africa, W. of Johannesburg.
- Wiveliscombe, mkt. *t.* nr. Taunton, Somerset, Eng., p. 1,316.
- Wivenhoe, *t.* on R. Colne, Essex, Eng., p. 2,416.
- Wladyslaw, *t.* (manuf.) Russian Poland, govt. Suwalki, p. 10,112.
- Wloclawek, or Wloclaw, industri. *t.* on R. Vistula, Russn. Poland, govt. Warsaw, p. 22,118. [p. 6,104.]
- Wlodawa, *t.* nr. Siedlec, Russn. Poland, govt. Lublin.
- Woburn, mkt. *t.* Bedfordsh., Eng.; near is Woburn Abbey, seat of Duke of Bedford; nothing now remains of the original abbey; p. 1,460.
- Woburn Centre, *t.* Middlesex co., Mass, U.S.A., nr. Boston; boot *manuf.*; p. 14,820.
- Wodehouse, *dist.* Cape Colony, Brit. S. Africa, E. of Alwal, N.; area 2,849 sq. m., p. 28,116. Chief *t.* Dordrecht. [dist.], p. 2,110.
- Wodonga, *t.* in Victoria, 187 m. N.E. Melbourne, p. Woerden, *t.* on the Old Rhine, S. Holland, formerly *fortd.*, p. 4,564.
- Woking, mkt. *t.* on R. Wey, nr. Guildford, Surrey, Eng.; convict prison, necropolis, and crematorium; p. 24,810.
- Wokingham, mkt. *t.* nr. Reading, Berks, Eng., p. 4,352; municipal borough of Berks (until 1839 detached) in Windsor forest; incorporated in 1836; has paper, saw, and flour mills; was famous for its bull-baitings, until such sports were abolished in 1821. Bearwood, the mansion of the Walters of the *Times*, is near.
- Wolborough with Newton Abbot, *dist.* Devon, Eng., p. 8,162.
- Woldenberg, *t.* nr. Frankfort-on-the-Oder, Pruss., industri., p. 5,975.
- Wolds, The, chalk *range* of hills in Lincolnsh., Eng.; pastoral; 45 m. long; also agr. and grazing *dist.* E.R. Yorks, Eng., extending 25 m. from the Humber estuary to Flamborough Head.
- Wolborough, *vill.* New Hampshire, U.S.A., on Lake Winnepiscogee, p. 3,024. [Lawrence, Canada.]
- Wolfe Isl., in Lake of the Thousand Isles, River St. Wolfenbittel, *t.* in Duchy of Brunswick, Gerny.; mchny. *manuf.*; gdng., fruit preserv.; p. 20,056. Lessing had charge of the old library here, which contains over 300,000 volumes.
- Wolf Rock, 8 m. S.S.W. of Land's End, where a light-house, 116 ft. high, has been erected; p. 2,024.
- Wolville, *vill.* on Minas Bay, Nova Scotia, p. 1,024.
- Wolgast, *vill.* on R. Peene, Pomerania, Pruss.; formerly fortified; prominent in Thirty Years' War; cement *manuf.*, amber working; exports wheat and chemicals; p. 8,400.
- Wollaston, Lake (50 m. long), N.W. Territory, Brit. N. America; outlet to Mackenzie R.
- Wollin, *dist.* in the Baltic, prov. Pomerania, Pruss. (22 m. long; sen. from Usedom isl. by the Sevine; also *port* *t.* on R. Dvina, isl. of Wollin, p. 2,410. [aggr.])
- Wollmuth, *t.* 110 m. from Sydney, N.S.W.; p. (dist.)
- Wollongong, *vill.* on Camden, N.S.W., p. 1,011. [aggr.]
- Wolsingham, *vill.* on R. Wear, co. Durham, Eng., p. 10,444.
- Wolstanton, United, *manuf. dist.* adjng. Stoke, co. Staffs, Eng., p. 27,341.
- Wolverhampton, *t.* in Staffs, Eng., 12 m. N.W. Birmingham; "the metropolis of the Black Country"; ironwks., locks, keys, mchny. and tools, zinc and tin *manuf.*; p. 95,335. Wolverhampton was originally called "Hamton," later "Wulfrunshamton," after Wulfrun, sister of King Edgar. The ancient church of St. Peter's, which Wulfrun founded, was many times rebuilt, its last restoration and enlargement taking place in 1859-65. Apart from this edifice, the town is of a modern and substantial aspect, including a fine town hall, corn exchange, agricultural hall, art gallery, etc. Boscomb is 8 m. distant.
- Wolverton, *t.* nr. Stony Stratford, Bucks, Eng.; rly. carriage wks. of the London and North-Western Rly.; p. 4,028.
- Wombwell, *vill.* *townsh.* nr. Barnsley, W.R. Yorks, Eng., p. 17,539.
- Woomera, *t.* nr. Woombe, Bucks, Eng., p. 2,906.
- Woodbridge, mkt. *t.* on R. Deben, Suffolk, Eng., on the right bank of the Deben, which broadens into an estuary, 22 m. from the sea and 8 m. E.N.E. of

Ipswich. In Domesday Book it is alluded to as *Udebyrgge*, and has a church dating from 1587, with a flint-work tower 108 feet high. There are also well-endowed almshouses and a grammar school. Edward Fitzgerald and Bernard Barton were natives of Woodbridge; *p.* 4,622.

Woodburn, *t.* 208 m. N. Sydney, N.S.W.; pastoral dist., *p.* 2,200.

Woodbury, *t.* Litchfield co., Connecticut, U.S.A., *p.* 3,149; also *t.* nr. Philadelphia, New Jersey, U.S.A., *p.* 3,595. [subn. (N.E.) to London, *p.* 18,497.]

Woodford, industri. and resident. *t.* Essex, Eng.; Wood Green, *dist.* Middlesex co., Eng., subn. (N.) to London; resident. *t.* Tottenham par.; *p.* 49,372.

Woodhall Spa, *t.* nr. Horncastle, Linc.; mineral spring, health resort; *p.* 1,500.

Woodside, *hur.* on R. Don, ading Aberdeen, Scotl.; *p.* 6,340.

Woodstock, *bor.* on R. Glyme, Oxfordsh., Eng.; formerly, a glove-mfg. centre; Blenheim Palace lies outside the par.; W. was formerly a royal res., associated with the romance of the "Fair Rosamond" and Henry II.; Black Prince was born here; *p.* 1,594.

Woodstock, *t.* on Thames R., Oxford co., Ontario, Can., 30 m. N.E. of London; exports dairy prod.; *p.* 9,018; also port on R. St. John, New Brunswick; *p.* 1,864; also the nr. Hartford, Connecticut, U.S.A.; *p.* 3,175; also *t.* on the Ottaquechee R., Vermont, U.S.A.; *p.* 2,918.

Woodville, *t.* in co. Waipawa, New Zealand; *p.* 1,814; also *t.* nr. Adelaide, S. Australia; *p.* (dist.) 3,263.

Wooldale, *townshp.* Kirkburton par., W.R. Yorks, Eng.; industri. *p.* 4,886. [hills; *p.* 1,640.]

Wooler, mkt. *t.* Northumberland, Eng., nr. the Cheviot Woolmer Forest, a large tract of wooded country on the borders of Hants and Sussex.

Woolsthorpe, *hamlet* of Lancashire, 8 m. S. of Grantham; noted as the birthplace of Sir Isaac Newton. [Lancs, Eng.]

Woolton, or Much Woolton (*p.v.*), nr. Liverpool, Woolwich, *bor.* garrison, and dockyd., *t.* on R. Thames, Kent, Eng.; 10 m. from London; princpl. artillery arsenal of Britain, dating from 1585, when Queen Elizabeth filled the Tower House, a mansion in Woolwich Warren, adjoining Plumstead Marshes, with arms and armour. In 1716 the proof of ordnance was given to Woolwich, and guns began to be cast there. With the beginning of the 19th century great extensions were made, and the works now cover some hundreds of acres. There was a royal dockyard at Woolwich until 1869; it is now used as a military store depot; *p.* 121,403. North Woolwich (*p.* 5,984) on opp. side of Thames (formerly included in Essex) now forms part of the co. of London.

Woonsocket, *c.* on R. Blackstone, Providence co., Rhode Isl., U.S.A.; textile manuf.; *p.* 38,118.

Wooster, *c.* Wayne co., Ohio, U.S.A.; in agr. dist.; university; *p.* 6,214. [W., 444.]

Wootton Bassett, *t.* nr. Swindon, Wilts, Eng.; *p.* 1,444.

Worcester, middl. co. Eng., W. of Warwicksh.; area 751 sq. m.; agr., pasturage, hops, orchards, minls., manuf.; *p.* 526,143. Cap. W., on c. of R. Severn; cathedr., porcelain wks., iron foundries; large trade in hops, fruit, etc. In 1679 became the seat of a Mercian bishopric. The cathedral is in the form of a double cross, 420 ft. long, 126 ft. wide across the west transept, and 60 to 67 ft. high, with a central tower of 190 ft. Has been many times rebuilt, the latest restoration being completed in 1887, at a cost of £100,000. It has columns of Purbeck marble. Among the bishops of Worcester may be mentioned St. Dunstan, Latimer, Whitgift, Stillingfleet, and Perowne; *p.* 47,687.

Worcester, *c.* in W. co., Mass., U.S.A., 44 m. S.W. of Boston; boot manuf., tool-making, etc.; *p.* 145,500; also *t.* in wine-grow. dist., Cape Col., Brit. S. Afr.; *p.* 7,245. It is called "The Academic City," and contains the State Normal School. From the porch of the Old South Church the Declaration of Independence was first read in Massachusetts.

Workington, mkt., and *pt.* at mth. R. Derwent, Cumberland, Eng.; ironwks., cycle and motor-car factories. The prosperity of the *t.* is chiefly owing to its coal mines. There are important salmon

fisheries. Workington Hall, the seat of the Curwens, dates from the eleventh century. It was there that Mary Queen of Scots was entertained on her flight from Langside, on the 16th May, 1568; W. was incorporated as a municipal borough in 1888; *p.* 25,009.

Workshop, mkt. *t.* Notts, Eng.; chair-mkgr., box and case manuf.; *p.* 20,387. It borders upon the northern extremity of Sherwood Forest. At Workshop Manor (burned down in 1762) Mary Queen of Scots was imprisoned under the guardianship of the Earl of Shrewsbury. Workshop church, originally an Augustinian priory of the 12th century, is a notable edifice.

Worlitz, *t.* in Anhalt, Gerny., nr. Magdeburg; ducal palace and park; *p.* 4,885.

Worms, *c.* nr. the Rhine, Hesse-Darmstadt, Gerny.; famous Romanesque cathedr.; famous in former times as a royal res. and seat of Diets (at one of which—in 1521—Luther made his memorable defence). The scene of the Nibelungenlied is laid in Worms; Charlemagne frequently resided here. The industry of the town was so great in the middle ages that it had a population of 60,000. Centre of wine industry; gd. modn. tr.; *p.* 51,800.

Worms Head, *promont.* on Glamorgansh. cst., S. Wales.

Wormwood Scrubs, a London dist. 3 m. N. of the Marble Arch. Its features are a common, a prison, and a railway station.

Worsborough, industri. *t.* in colly. dist. nr. Barnsley; W.R. Yorks, Eng.; *p.* 12,794.

Worsley, industri. *townshp.* in S.E. Lancash., Eng., nr. Manchester; *p.* 13,906.

Worth, sml. *t.* in Lower Alsace, nr. Weissenburg, on R. Sauer; Gerny. victory over French, Aug. 7, 1870; the Germans call it *Reichshoven*; *p.* 1,216.

Worthing, *town*, and *port*, *pt.* Sussex, Eng., nr. Brighton; first came into popularity after the visits of Princess Amelia and Charlotte, daughters of George III., some hundred years ago. Constituted a municipal borough in 1860; fruit-growing dist.; *p.* 30,398.

Wortley, *townshp.* nr. Penistone, W.R. Yorks, Eng.; *p.* 1,496; also large industri. sub. Leeds, W.R. Yorks, included in the city bdny.

Wotton-under-Edge, mkt. *t.* nr. Stroud, Gloucestersh., Eng.; *p.* 4,649.

Wrangell, settl. *t.* at N.W. end of W. Isl., S.E. Alaska, U.S.A., named after a famous Russn. explorer of the Polar Regions; port for furtraders and mining centre; *p.* (includg. native Indians) 910. Mtn. Wrangell is a lofty pk. of Alaska, N.W. of Mt. St. Elias; alt. 17,500 ft. [Scotl.]

Wrath, Cape, *head'd.* at N.W. extrem. Sutherlandsh., Wratta, *t.* of Bulgaria, 43 m. N.E. of Sofia, *p.* 11,000.

Wrekin, *hill* nr. Wellington, Shropsh., Eng.; alt. 1,530 ft.

Wrexham, *bor.* on R. Clywedog, Denbigh and Flintsh., N. Wales; 12 m. S.W. Chester; barracks, fine ch.; flannel industry; one of the Denbigh parly. boroughs. Has a fine old church, on the site of a more ancient edifice, destroyed by fire in 1457 and rebuilt in 1472-1520, with a tower 135 ft. high, containing a famous peal of bells, known as one of the "Seven Wonders of Wales." Bishop Heber wrote "From Greenland's Icy Mountains" in the vicarage. W. was incorporated in 1857. *p.* 8,379.

Wrietzen, industri. *t.* on R. Oder, nr. Berlin, Pruss.; Wrington, a *par.* of Somerset, 10 m. S.S.W. of Bristol; has a fine church with a notable tower. W. is the birthplace of John Locke.

Wrockwaine, *par.* nr. Wellington, Shropsh., Eng., *p.* 5,863. [p. 4,109.]

Wrotham, sml. *t.* nr. Sevenoaks, Kent, Eng.; industri.

Wroxteter, *vil.* Shropsh., Eng.; on R. Severn, nr. Shrewsbury; on site of Roman Unicornium.

Wuchang, *cap.* of provs. Hunan and Hupeh, China; head of a vice-royalty; impt. offic. and commerc. centre; mint, arsenal, foundries, try. workshops. W. stands on the Yangtze R. opp. the foreign settlem. of Hankow, and has a nat. p. est. at 800,000. Exports, tea, cotton, etc.

Wuchow, treaty *pt.* in Kwangsi prov., China, on the

St-Kiang (or West R.); beautiful situation; gt. tr.; nat. p. 30,000.

Wudwan, or **Wadhwan**, a native state of Kathiawar, W. India, area 237 sq. m., p. 51,000, chiefly Mahomedans. Wudwan, t., cap. of State, is 210 m. N.W. of Baroda, p. 28,100.

Wu-hu, Chinese treaty port, 50 m. above Nanking, nr. the Yangtze. [p. 7,464.]

Wülfrath, t. in Rhenish Pruss., nr. Elberfeld; industri.; Wun, dist. Berar (Hyderabad Assigned Districts), Brit. India; area 3,921 sq. m.; cotton culture and manu.; p. 266,000. Cap. W., t. on the Nagpur road; cattle fair; p. 5,018.

Wupper, a Rhine tributary, 40 m. long, between Cologne and Düsseldorf. Provides the motive power for numerous mills, and on its banks are many important industrial districts.

Wurnu, t. nr. Sokoto, B. North. Nigeria; p. 12,500.

Württemberg, kingdom S.W. Germany; area 7,528 sq. m.; mtous. and afforested (Black Forest) with much min. wealth, especially salt; p. 2,550,000. The Black Forest lies along its W. boundary, and the Swabian Alb extends across the country, constituting the watershed between the Neckar and the Danube. There are many mineral springs and mines of iron and salt; 60 per cent. of the population are Protestants. Kepler, Schiller, Uhland, Hegel, and Strauss were Württembergers. Cap. Stuttgart (q.v.); exports much wine, cider, fruit, dairy prod., and beer.

Wurzburg, fort. t. Bavaria, on the R. Main in Lower Franconia; cathedr.; university, wine tr. centre; many educational mtns. and technical training colleges. The episcopal palace (1720-44) is one of the finest royal residences in Germany. On the left bank of the Main stands the fortress of Marienberg. The castle here erected by Drusus was the episcopal residence until 1720. P. 85,114.

Wurzen, t. on R. Mulde, Saxony; old cathedr. and castle; iron foundries, machy manu., biscuit-mkg.; p. 17,618.

Wyandotte, c. on R. Detroit, Wayne co., Michigan, U.S.A.; p. 5,864; also c. on R. Missouri, Kansas, U.S.A.; p. 6,100.

Wycombe, or **High Wycombe**, industri. bor. on R. Wye, Bucks, Eng., 15 m. N.W. of Windsor, p. 18,120. West Wycombe (2½ m. N.W.) is a par. with p. 2,614. Desborough Castle, a Saxon fortress, remains of which survive, was here; and there is an important par. church (1273-1529), restored 1874-88.

Wye, mkt. t. nr. Canterbury, Kent, Eng., p. 7,645; also R. Derbyshire, Eng., flows 20 m. to R. Derwent at Rowsley; also sm. R. of Wye, affluent of R. Thames from High Wycombe; also Impt. R. Eng. and Wales, rising in Montgomerysh., and flowing (130 m.) between Gloucestersh. and Monmouthsh. to the R. Severn. [mouth.]

Wyeke Regis, vil. of Dorset, 2 m. W.S.W. of Wey. Wylam, vil. of Northumberland, 8½ m. W. of New-castle, birthplace of George Stephenson.

Wymondham, mkt. t. nr. Norwich, Norfolk, Eng., p. 4,746.

Wymore, t. on Blue R., Gage co., Nebraska, U.S.A., p. 4,595.

Wyndham, a mtn. dist. of the Western Ghats, about 3,000 ft. above sea-level. A well-known gold region.

Wynberg, vil. Cape Col., Brit. S. Africa, 8 m. from Cape Town, p. 5,144.

Wynegene, industri. vil. nr. Bruges, Belgium, p. 7,170.

Wynyard, port on Inglis R., nr. Launceston, Tasmania, p. 1,346.

Wyoming, a N.W. st. of U.S.A., formerly part of Dakota territory; admitted to the Union in 1890; area 97,890 sq. m.; stock-raising, agr., coal-mining; traversed by Rocky Mts. The Yellowstone Park is chiefly within its limits. Its lakes are not at a high altitude. Yellowstone L. (7,778 ft.), Lewis L. (7,750 ft.), and Shoshone L. (7,670 ft.), above the level of the sea. P. 146,512. Cap. Cheyenne (q.v.).

Wyoming Valley, co. the Susquehanna R., in N.E. Pennsylvania, is about 30 m. long and 5 m. wide, is of great beauty and fertility. The struggles connected with its early history are commemorated partly in Campbell's poem, "Gertrude of Wyoming." To-day it is a great coal region, rich in anthracite.

Wyre, R. Lancs, Eng., flows 28 m. to Irish S. at Fleetwood; also a forest of Worcestersh., Eng.

Wyszgorod, industri. t. Plock govt., Russn. Poland, p. 5,613. [U.S.A., p. 3,114.]

Wytheville, vil. nr. Abingdon, W. Va., Virginia, U.S.A., p. 5,114.

Wyvis, Ben, mtn. Scotl. (See Ben Wyvis.)

X

Xalanga, t. in Tembuland dist., Cape Col., Brit. S. Afr., p. 2,018. [ft. above sea; pop. health resort.]

Xalapa, or **Xalapa**, c. Mexico 'nt. Vera Cruz, 4,340

Xalisco, state of Mexico; alternative name for Jalisco

Xamilepec, t. nr. Oajaca, Mexico, p. 4,862. [(q.v.)]

Xandare, t. nr. R. Figury, Santa Catharina prov., Brazil, p. 5,200. [4,112.]

Xanten, t. nr. Cleves, Rhenish Pruss.; industri.; p.

Xanthi, t. at ft. of Mt. Rhodope, Adrianople vilayet, European Turkey; ruins of anc. stronghold, mosque, famous for De Yémigje tobacco; p. 14,000.

Xanthus, ruined c. of Lycia, Asiatic Turkey, on the R. Xanthus (modern Kedja Ak); destroyed successively by the Persians (11 C. 545) and the Romans under Brutus (42 or 43 B.C.); impt. antiquities, including parts of the Nereid monument now in the Brit. Museum, discovered by Fellows, 1868.

Xarxes, or **Charaxes**, extensive periodical L. on R. Paraguay, Brazil, now a vast swamp.

Xenia, c. in the Miami valley, Greene co., Ohio, U.S.A.; market and mfg. centre in farm. dist.; p. 9,384.

Xeres, or **Jerez de la Frontera**, a dist. of Spain, and the centre of the sherry industry, 14 m. N.E. of Cadiz. [trial; p. 2,825.]

Xertigny, t. nr. Epinal, Vosges dep., France; industri.

Xesibeland, a dist. between Colono and East and Pondoland, incorporated with Cap. Colony in 1886.

Ximena, (or Jimena) de la Frontera, t. nr. Cadiz, Spain, nr. Gibraltar.

Xingu, R. Brazil, trib. of the Amazon (1,300 m.); navigable for steamers 170 m. in st. of Para.

Xixona, t. nr. Alicante, Valencia, Spain, linen and shoe factories; exports almonds; p. 5,820.

Xochicalco, place in Mexico, 75 m. S.W. Mexico c.; famous ruins.

Xochimilco, t. of the Mexican valley, 7 m. S.S.E. of Mexico c.; formerly contiguous with L. Tezcuco; ab. X. t. on L. X.; p. 13,350.

Xucar, or **Jucar**, R. of Spain, flows (200 m.) from New Castle through Valencia to the Mediterranean at Cullera. [the Molucca S., Dutch E. Indies.]

Xulla Beal, smallest of the Xulla grp. of three isls. in Xyli Bay, inlet of the G. of Kolokytha, on S. cat. Laconia, Morea, Greece.

Xynias, or **Daukl**, Lake, nr. Mt. Andinitza, Larissa, Thessaly, Greece, 5 m. long; 1½ m. wide.

Y

Y, or **Ij** (Dutch, Het Y), an arm of the Zuyder Zee, connected by canal with the N. Sea; on its S. side stands Amsterdam c.

Yablonski Mtns., S.W. chain of the Stanovoi mtn. system, E. Asia, between Siberia and Manchuria; highest summit, Mt. Chokondo, 8,048 ft.

Yacata, small isl. of the Lau, or Eastern group, Fiji Arch., Pacific Ocean (British).

Yackandandah, t. nr. Beschworth, Bongo dist., Victoria; mining; p. 1,868. [the Gt. Pedee R. (q.v.).]

Yadkin, R. N. Carolina, U.S.A. (300 m.), flows to

Yair, the ancient seat of the Pringles, on the Tweed, 5 m. N.W. of Selkirk.

Yakima Pass, over the Cascade Mtns., Washington, U.S.A.; alt. 3,600 ft.; crossed by N. Pacific Ry.

Yakima R., Washington, U.S.A. (408 m.), joins the Columbia R., above the mth. of the Snake R.

Yakoba, t. in Sokoto, Northern Nigeria, Brit. W. Afr., p. (est.) 50,000; gt. tr. centre.

Yakova, t. nr. Scutari, Albania, Turkey, p. 25,800.

Yaku-shima, isl. of Japan, S. of Kiu-shiu, 14 m. long, 14 m. wide; forest-clad and mtous. (Yayo-dake, alt. 6,515 ft.).

- Yakutsk**, *prov.* E. Siberia, Asiatic Russ.; reaching from the Arctic Oc. to Irkutsk, Transbaikalia, and Amur, and sep. from the Pacific by the narrow Maritime Prov.; area 1,533,400 sq. m.; climate very severe; has imp. gold-mines; a large portion of its surface is covered with forest, and there are numerous lakes, the bed of which lie in the valley between the Indigirka and Kolyma. In winter the climate is of Polar severity, but in summer cereals are grown; p. only 26,000. Cap. Y., t. on R. Lena; a convict station and the seat of the bishop of Yakutsk and Vilyusk; houses chiefly of wood; gl. tr.; p. 6,640. [*Eng.* p. 2,748]
- Yalding**, *par.* on R. Medway, nr. Maidstone, Kent, Yale, t. on Fraser R., nr. New Westminster, Brit. Columbia, p. 3,014; University, U.S.A.
- Yalta**, *spt.* on S. coast of Crimea, govt. Taurida, Russ.; winter rest.; p. 14,200.
- Yalu-Kiang**, R. on W. frontier Corea; flows 300 m. S.W. to Yellow Sea; gt. Japanese victory over Chinese, Sept. 17, 1894. [*p.* 5,648]
- Yalutovsk**, t. on Tobolsk R., Siberia, Asiatic Russ., **Yamalchik**, t. on the Y. R., St. Maurice co., Quebec, Can., p. 3,015
- Yamagata**, *industri.* t. on the main island of Japan, 30 m. from Sendai, p. 41,000.
- Yamaska**, *val.* on the Y. R., nr. St. Hyacinthe, Quebec, Can., p. 2,004.
- Yambol**, t. on R. Thuna, Slivno dep., E. Roumelia, Bulgaria; old fortifications, ruined mosque; com. tr.; p. 15,086.
- Yamethin dist.** Meiktila div., Upper Burma; area 4,258 sq. m.; mainly teak forest, with rice cultn. in clearings; p. 210,500. Hdqrs. t. Y., p. 7,146.
- Yamina**, t. in Gambia, W. Africa, p. 6,450; also t. (sometimes called Nyamina) on R. Niger, Hambarra st., W. Africa, p. 10,500, imp. tr. centre. [*R. Lena*]
- Yana**, R. Siberia, flows 1,000 m. to Arctic Oc. R. of **Yanson**, French *settlement* on R. Godavari, I. India; surrounded by Brit. terr. of the Madras Pres.; p. 4,564.
- Yanbu**, or **Yembo**, *spt.* of Hejaz, Arabia, on the Red Sea; the port for Medina, from which it is distant 125 m. [*Delta* of the Irwadi]
- Yandun**, t. in the Thongwa dist. of Burma, in the Yang-Tchu, c. on Great Canal, prov. Kiang-su-China, N.E. of Nanking, cr. commercial and trade community; with immense junk traffic; p. (est.) 550,000.
- Yang-tse-Kiang**, R. of China, rising in the Tibetan plateau known as the "Roof of the World," and flowing for 3,000 m. S. of Hoang-Ho, in a winding course through Central China to the E. China Sea in the prov. of Kiang-su; it forms, with tributary streams and canals, the great commercial waterway of the Empire; the main R. is navigable direct for large sea-going steam craft to Ichang, 1,000 m. from its mouth. [*gl. trade*, p. 5,614]
- Yanizta**, t. 30 m. from Salonica, E. Trojan Turkey;
- Yankollie**, t. nr. Adelaide, S. Australia, p. (dist.) 1,482.
- Yankton**, c. of Y. co., S. Dakota, U.S.A., on Missouri R.; large boat tr. in grain, seat of a college, p. 4,800. Previous to 1883 was the capital of the territory of Dakota; is about 200 m. from Omaha, and 569 m. from Chicago.
- Yao-Nan**, c. Yun-nan prov., China; large tr. in salt, musk, etc., p. 64,000. [*gl. local* tr., p. 56,500]
- Yao-Tchu**, c. Kiang-si prov., China, nr. Lo-Yang;
- Yap Isl. of the Caroline grp. in the N. Pacific Oc. (10 m. long); purchased by Germany in 1899.**
- Yapura**, R. of Brazil and Columbia, trib. (1,500 m.) of R. Amazon; navigable for 600 m. [*G. of California*]
- Yaqul**, R. Sonora st., Mexico, flows 400 m. S.W. to Yacacy, state Venezuela, watered by Y.R., p. 75,600. cap. San Felipe. [*industri.* p. 1,214]
- Yardley Hastings**, *vil.* nr. Northampton, Eng.;
- Yare**, R. Norfolk, Eng., flows 30 m. past Norwich c. to the sea at Yarmouth.
- Yariguata**, t. nr. Barquisimeto, Venezuela; in a beautiful tobacco, coffee, cacao, and sugar growing dist., p. 12,084.
- Yarkand**, R. Chinese Turkistan, trib. (500 m.) of R. Tarim, wh. flows to Lob Nor; also c. in a rich oasis crossed by Y. R., 200 m. S. E. Kashgar; the c. (p. 120,000) was formerly the cap. of an independent Mohammedan kingdom; leather manu. and large tr. **Yarker**, *vil.* on R. Nepean, Addington co., Ontario, Canada, p. (dist.) 1,180. [*p.* 3,742]
- Yarna**, mkt. t. on R. Tees, N.R. Yorks. nr. Stockton,
- Yarmouth**, *spt.* nr. Newport, Isle of Wight, Eng., p. 1,140; also spt. of Y. co., Nova Scotia, p. 6,484; also t. nr. Portland, Maine, U.S.A., p. 3,914.
- Yarmouth**, *Great*, *spt.*, *Asky*, t., and *val.* spt. at mth. of R. Yare, Norfolk and Suffolk, Eng.; hdqrs. of herring fleet, res. p. (incldg. Gorleston and Southtown) 55,808; is a municipal, partly, and co. borough. A bridge connects the town with its Suffolk suburbs of Southtown or Little Yarmouth and Gorleston. The sea frontage, which extends for about 3 m. has a spacious marine parade, and fine piers—the Wellington and Britannia piers, as well as the Old Jetty, dating from 1808. The parish church of St. Nicholas is one of the largest parish churches in the kingdom, 230 feet in length, with a spire 168 ft. high. Yarmouth was chartered by King John, and returned two members to Parl. from the time of Edward II. until 1867. In 1588 was created a county borough.
- Yaroslav**, *cont.* centl. European Russ., traversed by R. Volga; area 13,751 sq. m., milgr., agr., edng., dairying, p. 1,120,080; cap. Y. c. on the upper, tobacco factories, cotton-mills, flour-mills, gt. tr. with both Moscow and St. Petersburg, p. 80,000.
- Yarragong**, t. nr. Melbourne, Victoria; timber tr., p. 1,866.
- Yarrowonga**, t. in hilly agr. and fruit growg. regn., 161 m. N.E. Melbourne, Victoria; p. (dist.) 7,644.
- Yarra-Yarra**, R. of Victoria, flows 200 m. W. to Port Phillip B., passing Melbourne.
- Yarriba**, or **Yoruba**, former indept. st. of Upper Guinea, N.E. of Ithomye, now included in Brit. Nigeria; occupies the eastern half of the Slave Coast, and reaches N.E. to the R. Niger; est. pop. 3,000,000 of the sturdy negro race who furnished so many unwilling slaves to the cotton planters of America; chf. t's, Oyo (the old cap.), Ibadan, Abeokuta, and Ilorin.
- Yarrow**, picturesque R. Selkirksh., Scotl.; traverses Loch of Lomax and St. Mary's Loch, and flows 25 m. to the Etnack.
- Yasin**, t. on the Gihit R., nr. the Darkot Pass (alt. 7,750 ft.), Chitral, N.W. Frontier Prov., Brit. India; p. 6,120.
- Yass**, t. on R. Y., 187 m. S.W. Sydney, N.S.W.; official centre of agr. and gold-mining dist., p. 7,420.
- Yassy**, Roumania. (See Jassy.)
- Yatala**, *township*, nr. Brisbane, co. Ward, Queensland; p. 2,416. [*p.* 3,410]
- Yatina**, t. in S. Australia, nr. Adelaide; p. (dist.)
- Yatsauk**, one of S. Shan st. Burma; area 2,195 sq. m.; minous; with fine teak forests; p. 15,500; cap. Lawksawk, on L. Zauwy.
- Yaurry**, or **Yaouri**, t. 65 m. N. of Boussa, on R. Niger, Brit. N. Nigeria, p. (est.) 30,000, large, p. 17,442.
- Yaxley**, *par.* in co. Hunts, Eng., 44 m. S. of Peterborough, p. 1,122.
- Yazoo**, R. Mississippi, U.S.A.; joins the R. M. above Vicksburg after a course of 280 m.; also c. on banks of Y. R., 48 m. N.E. of Vicksburg; p. 4,485.
- Yberg**, *vil.* Switzld., 7 m. N.E. Schwytz; medicinal springs; p. 2,182.
- Ye**, t. on Ye R., Amherst dist., Lower Burma, p. 2,974.
- Yea**, *spt.* t. on Y. R., in pastoral dist., Victoria, 80 m. N.E. Melbourne; p. 2,216. [*p.* 17,442]
- Yeardon**, *industri.* t. nr. Leeds, W.R. Yorks, Eng.; p. 1,216.
- Yealm**, *sul.* R. Devon, Eng., flows (12 m.) to Engl. Chan. [*p.* 1,216]
- Yealmpton**, *par.* nr. Plymouth, Devon, Eng.; p. 1,639.
- Yeardsley-cum-Whalley**, *par.* (industri.) nr. Stockport, Cheshire, Eng.; p. 1,639.
- Yebenes**, old industri. t. nr. Toledo, Spain; p. 4,918.
- Yecia**, anc. nukt. t. prov. Murcia, Spain; in wheat, wine, and esparto grass dist.; interesting architect. antiquities; p. 17,000.
- Yeddo**, old name of Tokio c., Japan (p.v.).
- Yefremoff**, t. in Tula gov., Russ.; industri.; p. 2,123.
- Yeisk**, dist. t. on Y. B., in N.E. of S. of Azov, N. Caucasus, Russ.; exports com. linseed, wool; p. 38,115.

Yekaterinburg, *t.* on R. Isset, at E. base of the Ural Mtns., govt. Perm, Russ., on the gt. Siberian road; hdqrs. of mining regn.; govt. and other factories; large tr.; p. 51,222.

Yekaterinodar, *t.* on Kuban R., Russ.; cap. of Caucasian prov. of K.; official res. of the hetman of the K. Cossacks; gt. comm. and mfg. centre; p. 68,483. [Stavropol, Russ.; p. 4,456.]

Yekaterinograd, fortified *t.* on R. Terek, govt. Yekaterinoslav, *govt.* S. Russia, adjng. the prov. of the Don Cossacks and the S. of Azov; area 24,500 sq. m.; p. 1,750,000; cap. Y., fortified, on R. Dnieper; founded by Potemkin in 1786; many manuf., large tr.; p. 135,800. [Industri; p. 11,184.]

Yelabuga, *t.* on R. Kama, Viatska govt., Russ., Yelatom, industri. *t.* on R. Oka, Tambov govt., Russ.; p. 7,686.

Yelitz, *t.* on R. Sosna, Orel govt., Russ.; grain and Veliasvetgrad, *t.* in Kherson govt., Russ., on the Ingull R.; imp. markets; p. 71,222.

Yeliasvetpol, *govt.* Transcaucasia, Russ.; area 16,721 sq. m., nearly 1,000,000; cap. Y., on trib. of Kur R., formerly an imp. strategical position (named Ganja); good modern trade; p. 22,416.

Yell, *ist.* of the Shetland group, Scotl., N. of Mainland, 17 m. long, p. 2,623.

Yellala Falls, lowest of the Livingstone series of cataracts on the Congo R., West Africa, 120 m. from Yellow R., China. (See Hoang-Ho.)

Yellow Sea, arm of the Pacific Ocean, between Korea and China, branching into the Gulfs of Pechili and Liaotung; greatest width 400 m., length 600 m.

Yellowstone Lake, in the Y. Nat. Park, U.S.A., 30 m. long, 15 m. wide; traversed by the Y. R.; 7,740 ft. above sea-level. The Yellowstone National Park is a widely beautiful natural region in Wyoming, Montana, Idaho, set apart as a pleasure ground for the people by the U.S.A. Congress in 1872; area 3,500 sq. m., 11/2 a great game preserve, mountainous, and partly afforested, ranging from 7,000 to 11,000 ft. above sea-level; has many romantic canons, and some extraordinary geysers and boiling springs. Through it flows the Y. R., which rises in N.W. Wyoming, and joins the Missouri in N. Dakota, after a course of 1,300 m. The R. has an upper fall, below the L., of 112 ft., and a lower fall of 310 ft., leading the stream to the Grand Cañon of nearly 30 m. length, and a depth varying between 600 and 1,200 ft.

Yembo, *sp.* in Hedjaz, Arabia; shipping centre for Medina, 130 m. to the N.E.; p. 5,240.

Yemen, *dist.* S.W. Arabia; adjng. Hadjrad, the Red Sea, and the Gulf of Aden, a Turkish vilayet 400 m. long; grows coffee, tobacco, dates, spices, and aromatic gums; p. 750,000. Cap. Sana; chief port Moccha. [Good tr.; p. 8,460.]

Yenangyoung, *t.* on R. Irawadi, 60 m. S.W. Ava; **Yenesel**, *t.* of Siberia, flowing S. to N. from Mongolia to the Gulf of Yenisei (3,400 m.) and into the Arctic Ocean, E. of G. of Oluk; navigable in its lower and middle course.

Yeneselek, *prov.* Asiatic Russ., occupying most of the Yenesei basin, area 987,180 sq. m.; rich in precious metals; mountainous S. and level N.; agr. is being vigorously promoted, and the Yenesei fishing is very valuable. Cattle-rearing, founishes, and horse and pony-breeding are an import. industry. Cap. Y., t. on the Y. R., 200 m. N.N.W. of Krasnoyarsk, centre of gold-mining region; p. 13,114.

Yengaric, *township* Queensland, 120 m. N.W. Brisbane, p. (dist.) 1,424. [Centre; p. 8,885.]

Yeni-Bazar, *t.* on Shumla, Bulgaria; commercial **Yenikale**, fortified *t.* in the Crimea, S. Russia, 65 m. E. of Kafka, p. 2,122. The Strait of Yenikale separates the Crimea from Circassia, and connects the Sea of Azov with the Black Sea.

Yenne, *t.* on R. Rhône, dep. Savoy, France, p. 3,083.

Yen-Ngan-Fu, *t.* on R. Yan Ho, China, in prov. Shen-Se; p. 11,240. [Kien; p. 21,800.]

Yen-Fing-Fu, *t.* on R. Min Ho, China, prov. Fo-Yao, or Yuen, *t.* Dorset and Somerset, Eng., trib., (as m.) of R. Parret.

Yezla, *t.* Nazik dist., Bombay, India; silk thread and cloth manuf., gold and silver wire-draw, p. 19,945.

Yeovil, *bor.* Somerset, Eng. on R. Ye; glove manuf.,

motor-car works, p. 13,760. Yeovil stands in a picturesque position on a hillside rising from the Ye. It has a fine 15th century church in the Perpendicular style, with a tower 90 ft. high. The church is dedicated to St. John, and known as "The Lantern of the West."

Yepes, *t.* nr. Toledo, Spain; industri. p. 3,095.

Yerkad, hill *Atash-rest*, Saleim dist., Madras, India, alt. 4,828 ft., p. 1,516. [17,424.]

Yerma, *t.* nr. Angora, Asia Minor; gd. local tr., p. Yeshil-Irmak, R. Asia Minor, flows (200 m.) to Black S.

Yeshil Kul, *t.* nr. Keria, Chinese Turkestan, on a plateau of the Pamirs.

Yesso, **Yezo** **Jesso**, or **Ezo**, most N. or the five princ. *ists.* of the Japanese Empire; area 30,148 sq. m., p. 600,000 (17,570 Anu). Fukuyama (formerly called Matsunay) was the cap., but Hakodate is now the chf. t. There are numerous volcanoes on the isl. The cst. fisheries furnish the princ. wealth of the isl.; there is much timber, sulphur, and coal.

Yeste, industri. *t.* Albacete prov., Spain, p. 7,164.

Yes Tor, highest *summit* Dartmoor, Devon, Eng., alt. 2,050 ft.

Yetholm, *vill.* Roxburghsh., Scotl., on Bowmont Water, nr. Kelso; at foot of the Cheviots, a noted gipsy resort, p. (dist.) 1,108.

Yezd, Persian *prov.* S. of Khorassan; area 20,000 sq. m., bordering on the great deserts; p. 100,000. Cap. Y., t. on a large oasis 220 m. E. of Isfahan, in silk-grow; dist.; has large tr. with India, and manuf. silk, fabrics, felts, and nankeen. Has fine temples and a Zoroastrian community, p. 45,000. [of snowdon, alt. 2,315 ft.]

Y Garnedd Goch, *vill.*, Carnarvonsh., Wales, S.W. Ying-Tazu, *t.* in Manchuria, China, nr. G. of Liaotung; gd. local tr., p. 11,240. [Industri., p. 5,864.]

Ynys-Cynhalarn, *dist.* on cst. Carnarvonsh., Wales; Yochow, or Yuchow, *t.* prov. Hunan, China, at outlet of Yungting L. on the bank of the R. Yangtze.

York, *st.* on Clyde, Renfrewsh., Scotl., p. 1,389.

Yokohama, *sp.* on Bay of Yedo, Japan; most imp. of the Japanese trade ports, immense tr., exports, silk, rice, tea, copper, etc.; was a mere fishing vil. until opened to foreign commerce in 1859, now a c. with over 200,000 inhabitants.

Yola, *t.* in the st. of Adamawa, nr. the R. Benué, Brit. Northern Nigeria; large native tr. p. 8,000.

Yongala, *t.* in S. Australia, 159 m. N. of Adelaide c., p. (dist.) 1,454.

Yonkers, *c.* Westchester co., New York, U.S.A., on R. Hudson; textile and iron manuf., p. 80,000.

Yonne, *dep.* Cent. France; area 2,804 sq. m. watered by R. Y. (127 m. long), agr. and wine-growing (Burgundy), liv. also much min. wealth p. (declined) 316,000. Cap. Auxerre.

York, largest *co.* in Eng., N. of Humber and S. of Durham, E. of Lancashire and washed by the N. Sea; area 6,067 sq. m., divided in three Ridings (W., largely mfg. and mining; N. agr., past., and mining; E. past. agr., with cst. industries), as well as 4,405,445 (3,000,000 of whom are domiciled in the mfg. dists. of the W.R.). Cap. York, c. on the R. Ouse; magnificent cathed., old walls and castle, c. gateways and many fine churches; gd. tr. and mfts. for cattle and corn, p. 82,297. York is the seat of an archbishopric. It was known as Eboracum in Roman times. The Minster, one of the finest and most celebrated of English cathedrals, occupies the site of a church erected in the 7th century by Edwin, the first Christian King of Northumbria, which was destroyed by fire in 747. It was rebuilt, but was once more destroyed during the Norman invasion, except the central wall of the existing crypt, which also includes portions of the church erected by Archbishop Rodger (1154-81). Archbishop Gray added the fine Early English transept in the 13th century, and the present nave was built between 1291 and 1345, the Decorated chapter-house between 1300 and 1330, and the Perpendicular choir between 1373 and 1400. The two western towers, as well as the central lantern tower, belong to the 15th century. An incendiary fire, in 1829, the work of Jonathan Martin, an insane fanatic, and another fire of 1840, did great damage to the Minster, but ample restorations were made in later years. The Benedictine abbey of

St. Mary, founded by Rufus, and now in ruins, was once of great wealth and distinction. The York Guildhall dates from the 15th century. Hull is the chief port, Sheffield and Leeds the largest towns.

York, c. Nebraska, U.S.A., cap. Y. co., rlvly. centre, p. 6,046; also bor. on Codorus Creek, Penn., U.S.A.; manufl.; p. 44,750; also vill. in Y. co., Maine, U.S.A.; p. 4,428; also t. nr. Perth, W. Australia; p. 1,212.

York, Cape, promontory, on York Peninsula, N. extremity of Queensland; also a C. of Hayes Peninsula, Greenland.

York Peninsula (100 m. long, 30 m. wide), S. Australia; betwn. Spencer and St. Vincent Gulfs.

York Factory, t. at mth. of Nelson R. on Hudson R., Keewatin dist., Canada, p. 1,246.

York Isls., grp. in Torres Strait, S.E. of New Guinea, and N. of C. York.

York, N., a tidal estuary of Chesapeake B., U.S.A., formed by the meeting, at West Point, of the Virginia Rrs. Pamunkey and Mattaponi.

Yorktown, cap. of Y. co., Virginia, U.S.A., at mth. of Y. R.; one of the oldest settlements in the State; famous as the place of surrender of Lord Cornwallis on Oct. 18th 1781, the closing event of the American Revolutionary War. [p. 5,018.]

Yorkville, vil. York co., Ontario Can., nr. Toronto.

Yoruba. (See Yariaba.)

Yosemite Falls, the 3 cataracts of Yosemite Creek (1,500 ft., 625 ft., and broken or stepped cascades - and 400 ft.) in the Yosemite Valley, on W. slope Sierra Nevada Mtns., Mariposa co., California, U.S.A. The valley is 7 m. long, and varies from 1 in to 2 m. wide. Its scenery is impressive and romantically grand, the whole territory (now a national park) being enclosed in rock walls of from 2,000 to 5,000 ft. high; with broken eminences of fantastic shape while every variety of foliage is abundant.

Youghal, spt. on the estuary of the Blackwater, co. Cork, Ireld.; fisheries; p. 6,146. Sir Walter Raleigh's house, Myrtle Grove, with parts of the original wall, still standing, is an object of historic interest. Raleigh was mayor of the town in 1598, and is said to have planted here the first potato grown on British soil. The parish church dates from 1244.

Young, township N.S.W., 45 m. S.W. Sydney p. (dist.) 22,500.

Youngstown, c. on the Mahoning R., Ohio U.S.A., in the Western Reserve; iron mth. centre, p. 20,000.

Yperlee, R. Belgium (44 m.) enters N. Sea from West Flanders at Newport.

Ypres, t. on K. Yperlee, West Flanders, Belgium, 32 m. S.W. of Bruges; linen and lace manufl.; military schll.; p. 18,054. Ypres was one of the most flourishing of Flemish towns in the 14th century, with over 200,000 inhabitants, and a great diaper industry. Its Gothic Cloth-hall, with its imposing belfry, still exists, and dates from the 13th century. Another fine Gothic edifice is the cathedral of St. Martin. James was bishop of Ypres.

Ypsilanti, c. on R. Huron, Washtenaw co., Michigan, U.S.A.; mkt. and mfg. centre, in farming regn.; p. 8,014.

Yrffon, R. Brecknock, Wales; trib. (20 m.) of R. Wye.

Yssel, R. of Holland, the Nieuwe Y., an arm of the Rhine from Arnhem, joins the Oude Y. at Doesburg and flows (abt. 70 m.) as the Y. to the Zuider Zee, being navigable all the way; the Neder Y. flows into the Meuse above Rotterdam, and is an arm of the Leek. [opposite Rotterdam.]

Yssinonide, isl. of S. Holland (15 m. by 5 m.).

Yssingaux, t. nr. Le Puy, dep. Haute Loire, France; industri; p. 8,645.

Ystad, spt. S. Sweden, on the Baltic nr. Malmö; an anc. and sleepy pl., with 13th centy. churches, and quiet tr. and industry; p. 9,860.

Ystrad-y-fodwg, colly. par. on the R. Rhondda, Glamorgansh., S. Wales; now formed into the urban dist. Rhondda (q.v.). [Bay, at Aberystwith.]

Ystrith, R. Cardigansh., Wales, flows 25 m. to the Ffynnon, R. Aberdeensh., Scotl.; flows 35 m. S.E. to the N. Sea.

Yuba, R. trib. of the Feather R.; one of the head streams of the Sacramento, in the mining regn. of California, U.S.A.

Yucatan, st. of Mexico, on Caribbean S. and G. of Mexico, adjn. Brit. Honduras, area 35,214 sq. m.; agr.; p. 337,000; cap. Merida (q.v.). Yucatan abounds in forests of valuable timber, including mahogany, rosewood, and other of the finer kinds; and the fertile plains of the south produce great quantities of maize, rice, and tobacco. Many interesting ruins exist of temples and gigantic edifices, recalling an ancient civilisation of which no other records remain. Since 1852 Yucatan has been annexed to Mexico.

Yudanamutana, copper-mining dist. S. Australia, 450 m. N.W. Adelaide.

Yuen-hwa, t. in prov. Che-kiang, China, N. of Hangchow-fu; large tr.; p. 80,000.

Yuen-Kiang, R. Hu-Nan prov., China (400 m.), outlet by L. Tung Tung to the Yangtze. [38,600.]

Yukon, or Gensan, spt. Corea, opposite Japan, p. 4,428.

Yukon, R. of Canada and Alaska (2,000 m., navigable 1,200 m.), empties into Behning S.; also ming. terr. in the extreme N.W. of Brit. N. America, containing the Klondyke goldfields, p. 30,000. (See "General Information" Section.) [prov. China, p. 34,600.]

Yuk-Shan, t. nr. source of Kan-Kiang R., Kiang-Si Yule Mt., Brit. New Guinea, alt. 10,000 ft.

Yun Nan, S.W. prov. China, adjoining Burma, area 116,450 sq. m.; numerous; some of the mountain ranges reach a height of from 12,000 to 15,000 ft.; through the deep defiles run the rivers Mekong, Salween, and Shweli; p. (abt.) 12,000,000; cap. Yun Nan-fu, t. on L. Tien-hai; manufl.; p. 50,000.

Yunquera, industri t. prov. Malaga, Spain, p. 4,886.

Yuriev, new official name for Dorpat (q.v.), Russia.

Yuzgat, t. in Angora vilayet, Asia Minor, built largely out of the ruins of Nelec Keui (Tavium); tr. in mohair and berries, stock-raising; p. 15,000 (many Armenians).

Yverdon, t. nr. Lausanne, cant. Vaud, Switzld.; the Roman Eborodunum; old castl. w. pl. adjacent; p. 6,440. [a principality; p. (comm.) 9,172.]

Yvetot, t. nr. Rouen, dep. Inférieure, France; agricult.

Yvré-l'Évêque, vil. nr. Le Mans, dep. Sarthe, France, p. 2,864. [ing into B. of Bengal.]

Ywe, a month of the Irawadi R., 60 m. long, empty.

Yzeure, t. nr. Moulins, dep. Allier, France; industri; p. 4,453.

Z

Zaandam, t. on the Y.R., N. Holland, nr. Amsterdam; industri.; noted for the numerous windmills in the neighbourhood; now mainly hitted with steam power; p. 25,186. In the 17th century it had 60 wharves (most of which have now disappeared) and a famous whale fishery. Peter the Great worked as a carpenter in the shipbuilding yard here, and lived in a hut, which was visited by the Czar Alexander in 1814.

Zab, t. of Asiatic Turkey (ago m.), divided in Zab Asfal - or Lesser Zab, and Greater Zab; trib. to the Tigris. [gd. local tr.; p. 9,800.]

Zabakano, t. 250 m. N. of Abomey, French W. Afr.; Zabern, t. at ft. of a pass over the Vosges, nr. Strasbourg, Alsace-Lorraine, Germ.; ruined castles in neighbourhood; p. 8,860.

Zaborze, mfg. t. in govt. Oppeln, Prussn. Silesia; in colly. dist.; p. 12,112. [18,655.]

Zacapa, t. on Grande R., Guatemala; industri.; p. 24,000.

Zacatecas, st. of centl. Mexico; area 35,214 sq. m.; rich in silver mines; p. 100,000; cap., Z. thrivg. commel. t. on Mexican Centl. Ry.; p. 44,118.

Zacatula, t. nr. mth. of Bolson R., Guerrero st., Mexico; industri.; p. 8,552. [Russ.; p. 11,366.]

Zadonsk, industri. t. on R. Don, Voronezh govt., Zafaran-Boli, t. nr. Angora, Asia Minor; commel. centre; p. 16,500. [p. 3,814.]

Zaffarano, t. on slope Mt. Etna, nr. Catania, Sicily; Zaffarin Isls., Spanish possn. off cst. Morocco, in Mediterranean. [tute; p. 6,546.]

Zafra, t. nr. Badajoz, Spain; the Roman Julia Rest-Zagrosia, t. (industri.) in prov. Rome, Italy, p. 5,484.

Zagazig, t. on the Sweet-water Canal, Egypt, on site of anc. Bubastus, 30 m. N.E. of Cairo; centre of cotton and grn. trade; p. 21,420.

Zagora, Mt., mod. name of Mts. Pelion and Helicon, Greece (*q. v.*).

Zahleh, *t.* on slope of Mt. Lebanon, 23 miles E. of Beirut, Syria; p. 15,000.

Zahna, *t.* in prov. Saxony, Pruss.; 48 m. S.W. of Berlin; battle, 1813; p. 3,012.

Zähringen, *wt.* Baden, nr. Freiburg; anc. seat of dukes of Z., ancestors of the house of Baden.

Zaisan, *t.* in prov. Semipalatinsk, Russ. Cent. Asia, on the Jumen K., nr. the Chinese border, and *t.* Zaisan; p. 4,412. The L. lies between the Altai and Tarbagatai Mts., at an alt. of 7,800 ft., and is 87 m. long, with an area of 707 sq. m. It has impt. fisheries, in the hands of the Siberian Cossacks.

Zalamea, *t.* in Badajoz prov., Spain; industr.; p. 5,018.

Zalamea la Real, *t.* nr. Seville, Spain; comm. and manuf.; p. 8,225.

Zaleszczyk, *t.* on R. Dniester, Austrian Galicia; p. 5,844.

Zalozze, industr. *t.* on R. Sere, Galicia, Austria; p. 6,684.

Zambesi, R., S. Africa; formed by jnctn. of R. Liba from L. Llanbyne and L. Dololo; flows (abt. 2,500 m.) to the Mozambique Chan. of the Indian O., receiving the R. Chobe and the R. Loingwa, Kafu, and Shire from L. Nyassa. Upper course of the Z. was first explored by Livingstone; see also Victoria Falls. The Zambesi was Vasco da Gama's "River of Good Signs." It drains more than half a million miles of territory.

Zambia, British, *terr.* of S. Afr. now officially included in Rhodesia (*q. v.*), comprising a regn. N. and W. of the Transvaal Col. and the S. bdny. of the Congo Free State. Northern Zambia embraces the country between Lakes Tanganyika and Nyassa. There is railway communication between Beira and Salisbury, Vryburg and Bulawayo, and also the Cape-to-Cairo railway to the Victoria Falls.

Zamboanga, *t.* at pt. of penn. of Mindanao isl., Philippine grp.; tr. centre in agr. dist.; exports rubber, etc.; p. 18,000.

Zamora, *prov.* Spain, on Portuguese border; area, 4,135 sq. m.; agr., wine-growing, olives, etc.; also live-stock rearing for export; p. 280,114; cap. Z., t. on R. Douro; a frequent res. of the Kings of Castile and Leon; busy comm. centre; p. 17,210. Also name of a S.W. central st. of Venezuela; area, 25,212 sq. m.; p. 250,000; cap. Barinas.

Zamosc, or **Zamość**, old *t.* Russ. Poland, gov. Lublin; formerly an impt. fortress; bentwood furniture factory; p. 13,860.

Zana Lake, Abyssinia. (See Dembea.)

Zanesville, *t.* on Muskingum R., Ohio, U.S.A.; brick and tile manuf., ironwks., &c.; p. 28,026.

Zanjan, *t.* cap. Khamsch prov. Persia, nr. the R. Zanjaneh; extensive garden dist., impt. bazaar, p. 25,000.

Zante, *isl.* of the Ionian grp., S. of Cephalonia (24 m. by 12 m.), currents and other fruit, p. 48,112; cap. Z., t. on E. cst., site of anc. *t.* Zacynthus, p. 18,300.

Zanzibar, *swadesh.* of E. Afr.; under Brit. protectn., include the fertile isl. of Z. off the cst. (area 625 sq. m.), Pemba, and a strip of the mainland; total area, 7,420 sq. m., p. 770,000; Zanzibar was under Arab influence in the 10th century, the Portuguese controlled it from the 15th to the 17th centuries; since 1870 British influence has prevailed over the territories on the mainland, and the Sultan is little more than a figure-head, being a British pensioner, the British Agent and Consul-General having the real governing power vested in him; cap. Z.; t. on the W. cst. of Z. isl., p. 60,000; exports cloves, ivory, rubber, &c.

Zapotita, *t.* in st. Zalisco, Mexico; gd. local tr., p. 21,409.

Zara, *wt.* Dalmatia, Austria, on the Adriatic; cap. of D. and seat of the Diet; glass-making, corn-milling, fishery, &c., p. (includ. garrison) 34,895.

Zarabad, *wt.* N.E. Persia, on Afghan frontier.

Zaragoza. (See Saragossa.)

Zarev, *t.* in Astrakhan gov., Russ.; industr., p. 8,364.

Zarbat, sacred *c.* of refuge nr. Mequinez, Morocco, on hill round tomb of Mual Kides *t.*, founder of the Moorish Empire in the 8th cent.; nr. are ruins of Roman *c.* Volubilis.

Zaria, *t.* in Zeg-Zeg st., Cent. Afr.; now incld. in Brit.

Protectorate of Northern Nigeria, p. (est.) 30,000; tradg. centre.

Zaruma, *t.* on R. Zumbes, Ecuador, p. 6,840.

Zaslav, *t.* on R. Goryn, Volhynia gov., Russ.; formerly pt. of Lithuania, flourishing manuf., p. 14,118 [s. 24].

Zuwoja, *t.* nr. Wadowice, Aust. Galicia; industr., p. 3,411, ruined *c.* of Yucatan, Mexico, nr. Merida.

Zbaraz, *t.* nr. Tarnopol, Aust. Galicia, p. (com.) 9,120.

Zea, or **Zia**, *isl.* of the Cyclades, Greece, with *t.* on same; the anc. Ceos.

Zealand, or **Zeeland**, S.W. prov. Holland, on N. Sea; area 690 sq. m., comprises isls. at mth. of R. Scheldt, p. 220,000, cap. Middelburg.

Zealand, *isl.* of Denmark. [See Seeland].

Zebayer, *grp.* of *isls.* in Red Sea; volcanic.

Zebid, *fortd.* t. Yemen, Arabia, 100 m. S.W. of Sana, p. 7,246.

Zebu, or **Cebu**, *isl.* of the Philippine grp., E. of Negros, 135 m. long, p. 330,000; cap. C., on E. cst., p. 15,110.

Zealand. (See Zealand and Seeland); also vil. nr. Grand Rapids, Ottawa co., Michigan, U.S.A., p. 5,120.

Zeerust, goldfield *dist.* in W. of Transvaal Col., Brit. S. Afr., 36 m. S.S.W. of Mafeking.

Zeg-Zeg, *st.* in Brit. Northern Nigeria, Afr., cap. Zaria (*q. v.*), [10,500].

Zehri, *t.* nr. Khelat, Jhalawan prov., Baluchistan, p. Zella, or **Zaylah**, *t.* on G. of Aden, E. Afr.; occupied by British in 1884, p. (abt.) 6,000. [6,495].

Zelt, or **Zelst**, industr. *wt.* Holland, nr. Utrecht, p. Zeltum, *t.* in Asia Minor (the anc. Cilica), p. (abt.) 90,000, Armenian Christians mainly, who gallantly held out during the massacres of 1895 against the Turks.

Zeitz, *t.* on the White Elster R., nr. Leipzig, prov. Saxony, Pruss.; textile factories; perambulators and pianoforte making; p. 30,117. [10,844].

Zelaya, *t.* in Guanajuato prov., Mexico; gd. local tr., Zele, *t.* nr. Dendermonde, E. Flanders, Belgium; industr.; p. 13,660. [of L. of Constance].

Zell, Lake of Unter See, lower part (10 m. long) Zellerfeld, *t.* in Hanover, nr. Clausthal; industr.; p. 4,825.

Zembra, sm. *isl.* at entrance to G. of Tunis, N. Afr.

Zempelburg, or **Zempen**, *t.* in West Pruss., nr. Marienwerder; p. 3,814.

Zeng, or **Szeny**, *fortd.* *wt.* Croatia, nr. Carlstadt; p. 3,254.

Zenjan, *t.* Persia, prov. Irak-Ajeini; 133 m. N. of Hamadan; impt. comm. centre; p. 15,860.

Zenta, or **Szentcs** (*q. v.*).

Zorafshan, or **Zarafshan**, gov. Russ. Turkestan, prov. Samarkand, E. of Bokhara; area 19,664 sq. m.; p. (abt.) 400,000. Cap. Samarkand (*q. v.*).

Zerbst, *t.* nr. Magdeburg, Anhalt Duchy, Germ.; walled, with moats and towers; gold and silver thread mfg., mchy., and starch manuf.; p. 18,120.

Zermatt, *mt.* hamlet at ft. of Matterhorn, cant. Valais, Switz.; one of the ch. tourist centres in the Alps; perm. *t.* 800. [Industr.; p. 7,444].

Zerlenrode, *t.* nr. Greiz, Reuss-Greiz, Prussia; p. 6,880.

Zevenbergen, *mfg. t.* nr. Breda, N. Brabant, Holland; p. 6,880.

Zewis, *t.* on R. Adige, nr. Verona, Italy; p. 6,413.

Zhitomir, *t.* cap. Volhynia gov., Russ.; an anc. Lithuanian *c.*, with large Jewish community and impt. commerce; p. 70,500.

Zlázdra, industr. *t.* Kaluga gov., Russ.; p. 12,246.

Ziegenfels, *t.* nr. Oppeln, Pruss. Silesia; manuf.; p. 6,812.

Zierikzee, *t.* in prov. Zealand, Holland, on isl. of Schouwen, 27 m. E. Flushing; p. 7,428.

Zilah, *t.* cap. Szilagy co., Hungary; large wine tr.; p. 7,883.

Zülgia, *t.* nr. Khoten, Chinese Turkestan; gd. local tr.; p. 8,225.

Zillbeh, *t.* nr. Tokat, Asia Minor; annual fair; p. 2,112.

Zillertal, beautiful Tyrolean valley, watered by R. Ziller, trib. (10 m.) of R. Inn; p. 15,000.

Zillerthal, *prov.* Alp, *mt.* of the Tyrol, extendg. E. from Brenno to Hohen Tauern.

Zimbabwe, ruined *c.* in Masicaland, Brit. S. Afr.; 3,300 ft. above sea-level; discovered by Mauch in 1871.

Zieder, *impt. t.* on N. margin Centl. Soudan, Africa (French), emporium for tr. betwn. Hausa and Tripoli across the Sahara; p. 10,000.

Zingst, *dist.* of Pomerania, Pruss., in the Baltic, nr. Stralsund.

Zittau, *t.* on R. Mandau, Saxony, nr. the Bohemian and Silesian frontiers; linen and damask manuf., and commerc. centre in colliery dist.; p. 33,500.

Ziskov, *industri. t.* in Bohemia, sub. to Prague; p. 70,640.

Zlatoust, *t.* in the Urals gov't. Ufa, Russ.; manuf. and tr.; p. 22,595.

Zloczow, *t.* on trib. of R. Bug, nr. Lemberg, Austrian-Galicia; linen manuf.; p. 13,540.

Znaim, *t.* in Moravia, Austria, 50 m. N. of Vienna; textiles, earthenware and vinegar manuf.; p. 17,415.

Zola, *industri. commune* nr. Bologna c., Italy; p. 6,260.

Zolotonsha, *mfg. t.* in Poltava gov't., Russ.; p. 9,124.

Zombor, *industri. t.* nr. Szeged, Hungary; cap. of c. Bács; p. 26,981.

Zondrenide Mtns., range in Caledon div. Cape Col., Brit. S. Afr.; average height 4,000 ft.

Zornsdorf, *vill.* of Brandenburg, 5 m. N. of Kustrin. Here Frederick the Great defeated the Russians, Aug. 25, 1758.

Zoutpansberg, *mtous. dist.* in N.E. Transvaal Col., S. Afr.; gold-fields.

Zschoppau, *t.* on R. Z., 26 m. E. Zwickau, Saxony; p. 8,124; *industri.*

Zual, *t.* E. Afr., receives Maki and Catara Rs.; alt. 6,040 ft.

Zug, *smst.* of the Swiss *cantons* (centl.); area 92 sq. m.; p. 28,400. Cap. Z. on L. of Z., 13 m. N.E. Lucerne; notable landslips, 1435 and 1887; p. 6,500.

The L. of Z. (8½ m. long, 2½ m. wide) has its outlet by the R. Lorze.

Zujar, *t.* nr. Granada, Spain; p. 4,010.

Zulia, *st.* Venezuela, on Caribbean S.; p. 60,500.

Züllschau, *t.* 50 m. E. Frankfurt-on-the-Oder, Brandenburg prov. Pruss.; Russ. vict. 1759; p. 8,140.

Zululand, *Brit. protectorate* in S.E. Afr., part of the col. of Natal since 1897; area 11,000 sq. m.; p. 190,000. The mineral resources of the country are considerable, including gold, silver, lead, copper, tin.

In 1878 war broke out between England and the then chief of Zululand, Cetewayo, involving serious disaster to the British forces at Isandula.

Jan. 22, 1879, but bringing final victory to British arms on July 4, 1880, at Ulundi. It was in this campaign that the French Prince Imperial lost his life.

Zumbo, *Port, outpost* on Zambesi R., E. Africa, 300 m. from sea.

Zumpango, *t.* in Mexico, 90 m. N. of M. c.; p. 4,884.

Zungarica, *Soungaria* or *Dzungaria*, *country* N. of E. Turkestan; formerly Chinese terr., but now included in Asiatic Russ.

Zurich, *cant.* Switzld., bounded N. by R. Rhine area 605 sq. m.; contains large part of L. of Z. (25 m. long, 2½ m. wide) and sevl. other lakes; traversed by hills and low mts.; pastoral, agr., forest, and vineyards; many manufs., gd. trade; p. (rapidly increasing) 500,000. Cap. Z., most impt. and

populous *t.* in Switzld. Contains Swiss National Museum, cathedral, and many fine bldgs. and educat. instns.; industries and commerce prosperous; p. 190,116. Zwingli was pastor of the cathedral, and Lavater pastor of Peterskirche. Fuseli was a native of Zurich.

Zuruma, *t.* on W. slope of the Andes of Ecuador, *industri.*; p. 6,500.

Zutphen, *fort. t.* on R. Yssel, Gelderland, Holland, nr. Arnhem; brisk tr.; p. 20,550. The principal buildings of Zutphen are the Great Church (1503, restored in 1857, and the Wijk Huus tower. The town has been several times besieged. It was in a skirmish on the field of Warnsfeld near here that Sir Philip Sydney received the wound from which he afterwards died, in 1596.

Zuyder Zee, *gulf* or arm of the N. Sea, formerly a lake; enlarged by inundations in the 13th. centy.; area 2,007 sq. m. (max. length 85 m., breadth 45 m.); mean depth 14 ft.

The islands of Texel, Vlieland, Terschelling, Ameland, and Schiermonnikoog, strech in a chain across the entrance, and mark what was the old coast-line. Within the Zuyder Zee are the islands of Vlieringen, Urk, Schokland, and Marken.

From 1802 to 1804 a royal commission had under consideration a scheme for draining the Zee and reclaiming some 750 sq. m. at a cost of £26,000,000, which was recommended for adoption, but has not been carried out.

Zvengorodka, *t.* in Kiev gov't. Russ.; flour mills, and distilleries, grain tr.; p. 18,246.

Zvornik, *t.* on R. Dvina, Bosnia; gd. local tr.; p. 10,814.

Zwart Berg, *mtn. system*, Cape Col., Brit. S. Afr.

Zwarte Water, *stream* in Holland, on which is situated Zwolle; receives K. Vecht, and flows, as the Zwoische Diep, into the Zuyder Zee.

Zwartland, *agr. dist.*, Cape Col., Brit. S. Afr., Malmesbury div.; extendg. N. to the Berg R.

Zwartsula, *t.* nr. Zwolle, Overijssel, Holland; p. 4,876.

Zweibrücken, *t.* nr. Speyer, Rhenish Bavaria, on R. Erbach; formerly, cap. of the sometime sovereign countship of Z.; *industri.*; p. 12,080.

Zwellendam, *t.* 104 m. E. of Cape Town, Brit. S. Afr.; cap. Z. dist. Cape Colony; p. 2,904.

Zwickau, *t.* nr. Chemnitz, Saxony, on the Zwickhauser Mulde; gt. commerc. centre (largest rlyw. stn. in Germany), in colly. region; chemical, mch., porcelain, paper, glass, and other manuf.; p. 62,500; also smlr. t. same name, nr. Reichenberg, Bohemia; p. 5,618.

Zwittau, *t.* nr. Briinn, Moravia; on the Bohemian frontier; p. (com.) 8,475.

Zwolle, *c.* nr. Zutphen, Holland, cap. Overijssel, on the Zwarte Water; formerly a Hanseatic city; great cattle mart; p. 32,120. At the monastery of Agnetenburg close by Thomas & Kempis lived and died.

Zwyndracht, *vill.* on R. Meuse, S. Holland, nr. Rotterdam; *industri.*; p. 3,146.

Zwyndrecht, *t.* on K. Scheidt, E. Flanders, Belgium, nr. Dendermonde; gd. tr.; p. 3,943.

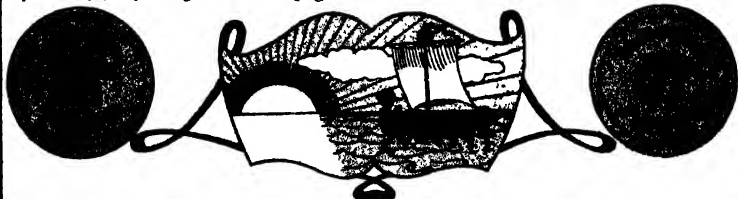
Zywice, or **Saybusch**, *industri. t.* in Austrian Galicia, on R. Sola, nr. Biełitz; p. 4,946.

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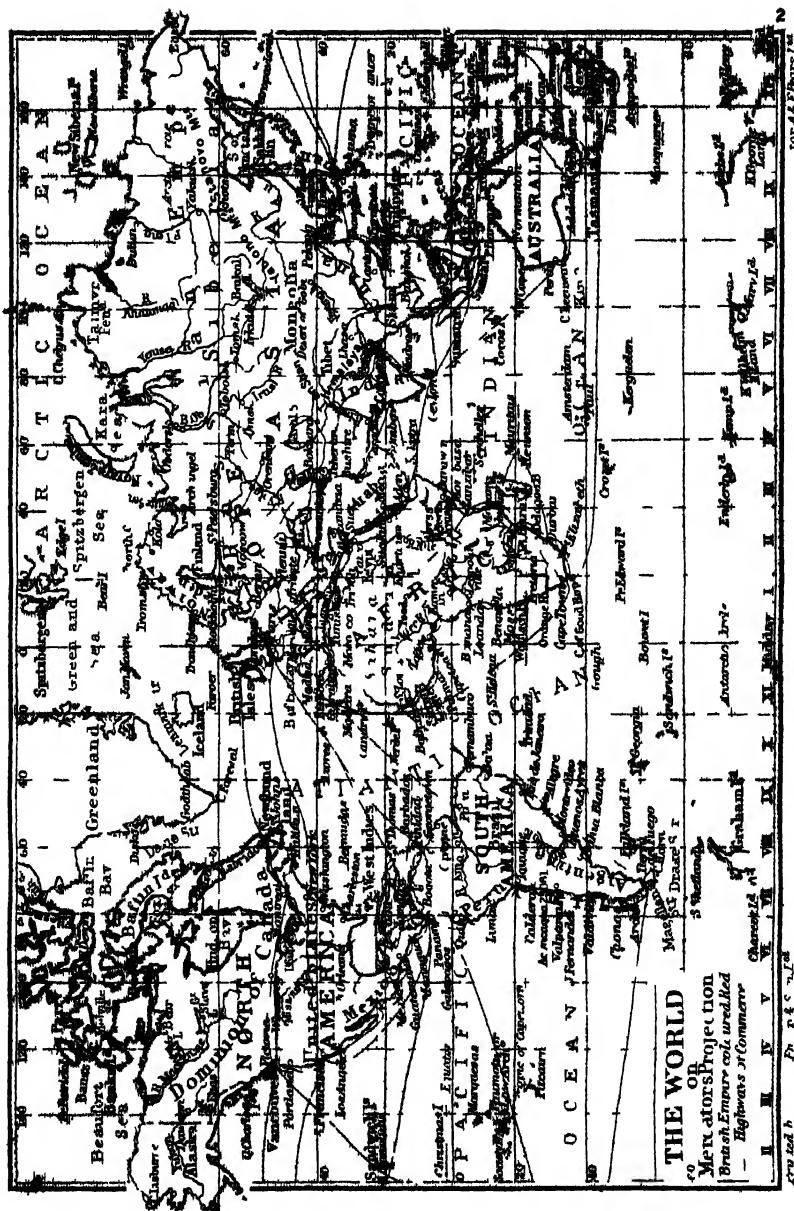
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COMPARATIVE DIAGRAM SHOWING HEIGHTS OF MOUNTAINS AND DEPTHS OF OCEANS

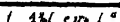
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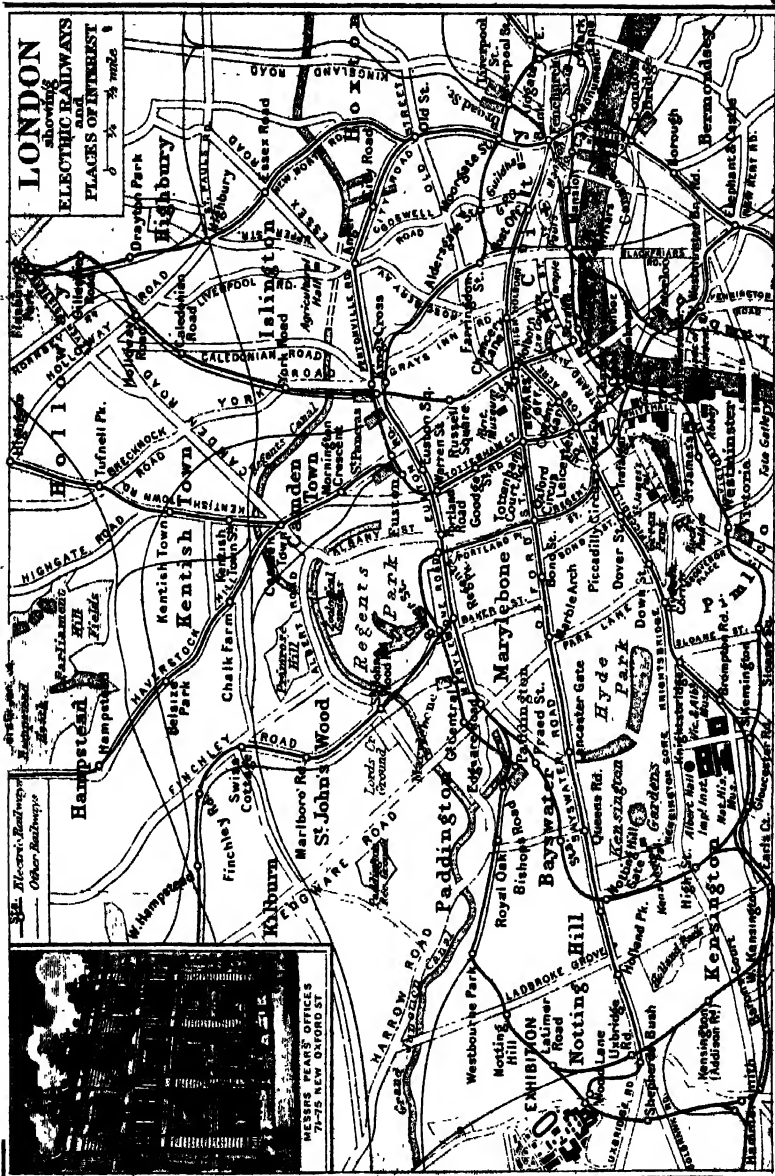


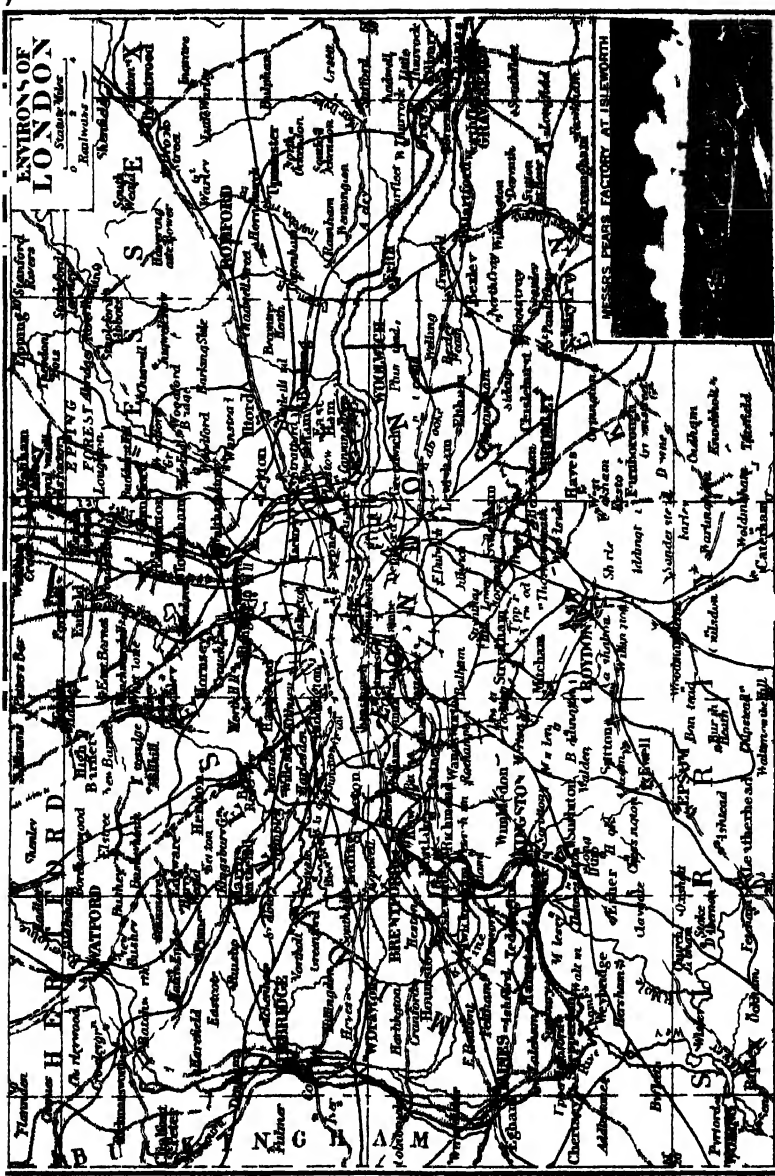






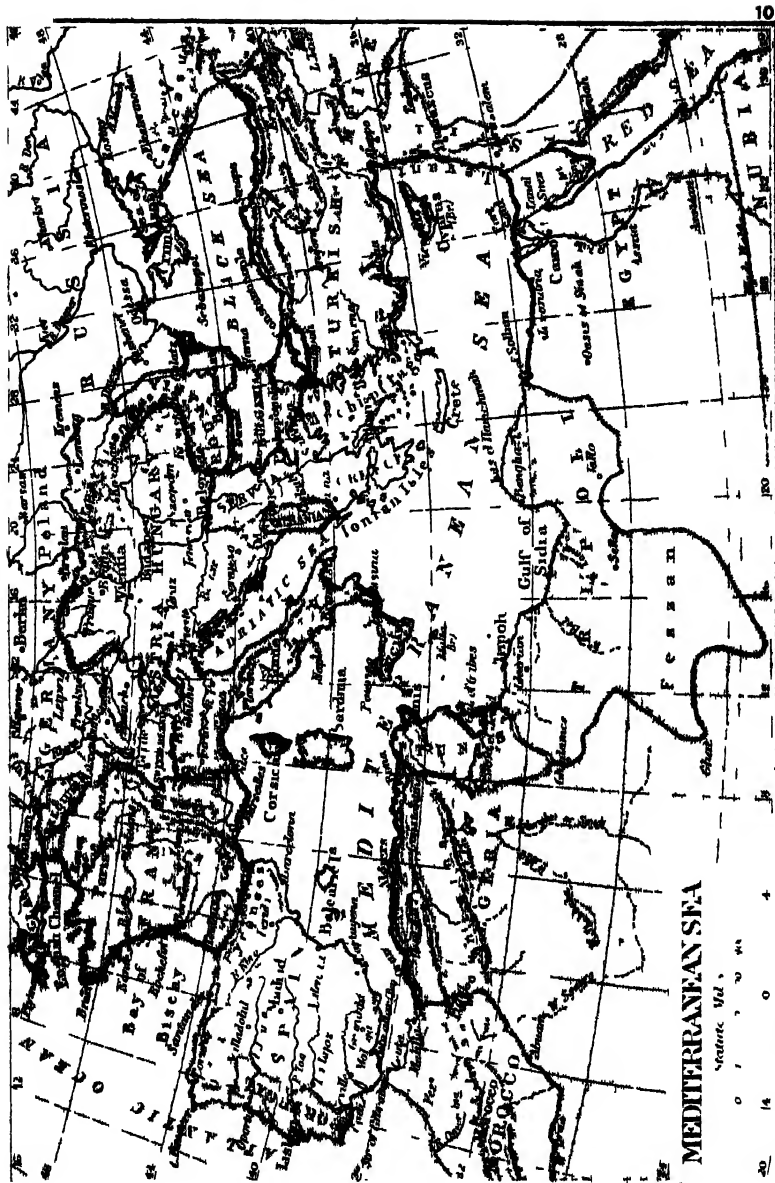
LONDON
showing
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MESSRS PEASE FACTORY AT ISLEWORTH



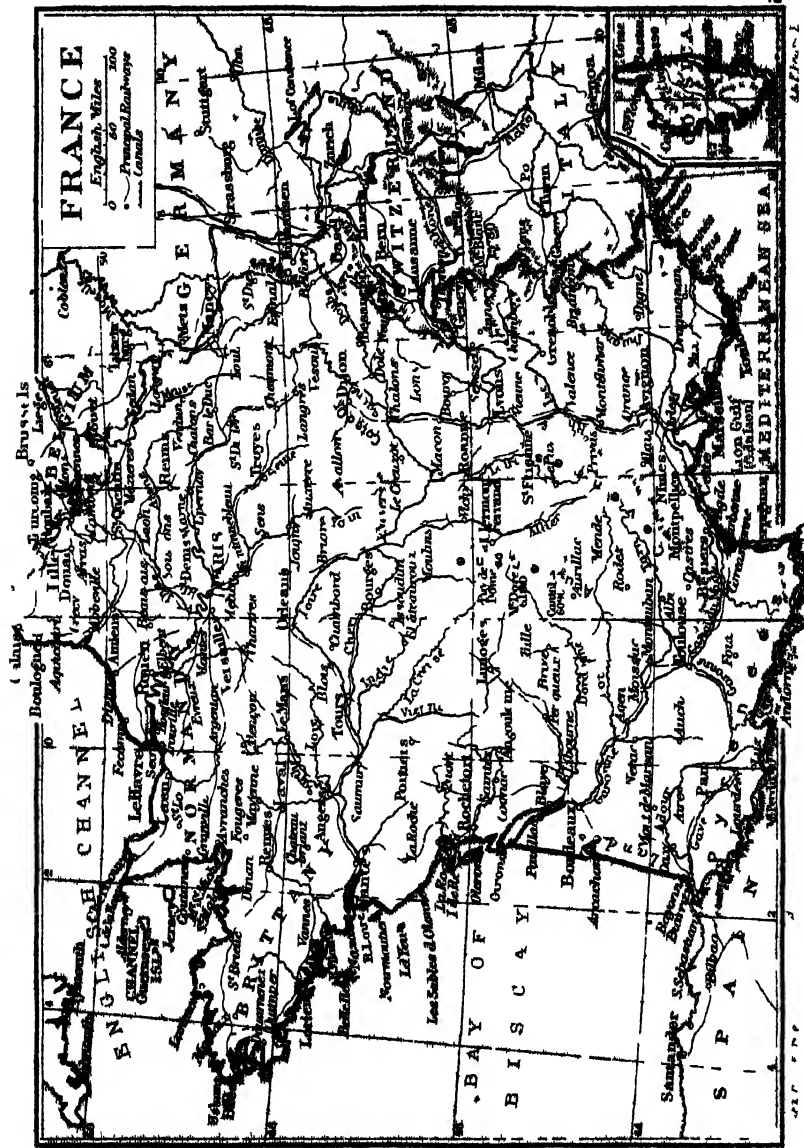


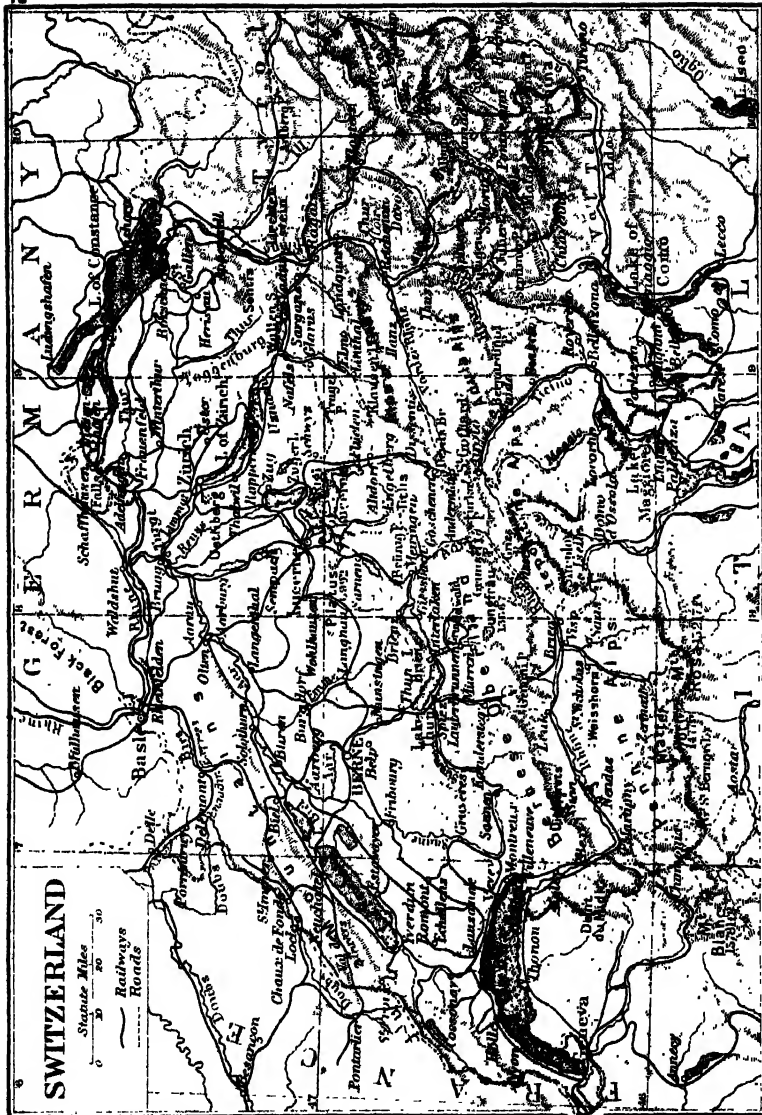
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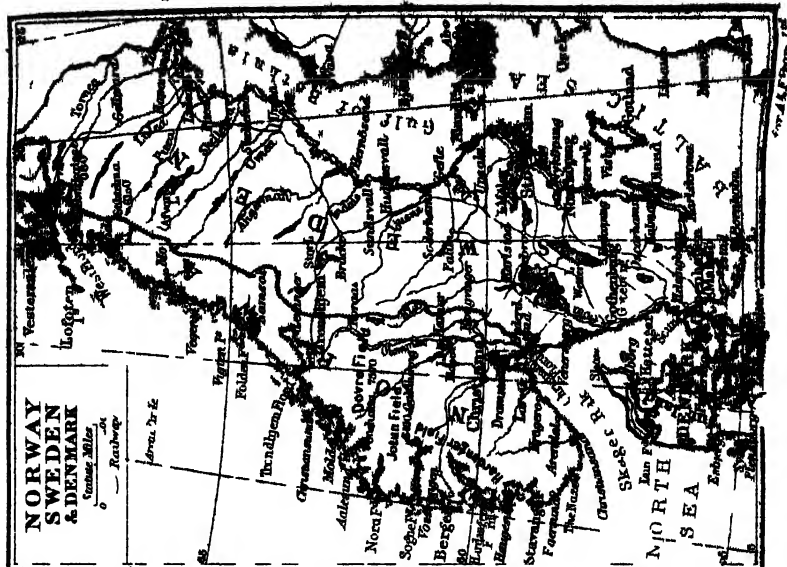
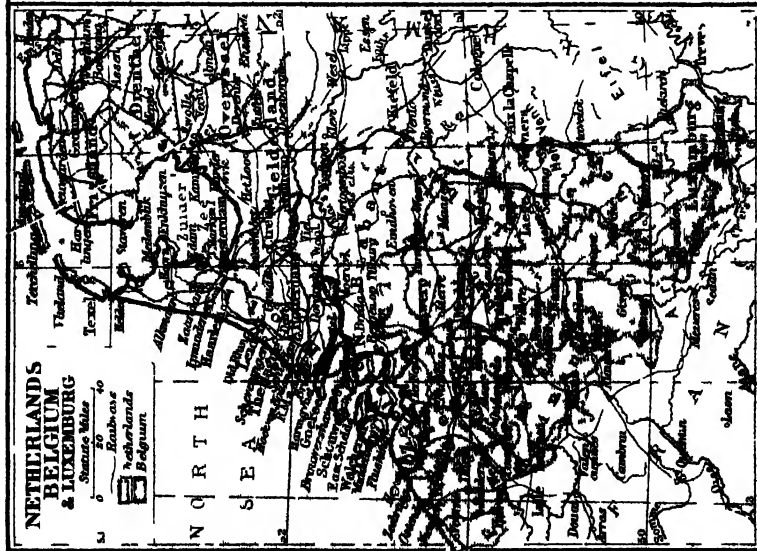
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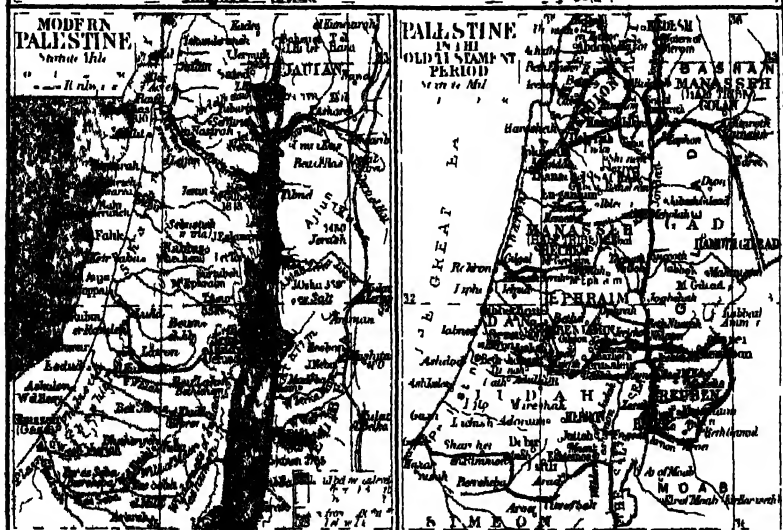
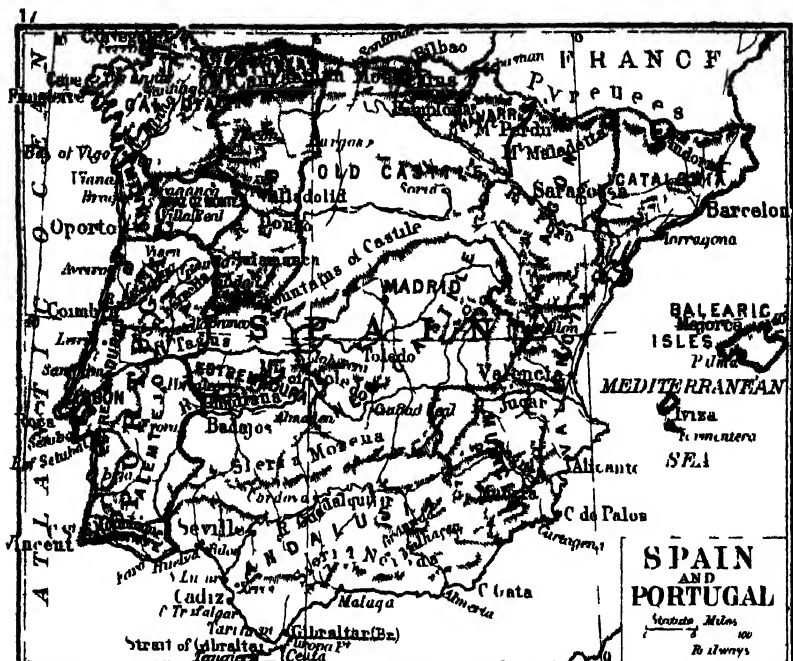




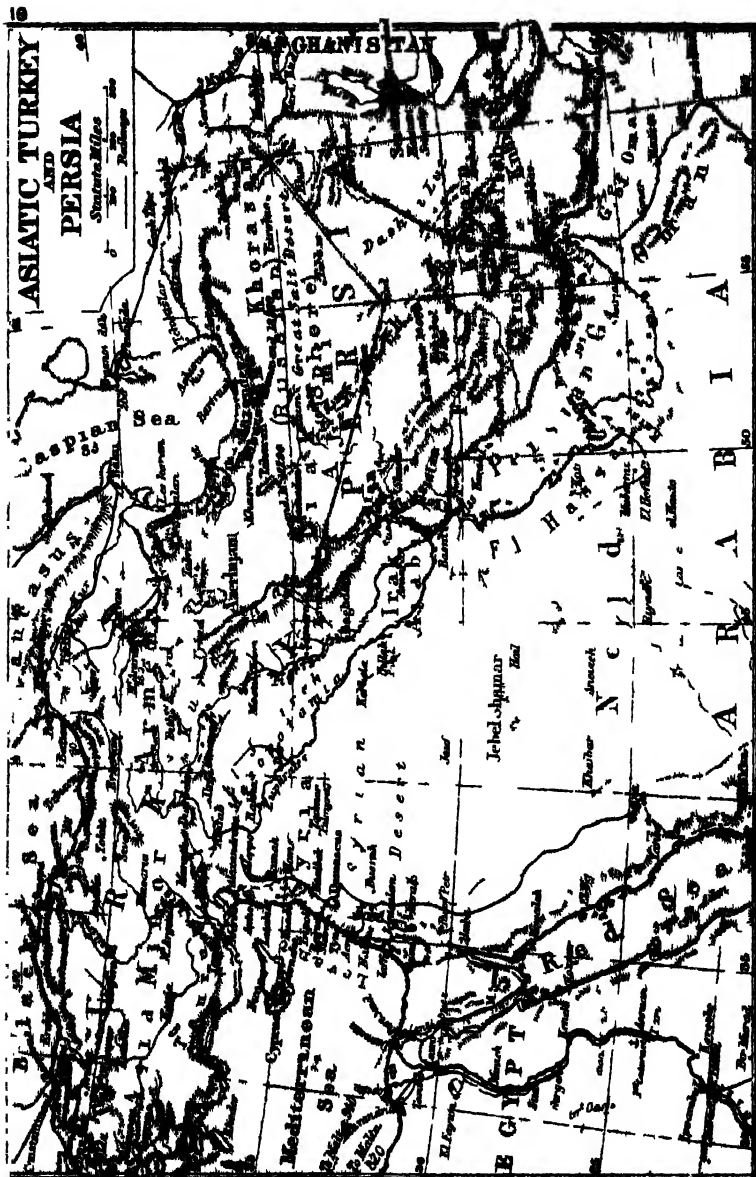


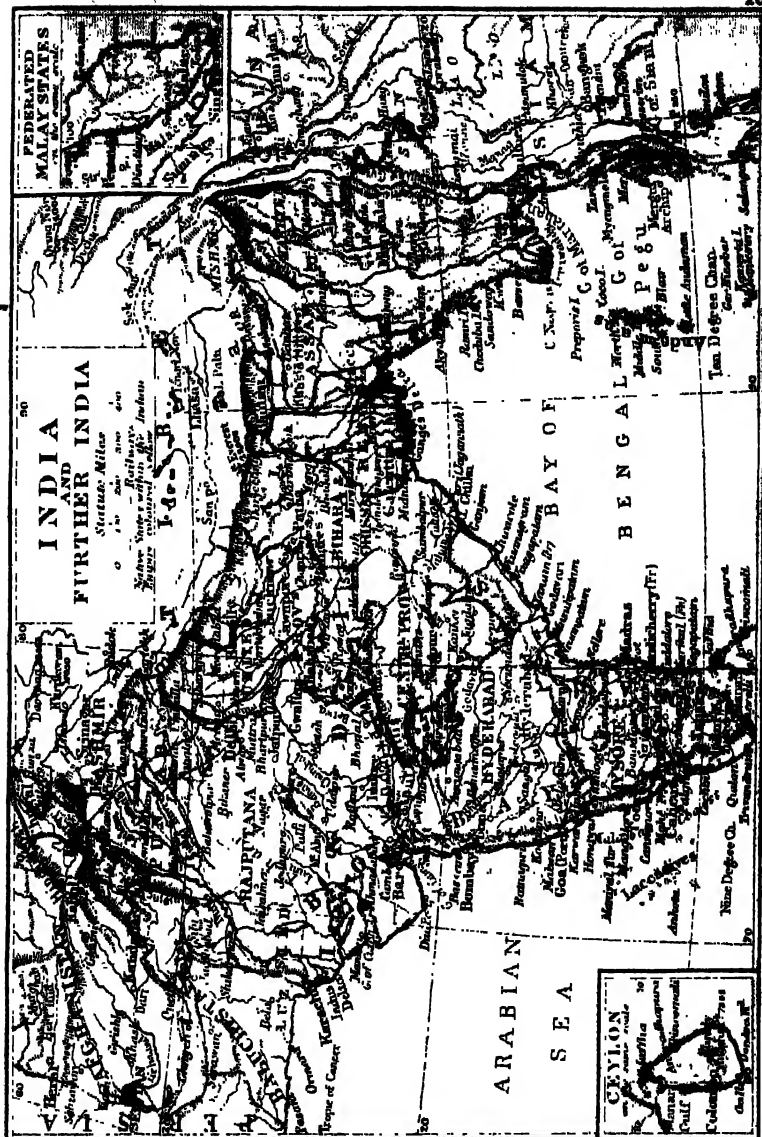


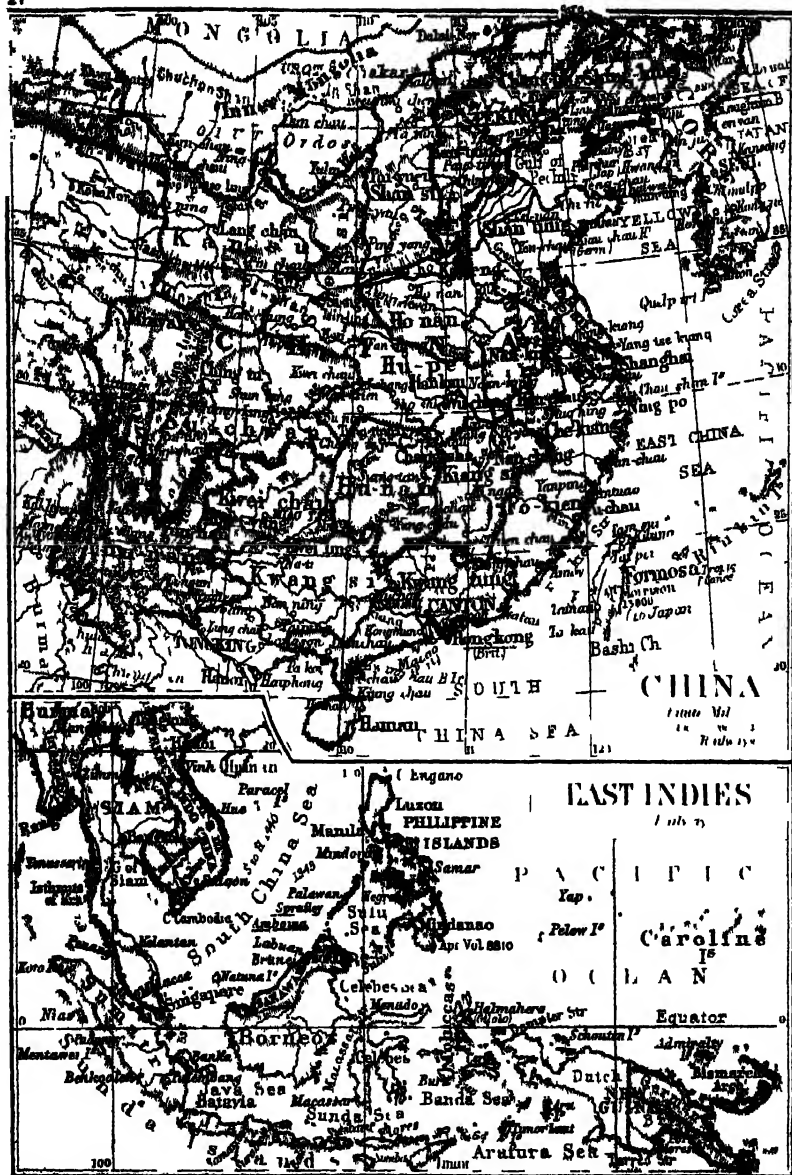




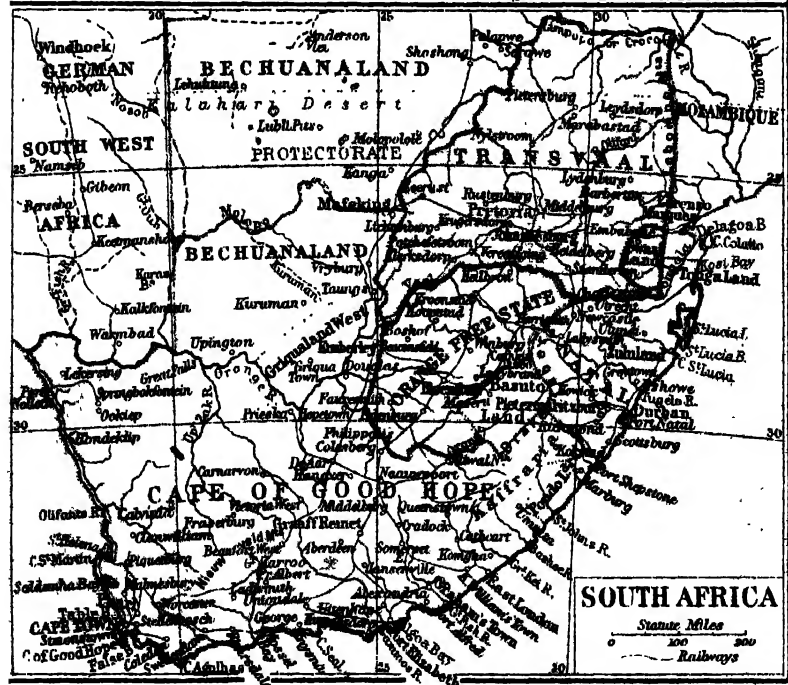
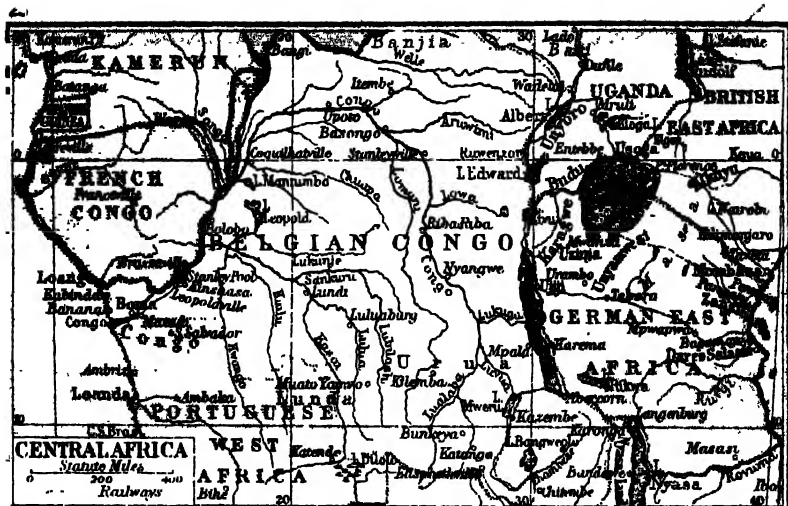


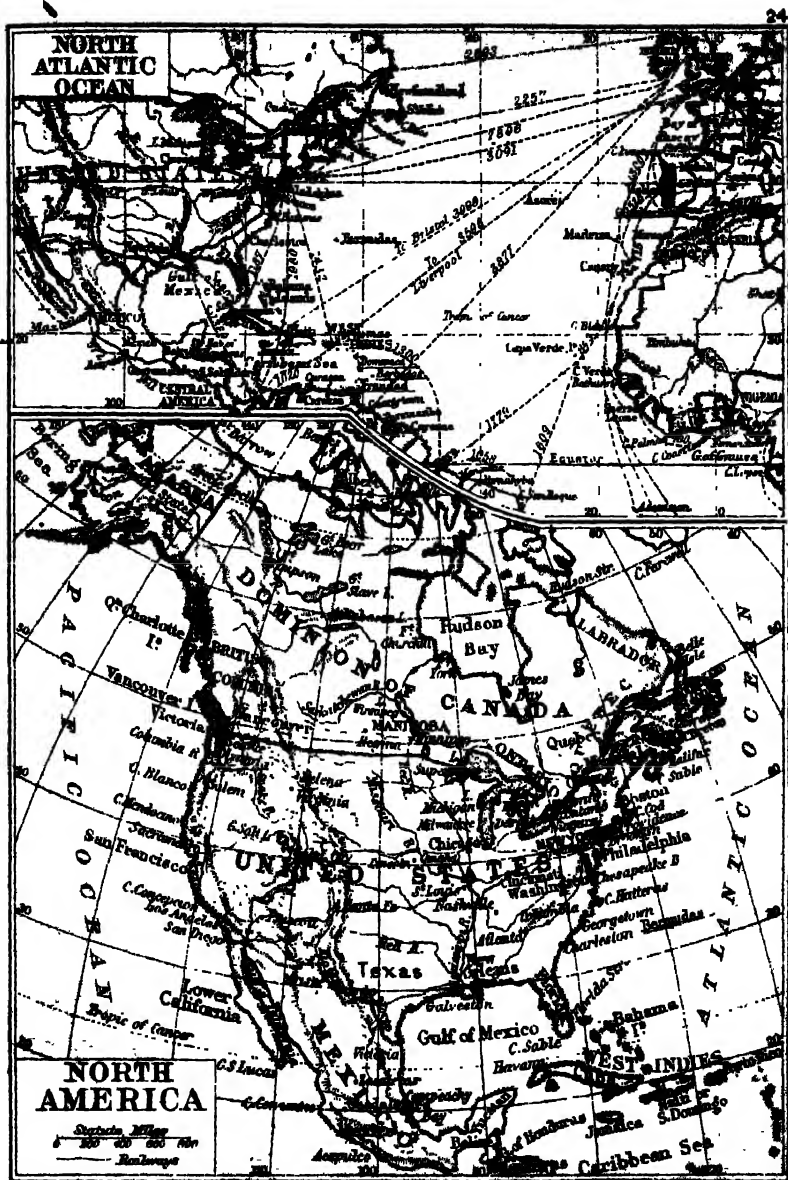














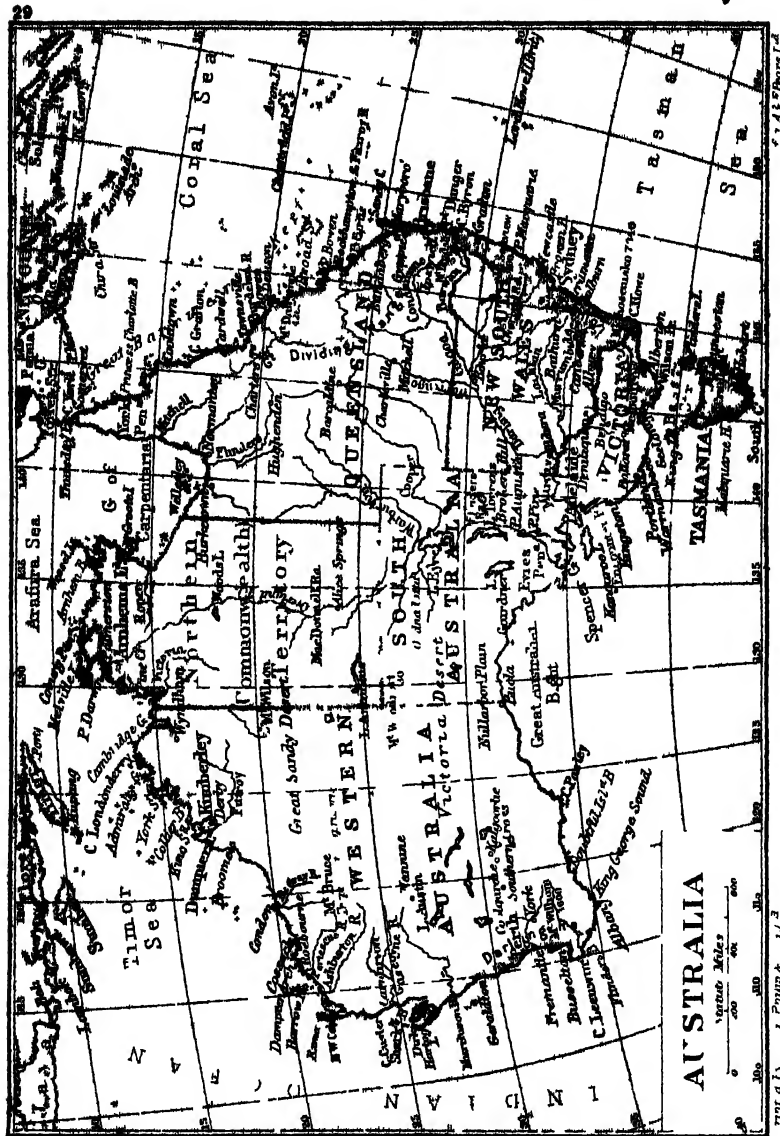


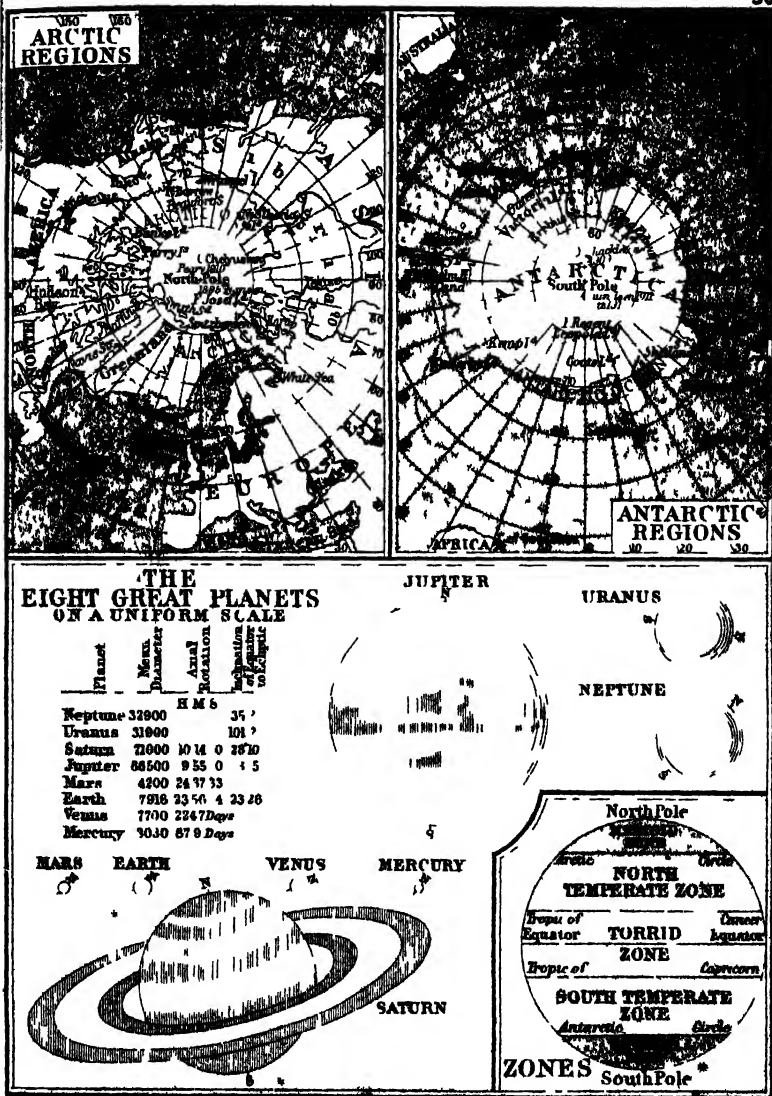
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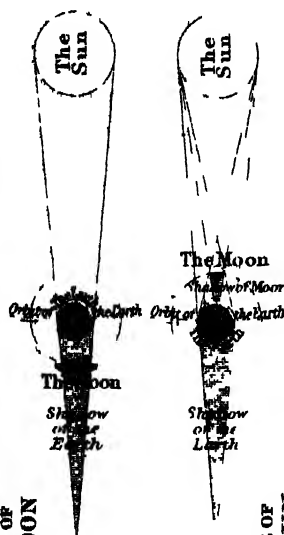




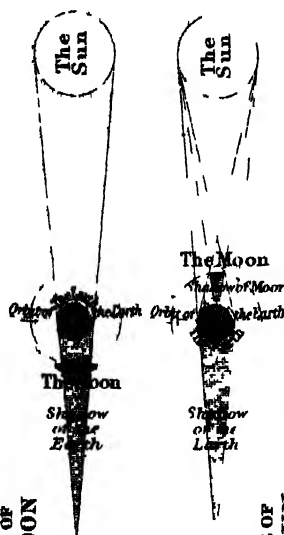




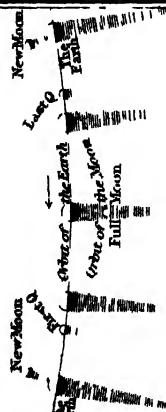
ECLIPSE OF THE MOON



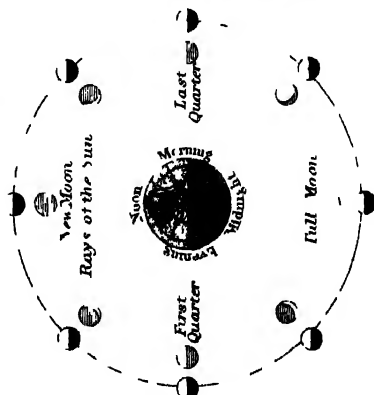
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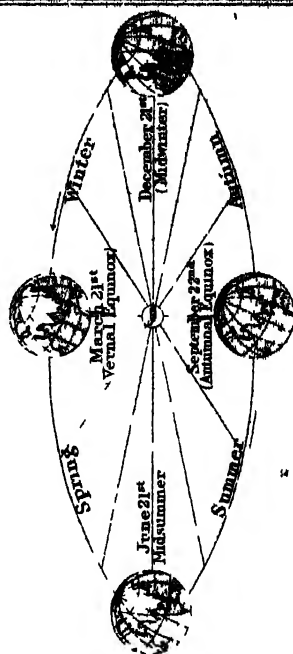
THE MONTHLY PATH OF THE MOON



THE PHASES OF THE MOON



THE SEASONS THE EARTH'S ORBIT



PEARS'
DICTIONARY
of EVENTS.



Pears' Dictionary of Events

SETTING FORTH IN CHRONOLOGICAL ORDER THE LEADING EVENTS
IN THE HISTORY OF THE WORLD.

In the record of the years here set down, it has only been possible to mention in the briefest manner the principal events in the world's history, with the dates of their occurrence. The story is naturally fullest in relation to our own country, but few of the more important facts in the history of other countries have been passed over; and in this issue a special feature is made of a Chronicle of the War, the record being brought up to the date of going to press.

B.C.
2234 Chaldean astronomical observations begun.
2200 Hua dynasty founded in China.
1773 Assyrian empire founded.
1300 Period of Trojan war.
1100 Chow dynasty founded in China.
1055 David king of Israel.
1012 Building of Solomon's temple.
1000 Homer flourished.
900 North-west palace of Nimroud built; fall of Assyrian empire.
800 Chaldeans in Mesopotamia.
747 Babylon independent under Nabonassar.
711 Judah invaded by Sennacherib.
659 Byzantium founded by Megarians.
625 Fall of Nineveh; Babylon under Nabopolassar.
624 Draco legislates Athens.
610 Battle of Megiddo; death of Josiah.
605 Zoroaster in Persia. [captivity.
596 Jerusalem taken by Nebuchadnezzar; second
594 Solon at Athens.
548 Pythian games started
579 Nebuchadnezzar takes Tyre.
559 Nebuchadnezzar conquered Egypt.
554 Cyrus conquers Lydia.
538 Cyrus conquers Babylon.
526 Jews begin to rebuild the Temple.
529 Death of Cyrus; succeeded by Cambyses.
525 Cambyzes conquers Egypt; Æschylus b.
518 Pindar b.
510 The Pisistratidæ expelled from Athens.
509 First treaty between Rome and Carthage.
507 Conquest of Thrace, Pæonia, and Macedonia
506 by Darius.
497 Battle of Lake Regillus.
495 Sophocles b.
492 First Persian expedition against Greece.
490 Second Persian expedition against Greece;
 Miltiades victorious at Marathon.
485 Xerxes becomes king of Persia.
484 Persians recover Egypt; Herodotus b.
481 Xerxes proceeds against Greece. [Xerxes.
480 Battle of Thermopylæ; Athens taken by
477 Athenian supremacy established.
471 Thucydides b.
465 Death of Xerxes.
464 Revolt of the Helots.
457 Return of the Jews under Ezra.
451 First Roman Decemvirate.
447 Battle of Coronea.
445 Pericles obtains supreme power at Athens.
431 Peloponnesian war began—lasted 27 years;
 death of Pericles; Plato b.
429 Revolt of Mytilene [Phænx flourished.
427 First Athenian expedition to Sicily; Aristo-

B.C.
419 Diogenes b.
412 Constitution of the Four Hundred at Athens.
407 Foundation of Rhodes.
404 Athens taken by Lysander.
403 Democratic government restored at Athens.
401 Retreat of 10,000 Greeks.
399 Death of Socrates.
385 Demosthenes b.
384 Aristotle b.
379 Lacedæmonians expelled from Thebes.
376 Spartans defeated by Chabrias off Naxos.
373 Athens and Sparta make peace.
371 Spartans defeated by Epaminondas at Leuctra.
367 Aristotle proceeds to Athens to join Plato.
364 Prætorship instituted at Rome.
360 Epaminondas slain at the battle of Mantinea
359 Philip becomes king of Macedonia.
358 Chios and Byzantium besieged. Philip cap-
 tures Amphipolis.
357 Sacred war begins—Phocians take Delphi.
356 Alexander the Great b. Temple of Ephesus
 destroyed by fire. [independent.
355 Rhodes, Byzantium, and Chios proclaimed
352 First Philip of Demosthenes delivered.
346 Sacred war ends.
343 Timoleon conquers Syracuse.
340 First Samnite war.
338 Battle of Chæronea. Greece subdued.
336 Murder of Philip—Alexander succeeds.
335 Alexander destroys Thebes, and becomes chief
 of the Greek army.
334 Battle of Granicus.
333 Battle of Issus.
332 Conquest of Egypt and Tyre, and foundation
 of Alexandria.
331 Battle of Arbela and subjugation of Persia
330 Darius murdered.
327 Alexander's expedition to India.
323 Death of Alexander; his empire divided.
 Second Samnite war.
321 Romans surrender to the Samnites.
320 Ptolemy carries 100,000 Jews into Egypt.
315 Cassander restores Thebes.
312 Battle of Gaza. Appian way constructed.
304 Rhodes taken by Demetrius.
299 Athens taken by Demetrius.
298 Third Samnite war.
295 Battle of Sentinum.
287 Archimedes b.
284 Alexandrian library founded.
280 Pyrrhus invades Italy.
279 Gauls in Greece; driven out into Asia.
274 Pyrrhus defeated at Beneventum.
264 First Punic war begins.

- B.C.**
206 Regulus victorious at Ecnomus; Invasion of
207 T'ien dynasty founded in China. [Africa.
261 Carthaginians defeated by Catulus; end of
 first Punic war.
237 Spain conquered by the Carthaginians.
 Sardinia and Corsica taken by the Romans.
210 Hannibal besieges Saguntum; second Punic
 war begins.
218 Hannibal marches from Spain into Italy.
220 Hannibal crosses the Apennines: Battle of
216 Battle of Cannæ. [Lake Trasimene.
213 Syracuse captured by Marcellus.
211 Defeat and death of the two Scipios; First
 Macedonian war.
204 Siege of Utica.
203 Hannibal suffers defeat at Zama.
201 End of Second Punic war; first Macedonian
200 Second Macedonian war begins. [war.
197 Flaminus defeats Philip at Battle of Cynos-
186 Death of Plantus. [Cephele.
179 Perseus king of Macedonia.
173 Third Macedonian war.
168 Jerusalem taken by Antiochus Epiphanes.
167 Judas Maccabeus revolts.
166 Terence's first comedy acted at Rome; Jews
159 Death of Terence. [delivered from Syrians.
149 Third Punic war begins.
146 Rome wars against the Achæan League;
 Carthage destroyed by Scipio; Corinth de-
 stroyed. [Gracchus assassinated.
133 Laws of Tiberius Gracchus passed at Rome;
106 Pompey and Cicero b.
103 Marius gains victory over Teutones at Aquæ
 Sextiæ (Aix); 200,000 killed.
101 Marius defeats Cimbri at Vercellæ; 100,000
 slain, 60,000 prisoners; end of war.
100 Julius Cæsar b.
95 Lucræti b.
88 First Mithridatic war.
86 Death of Marius.
83 Sulla, Roman dictator.
74 Third Mithridatic war.
70 Pompey and Crassus consuls; Virgil b.
64 Pompey conquers Syria [and Crassus
63 Jerusalem taken.
60 First Triumvirate formed—Pompey, Cæsar,
 and Crassus.
59 Livy b.
58 Cæsar invades Britain.
51 Subjugation of Gaul by Cæsar completed.
49 Pompey driven from Italy; Cæsar dictator.
48 Pompey murdered in Egypt.
47 War in Egypt.
46 African war.
45 Cæsar made dictator for life.
44 Cæsar murdered; Antony seizes Rome.
43 Death of Brutus and Cassius.
41 Antony and Cleopatra meet at Tarsus.
40 Herod becomes king of the Jews.
31 Roman empire established.
18 Imperial dignity conferred on Augustus.
17-7 Herod rebuilds Temple at Jerusalem.
13 Drusus invades Germany.

BIRTH OF CHRIST.

- A.D.**
4-9 Tiberius invades Germany.
14 Death of Augustus.
33 The Crucifixion.
37 Caligula becomes emperor.
41 Claudius emperor on assassination of Caligula
43 Claudius invades Britain.
47 London founded by Romans.
50 Caractacus taken prisoner to Rome.
54 Nero emperor.
61 Boadicea leads Britons against Romans.
70 Jerusalem taken by Titus.
79 Destruction of Pompeii and Herculaneum.
88 Dacian war begins.
98 Trajan emperor.
117 Hadrian emperor.
129 Hadrian in Britain.
131 Hadrian's wall built.
138 Antoninus Pius emperor.

- A.D.**
161 Marcus Aurelius and Lucius Verus become
 joint emperors.
169 Verus d. M. Aurelius sole emperor.
193 Emperor Pertinax assassinated.
194 Severus emperor.
206 Severus invades Britain.
209 Wall of Severus built [emperors.
211 Severus d. at York; Caracalla and Geta
212 Geta put to death.
222 Alexander Severus emperor.
236 Artaxerxes ruler of new Persian empire.
233 Alex. Severus assassinated.
235 Maximin emperor.
249 Decius emperor.
250 Goths invade Roman empire
251 Gallus emperor.
253 Franks invade Gaul.
260 Gallienus emperor.
263 Franks again invade Gaul.
267 Scythians and Goths defeated by Romans.
268 Claudius emperor.
270 Aurelian emperor.
275 Tacitus emperor.
283 Diocletian emperor.
286 Constantine in Britain.
297 Diocletian lays siege to Alexandria.
303 Martyrdom of St. Alban.
305 Constantine and Galerius emperors. [claimed.
306 Constantine dies at York; Constantine pro-
323 Constantine sole emperor.
324 Constantinople founded.
325 Council of Nice; Nicene Creed settled.
337 Constantine II., Constantius II., and Constans
361 Julian emperor. [joint emperors.
363 Julian killed [law against magicians.
364 Valentinian and Valens joint emperors; Roman
373 Death of Athanasius.
375 Invasion of the Huns.
382 Alaric king of the Goths.
393 Honorius emperor of the West.
394 Theodosius holds supreme sway.
395 Death of Theodosius.
400 Alaric overruns Italy.
410 Rome sacked by Alaric.
411 Roman legions leave Britain.
429 Vandals invade Africa.
433 Attila made king of the Huns.
439 Vandals attack Carthage.
449 Invasion of Jutes under Hengist and Horsa.
451 Attila invades Gaul.
453 Venice founded.
453 Death of Attila.
457 Kingdom of Kent established by Hengist.
477 First invasion of Britain by Saxons.
483 Clovis king of the Franks.
489 Theodoric conquers Italy, and becomes king.
495 West Saxons land in Britain.
527 Justinian emperor.
535 Belisarius captures Rome.
540 Belisarius captures Ravenna.
546 Totila takes Rome.
553 Narses takes Rome.
560 First English Abbey founded at Bangor.
565 Justinian and Belisarius die; Ethelbert king of
 Kent; Christianity preached amongst the
 Mahomet proclaims Islamism. [Picts.
593 Ethelfrith founds kingdom of Northumbria.
597 Augustine in England.
602 Canterbury made seat of archbishopric.
604 See of London established.
637 Jerusalem taken by Caliph Omar.
643 Theodorus first "Sovereign Pontiff" of Rome.
652 Saracens destroy Carthage.
710 Saracens invade Spain.
714 Charles Martel ruler of France.
731 Saracens invade France.
733 Saracens conquer Sardinia.
735 Death of the Venerable Bede.
751 Charles Martel dies.
763 Bagdad founded.
768 Charlemagne and Carloman kings of the
772 Charlemagne reigns alone. [Franks.

- A.D.**
788 Haroun al Raschid becomes Caliph of Bagdad.
787 Danes invade England.
814 Death of Charlemagne.
837 Egbert overlord of England's kingdoms.
849 Alfred the Great born.
857 Death of Ethelwulf; Ethelbald succeeds.
860 Death of Ethelbald; Ethelbert succeeds.
868 Death of Ethelbert; Ethelred succeeds.
871 Alfred king of Wessex on death of Ethelred.
878 Alfred defeats Danes at Etheandune.
898 Rome taken by Arnolph of Germany.
906 Theodora's supremacy in Rome.
916 Saracens defeated in Spain, 70,000 slain.
940 Edmund king of Wessex.
943 Dunstan rises to power.
945 Edred king of Wessex.
955 Edgar king of Mercia.
959 Dunstan archbishop of Canterbury.
975 Edward the Martyr king of England.
979 Edward assassinated; Ethelred the Unready
 Hugh Capet king of France. [succeeds.
988 Death of Dunstan.
1012 Sweyn of Denmark subdues England.
1016 Edmund Ironside king of England.
1017 Canute king of England.
1035 Death of Canute; Harold "Harefoot" succeeds.
1040 Death of Harold; Hardecanute succeeds.
1043 Edward the Confessor king of England.
1067 Malcolm III. king of Scotland. [Confessor.
1066 Westminster Abbey founded by Edward the
1066 Harold II. king of England; Oct. 14, Battle of
 Hastings, Harold slain; William the Conqueror
 assumes the kingship.
1086 Completion of Domesday Book.
1097 William I. (Rufus) king of England.
1091 Scotch invasion under Malcolm III.
1093 Anselm, archbishop of Canterbury; Malcolm killed
 First Crusade. [at the siege of Alinwick.
1097 Westminster Hall built.
1098 Edgar king of Scotland. [instituted.
1099 Capture of Jerusalem; Knights of St. John
 William II. killed in New Forest; Henry I.
 succeeded.
1118 Order of Knights Templars established.
1135 Stephen king of England.
1138 Battle of the Standard at Northallerton, David,
 king of Scotland defeated. [Winchester.
1141 Stephen taken prisoner; Matilda crowned at
 Matilda, defeated, retires to France.
1145 Henry II. king of England.
1146 Second Crusade. [Adrian IV.
1154 Nicholas Breakspere, an Englishman, Pope as
1162 a Becket, archbishop, Canterbury.
1170 Henry and a Becket reconciled; Dec. 26
 Assassination of a Becket
1173 Saladin sultan of Egypt; a Becket canonised.
1177 Saladin defeated by Renaud de Chatillon.
1180 Carthusian monasteries established in England.
1186 Guy of Lusignan made king of Jerusalem.
1187 Saladin takes Jerusalem; Third Crusade.
1188 Siege of Acre; Richard I. king of England.
1190 Richard embarks for the Crusade.
1191 Crusaders capture Acre. [Austria.
1192 Richard held captive by Leopold duke of
 Death of Saladin.
1198 Richard defeats French at Gisors.
1199 John king of England.
1202 Fourth Crusade; France and England at war.
1203 Crusaders conquer Constantinople; Prince
 Arthur murdered by John.
1208 Mogul empire founded.
1209 Franciscan order established.
1215 Magna Charta signed by John.
1216 Henry III. king; first Parliament in England.
1217 First Crusade.
1219 Crusaders capture Damietta.
1227 Thomas Aquinas b.
1238 Sixth Crusade.
1239 Jerusalem ceded to Christians.
1239 Henry III. marries Eleanor of Provence.
1243 Seventh Crusade.
1253 Jews driven out of France.
1266 Battle of Lewes, Barons victorious.

- A.D.**
1265 First British Commons meet; battle of Evesham, De Montfort killed.
1266 Roger Bacon presents his *Opus Majus* to Pope Clement IV.
1273 Edward I. king of England.
1282 "Sicilian Vespers" massacre; Edward I. conquers Wales.
1290 Jews expelled from England.
1293 First regular English Parliament.
1296 Edward I. subdues Scotland.
1297 Battle of Stirling, Wallace victorious.
1298 Battle of Falkirk, Edward I. defeats Wallace.
1299 Edward I. captures Stirling.
1305 Wallace executed in Smithfield.
1306 Robert Bruce king of Scotland.
1307 Edward II. king of England.
1313 Boccaccio b.; Edward Bruce besieges Stirling.
1314 Battle of Bannockburn.
1318 Edw. Bruce defeated and killed at Dundalk.
1324 Wycliff b.
1326 Edward III. king of England.
1329 David II. (Bruce) king of Scotland.
1332 Scotland invaded by Edward III.
1333 Edward III. defeats Scots at Halidon Hill.
1339 France invaded by Edward III. [Sluys.
1340 Edward obtains victory over French fleet at
 Battle of Crecy, Edward III. defeated French.
1347 Calais captured by the English.
1348 Black Death plague makes its appearance.
1357 Statute of laborers passed in England.
1360 Order of the Garter instituted.
1353 Rienzi made Senator of Rome
 Rienzi killed.
1356 Battle of Poitiers, English defeat French.
1359 Tamerlane in Persia.
1376 Edward I., Black Prince, d.
1377 Richard II. king of England.
1378 Halley's comet first noted.
1380 Thomas à Kempis b.
1381 Poll tax established in England; peasant rising
 under Wat Tyler.
1384 Death of Wycliff.
1385 Scots invade England, and Richard II. re-
 taliates by taking Edinburgh.
1389 Duke of Gloucester made Regent.
1397 Barons seize Tower of London.
1398 Another invasion of England by Scots; battle
 of Otterburn, Scots victorious.
1397 Duke of Gloucester murdered. [England.
1399 Richard II. deposed, Henry IV. king of
 Revolt in Wales headed by Owen Glendower.
1400 Scots defeat at Homildon Hill, Sept. 14.
1402 Battle of Shrewsbury, the Percys defeated.
1403 James I., king of Scotland, seized and im-
 prisoned in Tower of London.
1413 Henry V. king of England.
1414 Council of Constance.
1415 Capture of Harfleur; battle of Agincourt
 Henry V. takes Caen.
1420 Henry V. regent of France.
1422 Henry VI. king of France.
1424 James I. of Scotland liberated and crowned.
1428 English lay siege to Orleans.
1429 Joan of Arc enters Orleans.
1430 Joan of Arc made prisoner.
1431 Joan of Arc burnt at the stake.
1437 James I. of Scotland murdered.
1440 Printing invented; Iton College established.
1450 Jack Cade's insurrection.
1452 Savonarola b.; Leonardo da Vinci b.
1454 Duke of York proclaimed Protector.
1455 Wars of the Roses.
1460 Battle of Northampton, Henry VI. taken
 prisoner; Battle of Wakefield, Yorkists defeated,
 Duke of York killed.
1451 Second battle of St. Albans, Yorkists defeated;
 Edward IV. king of England; battle of Towton
 Field, Yorkists victorious.
1464 Battle of Hexham, Lancastrians defeated.
1466 Henry VI. confined in the Tower and deposed;
 Edward IV. king of England.
1467 Erasmus b.

- A.D.
1469 Marriage of Ferdinand of Aragon and Isabella of Castile; Machiavelli b.
1470 Edward IV. escapes to Burgundy.
1471 Edward IV. returns from Burgundy, and the battles of Barnet and Tewkesbury are fought, resulting in the victory of the Yorkists, and the deaths of Henry VI. and Warwick.
1475 Edward IV. invades France; Michael Angelo b.
1476 Caxton begins printing at Westminster.
1477 Titian b.
1478 Inquisition established in Spain.
1483 Edward IV. d. and was succeeded by his son Edward V., who only reigned two months and 13 days, having been confined in the Tower and murdered, Richard III. succeeding; Raphael b.
1485 Aug. 22, Battle of Bosworth Field, Richard III. slain; Henry VII. king of England.
1488 Lambert Simnel Rebellion.
1492 Ferdinand II. captures Granada and drives the Moors from Spain; Columbus sails on his first expedition, Aug. 23; Henry VII. invades France; Perkin Warbeck in Ireland.
1494 Columbus discovers Jamaica.
1496 Perkin Warbeck rebellion in England.
1497 The Cabots discover Newfoundland; Vasco di Gama doubles the Cape of Good Hope.
1498 Savanorola put to death; third voyage of Columbus, touches the mainland of the American continent; Vasco di Gama discovers sea route to India.
1499 Perkin Warbeck executed.
1500 Discovery of Brazil.
1502 Fourth voyage of Columbus.
1506 Death of Columbus; foundation stone of St. Peter's, Rome, laid.
1509 Henry VIII. king of England, April 22.
1510 Spaniards take Cuba; Luther goes to Rome.
1513 Battle of Flodden; Scots defeated.
1514 Wolsey archbishop of York, (and chancellor).
1515 French invade Italy; Wolsey made cardinal.
1519 Cortez conquers Mexico.
1521 Luther excommunicated; Henry VIII. opposes Lutheran ideas, Magellan discovers the Philippines.
1526 Tyndale's New Testament published.
1527 The Imperialists capture Rome and make a prisoner of the Pope.
1528 Conquest of Peru.
1529 Fall of Wolsey.
1530 Confession of Augsburg; Death of Wolsey.
1534 Act of Supremacy passed and the Papal power in England abolished.
1535 Maid of Kent executed; Barbarossa captures Tunis; Loyola founds Jesuits; Charles V. captures Tunis from Barbarossa.
1536 Death of Catherine of Aragon; Anne Bolcyn executed May 19; Henry marries Jane Seymour May 30; Wales united to England; dissolution of smaller monasteries.
1537 Death of Jane Seymour; Plina in eruption.
1538 Parish registers established in England; Pope Paul III. excommunicates Henry VIII.; "Great" Bible published.
1539 Revolt of Ghent; general dissolution of monasteries in England.
1540 Henry VIII. marries Anne of Cleves Jan. 6; Henry marries Catherine Howard July 28.
1542 Catherine Howard executed, Council of Trent; Mary Queen of Scots b. Dec. 14; Copernicus d.; Henry VIII. marries Catherine Parr.
1544 Henry VIII. invades France.
1545 Diet of Worms; needles first made in England.
1547 Earl of Surrey executed; Edward VI. king of Eng. Jan. 28; Somerset made Protector.
1549 Act of Uniformity.
1551 Another Council of Trent.
1552 Somerset executed; Charles V. besieges Metz.
1553 Mary Tudor queen of England, July 6; Lady Jane Grey proclaimed, July 10.
1554 Wyatt's insurrection; Lady Jane Grey executed; Mary marries Philip of Spain.
1555 Diet of Augsburg.
1556 Cranmer burnt at stake; Cardinal Pole archbp. Canterbury; Ridley and Latimer burnt.

- A.D.
1557 Battle of St. Quentin, Aug. 10, French defeated by English and Spanish forces.
1558 Calais taken by French; Mary Queen of Scots marries the Dauphin; Death of Charles V., Nov. 17; Elizabeth queen of England.
1559 John Knox returns to Scotland from France.
1560 Reformation established in Scotland.
1561 Mary Queen of Scots returns to Scotland.
1562 English occupy Havre.
1563 Council of Trent renewed; Church of England's 39 articles settled; Duc de Guise assassinated.
1564 Shakespeare b.; Calvin d.
1565 Mary Queen of Scots marries Darnley.
1566 Pius V. Pope; murder of Rizzio; revolt of the Netherlands.
1567 Murder of Darnley (Feb. 10); Mary Queen of Scots marries Bothwell (May 15); Mary forced to resign in favour of her son James VI.; Mary imprisoned, Murray made Regent.
1568 Revolt of Moors in Spain; Mary Queen of Scots escapes to England; death of Don Carlos.
1569 Battle of Jarnac, Huguenots defeated, and Condé killed.
1570 Regent Murray assassinated.
1571 Holy League against Turks.
1572 Duke of Norfolk executed; massacre of St. Bartholomew, Aug. 24; death of John Knox.
1573 Siege of La Rochelle.
1577 Drake's first voyage round the world.
1580 Spain annexes Portugal.
1581 Regent Morton executed.
1584 Virginia discovered and colonised.
1585 Drake sets out for West Indies.
1586 Babington's plot against Elizabeth; battle of Zutphen, Spaniards defeated by English and Dutch; Sir Philip Sidney receives death wound; trial of Mary Queen of Scots.
1587 Mary beheaded, Feb. 8; Drake's expedition against Cadiz; Davis's Straits discovered.
1588 Spanish Armada leaves Lisbon June 1; defeat of Spanish Armada; Gold discovered.
1589 Death of Catherine de Medici; Henry IV. of Navarre king of France.
1590 Battle of Ivry, League defeated by Henry IV.; Henry IV. lays siege to Paris.
1591 Maurice captures Zutphen and Deventer.
1592 Henry IV. captures Dreux.
1594 Henry IV., crowned at Chartres; Tyrone rebellion.
1596 Spaniards take Calais; France and England join forces against Spain; English and Dutch capture Calais.
1598 Edict of Nantes, granting toleration to Protestants in France.
1599 Oliver Cromwell born.
1600 Gowrie Conspiracy to dethrone James VI. of Scotland; English East India Co. formed.
1603 Death of Queen Elizabeth, James VI. of Scotland succeeds as James I.; England and Scotland thus united.
1604 Hampton Court Conference between Church prelates and Puritans.
1605 Gunpowder plot; *Don Quixote* published.
1607 Dutch destroy Spanish fleet at Gibraltar.
1609 Catholic League formed.
1610 Henry IV. assassinated by Ravallac; Louis XIII. king of France.
1611 Gustavus Adolphus king of Sweden; Ulster plantation; baronets first created.
1613 Romanoff dynasty founded in Russia.
1615 Annabel Stuart dies in the Tower; Louis XIII. marries Anne of Austria.
1616 Death of Shakespeare.
1618 Raleigh executed; Thirty Years' War begins.
1620 Treaty of Ulm, by which the Elector Frederick lost Bohemia; Spinola invades Palatinato; "Pilgrim Fathers" land in New England in *Mayflower*, Dec. xth.
1622 Spanish marriage treaty broken.
1624 Monopolies declared illegal in England; Barbados colonised by English; Virginia becomes a Crown Colony.

- A.D.
1635 Charles I. king of England; Charles marries Henrietta of France; English attack on Cadiz; parliament dissolved by Charles I.
1636 Buckingham impeached; Charles I. dissolves his second parliament.
1637 Siege of Rochelle.
1638 Cromwell enters parliament for Huntingdon; Petition of Right; Buckingham assassinated; Richelieu takes Rochelle.
1639 Charles I. dissolves his third parliament.
1640 Italy invaded by Richelieu, Germany invaded by Gustavus Adolphus; death of Spinola.
1641 France and Sweden in alliance against Germany; Magdeburg taken by Tilly; battle of Leipzic, Gustavus defeats Tilly.
1642 Death of Tilly; Gustavus seizes Munich and Nuremberg; battle of Lutzen, Gustavus is slain but victorious; Christina becomes queen of Sweden.
1643 France annexes Lorraine; assassination of Wallenstein; Charles I. demands ship-money; East Anglian fens reclaimed.
1643 Rebellion in Scotland.
1640 Charles I. dissolves Short Parliament; Long Parliament meets.
1641 Trial and execution of Strafford; Star Chamber abolished; rebellion in Ireland; the Grand Remonstrance; coffee first used in England.
1642 Charles I. orders the arrest of the Five Members; Charles sets up his standard at Nottingham; Cinquemars executed; death of Richelieu; Charles I. occupies Oxford; New Zealand and Tasmania discovered; battle of Worcester, Sept. 23, Rupert victorious; battle of Edgehill, Oct. 23.
1643 Louis XIV. king of France; Anne of Austria Regent; Mazarin first Minister; death of Hampden; Charles I. besieges Gloucester; Rupert captures Bristol; battle of Newbury, Falkland killed.
1644 Laud tried and condemned; battle of Marston Moor, July 2, Rupert defeated; second battle of Newbury.
1645 Laud beheaded; battle of Naseby, Royalists defeated; Charles I. surrenders to Bristol.
1646 Charles I. surrenders to Scots; Oxford surrendered to Roundheads.
1647 Charles I. surrendered to Parliament, taken prisoner at Holmby House, June 4.
1648 Battle of Preston, Cromwell victor; Fairfax occupies Colchester; end of Thirty Years' War; "Rump" Parliament elected.
1649 Execution of Charles I. Jan. 30; Commonwealth declared, May 19; Cromwell captures Drogheda and Wexford.
1650 Montrose's rebellion; execution of Montrose; Cromwell defeats Lesley at Dunbar.
1651 Charles II. invades England, battle of Worcester, Charles defeated, flies to France; Navigation Act passed.
1652 England at war with Dutch; Dunkirk captured by Spanish; Blake's victory over Dutch.
1653 Blake defeats Van Tromp; Cromwell dismisses "Rump" Parliament; Cromwell made Lord Protector.
1654 England and Holland at peace; Scotland incorporated with England; Christina of Sweden abdicates.
1655 Cromwell dissolves Parliament; Jamaica captured by British.
1656 Warsaw surrendered to Poles, afterwards retaken by Charles and the Great Elector; Blake takes Spanish treasure fleet off Cadiz.
1657 Cromwell takes the English town.
1658 Turenne takes Dunkirk; death of Cromwell; Richard Cromwell named Protector.
1659 Richard Cromwell resigns.
1660 General Monk occupies London; Charles II. proclaimed May 8.
1661 Bodies of Cromwell, Ireton, and Bradshaw exhumed and thrown into Tyburn.
1662 Act of Uniformity passed; Charles II. marries Catharine of Braganza; Nonconformist clergy deprived of their livings.
- A.D.
1664 England and Holland at war; Conventicle Act passed; New Amsterdam (New York) captured by British.
1665 Great plague in London; *London Gazette* first issued; Five Mile Act passed.
1666 France declares war against England; Dutch fleet defeated off North Foreland, July 25; Great Fire of London.
1667 De Ruyter's fleet in the Thames; war with Holland ended; "Cabal" ministry; Clarendon impeached; "Paradise Lost" issued.
1668 Triple Alliance (England, Holland, and Sweden) against France; Bombay ceded to East India Co.
1670 Second Conventicle Act; Hudson's Bay Co. formed.
1672 France and England form treaty; Declaration of Indulgence to Nonconformists; England and France join forces against the Dutch.
1673 Withdrawal of Declaration of Indulgence.
1674 England and Holland at peace; Sobieski king of Poland.
1677 Prince of Orange defeated at Castel by French; Princess Mary of England marries William of Orange. [Act passed.]
1678 English and Dutch alliance; Habeas Corpus.
1679 Monmouth obtains victory over Covenanters at Bothwell Bridge.
1680 Stafford executed.
1681 William Penn receives grant of Pennsylvania.
1682 Algiers bombarded by French; Peter the Great and Ivan V. Joint-Czars of Russia.
1683 Rye House plot.
1685 Death of Charles II., James II. succeeds, Feb. 6; Monmouth insurrection; Argyll executed, June 30; battle of Sedgemoor; Monmouth defeated and captured July 6; Monmouth executed July 25; Judge Jeffreys opens the "Bloody Assize," Aug.; revocation of the Edict of Nantes.
1686 Test Act suspended.
1687 Declaration of Indulgence.
1688 Fresh Declaration of Indulgence by James; trial of seven bishops; William of Orange lands at Torbay, Nov. 5; James II. abdicates and flies to France, Dec. 11; Stuyvesant destroyed by earthquake.
1689 William and Mary proclaimed k. and q. of England, Feb. 13; James II. lands in Ireland; March; James besieges Londonderry, April 20, relieved, July 30; Toleration Act passed; battle of Killiecrankie; July 27; Bill of Rights passed.
1690 English and Dutch fleets defeated by French off Beachy Head; battle of the Boyne, July 1; William defeated James; William lays siege to Limerick.
1691 Nonjuring bishops deprived of their sees; Limerick capitulates Oct. 3.
1692 Massacre of Glencoe, Feb. 13; battle of La Hogue, May 29; battle of Steunkirk, Aug. 3.
1694 Bank of England incorporated.
1695 William III. captures Namur.
1696 Plot to kill William III.; death of Sobieski.
1697 Charles XII. king of Sweden; Peace of Ryswick; Peter the Great in England.
1701 Frederick III. king of Prussia; Marlborough goes to Holland as commander-in-chief; war of the Spanish Succession begins.
1702 Hanoverian Act of Settlement passed; death of William III., Mar. 8; Anne, queen of Great Britain; England declares war against France and Spain; Marlborough takes Liège, Oct. 23.
1703 Battle of Pultusk, Swedes defeat the Poles; Marlborough takes Bonn.
1704 Admiral Rooke captures Gibraltar; battle of Blenheim, Aug. 13.
1705 Battle of Cassano; British invade and capture Barcelona; Charles XII. invades Silesia.
1706 Battle of Ramillies, May 22; French defeated by Marlborough; English enter Madrid, June 24; battle of Turin, Prince Eugene defeats French; English enter Milan.
1707 Scotch Parliament passes Act of Union; Charles XII. invades Russia; First Parliament of Great Britain Oct. 23.

- A.D.**
1706 Pretender James in Scotland; battle of Oudenarde, Marlborough victorious.
1709 Marlborough and Eugene take Tournay; battle of Malplaquet, Marlborough victorious; Allies take Mons.
1710 Allies take Douay; battle of Saragossa, Aug. 30; French defeated by Austrians.
1713 Frederick William I. king of Prussia; peace of Utrecht, Mar. 31.
1714 Death of Queen Anne; George I. king of England, Aug. 1.
1715 Fresh war between Prussia and Sweden; Riot Act passed; Louis XV. king of France; Jacobite rebellion; Walpole premier; battle of Sheriffmuir, Nov. 13; battle of Preston, Nov. 12, 13, rebels defeated.
1716 Lords Derwentwater and Kenmore executed.
1717 Triple Alliance, England, France, Holland; Eugene defeats Turks at Belgrade, Aug. 16.
1718 Spaniards invade Sicily; Quadruple Alliance, Gt. Britain, France, Holland, and the Emperor; England declares war against Spain.
1719 France at war with Spain; English capture Vigo, Oct. 21.
1720 Spain joins Quadruple Alliance.
1721 Gibraltar besieged by Spaniards; Peter II. Czar of Russia; George I. dies, George II. succeeds July 20.
1726 Peace between Britain, France, and Spain.
1733 Fred. Aug. II. of Poland died; France and Spain support Stanislas as his successor; Russia and the Emperor declare for Fred. Aug. Elector of Saxony and elect him; war results between France and the Emperor.
1734 Siege of Dantzic, French take Treves.
1735 Don Carlos king of Two Sicilies.
1738 Lorraine ceded to France.
1739 Nadir Shah defeats and captures Great Mogul; Turks besiege Belgrade; peace declared between Turkey and the Emperor; Engagements to war with
1740 Frederick the Great king of Prussia, [Spain].
1741 Battle of Mollwitz, Frederick defeats Austrians; Maria Theresa crowned queen of Hungary, June 25; Sweden declares war against Russia; Frederick takes Breslau; Ivan VI. deposed, Elizabeth Petrovna made empress; Behning's voyage.
1742 Elector of Bavaria elected emperor as Charles VII.; Austrians take Munich; France declares war against Maria Theresa, Holland, and Great Britain.
1743 Austrians take Munich; battle of Dettingen, French defeated by George II.
1744 Charles Edward makes attempt to enter England, but is frustrated; Louis XV. declares war against Great Britain; French capture Munich, Oct. 16; Frederick captures Prague, Sept. 16.
1745 Battle of Fontenoy (Cumberland defeated); British capture Cape Breton; Charles Edward lands in Scotland, July 23; battle of Preston Pass, rebels victorious, Sept. 21; Pretender takes Carlisle, Nov. 15, retreats to Scotland, Dec. 20.
1746 Battle of Falkirk, Jan. 17 (rebels victorious); battle of Culloden, April 16 (rebels defeated and rebellion crushed by Cumberland); Marshal Saxe takes Antwerp; Lords Kilmarnock and Balmerino executed; French capture Madras.
1747 French fleet defeated by Anson off Cape Finisterre, May 14; French invade Brabant; execution of Lord Lovat; Nadir Shah murdered; Pretender escapes to France; Hawke defeats French fleet off Belle Isle, Oct. 14.
1748 French capture Maestricht; peace concluded at Aix-la-Chapelle; Afghans invade India.
1749 English regain Madras.
1751 Clive captures Arcot, Aug. 31.
1752 Great Britain adopts New Style Calendar.
1756 British expedition against French in Canada fails; Lisbon earthquake; eruption of Etna.
1756 Great Britain declares war against France; French defeat Admiral Byng off Minorca, May 20; Calcutta taken by Suraja Dowla, June 18; "Black Hole" atrocity; Seven Years' War begins; Frederick defeats Austrians at Lowosutz, Oct. 1.

- A.D.**
1757 British recapture Calcutta, Jan. 2; Admiral Byng shot, Mar. 14; Clive victorious at Plassey, June 23; French take Minden, Aug. 3.
1758 Russians invade Prussia; French take Arcot, Oct. 4; Prussians defeated at Hochkirchen, Oct. 14.
1759 British capture Surat, Mar. 2; battle of Minden (Aug. 1) French defeated; Charles III. king of Spain; Boscawen defeats French fleet at Lagos, Aug. 18; battle of Quebec; death of Wolfe after complete victory over Montcalm, who was also killed; Hawke's victory over French in Quiberon Bay.
1760 British re-capture Arcot; Canada conquest completed; Russians enter Berlin; death of George II., George III. succeeds, Oct. 25.
1763 Great Britain declares war against Spain, Jan. 2; British take Martinique; Prussia makes peace with Russia, May 5; Czar Peter III. deposed and succeeded by Catherine II.; British capture Havana.
1763 Great Britain, France, Spain and Portugal sign a Treaty of Peace at Paris, Feb. 10, ending the Seven Years' War; John Wilkes arrested.
1764 Second Pitt Administration, Aug. 2.
1767 Corsica surrendered to France by Genoa.
1768 Wilkes elected M.P. for Middlesex.
1769 The first letter of "Junius" appears, Jan.
1770 Lord North Prime Minister; Captain Cook discovers New South Wales.
1772 Treaty for partition of Poland between Russia, Austria, and Prussia; Warren Hastings appointed Governor of Bengal; Cook's second voyage round the world.
1773 Strong opposition to the Tea Tax in Boston.
1774 Boston Harbour closed until restitution made for tea destroyed; Warren Hastings made first Governor-General of India.
1775 Battle of Lexington April 19, Cape victorious. Washington assumes command of American army; battle of Bunker's Hill, June 17, and of Long Island, August 27, Americans defeated in both engagements; Washington lays siege to Boston.
1776 British troops retire from Boston, March 17; Declaration of American Independence, July 4; British troops in New York, Sept. 15; battle of Trenton, Dec. 26.
1777 Battle of Brandywine, Sept. 21; Washington defeated by General Howe, who a few days later takes Philadelphia; Battle of Germantown, Oct. 4. Burgoyne victorious; battle of Saratoga, Oct. 7. Burgoyne forced to surrender.
1778 France recognizes American Republic, Jan. 16; Death of Earl of Chatham, May 21; siege of Gibraltar; France declares war against Great Britain, July 19; British capture Samaná, Dec. 26.
1779 Capt. Cook killed at Owhyhee, Feb. 14; Spain declares war against England, June 16.
1780 Rodney's victory over the Spanish fleet off Cape St. Vincent, Jan. 16; Charleston captured by the British, who took 6,000 prisoners; Gordon riots in London.
1781 Spaniards lay siege to Gibraltar from April to November without success; French conquered by Spaniards; Lord Cornwallis occupies Yorktown, Aug. 1; Washington captures Yorktown, Oct. 19.
1783 Rodney defeats French fleet off Dominica, April 12; loss of the Royal George, Aug. 29; British troops retire from Charleston; American Independence acknowledged by Britain, Nov. 30.
1783 Fox and North's Coalition Ministry; peace established between England and U.S. Sept. 3, at Paris, and on the same date Great Britain, France, and Spain agree upon terms of peace; Coalition Ministry defeated and Pitt appointed Prime Minister.
1786 Warren Hastings impeached; Lord Cornwallis Governor-General of India.
1788 Death of Prince Charles Edward; Times first published, Jan. 1; trial of Warren Hastings opens Feb. 13.
1789 Mutiny of the "Bounty," April 28; Washington elected first President of U.S.; French Revolution began; Bastille in Paris destroyed, July 14.

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1791 Death of John Wesley, March 2; death of Mirabeau, April 2; Louis XVI. escapes from Paris, June 20, but discovered and brought back the following day; New French Constitution adopted by National Assembly, Sept. 3.

1793 Gustavus III. assassinated, March 16; slavery abolished in St. Domingo, April 4; attack on the Tuileries, Aug. 10; French royal family imprisoned in the Temple; National Convention, Sept. 21; Royalty abolished in France and Proclamation of the Republic.

1793 Louis XVI. executed, Jan. 21; insurrection in La Vendée; Reign of Terror begins; Charlotte Corday assassinates Marat, July 13; she is executed four days later; death of Lord Mansfield; Lord Hood captures Toulon, Aug. 28; Marie Antoinette executed, Oct. 15.

1794 Polish insurrection under Kosciuszko; Danton executed, April 6; Lord Howe's victory over French off Brest; defeat of Robespierre and end of Reign of Terror, July 27.

1795 Warren Hastings acquitted, April 23; insurrection in Paris; Directory established, Aug. 22; British take possession of Cape of Good Hope; France annexes Belgium, Oct. 1.

1796 Battle of Lodi, Napoleon victorious; Napoleon enters Milan, May 25, Bologna, June 18; Spain declares war against England; Battle of Arcola, Napoleon victorious.

1797 Battle of Rivoli, Napoleon again victorious, Jan. 14; Mantua surrenders to Napoleon, Feb. 1; Rebellion in Ireland; Spanish fleet defeated by Jervis off Cape St. Vincent, Feb. 14; mutiny at the Nile; Napoleon enters Venice, May 16; vaccination introduced by Jenner.

1798 Rome occupied by the French, Feb. 20, and a Republic proclaimed; the French conquer Switzerland; Napoleon captures Malta, June 11, and in July invades Egypt; battle of the Pyramids, July 21; Napoleon victorious; battle of the Nile, Aug. 1-2, French fleet defeated by Nelson.

1799 French occupy Naples. Napoleon invades Syria, and storms Jaffa, March 7; lays siege to Acre (March 16 to May 21), but is repulsed; Seringapatam attacked by the British and Tippoo killed, May 4; battle of Almonk, July 25; Napoleon defeats Turks; French occupy Zurich; French Directory overthrown Nov. 9, and Napoleon made First Consul, Dec. 24; death of Washington, Dec. 14; Pitt imposes Income Tax.

1800 East India Co. obtains possession of Surat, May 13; Napoleon crosses the Great St. Bernard, May 17-20; battle of Marengo, June 14; Austrians defeated by Napoleon; Legislative Union of Great Britain and Ireland effected, July 2; British capture Malta, Sept. 5; battle of Hohenlinden, Dec. 3, Austria defeated.

1801 First Parliament of U.K., Jan.; Pitt resigns Feb. 5, is succeeded by Addington; battle of Alexandria, British victorious, Abercromby killed; Czar Paul murdered March 24, succeeded by Alexander I.; battle of Copenhagen, Nelson obtains complete victory over Danish fleet, April 2, French retire from Egypt; Treaty of peace between Great Britain and France, Oct. 1.

1802 Napoleon appointed First Consul for life, Aug. 3; France annexes Piedmont, Sept. 11.

1803 Dutch recover Cape of Good Hope; Napoleon sells Louisiana to U.S., April 30; Great Brit. declares war against France, May 18; insurrection in Ireland under Robt. Emmet.

1804 Code Napoleon published; Napoleon orders Duke of Enghien to be shot; Pitt again Prime Minister, May 12; Napoleon made Emperor, May 18; Napoleon and Josephine crowned by the Pope at Paris, Dec. 2; Spain declares war against Great Britain.

1805 Napoleon crowned king of Italy, May 26; battle of Trafalgar; Nelson's great victory and death, Oct. 21; French occupy Vienna, Nov. 13; battle of Austerlitz, Dec. 2; Napoleon defeats Austrians and Russians.

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1805 British re-occupy Cape of Good Hope; death of Pitt, Jan. 23; Administration of Grenville and Fox; England declares war against Prussia; death of Fox, Sept. 13; Napoleon occupies Berlin, Oct. 27, after battle of Jena; Berlin decree, by which Napoleon declared Great Britain in a state of blockade.

1807 Battle of Eylau, Feb. 7-8; slave trade abolished in British Empire; French occupy Dantzic, May 26; battle of Friedland, July 14; Russians defeated by Napoleon; Copenhagen bombarded by British, forces Danish fleet to surrender; dissolution of German Empire.

1808 Napoleon enters Rome, Feb. 2; Charles IV. of Spain abdicates, March 19; Murat occupies Madrid, March 22; Joseph Bonaparte, king of Spain, June 26; Murat king of Naples, July 15; Wellington (Welllesley) enters Spain, Aug. 1; Saragossa besieged from June 15 to Aug. 4, which raised; battle of Vimeira, British defeat French; Napoleon enters Madrid, Dec. 4.

1809 Battle of Corunna and death of Sir John Moore, Jan. 16; Gustavus IV. of Sweden deposed in favour of Charles XIII.; Soult takes Oporto, Mar. 20; Wellington crosses the Douro and enters Oporto, May 12; Napoleon occupies Vienna, May 13; Pope arrested, July 5, after excommunicating Napoleon; battle of Wagram, July 6, French defeat Austrians; battle of Talavera, July 27, British victorious; Walcheren expedition fails, July 28; France and Austria sign treaty of peace, Oct. 14; Josephine divorced, Dec. 12; Walcheren evacuated by the English.

1810 Ciudad Rodrigo stormed by British, Jan. 29; Napoleon and Maria Louisa married, April 1; Russians take Silistria, June 23; France annexes Holland after abdication of Louis Bonaparte; English take Mauritius, Dec. 3.

1811 Massacre of Mamelukes at Cairo, Mar. 1; French take Badajoz, Mar. 20; battle of Fuentes d'Onore, May 4-5; Wellington victorious; battle of Albuera, May 16, British defeat Soult; Luddite riots.

1812 Ciudad Rodrigo taken by Wellington, Jan. 19; storming of Badajoz by British, April 6; Liverpool Administration, June 8; war declared against Great Britain by United States, June 18; Napoleon declares war against Russia, June 22; battle of Salamanca, July 22, British victory; Napoleon occupies Madrid, Aug. 12; battle of Borodino, Sept. 7; French defeat Russians; burning of Moscow, Napoleon occupies the ruined city from Sept. 14 to Oct. 19.

1813 Execution of 14 Luddites at York, Jan. 20; battle of Lutzen, May 2, Napoleon checks Allies; battle of Vittoria, June 21, Wellington victorious; battles of the Pyrenees, July 28 to Aug. 2, Wellington defeats Soult; Wellington storms St. Sebastian, Aug. 31; France invaded by Wellington, Oct. 7; battle of Leipzig, Oct. 18-19, defeat of Napoleon.

1814 Norway ceded to Sweden, Jan. 14; battle of Orthes, Feb. 27; Wellington defeats Soult; allied sovereigns enter Paris; Napoleon deposed, March 21; battle of Toulouse, April 10, Wellington defeats Soult; Napoleon abdicates, April 11; Louis XVIII. king of France, Napoleon banished to Elba; peace of Paris, May 30; Belgium annexed to Holland; Washington occupied by General Ross, Aug. 24; peace between England and the United States, Dec. 24.

1815 Battle of New Orleans, Jan. 8th; British defeated; escape of Napoleon from Elba, Feb. 26; Napoleon at Cannes, March 1; Napoleon enters Paris, March 20; Murat surrenders; Naples to Ferdinand IV., May 20; Napoleon proclaims a new constitution, June 1; battle of Ligny, June 16, Blücher defeated; battle of Quatre Bras, June 16, defeat of Ney; battle of Waterloo, June 18, Napoleon defeated and overthrown; re-education of Napoleon, June 22; allies enter Paris, July 7; Restoration of Louis XVIII., July 5; Napoleon is placed on board the *Bellerophon*, July 25; Napoleon arrives at St. Helena, Oct. 16; Ney shot, Dec. 19.

1816 Algiers bombarded by Lord Exmouth, Aug. 26. **1817** Riots at Manchester, rioters scattered by military, March 11; death of Kosciuszko, Oct. 13; battle of Mehdupore, Dec. 21, Holkar defeated.

- AD**
1818 Bernadotte made king of Sweden (Charles XIV.), Feb. 6; royal marriages: Duke of Clarence (afterwards William IV.) with Princess Adelaide of Saxe-Meiningen, and Duke of Kent with Princess Mary of Saxe-Coburg, July 13; death of Queen Charlotte, Nov. 17.
1819 Florida ceded to U.S. by Spain, Feb. 22; Kotzebue murdered, March 23; Princess (afterwards Queen) Victoria b., May 24; great Reform meeting at Manchester dispersed by military ("Peterloo"), Aug. 17.
1820 Death of Duke of Kent, Jan. 23; death of George III., Jan. 30; George IV. succeeds; death of Gratton, May 14; Carbonari revolt in Naples, July 2.
1821 Austrians occupy Naples; Victor Emmanuel I. king of Sardinia abdicates in favour of his brother, Charles Felix, Mar. 23; Brazilian independence proclaimed, April 22; Napoleon dies at St. Helena, May 5; Provisional Government in Greece, Jan. 9; coronation of George IV., July 19; death of Queen Caroline, Aug. 7.
1822 Greek Declaration of Independence, Jan. 1; massacre of 40,000 persons at Scio by Turks, April-May; Greeks take Athens, June 22; Dom Pedro proclaimed emperor of Brazil, Oct. 12; Caledonian Canal opened, Nov. 1.
1823 French invade Spain, April 7; French bombard Cadiz, Sept. 20, and take it, Oct. 1.
1824 Bolivar becomes Dictator of Peru, Feb. 10; British take Rangoon, May 11; Louis XVIII. died; Charles X. king of France, Sept. 16.
1825 Navarino taken by Ibrahim Pasha, May 18; Nicholas I. Czar of Russia.
1826 France and England sign treaty of navigation, Jan. 26; Dom Pedro of Brazil becomes king of Portugal, Mar. 10; Menai Suspension Bridge opened, Jan. 30.
1827 April 12; kingdom of Greece founded, July 6; death of Canning, Aug. 8; Lord Goderich Premier, Aug. 11; death of Ugo Foscolo, Oct. 10; battle of Navarino, Turkish and Egyptian fleets destroyed.
1828 Goderich resigns, Jan. 8; Wellington Administration succeeds, Jan. 25; Russia declares war against Turkey, April 20; Dom Miguel king of Portugal; Ibrahim Pasha evacuates Greece, Oct. 4; Russians take Varna, Oct. 11; death of Lord Liverpool, Dec. 4; repeal of Test Act.
1829 Death of Leo XII., Feb. 10; Andrew Jackson President U.S.; duel between Wellington and Winchester, March 21; Pius VIII. Pope, March 31; surrender of Silistria, June 18; peace of Adrianople signed, Sept. 14.
1830 Death of George IV., William IV. succeeds, June 26; French take Algiers, July 5; revolution in Paris, flight of Charles X. (July 26), abdicates, Aug. 2; Louis Philippe proclaimed king of the French, Aug. 9; Belgian independence proclaimed, Oct. 4; Wellington resigns, Nov. 15; Grey Ministry succeeds; death of Pius VIII., Nov. 30.
1831 Gregory XVI. Pope, Feb. 2; Poles defeat Russians at Grochow, Feb. 26; Lord John Russell introduces the first Reform Bill, March 1; revolution in Brazil; Dom Pedro abdicates, April 7; Leopold I. king of the Belgians, June 4; coronation of William IV.; Bristol riots, Oct. 20; first epidemic of Asiatic cholera in England, Nov.; British Association founded.
1832 Poland annexed by Russia, Feb. 26; Reform Bill passed, June 7; Otto king of Greece, Aug. 30; French besiege Antwerp, Nov. 13, which surrenders, Dec. 24.
1833 Slavery abolished in British colonies, Bill passed, Aug. 25; Isabella II. queen of Spain, Sept. 20.
1834 Lord Melbourne, Premier, July 14; Houses of Parliament burned, Oct. 10; Sir K. Peel Premier, Dec. 8.
1835 Lord Melbourne again Premier, April 18.
1836 Thiers First Minister of Louis Philippe, Feb. 22; Louis Napoleon attempts a rising at Strassburg, Oct. 20.
1837 Death of William IV., Queen Victoria succeeds.
1838 Royal Exchange destroyed by fire, Jan. 10; National Gallery opened, April 9; coronation of Queen Victoria, June 28; "Great Western" steamer crosses the Atlantic.
- AD.**
1839 British occupation of Candahar, April 26; Chartist riots at Birmingham, July 15; Christian VIII. king of Denmark; gold discovered in Australia.
1840 Penny postage instituted, Jan. 10; Queen Victoria and Prince Albert married; Fred. Wm. IV. king of Prussia; Canton blockaded by British, June 28; Louis Napoleon's attempt to incite insurrection at Boulogne, Aug. 6; William II. king of Holland; Napoleon's remains transferred to Paris, Dec. 15.
1841 Second Peel Administration; Prince of Wales (Edward VII.) b., Nov. 9; armoury at Tower of London burnt.
1842 Massacre of British troops, in retreat from Cabul, Jan. 13; Khyber Pass captured by General Pollock, April 5-14; Great Chartist procession in London, and presentation of monster petition to Parliament, May 2.
1843 Battle of Meccene, Feb. 17, British defeat Afghans; Thames Tunnel opened, Mar. 25; annexation of Natal; Sindh annexed; Irish Rebellion of 1848; Connell arrested, Oct. 14; battle of Maharajpur, defeat of Maharrats, Dec. 29.
1844 Joseph Smith, founder of Mormonism, murdered June 27; Brigham Young succeeds him.
1845 Sir John Franklin's Arctic expedition sails, May 23; Maynooth College endowed, June 30; battle of Moodkee, Gough defeats Sikhs, Dec. 18; battle of Ferozeshah, Dec. 21, further defeat of Sikhs; famine in Ireland.
1846 Battle of Aliwal, Jan. 28; Sikhs defeated; battle of Sohraon, Feb. 10, Sikhs defeated by Gough; Louis Napoleon escapes from Ham, May 26; repeal of the Corn Laws, June 20; Sir R. Peel resigns, June 29; Lord John Russell Premier.
1847 Death of O'Connell, May 15; Earl of Dalhousie made Governor-General of India; Abdul-Kader surrenders, Dec. 22; Ten Hour Factory Bill passed.
1848 Civil disorders in California; general revolutionary movement throughout the Continent; riots at Milan, Messina, Munich, Paris, etc.; Louis Philippe abdicates and escapes to England, Feb. 24; French Republic proclaimed; monster meeting of Chartists on Kennington Common, April 10; Lombardy annexed by Sardinia, June 4; Louis Napoleon elected to National Assembly; insurrection in Paris; Louis Napoleon president French Republic, Dec. 20.
1849 Storming of Mooltan, Jan. 2; Republic proclaimed at Rome, Feb. 8; Charles Albert abdicates in favour of his son, Victor Emmanuel, March 24; French occupation of Civita Vecchia; Austrians occupy Leghorn, May 12; Rome besieged by French, June 3; Hungary invaded by Russians, June 17; Rome surrenders to French, July 3; Austrians take Venice, Aug. 22; Lake Nyanga discovered by Livingstone; repeal of the old Navigation Laws.
1850 Britannia Tubular Bridge opened March; submarine telegraph between England and France laid, Aug. 28.
1851 Great exhibition in Hyde Park, May to Oct.; Paris *comp. d'Etat*, Dec. 2; Louis Napoleon elected President of the French Republic for 10 years, Dec. 20.
1852 First Derby Administration, Feb. 27; British capture Rangoon, April 14, Brit. take Yegu, June 4; Paraguay independence recognised July 17; death of Duke of Wellington, Sept. 14, Louis Napoleon proclaimed Emperor, Dec. 2; Lord Derby resigns, Dec. 17; Lord Aberdeen's Ministry, Dec. 27.
1853 Napoleon III. marries Eugénie de Montijo, Jan. 29; Brit and French fleets in the Dardanelles; Russia and Turkey at war, Oct. 23; Turkish fleet destroyed off Sinope by Russians.
1854 Brit and French fleets enter the Black Sea, Jan. 4; war declared against Russia by France, March 27, Great Brit., March 28; allied fleets bombard Odessa, April 27; Crystal Palace opened, June 10; allied armies land in the Crimea, Sept. 14; battle of the Alma, Sept. 20; siege of Sebastopol begins, Oct. 17; battle of Balaklava, Oct. 25; battle of Inkerman, Nov. 5.
1855 Sardinia joins England and France against Russia, Jan. 26; first Palmerston Administration, Feb. 6; death of Czar Nicholas, March 2, ALEX.

- A.D.
 under II. succeeds; great exhibition in Paris, May to Oct.; newspaper stamp abolished, June 15; Malakoff and Redan stormed, Sept. 8; Russians defeated before Kars, Sept. 30; Kars capitulated, Nov. 28.
- 1856** Oudh annexed, Feb. 7; peace treaty signed at Paris, March 30; Chinese executed by allied armies, July 12; Persia declares war against India, Nov. 1; British bombard Canton, Nov. 3.
- 1857** Indian Mutiny breaks out; Persians defeated at Khooshab, Feb. 8; treaty of peace with Persia, March 4; mutineers at Lucknow, May 10-11, at Delhi, May 11, Meerut, May 10-11; Cawnpore massacre, July 15; Havelock occupies Cawnpore, July 17; Delhi stormed, Sept. 14; Relief of Lucknow, Sept. 25; Lucknow garrison rescued, Nov. 20; death of Havelock, Nov. 25; visit to England of emperor and empress of the French, Aug. 8; Canton captured by English and French, Dec. 28-29.
- 1858** Attempted assassination of Napoleon III. by Orsini and others, Jan. 14; *Great Eastern* launched, Jan. 31; Derby Ministry succeeds that of Palmerston, Feb.; siege of Lucknow, March 28-29, when captured; Queen Victoria and Prince Albert visit Napoleon III. at Cherbourg, Aug. 4-5; Atlantic cable's first message, Aug. 20; Crown assumes Government of India.
- 1859** Victor Emmanuel declares war against Austria, May 3; battle of Montebello, May 20, Austrians defeated; Garibaldi takes Como, May 27; battle of Magenta, Austrians defeated; Napoleon III. and Victor Emmanuel enter Milan, June 8; Lombardy annexed to Sardinia; Derby Ministry defeated, Palmerston succeeds, again; battle of Solferino, June 24, Austrians defeated; peace treaty signed at Villafranca, where Nap III. and Emp'r Franc. Joseph, July 11, Chinese repulse British, June 25; Harper's Ferry insurrection, Oct. 17; John Brown hanged, Dec. 2.
- 1860** Treaty of commerce between Great Britain and France signed, Jan. 23; Tuscany annexed to Sardinia, Mar. 22; Savoy and Nice ceded to France, Mar. 24; Garibaldi enters Palermo, May 27; *Great Eastern's* first trip across Atlantic, June 17-17; Prince of Wales (Edward VII.) visits Canada and the United States; French and English forces occupy Tientsin, Aug. 23; Garibaldi occupies Naples and proclaims Victor Emmanuel king of United Italy, Sept. 6; battle of Volturno, Garibaldi defeats Neapolitans, Oct. 1; treaty of peace with China, Oct. 24; Two Sicilies annexed to Sardinia, Nov. 3; S. Carolina secedes from Union, Dec. 20, first English ironclad (*The Warrior*) launched.
- 1861** William I. king of Prussia, Jan. 2; further secession of American States—Mississippi, Jan. 9; Florida, Georgia, Alabama, Louisiana, and Texas followed between Jan. 10 and Feb. 1; Confederate States proclaimed with Jeff. Davis Pres., Feb. 4; Abraham Lincoln Pres. U.S.; Victor Emmanuel recognised as king of Italy, March 17; Confederates capture Fort Sumter, April 13; Virginia joins Confederate States, April 17; Arkansas, Tennessee, and N. Carolina secede, May 6, 8, 20; Southern ports blockade, April 10; death of Count Cavour, June 6; Great Britain and France recognise Confederate States as belligerents, June 15; Jeff. Davis elected President Confederate States for six years; death of Prince Albert, Dec. 14.
- 1862** Fight between *Merrimac* and *Monitor*, March 9; second great exhibition S. Kensington, May 1-Nov. 1; battle of Williamsburg, May 5, Confederates victorious; *Alabama* leaves New Zealand, Mersey, July 20; Garibaldi captured at Aspromonte, Aug. 29; second battle of Bull Run, Aug. 30; Federals defeated; battle of South Mountain, Sept. 14, Confederates defeated; cotton famine in Lancashire.
- 1863** Slavery abolished in U.S. by proclamation of President Lincoln, Jan. 1; Ismail Pasha khedive of Egypt, Jan. 28; Irish rebellion, New Zealand; Prince of Wales (Edward VII.) marries Princess Alexandra of Denmark, March 10; Prince George of Denmark elected king of Greece, March 18; French in Mexico, General Forey enters city of Mexico, June 10; Vicksburg surrendered to General Grant, July 4; battle of Gettysburg, July 1-3; Maximilian of Austria made emperor of Mexico, July 10; battle of Chantanooga, Confederates defeated, Nov. 24.
- 1864** Sir J. Lawrence Viceroy of India, Jan. 12; German ultimatum to Denmark on Schleswig-Holstein question, Jan. 16; Holstein entered by German army, Jan. 21; Prussians take Duppel, April 28; war suspended May 12, resumed June 26; peace signed Oct. 30; *Alabama* sunk off Cherbourg by *Kearsage*, June 19; Federal army enters Atlanta, Sept. 2; General Sherman captures Savannah, Dec. 21; Geneva Convention originated.
- 1865** President Lincoln elected for second term; death of Cobden, April 21; surrender of General Lee to Grant, April 9; Lincoln assassinated, April 14; Jeff. Davis captured, May 10, war ends; death of Palmerston, Oct. 18; Earl Russell Premier, Oct. 19; death of Leopold I., king of Belgians, Leopold II. succeeds, Dec. 10.
- 1866** Bank of England Charter Act suspended, May 11; Fenian raids in Canada, May 31, June 7; demobilisation of Prussian army demanded by Austria, April 9; Prussians enter Saxony and Hanover, June 15; Austria declares war, June 17; Prussia and Italy do the same, June 18-20; battle of Custoza (June 24), Austrians defeat Italians; battle of Sadowa (July 3), Austrians defeated by Prussians; Austria surrenders Venetia to France, July 5; Prussians take Frankfurt, July 10; battle of Liess, July 20; Italians defeated by Austrians in naval fight; Prussia and Austria sign treaty of peace, Aug. 27; peace signed between Austria and Italy, Oct. 3; Venetia annexed to Italy, Nov. 4; French evacuate Rome, Dec. 3-11.
- 1867** Schleswig-Holstein annexed to Prussia, Jan. 24; ships pass through the Suez Canal; 1rench retire from Mexico, March 20; Emperor Maximilian of Mexico shot, June 19; Dominion of Canada established, March 29; N. German Constitution formed, June 15; Garibaldi advances on Rome, Oct. 26; French enter Rome, Oct. 30; Garibaldi taken at Mentana, Nov. 3; British Abyssinian expedition.
- 1868** Resignation of Lord Derby, Disraeli succeeds, Feb. 20; Magdala taken and K. Theodore committed suicide, April 13; Michel III. of Servia assassinated, June 10; succeeded by Prince Mihail, July 4; Isabella II. escapes from Spain, and her deposition declared, Sept. 29; provisional Government formed; Disraeli resigns, Dec. 2; Gladstone's Ministry succeeds, Dec. 9; Lord Mayo Viceroy of India.
- 1869** General Grant, President U.S.; Hudson Bay Territory added to British America, April 9; Serrano becomes Regent of Spain, June 18; Irish Church disestablished, Act passed, July 26; Suez Canal formally opened, Nov. 17.
- 1870** Death of Dickens, June 9; Isabella II. formally abdicates, June 25; Spanish Government propose to grant kingship to Leopold of Hohenzollern, July 4; French Government express disapproval, July 6; France declares war against Prussia, July 19; French take Saarbrück, Aug. 2; Battle of Wörth, Aug. 6; French defeat at Gravelotte, Aug. 18; French defeat at Battle of Sedan, Sept. 1, and surrender of Napoleon III. and his army, Sept. 2; 25,000 French were taken prisoners in the battle and 83,000 surrendered; Napoleon III. taken a prisoner to the castle of Wilhelmshöhe, Sept. 5; Republic proclaimed in Paris, Sept. 4; Empress escapes to England; Germans besiege Paris, Sept. 19; Streptburg surrenders, Sept. 28; Rome and Papal States annexed to kingdom of Italy, Oct. 28; Communist insurrection in Paris, Oct. 31; Germany proclaimed an united empire, Dec. 10; death of Alexander Dumas, Dec. 5; Duke of Aosta elected king of Spain, Nov. 16; Marshal Panl assassinated, Dec. 28; Irish Land Act passed, Aug. 2.
- 1871** William I. of Prussia proclaimed emperor of Germany, Jan. 18; Paris capitulates, Jan. 28; National Assembly at Bordeaux, Feb. 12; Thiers First Minister; Peace preliminaries confirmed, Mar. 1; National Assembly at Versailles, Mar. 20; Commune proclaimed, Mar. 28; formal treaty of

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 peace concluded, May 21; Communists destroy
 Tuileries, Hotel de Ville, Vendôme Column, and set
 fire to Louvre, Palais Royal, and other Parisian public
 buildings, May 24; Archbishop of Paris shot, May
 24; Government troops enter Paris, and crush Com-
 munist, May 28; Thiers made President of the
 Republic, Aug. 31; Purchase system abolished in
 British army, July 30; Mont Cenis Tunnel opened,
 Sept. 17; Great Fire at Chicago, Oct. 8-10; Tich-
 borne trial from May 11 to March 6, 1872. Claimant
 non-suited.
- 1872 Earl Mayo assassinated, Feb. 8; Lord North-
 brook succeeds him as Viceroy of India, Feb. 22;
 death of Mazzini, Mar. 20; fresh commercial treaty
 between England and France, Nov. 5; Alabama
 Convention at Geneva on Sept. 14 award damages
 over £3,000,000 to U.S.A.
- 1873 Death of Napoleon III., Jan. 9; General Grant
 President U.S. (2nd term); death of Dr. Livingstone,
 May 4; Marshal MacMahon succeeds Thiers as
 President of the French Republic, May 24; Ashantee
 War; Shah visits England, June 28; July 5; Alabama
 claims paid, Sept. 9; Marshal Bazaine tried and
 sentenced.
- 1874 British capture Commaise, Feb. 4; Gladstone
 Ministry resigns, Feb. 17; Disraeli succeeds, Feb. 18;
 Tichborne claimant sentenced to 14 years' imprison-
 ment for perjury, after a trial lasting 188 days, Feb.
 28; Czar Alexander II visits England, May 13-21;
 Marshal Bazaine escapes from prison, Aug. 9;
 Alfonso (son of Isabella II.) declared king of Spain.
- 1875 Prince of Wales (King Edward) left England
 for Indian tour, Oct. 11; England purchased
 Khedive's shares in the Suez Canal, Jan. 26.
- 1876 Prince of Wales in Calcutta, Jan. 1; Phila-
 delphia Exhibition, May-Oct., Bulgarian massacres,
 Sultan Abdul Aziz deposed, May 29; Disraeli
 becomes Earl of Beaconsfield, Aug. 16.
- 1877 Col. Gordon made Governor of the Sudan,
 Feb. 12; Diaz formally proclaimed President of
 Mexico, Feb. 18; Transvaal annexed to British
 Empire, April 12; Russia declares war against
 Turkey, April 24; Rumania declared independent,
 May 21; Russians repulsed at Plevna, July 30; fall of
 Plevna, Dec. 10.
- 1878 Death of King Victor Emmanuel, Jan. 9;
 Russians take Adrianople, Jan. 20; Cleopatra's
 Needle arrives in London, Jan. 21; Paris Exhibition,
 May to Oct.; Berlin Congress; Cyprus ceded to
 England; Princess Alice steamer sunk in Thames,
 700 lives lost; failure of City of Glasgow Bank; Mar-
 quis of Lome Governor-General of Canada, war with
 Afghanistan; death of Princess Alice, Dec. 4.
- 1879 Gen. Roberts occupies Kandahar, Jan. 8; war
 in Zululand, Isandula and Rorke's Drift, Jan. 22;
 Alexander of Battenberg elected prince of Bulgaria,
 April 29; Prince Louis Napoleon killed in Zululand,
 June 1; Khedive Ismail Pasha deposed, Tewfik
 succeeds, June 20; death of Lord Lawrence, June
 27; battle of Ulundi, July 4; Cetewayo captured,
 Aug. 28; Cavagnari and his escort massacred by
 Afghans, Sept. 3; Gen. Roberts occupies Cabul, Oct.
 12; Gladstone's Mullerthann campaign, Nov.; Tay
 Bridge destroyed, Dec. 28.
- 1880 Beaconsfield Ministry succeeded by Gladstone
 Ministry, April 23; Garfield President U.S., Nov. 2;
 Parnell arrested for conspiracy, Nov. 3; Transvaal
 declared a Republic, Dec. 16.
- 1881 Parnell conspiracy trial ends, Jan. 25, jury
 disagree; British defeat at Lang's Nek, Jan. 28;
 battle of Magersburg, Feb. 27; assassination of
 Czar Alexander II., Mar. 13; Peace arranged with
 Boers, Mar. 22; death of Lord Beaconsfield, April
 19; President Garfield shot, July 2, d. Sept. 20;
 Transvaal Convention signed, reserving British
 suzerainty, Aug. 3.
- 1882 Arabi Pasha Egyptian War Minister, Feb. 2;
 Servia proclaimed a Kingdom, March 6; assassina-
 tion of Lord Curzon and Mr. Burke in
 Phoenix Park, May 6; Alexandria bombarded, July
 11; British military expedition to Egypt under com-
 mand of Sir G. Wolsley; battle of Tel-el-Kebir,
 Sept. 13; Cairo occupied by British troops, Sept. 14.
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 Arabi Pasha made prisoner, and (Dec.) banished from
 Egypt.
- 1883 Phoenix Park murderers arrested on evidence
 of James Carey, Feb.; Royal Coll. of Music opened,
 May 7; Fisheries Exhibition in London, May-Oct.;
 trial and condemnation of Phoenix Park murderers
 (April), five of whom were hanged; Lord Lansdowne,
 Gov.-Genl of Canada; Capt. Webb drowned at Ni-
 agara, July 24; Carey the informer murdered, July
 29; Mahdi's forces destroy Hicks Pasha's army, Nov.
 3; tribute of £38,000 presented to Parnell in Dublin.
- 1884 Gen. Gordon starts for Khartoum, Jan. 18;
 death of Cetewayo, Feb. 8; death of Duke of Albany,
 Mar. 8; Health Exhibition in London, May-Oct.;
 Lord Wolsley heads an expedition to Khartoum to
 rescue Gordon.
- 1885 Battle of Abu Klea, Col. Burnaby killed, Jan.
 17; Khartoum captured, Gordon slain, Jan. 26;
 Inventions Exhibition in London, May-Oct.; Glad-
 stone resigns, June 23; Lord Salisbury succeeds;
 King Theobald of Burma surrenders to British, Nov.
- 1886 Upper Burma annexed, Jan. 1; Salisbury
 Government defeated; Gladstone again Premier,
 Jan. 28-Feb. 12; Indian and Colonial Exhibition in
 London, May-Oct.; Home Rule Bill defeated in
 Commons, June 8; King Ludwig of Bavaria commits
 suicide, June 15; General Election, Conservative
 majority, Lord Salisbury again Premier.
- 1887 H. M. Stanley sets out on Emin Pasha relief
 expedition, Jan.; Queen Victoria's Jubilee celebra-
 tion, June 21.
- 1888 Lord Dufferin resigns Viceroyalty of India;
 Lord Lansdowne succeeds, Feb. 8; death of
 Emperor William I., March 9; death of Emperor
 Frederick, June 15; William II. succeeds; Parnell
 Commission opened, Oct. 22.
- 1889 Tragic death of Prince Rudolf of Austria,
 Jan. 30; Milan of Servia abdicates, March 6; Paris
 Exhibition, May-Oct.; Shah visits England, July;
 Princess Louise of Wales and Duke of Fife married,
 July 27; great London dock strike, Aug. 15-Sept. 16;
 Republic proclaimed in Brazil, Dom Pedro deposed;
 Parnell Commission concludes sittings, Nov. 22
 (29th day); disappearance of Pigott after confessing
 forgery; death of Lord Dufferin, Dec. 6.
- 1890 Opening of Fort Bridge, March 4; Bismarck
 resigns, March 27; Caprivi succeeds; H. M. Stanley
 returns from Emin Pasha expedition, April 26;
 Heligoland ceded to Germany, Aug. 9.
- 1891 German Emperor and Empress visit England,
 July 4; death of Parnell, Oct. 6.
- 1892 Death of Duke of Clarence, Jan. 24; death of
 Cardinal Manning, Jan. 14; death of Spurgeon,
 Jan. 31; Hurricane in Mauritius, April 29; Parlia-
 ment dissolved, June 28; general election, Salisbury
 defeated; fresh Gladstone administration.
- 1893 Home Rule Bill introduced, Feb. 13, Home
 Rule Bill, second reading, April 22, Chicago World's
 Fair, May-Oct.; Nansen's Arctic expedition starts,
 June 24; Duke of York marries Princess Mary of
 Teck, July 6; Duke of Edinburgh becomes Duke
 of Cornwall, Aug. 22; Home Rule Bill passes third read-
 ing in Commons, Sept. 1; Lords reject Home Rule
 Bill, Sept. 8.
- 1894 Opening of Manchester Ship Canal, Jan. 1;
 Gladstone resigns, March 3, Lord Rosebery suc-
 ceeds; death of Kossuth, March 20; President
 Carnot assassinated, June 24; opening of Tower
 Bridge, June 30; Japan declares war against China,
 Aug. 1; death of Czar Alexander III., Nicholas II.
 succeeds, Nov. 1; Dreyfus (wrongfully) convicted of
 treason, Dec. 29.
- 1895 Faure President French Republic, Jan. 17;
 Mr. Gully elected Speaker, April 10; opening of Kiel
 canal, June 21; Rosebery resigns, June 22, Salisbury
 Ministry succeeds; Parliament dissolved, July 12;
 Lord Wolsley succeeds Duke of Cambridge as
 Commander-in-Chief, Nov. 1; Ashanti expedition,
 Nov.; Jameson raid, Dec. 29.
- 1896 Jameson raiders defeated, Jan. 1; Cecil
 Rhodes resigns Cape Colony Premiership, Jan. 6;
 British forces occupy Kumasi, Jan. 18; Shah of
 Persia assassinated, May 1; conviction of Jameson

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 raiders, July 28; Li Hung Chang in England, Aug.; M'Kinley President U.S., Nov. 3.
- 1897** Turkey declares war against Greece, April 17; charity bazaar fire fatality in Paris, May 4; death of Duc d'Aumale, May 10; Sir A. Milner appointed High Commissioner in South Africa, May; Queen Victoria's Diamond Jubilee, June 22.
- 1898** Zola's Dreyfus letter published, Jan. 13; Zola convicted of libel, Feb. 23; *Maine*, U.S. warship, blown up in Havana harbour; Port Arthur ceded to Russia, March 23; U.S. goes to war with Spain, April 21; Dewey destroys Spanish fleet at Manila, May 1; Cervera's fleet destroyed off Santiago, Cuba, by U.S. ships, July 3; peace between U.S. and Spain, Aug.; death of Bismarck, July 30; Empress of Austria assassinated, Sept. 10.
- 1899** Hague Peace Conference, May-July; Court of Cassation annuls Dreyfus verdict and new trial ordered, June; Dreyfus returns to France, July 1; fresh trial begins, Aug. 7; Dreyfus found guilty 1; Rennes, Sept. 9; receives pardon, Sept. 19; Boer war begins, Oct. 11; battle of Elandsbaagte, Oct. 21; British defeat at Nicholson's Nek, Oct. 30; battle of Modder River, Nov. 28; Buller's forces defeated at Colenso, Dec. 15; Lord Roberts appointed Commander-in-Chief in S. Africa and Lord Kitchener Chief of Staff, Dec. 16.
- 1900** Boers attack Ladysmith, Jan. 6; battle of Spion Kop, Buller repulsed with severe losses, Jan. 24; Lord Roberts begins advance from Modder River, Feb. 11; relief of Kimberley, Feb. 15; surrender of Cronje, Feb. 27; Ladysmith relieved, Feb. 28; Roberts enters Bloemfontein, Mar. 13; Paris Exhibition opened, May-Oct.; Mafeking relieved, May 17; Boxer outbreak in China, May; annexation of Orange Free State, May 20; Roberts occupies Johannesburg, May 31; King Humbert assassinated, July 20; Parliament dissolved, Sept. 25; general election, Unionist majority; Lord Roberts appointed Commander-in-Chief, Sept.; Kruger sails for Holland, Oct. 20; proclamation of annexation of Transvaal, Oct. 25; Australian Commonwealth proclaimed, Mr. Barton first Premier, Dec. 30.
- 1901** Queen Victoria died, Jan. 22; proclamation of King Edward VII., Jan. 23; Funeral of Queen Victoria, Feb. 21; Marriage of Queen Wilhelmina of Holland and Duke Henry of Mecklenburg-Schwerin, Feb. 7; President McKinley inaugurated for a second term, March 4; Duke and Duchess of Cornwall commenced their Empire tour on the *Opheir*, March 16; Duke of Cornwall opened first Parliament of Australian Commonwealth, May 9; Parliament made a grant of £100,000 to Earl Roberts, Aug. 1; Empress Frederick of Germany died, Aug. 5; President McKinley succumbed from shot received from an assassin's pistol whilst inaugurating Buffalo Exhibition, Sept. 14; Duke of Cornwall made Prince of Wales, Nov. 9.
- 1902** Treaty concluded between Britain and Japan, Jan. 30; death of Cecil Rhodes, Mar. 26; St. Pierre destroyed by eruption of Mount Pelée, 36,000 lives lost, May 8; accession of King Alfonso XIII. to Spain, May 18; surrender of Boer leaders at Pretoria, war ended, May 31; Peace rejoicings through the kingdom, June 8; Parliamentary grant of £50,000 to Lord Kitchener, June 10; coronation festivities postponed through serious illness of King Edward VII., July 5; Lord Salisbury resigned, July 11; Mr. A. J. Balfour became Premier, July 12; fall of the campaign at Venice, July 14; coronation of King Edward VII., Aug. 9; great coronation Royal review of the fleet at Spithead, Aug. 16; welcome home banquet to Capt. Percy Scott and 111th brigade, Sept. 23; attempted assassination of King of the Belgians, Nov. 16; Venezuelan fleet seized by combined action of Britain and Germany, Dec. 10.
- 1903** Grand Indian Coronation Durbar at Delhi, Jan. 1; wireless telegraphic messages sent between King Edward and President Roosevelt, Jan. 20; fire fatality Colney Hatch Asylum, 33 inmates perish, Jan. 28; King Edward left England on a visit to Portugal, Mar. 31; King Edward at Gibraltar, April 8; disaster to British Somaliland expedition, A.D.
 280 men and 10 officers killed, April 23; new Kew Bridge opened by King Edward, May 20; Royal Family of Serbia assassinated, June 11; President Loubet arrived in London, July 6; Pope Leo XIII. d., July 20; Cardinal Sarto elected Pope, Aug. 4; Lord Salisbury d. Aug. 23; Ministerial crisis; Mr. Chamberlain and other members of the Government resign over the Protectionist proposals, Sept. 17; Mr. Chamberlain's Fiscal Policy promulgated, Oct. 3; King and Queen of Italy at Windsor, Nov. 17; Chicago theatre fire disaster, 600 lives lost.
- 1904** Sensational suicide of Whitaker Wright after conviction for fraud, Jan. 26; Russo-Japanese War commenced, Feb. 8; wedding of Princess Alice of Albany and Prince Alexander of Teck, Feb. 10; new Army Council appointed, Earl Roberts ceasing to be Commander-in-Chief, Feb. 12; Duke of Connaught appointed Inspector-General of the Forces, March 1; death of the Duke of Cambridge, March 17; Anglo-French Agreement signed, April 8; King and Queen left London for Ireland, April 25; great Japanese victory on the Yalu River, May 1; King and Queen's Irish visit concluded, May 3; battle with Tibetans in the Karo Pass, May 7; excursion steamer caught fire at New York, nearly 1,000 lives lost, June 15; death of ex-President Kruger, July 14; British force reached Lhasa, Aug. 3; Russian Port Arthur fleet defeated by the Japs, Aug. 10; Vladivostok squadron defeated by Japs, *Rurik* sunk, Aug. 14; boating fatality on Lough Neagh, Aug. 23; battle of Lao Yang, Russian force forced to retire on Mukden, Aug. 26; Aushan occupied by the Japs, Aug. 28; Earl Grey appointed Governor-General of Canada in succession to Lord Minto, Sept. 1; treaty with Tibet signed at Lhasa, Sept. 7; *Discovery* returned to Spitzhead from the Antarctic expedition, Sept. 10; Russian forces defeated in four days' fight and driven back, Oct. Mukden, Oct. 10; Russian loss in Shaho battle 45,000 (13,000 slain), Japanese casualties, 16,000 killed and wounded, Oct. 17; Russian Baltic squadron fired on Hull trawlers fishing on the Dogger bank, killing the skipper and third hand of the *Cranie* and sinking the vessel, Oct. 22; Czar and Russian Government expressed regret at the Baltic fleet attack, Joint inquiry instituted under Hague Convention, resulting in the payment of an indemnity, Oct. 28; President Roosevelt obtained a large majority over his Democratic opponent in the U.S.A. presidential election, Nov. 8; King and Queen of Portugal arrived at Portsmouth on a visit to King Edward, Nov. 15; Russian gunboat *Sevastopol* torpedoed by Togo outside Port Arthur harbour, Dec. 12.
- 1905** Port Arthur forts transferred to the Japs, Jan. 3; "Red Sunday" massacre at St. Petersburg, Jan. 22; General Trepoff appointed governor of St. Petersburg, with plenary powers, Jan. 24; Grand Duke Sergius of Russia assassinated, Feb. 17; Lord Milner resigned High Commissioner of South Africa, Earl of Selborne succeeded, March 1; Japanese entered Mukden after a fierce fight in which 30,000 Russian dead were left on the field, and 40,000 prisoners secured, the Jap loss being estimated at 20,000, March 10; terrific earthquake in northern India, nearly 20,000 lives lost, April 4; King Edward visited President Loubet in Paris, April 6; plague rampant in India, 34,000 deaths announced in one week, May 9; Togo defeated remnant of Russian fleet, and captured Admiral Rozhdzhevsky in battle of Sea of Japan, May 27; attempted assassination of King of Spain in Paris, June 1; King of Spain arrived in London, June 21; Mr. Gully (Viscount Selby) resigned the Speakership; marriage of German Crown Prince and Duchess Cecilia, June 6; King Oscar deposed from the Norwegian throne, June 7; Mr. Lowther appointed Speaker of the House of Commons; Admiralty banquet to French naval officers at Portsmouth; Admiral Caillaud welcomed at London Guildhall, Aug. 10; Great Eastern Railway disaster to Croner express, Sept. 1; *Wittem*, 10 killed, Sept. 1; peace signed at Portsmouth (U.S.A.) between Russia and Japan, Sept. 5; Dr. T. J. Barnardo, founder of children's homes, died Sept. 29; new Anglo-Japanese treaty formulated, Sept. 27; death

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of Sir Henry Irving, Oct. 13; King Edward opened Kingsway, Oct. 18; freedom of London City conferred on General Booth, Oct. 26; Czar signed a Constitution at Peterhof, called the "Russian Magna Charta," Count Witte appointed Premier, Oct. 30; King of Greece at Windsor, Nov. 13; Prince Charles of Denmark elected (as King Haakon) to the Norwegian throne, Nov. 18; steamer *Elida* wrecked off St. Malo, 138 lives lost; Mr. A. J. Balfour's Conservative Government resigned, Dec. 4; disaster at Charing Cross railway terminus, fall of iron roof, several lives lost, Dec. 5; Sir H. Campbell-Bannerman became Premier.

1908 Disturbances in Russia, over 1,000 persons shot dead in Moscow alone, Jan. 2; Parliament dissolved, General Election commenced, Jan. 12; M. Fallières elected President of France, in succession to M. Loubet, Jan. 17; King of Denmark, father of Queen Alexandra, died Jan. 29; General Election concluded; result, a combined Liberal-Labour and Nationalist majority over the Conservatives and Unionists of 354. The new Parliament contained 34 working-class members, Feb. 7; H. S. D. *Daoudouh* elected King of Portugal, Feb. 10; terrible cholera calamity at Courrières, in the Pas de Calais, France; over 1,150 lives lost, Mar. 10; San Francisco destroyed by earthquake and fire, April 18; wedding of King Alfonso and Princess Ena of Battenberg; bomb outrage at Madrid, narrow escape of the bridal pair, May 3; Simpton tunnel opened for railway traffic, June 1; Zulu rebel chief, Bambata, slain in fight, June 8; motor-bus disaster near Haulcross, ten deaths, July 12; terrible earthquake at Valparaiso, over 2,000 killed, Aug. 17; new Anglo-Irish route (through Fishguard and Rosslare harbours) opened, 30 typhoons at Hong Kong, nearly 10,000 deaths, Sept. 18.

1907 Amir of Afghanistan arrives at Peshawar on visit to India; earthquake at Kingston, Jamaica, great loss of life and property, Jan. 14; Mr. Wm. Whitely murdered by Horace G. Kayser, 24; 1st explosion in Rittenhuss Prussia, 187 lives lost, 28; collision between s.s. *Larchmont* and *Harry Knowlton* in Block Island Sound, causing sinking of the former and loss of nearly 500 lives, sinking of *Orlando*, steamer, after colliding with *Heliopolis* in Bristol Channel, 14 lives lost, Feb. 17; wreck of the s.s. *Herlin* off the Hook of Holland, with great loss of life, the King opens new Central Criminal Court, Old Bailey, 27; first Transvaal Parliament opened, Mar. 11; French battleship *Yeu* blown up at Toulon, 12; Colonial Conference opened; peace Congress opened at New York, Apr. 15; Ascot Gold Cup stolen, June 18; Charing Cross and Hampstead Tube Railway opened, 22; discovery of theft of State regalia at Dublin Castle, July 8; King and Queen in Dublin; new docks at Cardiff opened by the King and Queen; £50,000 damages and costs paid by the Associated Newspapers, Ltd., to Lever Brothers, Ltd., for libel in *Daily Mail*, 17; Deceased Wife's Sister Bill passed the Lords, Aug. 26; accident to bridge over St. Lawrence, 70 killed; Anglo-Russian Agreement signed, 31.

1908 Panic at cinematograph exhibition at Barnsley, to children killed, Jan. 11; cinematograph explosion at Boyestown, Pennsylvania, 12 killed, 13 injured; King and Crown Prince of Portugal assassinated while driving through Lisbon; E. von Feltheim sentenced to 20 years penal servitude for threatening Mr. Sol H. Joel, Feb. 12; General Stoessel sentenced to death (subsequently commuted) for neglect of duty at Port Arthur, 20; fire at a public school, Lake View, Collingwood, Cleveland, U.S.A., 120 lives lost; the *Tit*; King an across the bows of H.M.S. *Berwick* off St. Catherine's Point by night, and was cut in two, the commander and 34 others losing their lives, April 3; Arbitration Treaty between Great Britain and the U.S. signed, 4; great fire at Boston, U.S.A., damage about £2,000,000; 16; explosion on the Japanese cruiser *Matsushima* off the Pescadores, over 200 lives lost, 30; Mr. John Murray, the publisher, obtained £7,500 damages against *The Times* for libel, May 12; King Edward received President of the French Republic, and in the evening a State banquet in his honour was given, May 25; President entertained

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at Guildhall, 27; Rotherhithe Tunnel opened, June 12; Wolfe and Montcalm celebration at Quebec, Prince of Wales (King George V.) and Lord Roberts present, July 25; explosion at Maypole Colliery, Mr. Wigan, 76 lives lost, Aug. 18; Austria's intention of annexing Bosnia and Herzegovina announced, Oct. 3; Mr. Wm. Taft elected President of United States, Nov. 9; Ellenman liner *Sardinia* destroyed by fire off Malta, over 200 pilgrims and many Europeans burned or drowned; terrible earthquake, destroying a great part of Calabria and Sicily, 126,500 lives lost, Dec. 28.

1909 Old age pensions came into operation, Jan. 1; outrage by Russian anarchists at Tottenham, who robbed a clerk of £80, and afterwards fired at pursuers, killing a policeman and a boy, and injuring 14 others; Colliery accident at West Stanley pit, Durham, 168 men and boys killed, Feb. 16; Judgment by consent for £1,000 given against *The People* for libel upon Mr. Lloyd George, Mar. 17; deposition of Sultan Abdul Hamid and succession of his brother Mehmed V., April 27; Mr. Lloyd George introduced 1st Budget; Queen Violette of Belgium gave birth to a daughter, 30; Constitution of the South African Union signed at Bloemfontein, May 11; Sir Curzon Wyllie and Dr. Laicaca, who tried to rescue him, shot and killed at Imperial Institute by Indian student Dhangra, who was hanged, July 1; Lord Strathcona presented £100,000 to the McGill University, Montreal, 7; Prince Bulow resigned Imperial Chancellorship, 14; Sultan wife of 1st sank after collision, 11 lives lost; Shah of Persia deposed, his young son Ahmed Mirza elected his successor; Conference of South African Premiers, 18; Czar and Empress of Russia at Cowes, Aug. 2; great floods in Manchuria, in which over 1,000 lives were lost; the liner *Maori* wrecked off Cape Town, 32 lives lost, 5, capture of band of thieves as they emerged from Mappin's premises in London with jewellery worth £40,000, 23; despatch published claiming the discovery of the North Pole by Commander Peary, Sept. 6; The liner *Waratah* lost between Durban and Cape Town, 9; Ferrer executed at Barcelona, 1 Oct. 13; New Admiralty harbour at Dover opened; Prince Ito, Japanese statesman, assassinated by a Korean, 26; the Lords threw out Mr. Lloyd George's first Finance Bill by a large majority, Nov. 18; King Leopold II. of Belgium d. Dec. 17; Mr. Herbert Gladstone appointed first Governor-General of South Africa, 21.

1910 General Election, Liberals remain in power, Jan. 15; Sixty Labour Exchanges opened Feb. 1; French steamer *General Chanzy* wrecked on voyage to Algiers, 160 lives lost, 11; the *Dalia Lama* fled from Lhasa, 23; Mr. Herbert Gladstone raised to the peerage as Viscount Gladstone, March 1; Lord Kitchener returned to London, after 8 years in India, April 28; King Edward attacked by bronchitis, bulletin issued, May 5; King Edward d., 6; King George V. proclaimed, 9; mine disaster at Whitehaven, loss of 136 lives; funeral of King Edward, 20; discovery of human remains in a cellar at Hilldrop Crescent, Camden Town, and flight of Dr. Stephen and Miss Le Neve, July 13, who were captured at Quebec, 21; Duke of Connaught sailed for S. Africa, Oct. 11; Failure of the Veto Conference announced, Nov. 11; Colliery disaster at Pretoria Pit, Bolton, 344 lives lost, 21; three policemen shot dead by alien burglars in Houndsditch, Gardstein, one of the assassins, killed by accidental shot from one of his comrades; Scotch express in collision near Hawes Junction, many lives lost, Dec. 24.

1911 Two of the Houndsditch murderers tracked to a house in Sulley Street on Jan. 1, and a great force of police, aided by soldiers, was called out. The besieged men fired magazine revolvers from the windows. The house was ultimately fired, and the charred remains of the murderers were afterwards discovered; J. Ramsay MacDonald elected Chairman of the Labour Parliamentary Party, Feb. 6; Rembrandt's "Mill" sold to an American, P. A. Widener, March 1; National Insurance Bill introduced, May 4; Fire at Empire Theatre, Edinburgh, 9 lives

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lost; Sir E. Bradford, 74, d. 13; German Emperor present at the unveiling of the Victoria Memorial, 15; Coronation of King George V. and Queen Mary, June 22; strike of London transport workers; Parl. Bill finally passed in H. of Lds.; payment of Members resolution passed in H. of C., Aug. 10; London transport workers' strike ended, 12; strike riots at Liverpool, 13; general railway strike begun; strike riots at Llanelli, 5 persons killed; railwaymen resume work, 21; Leonardo da Vinci's "La Gioconda" stolen from Louvre, 22; Liverpool strike ended, 25, T. W. Burgess swam the Channel, Sept. 6; assassination of M. Stolypin at Kieff, 14; collision between H.M. cruiser *Hawke* and the White Star liner *Olympic* in the Solent, 19; Italy declared war against Turkey; Duke of Connaught sailed for Canada to take up duties as Governor-General, Oct. 6; Mr. Churchill made First Lord of the Admiralty and Mr. McKenna Home Secretary; Mr. Balfour resigned leadership of the Unionist party; King and Queen left for India, Nov. 12; Mr. Bonar Law elected Unionist Leader; "Lord" G. Sanger murdered by his attendant, the murderer committing suicide, Dec. 4; National Insurance Bill passed, 6; King-Emperor made state entry into Delhi, 7.

1918 Republic established in China, Feb. 12, great strike of coal miners, about 1,000,000 men out, 20; Marconi Company contracted with Postmaster-General for wireless telegraph stations, 7; Coal strike ends, April 6; *Titanic* disaster off Cape Race, 1,535 lives lost, 14; King of Denmark died in Hamburg, May 14; strike of London dock labourers, 20; Lord Loreburn resigned Lord Chancery, succeeded by Lord Haldane, June 10; Colonel Seely, M.P., appointed Secretary for War, June 12; First Alexandria Day in London, over £12,000 realised for charities, 26; dedication of Rhodes' memorial, Rhodesia, by Lord Grey, July 5; Camorra trial ended, lasted over a year, prisoners sentenced to long terms of imprisonment, 8; colliery explosion at Great Lodeburn, 86 lives lost, 10; Mr. Asquith in Dublin, hatchet thrown into his carriage, 20; Emperor of Japan d., 30; dock strike ended, Aug. 8; Master of Elibank resigned seat and office of Chief Liberal Whip, and raised to peerage as Lord Murray of Elibank, Sept. 7; funeral of Emperor of Japan, suicide of Count Nogai, 13; railway accident at Ditton Junction, 15 killed, 40 injured, 17; Suzanne the sunk off Dover in collision, 14 lives lost, Oct. 3; War declared against Turkey by Montenegro, 8; Mr. Roosevelt shot at Milwaukee, 15; War declared against Bulgaria by Turkey, 17; Greece declared war; Señor Canalejas, Spanish Premier, assassinated, 12; Peace Conference opened at St. James' Palace, Dec. 10; Lord Hardinge wounded by bomb at Delhi, 23.

1918 Home Rule Bill passed H. of Commons, majority 120; M. Raymond Poincaré elected Pres. of French Republic, Jan. 17; M. Briand becomes Prime Minister of French Govt., 20; Nazim Pasha, Turkish Commander-in-Chief, assassinated, 24; Home Rule Bill rejected in H. of Lords by 326 to 69, 30; war in Balkans resumed, Feb. 3; Welsh Church Bill passed H. of Commons, majority 107, 5; news received of Armenian tragedy, involving deaths of Capt. Scott and four companions, Oates, Evans, Wilson and Bowers, in March, 1912, from exposure and privation, 10; Mexican *coup d'état*, Madero arrested, 18; Kew Gardens Tea House burned down by suffragettes, 20; Ex-president Madero shot, 22; King George of Greece assassinated; fall of the Brand cabinet, Mar. 18. Fall of Scott, after a six months' siege, April 9; Peace of London signed, May 30; Miss Davison (suffragette) recd. fatal injuries by rushing in front of King's horse during race for Derby, June 4; Cecil Chesterton fined £100 and ordered to pay all costs for libelling Mr. Godfrey Isaacs, 7; M. Poincaré, French President, arrived in London on a visit to the King and Queen, 24; entertained at the Guildhall, 25; breach of promise case, Daisy Maudslayi v. the Marquis of Blandford, settled by payment of £20,000 and costs, July 2; Scott will case ended in verdict for Lady Sackville;

A.D.
pearl necklace valued at over £100,000 stolen during postal transit between Paris and London; Dr. Robert Bridges appointed poet laureate, 16; Col. Cody killed in aeroplane accident, Aug. 7; Palace of Peace inaugurated at the Hague, 27; strike riots in Dublin; four men arrested in connection with the diamond necklace robbery; railway disaster at Alsgill, 16 killed, Sept. 2; diamonds of stolen necklace, all but two, picked up in road at Highbury, 18; strike in cotton trade at Bolton, Beehive Mills, 20; *Volturno* steamer burnt at sea, over 500 lives saved, more than 400 lost; mining disaster at Senghennydd, S. Wales, over 400 lives lost, Oct. 14; Pearl necklace case concluded at Old Bailey, prisoners sentenced to varying terms of penal servitude and imprisonment, Nov. 24; Harry Fragon killed by his father, Dec. 5.

1918 Great strike in S. Africa, martial law proclaimed, Jan. 13; British submarine A7 lost off Plymouth with crew of 11 officers and men, 16; strike of London coal porters and carters, 22; lock-out by London master builders, 30,000 men affected, 26; 9 strike leaders deported from S. Africa, 27; revolution in Peru, Señor Billinghurst, president, deposed, Feb. 4; three new bishops appointed, 11; Rt. Rev. L. H. Burrows to be Bp. of Sheffield, Rev. J. E. Watts-Ditchfield, Bp. of Chelmsford, and Ven. H. B. Hodgson, Bp. of St. Edmundsbury and Ipswich, 5; Mr. Munro Ferguson appointed Governor of Australia, 6; opening of Parl., 10; deported strike leaders arrive from S. Africa, 24; M. Calmette, editor of *Le Figaro*, killed by Mme. Callaux, wife of ex-Premier, 16; difficulties with officers at Curragh in connection with the troops ordered for Ulster; Col. Seely, Minister of War, resigned (not accepted) March, 23; Gen. French and Sir J. S. Ewart resign (not accepted), 25; Cambridge win boat race by 48 lengths, 28; Col. Seely again resigns (accepted), Generals French and Ewart also resign (accepted); Mr. Asquith assumes post of Minister of War, 30; fishery disaster off Newfoundland, 224 lives lost, April 1; Vera Cruz captured by U.S. marines, 200 killed; Mr. Justice Channell resigns; Mr. Montague Shearman, K.C., and Mr. John Sankey, K.C. apptd. judges of King's Bench Division; King and Queen's State visit to Paris, 21; Rt. Rev. G. Nickson, D.D., apptd. Bishop of Bristol, May 1; suffragettes attempt to force way into Buckingham Palace, 21; third reading of Home Rule Bill passed Commons, majority 77, 25; s.s. *Empress of Ireland* sunk in St. Lawrence after collision with *Storstad*, 1014 lives lost; Kitchener made Earl, June 22; Alexandria Day, over £20,000 collected in London, 24; Gen. Huerta resigned Pres. of Mexico, 18; Joseph Chamberlain d., July 2; Home Rule Conf. at Buckingham Palace, 21; Conf. ended without result, 24; Mme. Callaux acquitted after long trial, 28; M. Jaurès murdered, 31; death of Mr. Plowden, magistrate, Aug. 8; King d., 19; Lord Merthyr d. 27; Sir John Henniker Heaton d., Sept. 7; Cardinal della Chiesa elected Pope as Benedict XV., 10; Home Rule and Welsh Ch. Bills finally debated and ordered to pass to the Statute Book, their operation being suspended until Amending Bills considered at a future date depending on the War, 25; Parliament prorogued, 18; export of British wool prohibited, Oct. 8; King Carol of Rumania d., 20; the Czar prohibits the sale of alcohol by Government in Russia for ever, 20; police order issued prohibiting the serving of liquors to women in public-houses until after 11.30 a.m., Nov. 3; d. of Tom Gallon, novelist, 4; d. of the Duke of Buccleuch, d. of Major-Gen. Kekewich, 5.

1918 Bury, collision at Ilford, 9 killed, Jan. 1; Percy Illingworth d., 2; Lord Wimborne apptd. Lieut. of Ireland, 3; Harthunke in Lake Fucino dist. of Italy, many thousands killed, Avezzano destroyed; Ld. Faversham d., 13; Mgr. Benson d., 14; Carl Haug d., 19; Ld. Londonderry d., Feb. 8; Ld. Rothschild d., Mar. 31; W. G. C. Gladstone, M.P., killed at the front, April 12; Kway, accident near Gretina Green, 153 killed, and over 200 injured, mostly soldiers travelling in troop train, May 22.

Chronicle of the Great War

From Day to Day

1914, July—Sept.

July 23. Austria presents Note of demand to Serbia.

24. Serbia answers generally and asks for delay.

25. Serbian answer rejected by Austria.

26. Austria declares war against Serbia.

30. Belgrade bombarded.

31. State of war declared in Germany.

Aug. 1. Germany declares war against Russia and invades Luxembourg.

2. Germans invade French territory.

3. Sir E. Grey announces that England will stand by France defending the neutrality of Belgium.

4. Gt. Brit. sends ultimatum to Germany demanding that Belgian neutrality shall be respected. Germans attack Liège. Gt. Brit. declares war against Germany. Home and Philipville in Algeria bombarded by Goeben.

5. 80,000 Germans attack Liège and are repulsed. German mine-layer *Königer Luise* sunk by H.M.S. *Amphion*. Lord Kitchener appointed Sec. for War. Parliament votes £100,000,000. Goeben and Breslau chased to Messina.

7. Germans repulsed at Liège after 3 days' and nights' fighting. Gen. Leman (defender of Liège) taken prisoner. H.M.S. *Amphion* sunk by mine. Goeben and Breslau escape from Messina.

8. British forces seize the port of Lome in German Togoland, on W. coast of Africa.

9. French occupy Mulhausen. German submarine U 15 sunk by Brit. cruiser *Birmingham*.

10. Germans enter Liège. Austrians enter Alsace.

12. Gt. Brit. declares war on Austria. Goeben and Breslau sold to Turkey.

13. Japan sends ultimatum to Germany demanding evacuation of Kiaochow. Russia issues proclamation promising autonomy to the ancient kingdom of Poland.

16. First British Expeditionary Force lands in France.

17. D. of Gen. Grierson. Belgian seat of Govt. removed to Antwerp. Austrian cruiser *Aspern* sunk by French fleet in the Adriatic.

18. Servians beat Austrians at Shabatz. Germans occupy Triermon.

19. Germans defeated by Russians near Eydtukumen.

21. Germans enter Brussels, and impose fine of £8,000,000. Gt. Brit. lends £10,000,000 to Belgium. France does the same.

22. Germans attack Namur.

23. Japan declares war on Germany. British forces engaged at Mons with Germans and hold the place two days and a night.

24. Germans capture Namur.

25. Austria declares war upon Japan. Germans destroy Louvain. Allies fall back towards Cambrai.

26. Togoland taken by the Allies.

27. Ostend occupied by Brit. marines. Kaiser *Wilhelm der Grosse* sunk by H.M.S. *Highflyer* off Rio de Oro. German cruiser *Magdeburg* sunk by Russians in Gulf of Finland.

28. Two German destroyers and two German cruisers sunk and a third cruiser disabled in the Heligoland Fight by a Brit. battle squadron.

29. German Samoa surrendered to a New Zealand force. Name of St. Petersburg altered to Petrograd.

30. La Fère taken by the Germans.

31. Allies evacuate Compiègne. Russians rout four Austrian Army Corps near Lemberg. Russians suffer reverse in East Prussia.

Sept. 1. Germans take Amiens. British losses to date 15,000.

2. Great defeat of Austrians at Lemberg after seven days' fighting.

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3. Dinant sacked. French Govt. leave Paris for Bordeaux.

4. Dykes flooded around Antwerp. Russians capture Lemberg. German right ceases to move against Paris, turning east and south-east so as to strike in between Paris and the British forces.

5. H.M.S. *Pathfinder* blown up by German submarine, 291 lives lost. German attack diverted from Paris. Gt. Brit., France and Russia agree not to treat for peace separately. Germans take Rheims.

6. Germans cross the Marne at La Ferté-sous-Jouarre.

7. Allies begin to drive the Germans back from the North-east of Paris. *Oceanic* struck a rock and sank off Scotland.

8. Brit. army crosses the Marne and Germans retreat about 25 miles. Rulers of Indian native States (nearly 700) offer services in aid of Brit. arms.

10. German army still in rapid retreat; driven across the Marne with great loss. Servians capture Semlin. Gen. Botha dispatches forces against German S.W. Africa.

11. German headquarters in New Guinea captured by Australian expedition. Louvain retaken by Belgians.

12. Vtry abandoned by Germans after being fortified. Allies in pursuit. 6,000 prisoners and 100 guns capt'd by Allies in last four days. Hamburg-America war-liner *Spreewald* captured in North Atlantic waters.

13. Allies' victory continues, Germans everywhere in retreat, 62 miles gained in six days. German cruiser *Hela* sunk by torpedo from Brit. submarine E. 9. Russians win great 17 days' battle in East Prussia, capturing 30,000 Austrian prisoners.

14. 21st day of the war. German retreating forces driven across the Aisne. Brit. auxiliary cruiser *Carmania* sinks *Cap Trafalgar*, German armed cruiser off S. America.

15. Verdun relieved, its fortifications being now free from attack. Crown Prince's army retreating.

16. Great battle proceeding on a front of nearly 100 miles. Germans still falling back. Mr. John Redmond issues a call to the Irish people to form an Irish Brigade. Austrian losses since the taking of Lemberg are estimated at 250,000 killed and wounded, 100,000 prisoners.

18. Parlt. prorogued. King's speech says, "We are fighting for a worthy purpose and shall not lay down our arms until that purpose has been fulfilled."

19. Germans bombard Soissons. Brit. cruiser *Pygmaeus* disabled in Zanzibar harbour by German warship *Königsberg*. German cruiser *Emden* active among British merchant vessels in Bay of Bengal.

20. Germans bombard Rheims and destroy a great portion of the cathedral.

21. French capture 20 German supply motor cars with all their staff and a number of prisoners. Bombardment of Rheims continues. German post at Shuckmannsburg near the Zambesi surrendered to Rhodesian force.

22. Three Brit. cruisers (*Aboukir*, *Hogue*, and *Cressy*) sunk off the Hook of Holland by German submarines, over 1,000 lives lost, *Hogue* and *Cressy* torpedoed while trying to save lives. German cruiser *Emden* shells Madras.

23. British warships sunk or damaged, 10; German warships lost (including ships captured), 27; German merchant ships captured, 18; British merchant ships captured or sunk, 12. Allies still advance in the battle of the Aisne, having progressed about 12 miles in the region of Lassigny, and successfully

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- repulsed several German attacks. Russians occupy Soltau after defeating the German army.
24. French troops occupy Peronne, the key to the valley of the Somme.
25. 14th day of the Battle of the Aisne. Fierce attacks on the Allies by the augmented German troops. Australian Expeditionary Force capture German New Guinea, occupying the chief town and hoisting the British flag. Russians press their attack on Przemyśl with great energy; also capture Khyrov, about 20 miles S. of Przemyśl. First contingent of Indian troops arrives at Marseilles.
26. Malines bombarded for the third time, cathedral destroyed. On the eastern frontier of German S.W. Africa the police fort. Rietfontein, in the territory of the S. African Union, falls to German raiders. German patrol raid Walvisch Bay and capture a policeman. War contribution of nearly £400,000 by the Nizam of Hyderabad.
28. Germans open heavy artillery fire on the Waelhem-Wavre St. Catherine sector of the Antwerp defences. The German cruiser *Emden* continues its depredations in the Indian Ocean, having destroyed four more British merchant ships. British force captures the capital of the German colony of the Cameroons.
29. Germans attack the Antwerp forts, blowing up the Waelhem Fort.
30. Augmented German forces oppose the Russians on the East Prussian frontier, where a vigorous attempt to storm the Russian fortress of Osowetz is defeated.
- Oct. 1.** Further progress reported by the Allies to the north of the Somme and in the Southern Weuvre. Great greeting to Indian troops at Marseilles. The German attack on Antwerp continues, with increased vigour. H.M.S. *Cumberland* captures nine German merchant steamers of the Woermann line and a gunboat, off the Cameroonian River, West Africa.
2. 50th day of the war. Siege of Antwerp proceeds. Belgians retire across the Nethe, first blowing up the Waelhem Bridge.
3. In the Roze region the most desperate efforts are made to break through the Allies' line but without success. The siege of Antwerp is maintained. In the Eastern battlefield the Germans are in a somewhat serious plight. In their retreat across the Nienieu, the Russians drove at them and whole regiments were drowned.
4. A fierce engagement has developed in the region of Arras, the Allies assuming the offensive at many points, succeeding in the Argonne district in throwing back the enemy towards the north. A further Russian victory is recorded at Augustovo, where the Germans were defeated.
5. Grand Duchess of Luxemburg deported to, and interned, in a castle near Nuremberg. Nearly 600,000 men enrolled in the British Army since the outbreak of the war. Japanese forces before Tsingtau repulse a night attack made by the German garrison. The Japanese make an attack on the Marshall Islands (German), compelling the force in possession to surrender.
6. Germans endeavour to break across the Scheldt in order to cut off the retreat of the Antwerp garrison. Bombardment is now threatened. In East Prussia, where the Germans are falling back from the Russian pursuit, the railways close to the frontier are congested with trains. Export of British wool prohibited. Metropolitan police order general diminution and concealment of public and private lights.
7. German cavalry driven back to the north of Lille, and ground previously given between Chaulnes and Roze is retaken. Bombardment of Antwerp now opened with great vigour, the big German siege guns being brought to bear with deadly effect upon the forts. Germans cross the Scheldt at Termonde, Schoonabode and Wetteren. A British Marine Brigade and two Naval Brigades, representing a total of 8,000 men, enter Antwerp in aid of the Belgian garrison. The seat of the Belgian government is removed from Antwerp to Ostend.

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- 30,000 refugees leave the city. First contingent of Canadian troops arrive in home waters. Submarine E 9 performs another daring exploit, penetrating to the mouth of the Ems close to the German coast, and there sinking a German torpedo destroyer. The E 9 sank the *Hela* on Sept. 13.
8. The bombardment of Antwerp continues, terrible destruction being dealt by the German siege guns, the Southern Station, the Hoboken oil tanks, and many important public buildings being set on fire. The suburb of Borgerhout also in flames. Antwerp at last falls and German troops enter. Two of the British brigades successfully retire with the Belgian Army; 2,000 of them are cut off and succeed in escaping into Holland. British loss 300. 50 German ships lying at Antwerp were blown up before the evacuation.
9. At Arras the deadly French gunnery is employed with splendid effect, blasting the enemy back; and in the Roze region 1,600 prisoners have been taken within the last two days.
10. In the great battle centre, between the Oise and Rheims, the Allies make progress to the north of the Aisne, particularly to the north-west of Soissons. Germans impose a war levy of £20,000,000 on Antwerp. Death of King Carol of Rumania; his nephew, now King Ferdinand, succeeds him.
11. Two German aeroplanes fly over Paris and drop 20 bombs in as many minutes, 4 persons killed and 20 injured. Fighting is briskly kept up on the East Prussian frontier, the Germans being driven back to the Masurian Lakes. The Russian cruiser *Pallada* (7,775 tons) torpedoed and blown up by a German submarine in the Baltic, 508 lives lost.
12. A German force enters Ghent and hoists the German flag. Another aerial raid upon Paris, 6 incendiary bombs dropped, but no great damage inflicted. Col. Maritz, who was in command of the British forces operating against German S.W. Africa, has produced a German general's commission and sent an "ultimatum" to the Union Government threatening a republic.
13. The town of Lille is the centre of a considerable new development. While held by a territorial detachment it has been attacked and occupied by a German army corps. Germans are now marching on Ostend. Belgian Ministry removes to Havre in France. Two of the submarines concerned in the attack on the Russian war cruiser *Pallada* (see Oct. 11) are attacked and sunk by Russian warships.
14. The Franco-British forces occupy Ypres. The Germans are pressed back by British troops on the left of the Allies' line. Meanwhile the Germans make a dash towards Calais, which now becomes their strong objective. Germans enter Buges. *Goben* becomes the Turkish flagship. Zeppelin brought down by Cossacks near Waraw. H.M.S. *Vermouth* sinks two supply ships to the *Emden*—the *Hanburg*, *Amerika* line steamer *Markomania* and the Greek steamer *Pontoricos* off Sun-tré.
15. German forces in great strength make the most vigorous attempt to advance on the way to Duikirk and Calais, but are resolutely held back by the Allies. On the main line of battle the Allies are making notable progress. In the Rheims district the Allies carry German trenches. Germans enter Ostend. H.M.S. *Hawke* is attacked by German submarines in the North Sea and sunk.
16. The battle of the Yser is now considered as practically ended without any decisive result except to shift the main action to the North. A gigantic battle is in progress between the Russians and the Austro-German forces at points near Przemyśl and Warsaw; the Russians have taken the upper hand and are said to have captured 20,000 men and 42 guns.
17. The new light cruiser *Undaunted*, commanded by Captain Fox, formerly of the *Amphion*, and accompanied by four destroyers, engages and sinks four German destroyers. An Austrian army attempts to force a passage across the San in Galicia but is promptly repulsed. Anglo-Japanese forces bombard the German fortress of Tsingtau, both by sea and

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air. A Japanese cruiser sunk by a mine in Kiao-chau Bay, 500 lives lost.

18. The German forces have been considerably reinforced for the projected advance on Calais, with England an early object of attack after Calais is reached. The British armed liner *Carnegie* brings in to Halifax, Nova Scotia, the German oil-tank steamer *Brenthula*, captured while flying the American flag.

19. Germans repulsed between the Somme and the Oise; developments favourable around Lille. British fleet co-operates with the Allied Army in the movements against the Germans at Ostend and along the coast. The attitude of Turkey becomes more menacing, it being evident that some closer understanding than has hitherto been avowed exists between Germany and the Porte.

20. A two-days' battle has been raging in Belgium, the Germans attacking vigorously on all parts of the front, on the extreme north, where the enemy has been held back, and at La Bassée and other points, along to the heights of the Meuse, but being beaten back everywhere. British monitors still firing on the German batteries near the coast. The *Emden* continues her exploits in the Indian Ocean, having sunk or captured five more British merchant ships. The Czar issues a decree prohibiting the sale of alcohol throughout the empire for ever by the Russian Government.

21. The struggle on the Belgian coast is one of the most spectacular conflicts ever waged, being prosecuted on sea and land and in the air with intense vigour on all sides. The British warships are proving of striking value in the operations, having done deadly execution in shelling the German trenches. Counter attacks by the enemy prove quite ineffective. At the other side of the war, where Russia is bearing so overwhelmingly down upon Germans and Austrians, the enemy is mastered in almost every direction. The German troops—an immense force—advancing towards Warsaw, have been brilliantly thrown back and are now in full retreat, utterly routed, leaving their wounded behind them in their haste to escape the pursuing enemy.

22. The Belgian coast battle, upon which the Germans are staking so much as being maintained with desperate energy. The British gunners continue the bombardment of the German bank with great success. Further to hamper the enemy, the dykes near the Yser are cut, the effect being to cause the whole district to be flooded at high tide. In other northern directions all German attacks are proving futile. In the country around Warsaw the Germans have been driven back for a distance of eight miles, and so serious has the position become that the Kaiser, his staff, and horde of protectors retire from Czernowidowa.

23. The Germans still show a determined attack on the greater part of the fighting line, extending from the Swiss frontier to the North Sea. The general situation continues to be favourable to the Allies. Three Krupp batteries destroyed north of the Arne. Another moving German cruiser, the *Agrotide*, which, together with six or seven other similar vessels, has hitherto kept clear of contact with British, French or Russian warships, appears on Atlantic waters, destroys 13 British merchant ships, and successfully eludes capture.

24. 81st day of the War; 5th day of naval flotilla attack on German land forces. The Germans gain some ground near Dunkirk in Belgium, and also secure a limited advantage near La Bassée. To set against this, the Belgians win their way a little distance beyond Neuport in the direction of Ostend. French guns wipe out three more German batteries (18 guns) on the heights of the Meuse; and in the Argonne the Allies capture the key to the Aisne valley. Roulers falls into the possession of the Germans again. The British destroyer *Harrier* (Commander Charles Freemantle, R.N.) sinks a German submarine off the Dutch coast.

25. The Allies gain some little advantage in the direc-

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tions of Roulers and Lille; and the Germans have crossed the Yser, the order having been given that this must be achieved at no matter what cost, and the enemy's loss here is about 5,000. At Ypres a contrary result is attained. There, although greatly reinforced, the Germans were held in check for five days by a British force which ultimately saved the position and threw the enemy back 15 miles.

26. The Russians continue their ceaseless harassing of the fleeing Germans in Poland. Germans evacuate Lodz. Muritz, the South African rebel commander, attacked at Kahanas by the South African forces and totally defeated, taking refuge on German territory. The French steamer *Amiral Ganteaume*, having on board between 2,500 and 2,600 Belgian and French refugees, was blown up by a torpedo when some distance out from Calais. The fortunate presence of the Channel steamer, *British Queen* in the vicinity enabled all but from 30 to 40 passengers to be saved.

27. The French destroy several German batteries by their artillery fire between Soissons and Berry-au-Bac, to the east of Nancy. The French have driven the Germans out of French Lorraine. A marked advance is made by the Russians in Poland. The German army, which had confidently counted on taking Warsaw, has now been driven back beyond Lodz and Radom. Further rebel movement, headed by Christian de Wet, reported from S. Africa. A British merchant ship, *Manchester Commerce*, struck a German mine and foundered off the coast of Ireland. Captain and 13 of the crew lost, 30 people saved. 14,000 British troops are lying the Suez Canal. Prince Maurice of Battenberg dies from wounds 251,000 German losses admitted in the first six weeks of the war.

28. On both frontiers the war goes against the Germans. Along the border of Belgium and in Northern France they are unable to break the front of the Allies. The Russian armies on the Vistula are pushing forward in all parts of their long front. A counter attack attempted by the retreating enemy north of Radom is overwhelmed and costs the Germans a loss of 49 officers, about 5,000 men, and many guns.

29. Further official reports from Petrograd accentuate the importance of the Russian victory in Poland. The resistance of the whole of the German armies on the Vistula is broken and the enemy continues in full retreat. Further south the Austrians are again defeated, and the Russians re-occupy Czernowitz. Turkey commits definite acts of hostility against Russia by allowing the *Breslau* and *Hamtshel* to bombard Russian ports. Prince Louis of Battenberg resigns his position as First Sea Lord of the Admiralty. Admiral of the Fleet Lord Fisher succeeds him.

30. Lille is taken by the Allies; and the Bavarians, whom the Kaiser wished might "meet the British just once," are badly beaten by them. The Turks, having taken the offensive against Russia, are doing much damage among the Russian ports of the Black Sea.

31. Sea, their warships chief among which are the *Goben* and the *Breslau*, having bombarded Odessa and damaged some of the Russian destroyers. Joint Note of protest to Turkey is sent by the Entente Powers. On the Eastern frontiers the Russian armies are still engaged in pursuing the defeated German and Austrian armies. In South Africa, Beyers has had his commando dispersed. The German cruiser *Emden* is again active, making a brilliant reappearance in the roadstead of Penang, flying the Japanese flag, and repainted and otherwise disguised. She succeeded in torpedoing two war ships—a Russian cruiser and a French destroyer. The British Hospital Ship *Kohila* wrecked off Whitty; many lives lost, but a large proportion saved by heroic exertions and endurance. Court martial opens at the Westminster Guildhall on a German spy named Carl Hans Lodge.

32. 88th day of the war. Reinforced by a great body

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of fresh troops, the Germans attempt a general and intensified resumption of their offensive in France and Flanders. Marked changes in the battle front result; the enemy's forces, who were in partial occupation of Ranscapelle, are driven back beyond the Nieupoort—Dixmude railway line, losing numerous prisoners and leaving many wounded on the field. The bombardment continues with violence, and the flooding between the Yser and the Nieupoort—Dixmude railway renders the German trenches untenable. The London Scottish troops make a splendidly successful charge at Ypres. H.M.S. *Hermes* is torpedoed in the Straits of Dover and sunk by a German submarine; all the crew saved except some 45 men. General bombardment of Tsingtau begins. Indian troops co-operating with the Anglo-Japanese forces there.

Nov. 1. Superhuman efforts continue to be put forth by the German forces in France and Belgium to maintain their positions. Reserve after reserve is brought up and thrown into the battle line. In one week—Oct. 12-20—the Allies took 7,083 prisoners. The German losses in this Battle of Flanders alone are said to amount to 125,000. In Poland, the German retreat becomes daily more pronounced, the Russian front now running through Piotrkow, more than 60 miles from Warsaw and 60 miles from the German frontier. In Galicia the enemy failed to dislodge the Russians from the league of Przemyśl, which is now in ruins. The Russians make heavy captures and recapture important towns. From 2,000 to 3,000 Bedouins invade Egyptian territory. British, French and Russian ambassadors leave Constantinople.

2. The Germans are evacuating their trenches on the left bank of the Yser and are concentrating an immense force with the object of retaking Ypres. The Admiralty announce the closing of the North Sea to shipping, except under conditions which give safe passage to innocent neutral vessels. German attempts to take the offensive on the borders of East Prussia are repulsed by the Russians. The German raiding cruiser *Kaiserlich* sinks three more British merchant ships. The German annoured cruisers *Scharnhorst* and *Gneisenau* arrive at Valparaiso (after their attack on the *Monmouth* and *Cape of Good Hope*, see Nov. 4), and after taking in provisions leave during the night.

3. The forts at the entrance to the Dardanelles are bombarded by the Anglo-French fleet; and the fort of Akaba, close to the Egyptian frontier, has been shelled by the British cruiser *Minerva*. Martial law is proclaimed in Egypt. Early this morning an enemy's squadron fired on the *Halcyon*, a coastguard gunboat engaged in patrolling. This being reported, various naval movements were made which caused the squadron to make a rapid retreat, and when beaten off, the rearmost cruiser, in making its escape, struck a number of mines, one of which was thruck by Submarine D 5, exploding her.

4. The enemy is concentrating in great force for a final assault on the line between Ypres and the Lys, and the position of the Allies has been strengthened. British artillery has done "prodigious slaughter." The Indian troops win great praise for their splendid bravery, and Sir John French sends a special message of congratulation to the London Scottish for their "glorious lead." Up to now the tremendous sacrifice of German lives has availed the Germans nothing. The Germans now hold only a single position on the left bank of the Yser. The German troops, driven back from Warsaw a distance of 20 miles, to within 30 miles of their own frontier, are still in retreat. They capture 15,800 Austrian prisoners and scores of guns. Bombardment of the Dardanelles by the Allied fleets has resumed. Russian troops enter Turkish territory and after some fighting capture Zivne, Kara Kilise, Passinka and other places, and are threatening Erzerum. Admiralty's report of Naval battle between German and British ships off the coast of Chili [Nov. 1] issued to-day, showing that the *Good Hope*, *Monmouth*, and

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Glasgow cruisers engaged the *Scharnhorst*, *Gneisenau*, *Leipzig*, and *Dresden* in stormy weather, the action lasting an hour. The *Good Hope* caught fire, blew up, and sank; the *Monmouth*, also on fire, drew off, but was again attacked, her fate being not yet known. The *Leipzig* was not greatly damaged, and has few casualties. Bombardment of Tsingtau continues. The Austrian cruiser *Kaiserin Elisabeth*, which was in the harbour when the siege began, has been blown up by the Austrians. Sir Percy Scott is appointed Naval Assistant to the First Sea Lord. Cyprus annexed by the British Government. Nominally belonging to Turkey, Cyprus had been occupied and administered by Great Britain since 1878, by virtue of a Convention by which an annual tribute of £2,800 was paid to the Sultan. It now becomes entirely British. The *York*, German cruiser of nearly 10,000 tons, is sunk off Wilhelmshaven by a German mine.

5. Great Britain declares war against Turkey. Turkish Ambassador leaves London.

6. The Allies make a marked advance to the south of Dixmude and towards Gheluwe. Particulars of the great retreat from Warsaw are to hand to-day. It is shown that the Russian armies, dominating a front stretching from the Baltic to the Carpathians, have overwhelmed the first resistance of the Austro-German forces at every point. Since the advance towards Warsaw, many things have surprised them. First, they were held up on the west bank of the Vistula by a sudden concentration of Russian columns. From that time the enemy's forces were driven rapidly back. On the south of Piltzta, at Radom, at Sandomir, and along the valley of the San they tried to stem the tide of retreat, but without avail. Then at Kielce, some fifty miles due west of Sandomir, the Russians went into occupation on Nov. 3; after that Jaroslavl fell to them, and so the armies of the Grand Duke Constantine swept along to the German frontier. The spy *Lody* is shot at the Tower.

7. Russians cross the German frontier north-west of Kalisch and are on the direct route towards the heart of Germany; the advance continues with equal steadiness in East Prussia and Austrian Galicia. Russians capture positions from the Turks only 33 miles from Erzerum. On the Black Sea the Russians bombard two small ports, near the Ereget coasts.

8. German troops are being withdrawn from Brussels, Louvain, and Antwerp. Their big guns, which were being brought up towards Arras and Lille, have been sent away in the night. A grand final effort to "smash through" to Calais or Boulogne, however, is being prepared, the chief point of attack at present being Ypres, now largely defended by British troops. The Germans abandon Comstockowa and Kalisch, and the Russians successfully invade the province of Posen in Prussian Poland, no German troops being now left in Russian Poland. In Galicia the Austrians abandon all their positions along the lower San.

9. 9th day of the war. The Germans still retain some positions on the left bank of the Yser, and between Dixmude and the Lys renew aggressive movements, all of which are repulsed by the Allies. On the Eastern Cameroons near the Congo, a force of French troops under General Aymerich has performed a brilliant feat in expelling the Germans from a large part of the territory. The German cruiser *Geier* at Honolulu, having outstayed the allotted time for an injured belligerent, has been interned by the U.S. authorities. The German steamer *Locksley* is also interned with her.

10. The Admiralty makes official announcement of the capture and destruction of the German raiding cruiser *Emden*, at Keeling (Cocos) Islands, in the Indian Ocean, by H.M.S. *Sydney*. The *Emden* was caught and forced to fight, with the result that she was driven ashore and burnt. The German cruiser *Schwartzburg* has also been forced out of harm's way, she was discovered on Oct. 25 by H.M.S. *Chatham*, hiding in shoal water about six miles up the Rufiji River, opposite Mafia Island, German East Africa. Owing to her greater draught, the *Chatham* could

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not reach the *Königsberg*; steps were taken, therefore, to block her in by sinking colliers in the only navigable channel, pending operations for her capture or destruction. The right wing of the German army in East Prussia is defeated, the Russian advance continuing along the whole front. Russian ships sink three Turkish transports in the Black Sea, the vessels containing troops, aeroplanes and uniforms.

11. 99th day of the war. The fighting in Flanders is less favourable to the Allies, the Germans renewing their attack "with most peculiar intensity," and succeeding in occupying Dixmude. The Allies, however, continue to hold the outskirts of the ruined village, and advance beyond Lombartzeville in the coast region. From the East the news is good. The Germans make active preparations to resist the Russians at Thorn, as the Austrians are doing at Cracow. About 22,000 German prisoners taken. H.M.S. *Niger*, a gunboat built in 1892, torpedoed and sunk by a German submarine in the Downs; officers and crew saved.

12. The enemy is making a stand near Thorn in East Prussia, bringing up 1,000 guns to defend their position against the advancing Russians. Supplementary Estimate issued for 1,000,000 more men and £225,000,000 more for the war, including advances to Belgium and Serbia. British casualties up to Oct. 31, 57,000 (killed, wounded, and missing).

13. The guns bear the principal part in the fighting along the left flank of the Allies to-day. The results of the enemy's efforts during the last few days are thus summed up in the *Paris communiqué*: "He has won Dixmude, a village smitten to ruin by the breath of the guns, and has found it a barren conquest." Russian troops occupy Tarnow. The Santa Claus ship *Jessen* sails from New York with millions of Christmas presents from America's children for the children of belligerent nations. Lord Roberts died at the headquarters of the British Army in France.

14. The German forces are once more thrown back over the Yser, a submarine is sunk off Westende by being rammed by a French torpedo-boat. Turkish forts at the southern end of the Red Sea are captured by Indian troops, assisted by H.M.S. *Duke of Edinburgh*. It is now confirmed that the naval action in the Pacific (see Nov. 4th) was fought by four German warships, the *Gneisenau*, *Scharnhorst*, *Leipzig* and *Dresden*, against the *Good Hope*, the *Monmouth* and the *Glasgow*. Six German warships and an Austrian cruiser, it is now reported, were discovered sunk through explosion in the Tsingtau harbour on the Japanese and British taking possession.

15. The Germans continue in possession of the ruins that was once Dixmude, and make a further attempt to cross the canal, without the command of which the possession of Dixmude is worthless, but are defeated. German attacks are being repeated near Ypres and repulsed every time. The Prince of Wales is now at the front in Flanders, taking up a position on the staff of General French. Mr. Aquith moves a vote of Credit for £225,000,000, of which £44,000,000 is to be devoted to loans; £30,225,000 to Canada, Australia and New Zealand; £10,000,000 to Belgium; and £300,000 to Serbia. The vote to carry the country on to March 31. The Home Secretary stated that 14,500 alien enemies are now confined in concentration camps in this country, and that 29,000 are still at large.

16. The Allied forces press forward in the neighbourhood of Brüsselotte, and German attacks are repulsed south of this village also south of Ypres. A brilliant bayonet charge by Zouaves carries a wood after its being in dispute between French and German troops for three days of indecisive fighting. Two heavy attacks of the enemy on the British Third Division are successfully resisted, the Germans being driven back in disorder for 300 yards. The Chancellor of the Exchequer produced his War Budget. The War Loan of £250,000,000 is to be raised at once. Issued at 95, it will bear interest at 3½ per cent., and will be

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resumed not later than March 1, 1928, being in effect a 4 per cent. security. The additional taxation rendered necessary is to be met by doubling the income tax and super-tax, but for the current year only payable in respect of one-third and by increasing the tea-duty from 5d. per lb. to 8d. per lb. and the beer-duty to the extent of 1d. per half-pint.

17. The advantage of the day in Northern France and Flanders, after many fluctuations, remains solidly with the Allies. The Germans have not pushed forward one mile on their march to Calais. British warships bombard the entrance to the Zeebrugge ship canal to Bruges, and destroy the Colmay factory which the Germans have been using for military purposes. The Russian official *communiqué* states that the Russian advance-guards opposing the Germans, who took the offensive, are falling back in the direction of the Bzura. On the front of the Mazurian lakes the Russians reach the wire entanglements of the Germans and force them. A German squadron bombard Lithau, a Baltic port, causing several outbreaks of fire. The Russian Black Sea Fleet cannonade the forts and barracks at Trebizond. Numerous battles are raging in Poland, near Thorn, where General Hindenburg has evidently succeeded in checking the centre advance of the Russians.

18. Funeral of Lord Roberts in St. Paul's. The battle-cruiser *Gordon* severely handled and set on fire by the Russian Black Sea fleet off the Crimea; her superior speed enabled her to escape. In the Shatt-el-Arab region, a British force inflicts defeat on Turks with great loss. British losses at sea to date: Total casualties, 4,128; Officers, 264; Men, 3,864. Of these, 222 officers and 3,455 men were killed.

19. British Govt. prohibit export of tea from this country except to the Allies and to Spain and Portugal. Export of rubber also stopped.

20. Ypres still in the hands of the Allies. In the Eastern battle ground Von Hindenburg continues his attempt to advance on Warsaw, reaching a point within 40 miles of the Polish capital. Three British aeroplanes make a raid on the Zeppelin factory at Friedrichshafen on Lake Constance, dropping bombs and doing considerable damage; one airman (Commander Briggs) captured.

21. German guns specially active in the Ypres, Reims and Soissons region, adding destruction to destruction. Von Hindenburg's advance on Warsaw is successfully checked, his army of 400,000 is broken up into several parts. Basrah captured by Anglo-Indian troops. In German East Africa, however, an attacking body of Anglo-Indians is overpowered by superior numbers and loses 795 officers and men. German submarine, V 18, is rammed by a British warship off the coast of Scotland. Crew of 26 saved with the exception of one man. German destroyer, S 22, rammed by the United States Shipping Company's *Anglo-Dane*. Herin, one of the smallest of the Channel Islands, leased to a German Company in 1889, taken possession of by British troops.

22. The new German naval base under construction at Zeebrugge shelled and destroyed by British and French warships. Further success for the Russian army in Poland, Von Hindenburg said to be in retreat.

23. At 7.53 this morning the *Bulwark* battleship, lying in Sheerness harbour, blew up and entirely disappeared, nearly 800 lives being lost. Only 12 saved.

24. The activity of German submarines in the Channel does not cease; two British merchant ships have been sunk off the French coast. Mr. Lloyd George announces in the House of Commons that the War Loan of £350,000,000 has been oversubscribed. Mr. Churchill declares that by the end of next year our Navy will be increased by 15 new Dreadnoughts as against three added to the German fleet.

25. The struggle in Poland grows fiercer and desperate. Before 1.0.2, General von Mackensen's army is vigorously resisting the encircling movement of the Russian force, while an attempt is being made by the German Army at Lodz to break through to its rescue to the north. On the whole, however, it

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seems doubtful whether General von Mackensen will be able to extricate the remnant of his army safely.

29. Almost under the walls of Cracow, the Russian army of Gallici wins a signal victory, 25,000 Austrians have been taken prisoner within the next fortnight. A long despatch from General French, describing the work of the British Expeditionary Force in the Battle of Flanders, is issued. "No more arduous task," he writes, "has ever been assigned to British soldiers; and in all their splendid history there is no instance of their having answered so magnificently to the desperate calls which of necessity were made upon them." The King leaves on a visit to France.

30. The King at headquarters in France. The issue of the great battle in Poland is still in doubt, but the Germans are a long way from safety. The mass of the German Army is disposed upon a main front of about 120 miles that runs in a broad curve from Sieradz, passes just west of Lodz and Lowicz, and thence goes almost due north to the line of the Vistula at Plock. From above the centre of this line a subsidiary front goes for about 25 miles almost due south through Brzeziny to Tuszyn. Between Lodz and Lowicz two German army corps were almost destroyed, but cut their way out with heavy loss by the aid of reinforcements opportunely flung in. The Russians are striking at the German left, have stormed Sobota (a few miles west of Lowicz), and have advanced to the attack of German entrenched positions at Leczyca, right in the rear of the main German line.

Dec. 1. King George visits base hospitals containing British, Indian, and German wounded in France. Two advances are made by the Allies; between Bethune and Lens the château and park of Vermelles are carried by assault; and in the Aronne an appreciable advance is made in the woods of La Gurie. The battle in Poland continues with unabated determination on both sides. In the Carpathians the Russians win successes which give them the command of important passes. De Wet is captured by the S. African forces.

2. In Poland the Germans rally. A new army from the West is flung in at Kalisz and is a factor of importance. In the region west of Lowicz the enemy attack the Russian front on the line from Brelaw to Sobota, which was stormed by the Russians on Nov. 30. The Russians retake Strykow and thus regain possession of the Lodz-Warsaw railway. The new move of the Germans seems to have been effectively countered so far, and meanwhile the Russians push vigorously towards Cracow.

3. The Russians are only 31 miles from Cracow's outer ring of fortifications. The advance upon Cracow has been difficult and costly, conducted in its later stages in a temperature 25 degrees below freezing point. Strong reinforcements are being pushed forward by the Germans against the left wing of the Russian army operating before Lodz, a large proportion of the new troops being drawn from the Western front.

4. On the Western battlefield events develop slowly, while the operations in the Vosges and Alsace claim attention with the siege warfare in Flanders. French attacks are made north-west of Altkirch in Alsace. At a point nearly six miles north-east of Ypres the Germans made an infantry assault but without success. The Allies capture 991 prisoners in the northern region alone.

5. A forced retirement of several kilometres in North France is admitted by the German Staff. The enemy's positions at the village of Vermelles became untenable owing to the French artillery fire and are evacuated, the Germans retiring to new positions to the east of Vermelles. The village was completely destroyed before the evacuation. General Botha announces that the rebellion in the Orange Free State is practically crushed. King George returns to London from France.

6. The Allies capture and strengthen a position across the Yser, destroy a German fortification and do considerable damage to the enemy's guns. At several points the heavy artillery of the Allies has quite out-classed the German weapons.

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7. The 25th day of the war. The Germans claim to have captured Lodz and put the Russians in retreat. The Allies continue to advance in France, generally taking the offensive, and appreciable progress is made in several directions. In the day hours of this morning the Germans make an attack by armoured motor-boats on the Belgian lines south-east of Rams-capelle near Peroye. It was a battle by flood and searchlight and the Belgians met it with characteristic bravery, ultimately driving the Germans back. Turkey's cruiser *Hamidieh*, damaged by a mine, has put into Constantinople with difficulty.

8. The Russians have again evacuated Lodz. On the Western front a violent attack is made by the Germans on St. Eloi, south of Ypres, but fails. Meanwhile the British fleet open a bombardment of the German trenches between Nieupoort and Ostend, the land forces of the Allies acting in conjunction with the naval operations. General Beyer meets his death in the Vaal River, across which he was escaping from pursuit, having been wounded. Four German warships—the raiding cruisers *Scharnhorst*, *Gneisenau*, *Nürnberg*, and *Leipzig*—sunk off the Falkland Islands by a British squadron commanded by Sir F. Sturdee. The engagement lasted five hours and the *Dresden* escaped.

9. It is announced that Lodz was evacuated by the Russians at midnight on the 5th Dec., in conformity with a well-considered plan, without the loss of a man, and that the Germans did not enter the town until the following afternoon. In Western Galicia the German forces suffer a grave defeat, a German corps from Belgium having been put to flight.

10. The third attempt of the Austrians to carry out an effective invasion of Serbia is made, the enemy being disastrously defeated near Valievo, and compelled to retreat with losses in men estimated at 30,000 and in guns at 50.

11. The Germans make another attempt to "smash through" the Allies' lines near Ypres but without success. British cruisers shell the Belgian coast in the Nieupoort region. The French capture the railway station of Aspach, south of Thann in Alsace. Three separate engagements take place on the Eastern frontier of Germany. Near Mlawka the Germans made desperate attacks all yesterday and during the night and were repulsed. A Russian counter attack then drove back the enemy's columns. The Serbian army still pursues the Austrian invaders, and thousands of prisoners are being brought into Nish. The French Government returns to Paris.

12. A new battle of Ypres is developing even less favourably for the enemy than before. Three more violent attacks have been repulsed. On the Eastern front the Russians successfully withstand several fierce attacks in the Lowicz—Warsaw direction.

13. British submarine B.11, in spite of difficult currents, dives under five rows of mines in the Dardanelles and torpedoes the Turkish warship *Messudiyeh*, of 10,000 tons. The Serbians continue their chase of the Austrians, who are said to have 30,000 Bavarians with them. Several thousand more prisoners are taken.

14. A change in the German plan of operations in Poland seems to be developing. The advance from East Prussia to the north of Warsaw having been thrown back the troops have been withdrawn over the border, and some of them sent south to assist the operations south of Cracow. Here troops are being massed, aided by bodies of Austrians who have crossed the Carpathians from Hungary. The Serbians re-enter Belgrade after a desperate battle. In the Caucasus the Turks have suffered a severe reverse at the hands of the Russians, and have been driven across the Euphrates, which extends from the Persian Gulf to a point within 50 miles of the Black Sea.

15. All along the western front the Allies gain advantages. A combined attack on the lines from Hollebecq to Wytschaete resulted in the capture of several German trenches and a number of prisoners. By a debouching movement, from Nieupoort, French and Belgian troops occupy the line from the western border of Lombardzyde to the farm of St. Georges,

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while to the south of Ypres attacks made in the direction of Klein-Zillebeke represent an advance of 550 yards. In the regions of the Aune, the Argonne, the Meuse, and the Vosges similar progress is reported. There is but one exception—the village of Steinbach in the Vosges—which has been lost to the Germans together with several hundred French infantry. In North Poland the Germans admit a serious reverse. The column descending southward from East Prussia through Mława has not been merely checked, but, to quote the German Headquarters' Report, "it has had to occupy its former positions in consequence of superior hostile forces." In plain English, it has had to fall back again into East Prussia. The Austrians are pouring over the Carpathians and concentrating large bodies of troops on the left bank of the Vistula.

16. A German cruiser force made a raid upon our North-East coast, shelling Scarborough, Whitby, and Hartlepool, between 8 and 9 a.m. A British patrolling squadron tried to cut them off, but, favoured by mist and superior speed, they succeeded in making good their escape. Prominent buildings were struck, 120 persons killed, and over 400 wounded.

17. In view of the state of war arising out of the action of Turkey, Egypt is now placed under the protection of Britain. This is the announcement given out by the Foreign Secretary to-day. Egypt, which includes the Sudan, covers 1,300,000 square miles and has a population of 13,000,000. The Khedive is virtually deposed.

18. On both sides of the Western field—in France and in Flanders—serious progress is made, the weight of the offensive being with the Allies. In Poland, the German advance along the left bank of the Vistula, which has already brought them to Sochaczew, is still being pressed forward. German troops are also concentrating upon Łowicz, Piotrków, and Wielun, where the Russian centre is entrenched before the main railway through Poland. Łódź appears to have been evacuated now by the Germans as of no particular value, and the force which descended into North Poland by way of Mława has been driven back over the East Prussian frontier. Prince Huysen Kameh Pasia, eldest living prince of the family of Mehemet Ali, has been offered and has accepted the title of Sultan of Egypt in place of the ex-Khedive, now deposed.

19. The Allies gain further ground before Nieuport and St. Georges, as well as east and south of Ypres, north of La Bassée, and north-west of Arras, while the positions east of Vermelles have been maintained. British troops lose some trenches near Neuvechappelle. The Russians are now holding the line of the Bzura and Rawka rivers, 30 to 40 miles south-west of Warsaw, and after some obstinate fighting to-day cut up a German force which had closed the Bzura at Dachowa, immediately south of Sochaczew. The trial of Captain Fourné, a ring-leader of the South African rebels, concluded to-day. Found guilty and subsequently shot.

20. From the Łódź to the Vistula the situation is one of standstill. The defeat of the German force that descended into North Poland by way of Mława has freed the Russian right wing to some extent, enabling the Russians to draw up their forces in Central Poland towards the Vistula to guard against an enveloping movement. This movement may explain the evacuation of Łódź. Vast changes of a decisive character are taking place in S. Poland. The Piłtza has been crossed and the Austro-German lines have even reached Opoczno, an important point towards Radom, and the enemy has also obtained possession of the great trunk railway from Warsaw to Czenstochowa. Cracow has been relieved.

21. The steady maintenance of pressure by the Allies on the Western front continues, notably between the Argonne and the Meuse, where comparatively long distances have been gained. In the Eastern battlefield great activity prevails on both sides. The Russians claim that the Germans in the Mława region have been driven back, that the Austrian offensive

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has been definitely checked, and that the operations have assumed a character "perfectly favourable to the Russian arms."

22. The Allies make progress at many points in the west. In Champagne and the Argonne fierce bayonet fighting has resulted in the storming of three German entrenched positions, covering a front of a mile, near Perthes-les-Hurlus, which is three miles east of Souain on the road to Ville-sur-Tombe. Further along this road, on the outskirts of the Argonne, the Allies have made good their capture of another mile of trenches at Beausjour.

23. The Allies steadily push their way along the beach and sandhills to the north of Nieuport, the guns of the Anglo-French bombardment squadron materially assisting this important movement. In Poland formidable preparations are in progress for an advance upon Warsaw, the Germans being now well within 30 miles of the city, and are said to be bringing up their great 42 centimetre mortars ready for siege operations.

24. The German attempt to reach Warsaw weakens and further south the Austrians have been severely punished at several points, a large force being in full retreat in Western Galicia.

25. Seven British naval seaplanes make an attack at daylight on German warships lying in Schilling Roads off Cuxhaven, escorted by the *Arctis*, the *Undaunted*, a destroyer flotilla and submarines. Our ships while standing by to pick up the seaplanes were themselves attacked by enemy Zeppelins, seaplanes and submarines, beating off the attack, and succeeding in picking up six of our seaplanes after they had discharged bombs "on points of military significance." The seventh seaplane was afterwards seen in a wrecked condition off the coast of Heligoland, and the fate of its pilot, Flight Commander Francis E. T. Hewlett, was not known until some days later when it turned out that he had been picked up by a trawler and was in Holland.

26. Mława is retaken by the Germans. This indicates another attempt to thrust back the Russian left flank.

27. The French hold the trenches captured near Puiseleine on the heights of the Meuse, consolidating the occupation of the ground near Caumont. On the Eastern Front the enemy is fought to a standstill for the time being, and the Russians are confident of their ability to hold him in check. Further south the Austrians are being driven back.

28. The Russians are massing forces on that section of the Lower Vistula which includes the railway there, and are in great strength in the region of Plock and thence to the Warsaw front.

29. The 80th day of the battle for Calais. The Allies take and establish themselves in the village of St. Georges. In Upper Alsace they are closely investing Strasbourg after a violent action and have seized a position north-west of the town. The main fighting on the Eastern frontiers is now centred on the Upper Vistula and to the South. The Austrian advance, meanwhile, through the Carpathians has been driven back in the utmost disorder. Russians claim to have made 50,000 Austrian prisoners during the first half of December. The Government of the United States has addressed a Note to the British Government protesting against the treatment of American commerce by the British fleet, by which, it is asserted, the rights of American citizens under the laws of nations have been infringed.

30. A German squadron of aeroplanes attacked Dunkirk this morning. Four machines flew over the town and dropped bombs, while a fifth hovered in the distance as "sentinel." 25 persons were killed and 32 wounded. The Allies who ground near Nieuport, strengthen their hold on Ypres by carrying a German point of vantage on the road from Becelaers to Paschendale, and on the right of their line pushed forward in the Argonne. The Russians make further progress in Galicia, several fortified works being captured and 44 officers and 1,500 men made prisoners. South-west of Dukla the enemy's forces are driven in a panic from strong positions.

31. In Upper Alsace the French enter Steinbach and

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"carry half the village house by house." In the region of Beauséjour the Allies make ground, repulse a German counter attack, and again push forward as the enemy's troops fall back unsuccessful. Between the Meuse and the Moselle the French take over 150 yards of the enemy's trenches. Following their repulse on the Bzura, the German attacks on the Rawka are now weakening, the Russian heavy artillery having been brought up and used with great effect, the Government of the Union of S. Africa has decided to commandeer men for service in the forces operating against German South-West Africa. It is expected, however, that compulsion will not be necessary. Meanwhile, the Union troops re-capture Walvisch Bay. The rebel Maritz is again showing activity without opposition.

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Jan. 1. The battleship *Formidable* is sunk this morning in the Channel by torpedoes fired from a German submarine. She had a complement of about 750 officers and men. A British light cruiser and a Brisham fishing smack save between them 190 lives. In Belgium the Allies hold St. Georges; in the Argonne the Germans win back some lost ground, but in turn are attacked by the French. The enemy makes desperate but unavailing attempts to drive the French out of Stenbach.

2. In Upper Alsace, the railway about Altkirch is bombarded; and at Stenbach more lines of houses are carried by the French infantry. There are violent artillery engagements about Nieuport, but against St. Georges the enemy abandons his counter-attacks.

3. In the Ulva region of the Eastern battleground the enemy's offensive is foiled, but south of the Vistula his attacks are very stubborn.

4. The two chief centres of activity in the Western battleground are still Upper Alsace and Champagne. In both the progress of the Allies is being steadily maintained. Berlin officially admits that Stenbach has been captured by the French. An important height west of Cernay is stormed and held, and Cernay itself, a mile or two away, is seriously threatened by the French advance. The situation in Poland is developing. The Germans are held up on the Bzura and Rawka rivers, and for a fortnight have made no progress in the direction of Warsaw. The advance into Bukovina has reached within a mile of the Rumanian frontier. British warships successfully bombard the German port of Dar Es Salaam in East Africa.

5. A complete defeat overtakes the Turkish army in the Caucasus. The battle is fought at an altitude of 10,000 feet on steep mountain ridges covered with snow, where almost no convoy or field artillery can be brought. Two Turkish army corps are routed, and the whole of the 9th Corps surrenders, amounting for 40,000 Turks put out of action. The pursuit of the remnant is vigorously followed up. Important gains are secured by the French in Alsace by pushing on towards Mulhouse, past the village of Cernay to the eastward of Vicux Thann, and silencing the artillery fire of the enemy to the east of Upper Burnhaupt. The French also succeeded in establishing themselves in the hamlet of Creux d'Argent in the Vosges. Near the village of St. Georges the Germans are driven back from their trenches to a distance of from 200 to 600 yards. Cardinal Mercier, Archbishop of Malines, is arrested by the German military authorities for issuing a pastoral letter to be read in the churches of Belgium, in which, while counselling Belgians to abide by the terms of surrender made to the Germans, he repudiated the existence of any right by which the Germans control Belgium.

6. Further reports concerning the defeat of the Turks in the Caucasus show the affair to have been the most wholesale putting out of action that has occurred since the war began. The retreat of the remnant was cut off by roads deep in snow, and, finding the situation hopeless, the Turks surrendered in masses. The battle lasted for 48 hours with great desperation. To-day a slight German gain is reported in Alsace, the enemy succeeding in

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recapturing one of the "heights," on the east flank of the hill 445, though the French still hold its summit. Otherwise, the important gains made in Stenbach are successfully maintained. Lord Kitchener makes a statement in the House of Lords. With regard to recruiting, he says it has "proceeded on normal lines." He also states that the deficiency in the supply of officers is now made good, over 20,000 having been appointed since the beginning of the war.

7. The French advance in Alsace continues with unabated success, and they have now reached a point only about 24 miles west of Altkirch. They also maintain at all points the positions recently captured from the Germans. The report on the German atrocities in France is issued to-day. It is one of the most appalling records of wanton outrage ever given to the world. The sale of absinthe is prohibited in France.

8. Fighting is actively resumed in Belgium, between Westende on the coast and Lomiatztyde and in the neighbourhood of St. Georges, though progress is rendered difficult by the dreadful condition of the soil, which recent rains have turned into mud. In Alsace, the French make substantial progress, ousting the Germans from their trenches on the side of Hill 445 and gaining more ground on the slopes. Further south the French capture Burnhaupt-le-Haut, and some progress is reported towards Pont d'Aspach and Kahlberg.

9. In Poland, from the severity of the weather and other causes, von Hindenburg's armies are becoming weaker. The activities on the Western front increase. The Germans attack the positions recently secured by the French on the west of Perthes, but are driven back so effectively that 400 yards more of their trenches are captured on the flank of the point from which they attacked. At the same time the French by a direct attack secure Pertuisa village. Three lines of German trenches are taken at Soupir, the captured section extending for about 600 yards.

10. The Germans, strongly reinforced, recapture Upper Burnhaupt but sustain heavy losses. Soissons is violently bombarded by the Germans, the cathedral being badly damaged and the Law Courts set on fire. The Germans to-day make an attack on Spur 132, to the north-east of Soissons. This attack being repulsed, the French then capture the whole ridge by expelling the enemy from two lines of trenches, which they had retained since Jan. 3.

11. The text of the interim Note in reply to the Note from the American Govt. on contraband cargoes is published. Sir E. Grey declares that the Govt. cordially concur in the view that a belligerent's interference with neutral trade should be confined to the absolute limits necessary to protect its safety; and expresses the opinion that the extent to which we have interfered with trade has been over-estimated. It also gives figures showing the enormous increase in the exports of copper to Italy and other neutral countries contiguous to the enemy States. Further progress is made to the north of Perthes, the French once more attacking and capturing a line of trenches along a front of about 100 yards. The Germans make an obstinate attempt to regain the position lost to the north of Beauséjour, but are repulsed with heavy loss. German aeroplanes drop bombs on St. Malo-Baire near Dunkirk, and kill six persons. Sir Edward Grey's reply to the American Note on the subject of contraband cargoes appears to have created a good impression in the United States.

12. Count Berchtold, Austro-Hungarian Foreign Minister, resigns, being succeeded by Baron Buzan. The Turks occupy Tabriz in Persia, the capital of a province under Russian influence. The German movement near Soissons assumes a more determined character and the French lose some ground. Germans claim a victory on the hills near Crouy. Severe earthquake in the Lake Fucino district of Italy, great destruction and loss of life.

14. German success near Soissons, the Kaiser a spectator. In North Poland the Germans have been

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driven back on two successive days. Turks in considerable force advance on Egypt.

18. The Russians take 5,000 prisoners and nearly 10,000 head of cattle from defeated Turks in the Caucasus. Fierce fighting continues in the Solissons district with fluctuating results. In front of Warsaw a new Russian offensive is developing north of the Vistula, on the German line of communication.

19. Air raid by British, French, and Belgian aviators on Ostend, doing much damage to the military works there. After a desperate battle lasting nearly a week the remnant of the Turkish army that invaded the Caucasus suffers disastrous defeat at Kara-Urgan. Their 12th Army Corps (40,000 strong) is annihilated.

20. The Allies win successes in the Neupont and Lombartzyde region, driving the enemy out of his trenches on the Great Dune and bombarding and destroying a redoubt and works near St. Georges.

21. The recent German success at Solissons is barren of result to the enemy unless he can extend the gap to right and left, so he revenges himself by wanton acts of destruction. The Russians are now invading Turkish territory and the plight of the Turks is desperate. Over 900 frozen corpses with rifles in their hands are found in one forest. In Poland the Russians re-occupy Ploetz.

22. A raid of German aircraft is made this evening on the East Coast, bombs being dropped on Yarmouth, Cromer, Lynn, Sheringham, and Sandringham. Three persons killed and considerable damage done.

23. Three successful infantry attacks are made by the Allies on the Western front, partly counter-balanced by a check to the French advance in Boile-Frèze. The Germans are driven out of certain of the Allies' trenches which they had occupied at Notre Dame de Lorette; and near Beauséjour, and in the Forest of Apremont they capture part of the enemy's positions and hold their guns. Allied armies make a raid on Essen.

24. The Glasgow steamer *Dunward* is sunk by a torpedo fired by submarine U 70. British air raid on Zeebrugge, damaging a submarine and causing many casualties. Simultaneously German aeroplanes drop bombs on Dunkirk, killing 9 people.

25. M. Millerand, French Minister of War, is received by the King and confers with Ministers.

26. Early this morning a British patrolling squadron sights three German battle-cruisers and an armoured cruiser, the *Blücher*, steering westward. The German ships turn and make for home, but are pursued and brought to action. The *Lion*, flying the flag of Vice-Admiral Sir David Beatty, leads the British line. The battle begins about 9.30. The *Lion*, *Tiger*, *Princess Royal*, *New Zealand*, and *Indomitable* are the British ships engaged; and opposed to them are the *Derfflinger*, *Seydlitz*, *Moltke*, and *Blücher*. A well-contested running fight ensues and shortly after one o'clock the *Blücher*, which had previously fallen out of line, capsizes and sinks. No British ships are lost; our casualties are 14 killed and 29 wounded. Of the *Blücher*'s crew of 885, 123 are saved, including the captain, who died of pneumonia on Feb. 16, 1915, in Edinburgh Castle.

27. The Kaiser's 56th birthday. Desperate attempts are made on sea and land to achieve victories in honour of the day, but the successes rest with the Allies.

28. Thousands of lives have been sacrificed to achieve a substantial feat of arms as a birthday tribute to the Kaiser, but defeat and heavy losses have been sustained by the Germans in nearly all directions. Great Britain arranges to lend £5,000,000 to Rumania.

29. In the three days, Jan. 25, 26, 27, the French communiqué states that the enemy's losses, judging from the number of dead found on the ground in the region of Ypres, La Bassée, Craonne, the Argonne, and the Woëvre, exceed 20,000.

30. Germans are again checked by the British at La Bassée, 200 dead being counted in front of the British trenches in the Caucasus and in Persia the Russians win successes against the Turks.

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Feb. 1. The struggle for the mastery of the Carpathian passes continues to be most violent.

2. Parliament reassembles. This evening the Turks make an attempt to cross the Suez Canal at Toussoum, near Ismailia. They are allowed to bring bridging material to the bank of the Canal before being interfered with. Then British troops deliver an attack and the Turks fly in disorder.

3. In the Mlaw region the Russian advance threatens the left flank of von Hindenburg's army. In the Carpathians strong headway is being made by the Russians. The Austro-German armies in that quarter, however, are becoming overwhelmingly strong, numbering over 500,000 men. The fighting is along a front of 80 miles.

4. The German Marine Staff declares a blockade of the British Isles from Feb. 18. A Turkish force of 12,000 men, with heavy artillery, attacks the British post at Toussoum. Simultaneously another attempt is made to cross the Canal by pontoons and rafts. Our artillery and ships open fire, and after twelve hours' fighting the Turks retire with heavy losses. The British losses are two officers and 13 men killed, and 28 wounded.

5. "Warsaw at all costs," is again the Kaiser's command, and von Mackensen, with 100,000 picked men and 600 guns, is making the attempt in a desperate onslaught. It is estimated that on a six-mile front the Germans have lost about 30,000 killed. The Carpathian battle is still undecided. In the centre the Russians withdraw from two passes as part of a tactical plan, and make progress on their left and left centre. The Turks retire from the Suez Canal. Their casualties are about 3,000, including 400 killed, 600 prisoners, and 2,000 wounded.

6. A conference is held in Paris between the Chancellor of the Exchequer and the Finance Ministers of France and Russia, at which it is agreed that the three Powers shall unite their financial and military resources.

7. Operations on the Eastern front take a definite turn in favour of the Russians, who cross the Bzura.

8. The total number of British casualties to Feb. 4 is 104,000. M. Delcassé, French Foreign Minister, who is visiting this country is received by the King to-day. A Supplementary Estimate provides for an addition of 32,000 men to the British Navy, bringing the total up to 250,000.

9. The Russians are pushing through the Dukla Pass in Hungary. The enemy is completely routed in the Carpathians.

10. The German Admiralty issues an order that neutral ships shall not be interfered with if they are not suspected of carrying contraband, but that every British ship, whether a war or a merchant vessel, will be sent to the bottom of the sea.

11. In Eastern Prussia the concentration of very great German forces is established. These forces taking the offensive are rapidly developing it, especially in the directions of Wylkowsky and Lyck. The presence of vast new formations which have arrived at the front from the centre of Germany is revealed, and the Russian troops are now falling back towards the Russian frontier. In the Carpathians the Russians take the heights near Rabe, east of the Lupkow Pass, after a stubborn fight, and capture about 1,000 prisoners.

12. The German advance continues in East Prussia, the enemy pressing forward in great force along the line of the Niemen. The Russians, outnumbered by five to one, falling back on their fortified lines.

13. The new German move in East Prussia is pushed forward into Russian territory.

14. The second Russian retreat from East Prussia to the Niemen develops rapidly. The German tactics, however, are arrested. Hindenburg's hopes of following up his vigorous advance being seriously interfered with. In the Carpathians and in Western Galicia the Russians are doing well.

15. Air-raid by 40 aeroplanes (British) on the German positions on the Belgian coast. 240 bombs dropped in Ostend, Middelkerke, Ghistelles and Zeebrugge. Eighteen aeroplanes assisted by a simultaneous attack on the Ghistelles aerodrome to prevent

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German aeroplanes from cutting off our machines. The German advance in East Prussia and in Poland north of the Vistula continues. German columns are marching on Oswiec and have occupied Plock. The Carpathian battle is still going in favour of the Russians.

17. Germans sink a British collier and a French steamer off the French coast. The rearguard action of the Russian 10th Army during its retirement from East Prussia to the fortified line of the Niemen has evidently caused our Allies heavy losses. They escaped the attempted German encircling movement near Augustowo, but the reverse they have sustained is serious. The Germans claim that they have taken 50,000 prisoners.

18. 20th day of the war. The battle on the East Prussian frontier is not decided yet, but Germany announces the capture of 64,000 prisoners. Petrograd reports success in the Carpathians.

19. The Norwegian steamer *Beltrude* is the first victim of the "blockade," being torpedoed some 9 miles west of Dover this morning. Crew and pilot rescued. The American steamer *Evelyn*, with cotton from New York to Bremen, struck a mine to the north of Borkum and sank. A fleet of 32 British and French warships attack the forts at the mouth of the Dardanelles, silencing those on the European side and damaging those on the Asiatic side.

20. The attack on the Dardanelles forts is renewed, and two of the Asiatic forts are destroyed. The Russian counter to the German advance from East Prussia and Posen begins.

21. A German aeroplane raid on Essex towns is made. Two bombs are dropped at Brantree, one at Coggeshall, and one at Colchester. No loss of life.

22. Germans torpedo four ships off the Kentish coast. The German advance in Poland comes almost to a standstill, though fighting occurs north of Warsaw. Serious riot among Indian troops at Singapore, fomented by German agents.

23. The British South African forces operating in German S.W. Africa occupy Garub.

24. The Russian counter-attack of Mogily, south-west of Bolimow. Allied armies make a successful raid on German lines of communication in Champagne. Germany claims to hold 805,000 prisoners of war.

25. The Allies begin to dredge the Dardanelles for mines. On the Russian front a great battle is in progress from near Warsaw to Grodno.

26. Dardanelles forts attacked by the Allied fleets, the *Queen Elizabeth* taking part with crushing effect. The German attack on the Russians ends in disaster, the enemy being in full retreat from the Narew, and in East Prussia the Germans are on the defensive again.

27. Germans use burning liquid against the French trenches. The French take 2,000 yds. of German trenches in Champagne.

March 1. Great Britain declares the blockade of Germany.

2. In Poland the Germans are again thrown back to their frontier, leaving behind them over 10,000 prisoners.

3. The operations in the Dardanelles progress. British battleships enter the Straits and attack several of the forts, doing much damage.

4. The German submarine U 8 sunk off Dover by British destroyers.

5. A force of 12,000 Turks and Arabs surprise a British reconnoitring detachment in the valley of the Tigris, 180 British killed and wounded.

6. Mr. Lloyd George brings in a Bill giving the Government power to commandeer factories for munition purposes.

10. German submarine U 12 sunk to-day by H.M.S. *Arcturion*. British troops win an important battle, carrying the village of Neuve Chapelle and pressing forward to the east and south-east of the place. Over 700 prisoners were taken, and the German losses in killed and wounded number many thousands.

11. The German raider *Prinz Eitel Friedrich* puts into Norfolk, Virginia, disabled.

13. Severe counter attack on the British forces at Neuve Chapelle repulsed with very heavy loss to the

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enemy, 1,720 prisoners being taken, the German losses altogether amounting to 10,000.

14. The German cruiser *Dresden* caught near Juan Fernandez by the *Glasgow*, the *Kent*, and the *Orama*. After five minutes' fighting the *Dresden* hoisted the white flag, and ultimately blew up and sank. Sir J. French reports that the German losses (March 10-13) at Neuve Chapelle were from 17,000 to 18,000.

15. An action is fought between the combined British and French squadrons and the great fortresses of the Narrows in the Dardanelles. Four of the forts were silenced, but three vessels of the Allied fleets—the *Irresistible* and the *Ocean*, of the British fleet, and the *Bouvet* of the French squadron—were sunk by mines. Practically the whole of the crew of the *Bouvet* were lost.

20. The garrison of Przemyśl make a determined but wholly unsuccessful sortie.

22. The fortress of Przemyśl falls to-day, surrendering after a siege of six months. The prisoners taken number 120,000.

25. The German submarine U 29 was sunk to-day.

26. The Austrians withdraw from the Lupkow Pass.

April 1. The British South African forces win an important success and occupy Ans, which had been strongly fortified.

5. The *Prinz Eitel Friedrich*, the last of Germany's fleet of 14 auxiliary cruisers, is interned. The Sultan of Egypt fired at.

9. The opening of the Allied offensive for the summer campaign has been favourably begun by the capture of Les Eparges. The Germans have lost 30,000 men in this region within the last two months.

11. The armed liner *Kronprinz Wilhelm* has put in at Hampton Roads, Virginia. British casualties up to this day number 139,347.

13. Strong German reinforcements are being hurried up to cope with the Russian advance in the Carpathians.

14. Fully 4,000,000 men are said to be engaged in the fighting in the Carpathians.

15. The Allies gain a brilliant success between Arras and Le Bassac. Mr. W. G. C. Gladstone, M.P., is killed at the front.

17. A Turkish torpedo boat attacks the *Manitou* transport carrying British troops in the Aegean Sea. Three torpedoes missed, but 51 lives were lost by the capsizing of a boat. The torpedo boat was chased and run ashore. The British submarine E 15 lost in attempting a difficult reconnaissance of the Kephez mine field in the Dardanelles.

19. British troops gain a notable success near Ypres, conquering Hill 60 and killing hundreds of Germans. The Russians claim to have captured at least 70,000 men in the operations in the Carpathians between March 19 and April 12.

21. The Germans continue their attempts to recapture Hill 60 without success, losing about 4,000 men within the last three days.

22. 20,000 British and French troops land near Enos. Hill 60 again attacked with heavy loss.

23. As the result of a surprise attack, in which asphyxiating gases are used, the Germans force the French to fall back to the Yser Canal, and the British supporting them are compelled to readjust their lines.

24. The Canadians show splendid gallantry in recapturing guns taken by the enemy.

25. Germans continue their attacks to the north-east of Ypres, our troops hold them in check.

27. British and French troops make good their footing on the Gallipoli peninsula. The *Leon Gavett*, French cruiser, torpedoed by an Austrian submarine, nearly 700 lives lost.

30. German aircraft drop bombs on parts of East Anglia, but do no serious damage. German long-range guns shell Dunkirk, killing 20 people.

May 1. Two German torpedo boats and one British destroyer sunk off the Dutch coast.

3. The German and Austrian forces break through the Russian line in the Carpathians, and claim to have captured 30,000 prisoners.

5. The Germans obtain a footing on Hill 60 under cover of poisonous gases.

PEARS'
of
DICTIONARY
GARDENING.



EDITED BY

P. ANDERSON GRAHAM.

*Editor of "Country Life," and author of "All the Year with Nature,"
"Nature in Books," &c.*

Pears' Dictionary of Gardening

"God the first garden made."—COWLEY.

"Gardening, which inspires the purest and most refined pleasures, cannot fail to promote every good affection. The gaiety and harmony of mind it produces, inclining the spectator to communicate his satisfaction to others, and to make them as happy as he is himself, tend naturally to establish in him a habit of humanity and benevolence."—LORD KAIMES.

"Go thou, and like an executioner,
Cut off the heads of too-fast growing sprays,
That look too lofty in our commonwealth;
All must be even in our government,—
And thus employed I will go root away
The noisome weeds, that without profit suck
The soil's fertility from wholesome flowers.

We at time of year
Do wound the bark, the skin of our fruit-trees,
Lest, being over-proud in sap and blood,
With too much riches it compound itself.

Superfluous branches.
We lop away, that bearing boughs may live."
SHAKESPEARE: *Richard II.*, ii., 4.

"The soil must be renewed, which, often washed,
Loses its treasure of salubrious salts,
And disappoints the roots; the slender roots
Close interwoven where they meet the vase
Must smooth be shorn away; the sapless branch
Must fly before the knife; the withered leaf
Must be detached, and, where it strews the floor
Swept with a woman's neatness, breeding else
Contagion and disseminating death."

COWPER: *The Task*.

INTRODUCTION.

By P. ANDERSON GRAHAM, Editor of "Country Life."

THE PLEASURES OF GARDENING.

Gardening is one of the most ancient, if not the most ancient, occupations of the human race, and there never was a time when it could be pursued with more interest and profit than at the present moment. It is also an occupation open to everyone; the poorest may practise it on a small scale, and the richest may find in it wide scope for the use of capital. It is open to the possessor of a single flower-pot to grow something interesting or beautiful.

Window gardening during recent years has received the attention of the most cultivated taste, and might now almost be classed as one of the fine arts. Outside there is scarcely anything that cannot be ornamented and rendered beautiful by an outlay of time, money, and trouble in accordance with the ambition of him who exercises it. A fine old wall can be rendered still finer by growing upon it suitable plants such as wallflowers, snapdragon, foxgloves and the various lichens and mosses which he who wishes may find exhaustively enumerated by Miss Jekyll. The ugliest new wall may be changed into a thing of beauty by a judicious use of evergreens and creepers.

The gardener who is fortunate enough to have on his ground the smallest pond or the tiniest rivulet may find a delightful task in growing the various plants suitable to water. The ground itself can be made to yield effects that scarcely were thought of by our ancestors in that art.

But there are at least two very opposite sides to gardening. One is the scientific, in which the desire is not so much to produce beauty as to gratify curiosity. Of recent years hybridisation has been carried to a very high pitch of perfection, and Mendelism has been applied with such practical effect that scarcely a season passes without seeing the production of some floral novelty that is at once attractive and full of interest. And the scientists have shown what further work is possible in this direction, so that here an amateur finds a wide field for his amusement and instruction. If he is content simply to grow new and strange plants, he has but to consult the lists of those seedsmen who make a point of keeping abreast with the times, and if he goes deeper into the matter, these are days in which the portals of science are thrown wide open, so that it is extremely easy to obtain the knowledge and materials necessary to make experiments of one's own. But the scientific student is not engaged only in preparing the material out of which the beautiful gardens are finally made. Those who study effect only will not fill their gardens with novelties. They know that many of the commonest flowers—those even that approach weeds in their character, under proper treatment and management, usually by the process of massing—can be made to yield a beauty as charming as that of the most expensive orchids. One has but to look at a great mass of poppies covering a field of corn, or a breadth of speedwell rendering the corner of a field or the bank of a river azure, to see how Nature, the most skilful of all landscape gardeners, works.

The true principle of gardening is to follow her methods faithfully and truly. It would take a huge treatise to deal fully and finally with the subject, but perhaps the gardener is happiest who works out his own salvation, that is to say, who thinks of the effects he wishes, and uses his own means to produce them. The little treatise to which I have been asked to write this brief introduction will be found to contain information about the common materials required by the gardener, and simple directions about the operations appropriate to each month and season of the year. The writer has not confined himself to flowers, but has also dealt with the kitchen garden, so that those who do not aspire to go any further than the production of vegetables will find in the succeeding pages the information necessary for the task. In itself, the growing of vegetables is one of the most fascinating of all pleasures, as here, too, we find an advance and an improvement that could not have been expected a year ago. Moreover, in spite of all the modern facilities for getting fruit and vegetables to market, it may be taken as an incontrovertible fact that nothing purchased at a shop or store possesses the freshness and delicacy of taste of that which is taken direct from the soil to be put into the pot. No one can possibly appreciate what is the best in vegetables until he has learnt to grow them in his own garden.

THE GARDENER'S REMEMBRANCER.

EXPLANATORY:—*Ready reference considerations have led to the arrangement in dictionary order of the descriptive matter and cultural directions contained in the following Gardening Manual under three heads, viz:—1, Flower Culture (embracing ornamental outdoor work as well as Greenhouse and Window gardening); 2, The Kitchen Garden; and 3, Fruit Growing. It will be helpful, however, to give first a concise general*

GARDENING CALENDAR.

January.—Manuring, digging, and trenching operations should be completed in propitious weather in the kitchen garden, and flower borders made or renewed, where this has not been done before the New Year. Gravel walks may be laid down and well rolled after wet, box and other edgings mended. Rose and fruit trees may be planted still in open weather where requisite: prune old and dead wood from such of the latter as are left stationary, and have not been attended to. Bulbs may be put out yet for late blooming, those which are showing above ground being protected from frost. Prepare hot beds for asparagus and mushrooms as convenient. In gentle heat or in frames musk, single begonias, ageratum, and other seeds may be sown as well as tomatoes, and cucumbers for early cropping, and broad beans and lettuce on sunny borders; while peas for early planting out should be sown in pots, and chrysanthemum cuttings taken. Potatoes may be planted, too, in frames and dahlia roots overhauled in readiness for starting new sets. Rhubarb and sea-kale should be covered for blanching, or placed for forcing in warm unlighted sheds. Plum and other fruit trees on walls will, in many cases, be better for training, trimming, and nailing, and turfing may be advantageously undertaken now, when the ground is in proper condition. In vinerias a temperature of sixty degrees or a little over ought to be maintained during the night for vines well started, but where later grapes are the object keep the temperature lower. A good greenhouse temperature for January is forty-five degrees for hard-wooded plants like heaths, camellias, or the azalea tribe. Fuchsias may be cut down and re-potted, and cuttings taken from the new-started shoots for summer-bedding.

February.—Gooseberry bushes and strawberry beds should be manured, as also herbaceous borders, bulbs coming on in the ground being mulched lightly. Raspberries may be planted in prepared positions, shortening the canes whether they are transplanted or otherwise. Sow sweet peas and half hardy annuals of

all sorts under shelter; and cauliflower, kidney beans, and other tender vegetables in hot beds. Celery, onions and saladings should be sown in shallow pans or boxes, and parsnips on prepared beds. Tomato, cucumber, marrow, and melon seedlings coming on in heat must be thinned and transplanted, and more sowing done where wanted. Roses will repay liberal dressing with well decayed manure, but pruning even the hardest and best established should be deferred, except where the earliest possible blooming is the only desideratum, and then the risks incurred by the use of the knife before March are grave. Sow marjoram, thyme, and other pot-herb seeds towards the month end. Vines may now be forced to meet fruiting requirements and pot strawberries stimulated in growth. Plants in the greenhouse should be shifted and given a good start whenever necessary, any repotting being discriminately done. Amongst the favourite herbaceous pot plants such as cinerarias, and calceolarias, green fly needs circumventing by timely fumigation, pelargoniums should be trained and kept free from damp foliage and draughts, and everything coming into flower well watered as the camellias, which want little, care being exercised also not to wet the hearts of the primulas. Bedding plants such as cuttings of geraniums, heliotropes, petunias, and calceolarias, must now be rooted for supplying the garden borders in due season, their temporary developing quarters being systematically prepared and protected against bad weather. Dahlia tubers need excitement into steady healthy growth prior to division for cuttings being taken, and tender annuals and climbers for later outdoor planting may be carried forward a stage in cool pits or frames well sheltered from frost. Carnations, picotees, auriculas, etc., in frames can now be fully exposed when the exterior air is well above freezing point; they must, however, not be over watered, and the lights of the frames must be kept on during wet and foggy weather.

March.—Cut back and trim ornamental deciduous trees and privet and other hedges. Shrubs and bushes of all kinds, particularly such as have been transplanted, require staking, tying, and in some cases temporary shielding against high winds. Gladioli may be planted, in flowering positions for the main display, and hardy biennials placed in the borders, whilst the division and propagation of perennials must be proceeded with. Tulips, hyacinths, etc., should be

carefully guarded during frosty weather in exposed situations. Sow hardy annuals in the beds. Complete dressing round fruit bushes, and finish pruning fruit trees, protecting those showing bud in severe spells. Put in potatoes; sow main crop peas, Windsor beans, carrots and vegetables generally, and plant out cabbages, artichokes, etc., reserving cauliflowers until as late in the month as possible, and covering them against frost up as safely as can be. Mushroom beds and cucumber pits will want attention, and tomato plants coming on in bottom heat also. Growing vines should be syringed frequently, and young shoots encouraged. Most things in the greenhouse will now do with additional watering. Now is the best time for sowing in gentle heat primulas, begonias, and kindred subjects for subsequent indoor decoration, also in boxes pansies, polyanthus, etc. Pot on geranium, fuchsia, and other cuttings that are well rooted, affording increasing air after they are well established in their pots. Dahlia cuttings must be taken, the nearer the old stem the better, and planted in light, sandy compost separately in small pots, and plunged in hot beds to stimulate root development. As sunlight strengthens, the shading of glass structures in which growing stuff of almost all sorts is present will become more and more requisite to obviate flagging. In the case of young plants especially this is of more importance than the watertop, which is often over used. Water of the temperature of the air surrounding is what everything requires, be it in greenhouse, heated frame, or elsewhere, and that only when moisture is not reaching the roots with sufficiency.

April.—Lawns require mowing and rolling, and rose-pruning should be tackled discreetly, remembering that comparatively late cutting to two or three buds on a rather weak variety, and to four or five buds on the stronger sorts, eliminating all weakly growth, is likelier to produce more satisfactory results than the too early and yet timorous handling of the knife. The harder hybrid perpetual and bush roses should first be dealt with, standards next, and wall and arched roses generally last, all these being pruned less drastically. In every case the soil should be well stirred round the roots, and the nutritive mulching applied, all briar suckers being removed. Keep the hoe going on all permanent borders to prevent weed growth, and plant out shrubs that have been wintered under shelter, gradually withdrawing protection from the tenderer species which have stood in the open, forking and raking intervening ground. Stocks, carnations, hollyhocks, pansies, bedding calceolarias, and the like, may be transplanted in suitable weather, affording slight cover against sun by day and possible night frosts, until a start has been made, besides circumventing the slug. Afford budding auriculas, polyanthus, hyacinths, and tulips attention, guarding against heavy rain; sow more seed of annuals in the borders thinly, and prepare beds for their transplantation. Potato planting may continue in the kitchen garden, as well as the pricking out of cabbages and greens, celery and cauliflowers. Sow vegetables for autumnal handling, such as beet and turnips; also beans and peas, spinach, lettuce, radishes, etc., for succession. Protect pea rows and springing broad beans by earthing up, and look to the asparagus beds, sowing seed of the latter. Seed of runner and dwarf kidney beans must also be got in, and well-grown lettuces need tying. Where possible protect the blossoms of the finer fruit trees with light tiffany or herring nets. Give vine borders the requisite dressing, and ventilate the vinery with care, maintaining a suitably high temperature after the thinning of bunches has been accomplished. Greenhouse plants must be kept clean by the removal of dead leaves and superfluous growth, and the prevention of moss formation on the surface soil, while the propagation of tender subjects from cuttings and offshoots should engage attention. Fern spores may be sown in bottom heat, and young ferns and musk potted off.

May.—This is the month in the flower-garden for finishing the furnishing of borders for summer display and clearing off the bulbs now over the blooming, which have supplied the ground in many instances hitherto. Taste and care should be shown in the operation in order to secure the most pleasing effect,

and plenty of room allowed for development. The most delicate species should be kept in shelter until frost risks are past, so that no stoppage succeeds the planting. Select a favourable relative position for every plant, spread out the roots nicely, and press firmly, shade and water, and keep the snails and slugs away, replacing failures from reserve. Thin out growing annuals and other seedlings to prevent crowding; pair down petunias, verbena and trailing geraniums as they extend; stick fuchsias, zonal pelargoniums, carnations, and everything requiring support. Syringe the aphides off the roses, and from standards rub away growth buds on the briar stock as soon as they show, tying back growing shoots on the wall varieties to obviate injury. Judicious thinning of wall and tree fruit will be repaid; pick off caterpillars from currant and gooseberry trees as they appear. Sow saladings, parsley, etc., and prepare outdoor marrow and ridge-cucumber beds: sow runner beans in rows for regular cropping, and continue slightly to earth-up peas that are getting forward. Transplant cabbages, thin parsnips, carrots, and onions. Cucumber frames should be carefully ventilated, damping the soil and woodwork lightly before closing in the early evening, and pinch the trailing shoots back to within three leaves of a formed fruit. Conservatories, greenhouses, and frames are undergoing great clearance for bedding out and placing of pot plants on ornamental stands, as well as the filling of window boxes, vases and hanging baskets; opportunity should be taken to overhaul the larger specimen plants in the houses, trimming and re-potting where necessary, and training up roof and pillar climbers, applying a top dressing of soil where shifting is not wanted. Pot on young stuff to fill the staging. Thinning and stopping of lateral shoots in the vinery for the later grapes, and feeding for those with ripening fruit, will be requisite.

June.—Watch the filling out of the bedding plants according to design in the borders, trimming edgings and rows neatly and keeping creepers within bounds. Stake stems wherever the need is evident, stirring the ground and watering well when the sun is hot up, to aid growth and flower formation. Seeds may be sown of calceolarias and other plants for next year's flowering. Establish outdoor tomatoes in sunny positions. Look after the marrows and re-spawn mushroom beds. Thin out seedling vegetables and eradicate weeds by hand and hoe, transplanting cabbage and other culinary greens on moist days as requisite. Disbud young growing vines, encouraging only a sufficiency of the likeliest shoots. Pot herbs should be cut and dried on attaining maturity. Where azaleas, heaths, epacris and camellias are being brought on in the greenhouse, moist heat should prevail to encourage growth, prior to turning the plants into the open to harden for winter blooming. Gloxinias, achimenes, etc., should have shade and plentiful watering as the flowering period approaches; balsams must be shifted as rapidly as possible. Train standard fuchsias neatly, keeping the budding sprays to the light. Pot chrysanthemums for blooming, and place them in the open when the roots have gained good hold. Pelargoniums, show and fancy, as they finish blooming, are to be placed, if possible, in cool, well-aired frames for hardening their shoots, the best cuttings being used for rooting.

July.—Rose-budding is most successfully accomplished this month. Pillar roses and climbers generally require training, tying, and thinning, while plentiful syringing will be helpful where green fly gives trouble. Secure dahlia shoots against wind, and trap earwigs before they can work damage. Feed chrysanthemums and remove side-shoots and tops of the tallest. Pinks may be divided as soon as flowering ceases, carnations layered, and verbenas cuttings may be struck under glass. The various tuberous anemones, ranunculuses, and the like may be taken up and kept for autumnal replanting. Water everything in the border copiously in dry weather, and keep all in trim. Wireworms will do much mischief among carnations if not caught in pieces of potato inserted below the soil surface. Campanulas and other biennials and perennials may be sown and flower seeds gathered from the garden as they ripen. Grass lawns and edgings call yet for great care, and weeds must be kept off the

paths. Strong-growing bedding stuff and spreading herbaceous plants have to be cleared. Vacant places in the kitchen garden need preparation for the reception of winter maturing vegetables, and bearing beans and peas will yield the better for liberal supplies of weak manure well soaked in. Parsley should be thinned out, and lettuce transplanted; turnips may be sown where new potatoes have been dug. Full-grown cabbages may be taken up, and vegetables generally gathered as soon as they are ready. Much raspberries and secure strong strawberry runners when fruiting is over to form new plantations. Cucumber plants in frames and marrows out of doors should be watered freely, and tomatoes trained and stopped systematically. Shading will be requisite in all vineries where grapes are ripe, to prevent shrivelling, and fig trees may be advantageously pruned now. It is difficult in July to over-ventilate an ordinary greenhouse. Cape leaths report now safely, should the shift be needed. Calceolarias may be sown.

August.—Watering and weeding is almost a daily duty in the flower garden, and surface dressings may be renewed round choice roses. Evergreens need pruning to prevent overgrowth, and thirt edgings should be trimmed. Keep the seed pots picked off, for annuals to prolong the blooming period, particularly in the case of the sweet pea family. Gross growth in dahlias must be checked. Layering of carnations and picotees will still succeed if a good compost be employed; layers already rooted should be lifted and potted off. Cuttings of bedding plants that are likely to be wanted should be taken now. Rose cuttings may be struck in light soil over a mild hot bed, potted up and hardened gradually. Pinks, pansies and large double wallflower cuttings recently rooted, may be placed in the open to stand the winter. London Pride and other saxifrages are propagated by the removal of offshoots in August with ease. The bass binding should be loosened on budded rose stocks. Lime is effectually employed in the kitchen garden to lessen the ravages of snails, and caterpillars must be hunted and destroyed grovays and the rest of the cabbage kind, while pea and bean haulm requires clearance as cropping concludes. Well water runner beans at the roots, make a final sowing of endive to stand winter and get out the last of the transplanted celery. Ventilate vineries, and stop young canes when they reach the top of the house. Dust with flowers of sulphur any chrysanthemums which are showing signs of mildew, giving manure water liberally. Seeding auriculas, calceolarias and cinerarias may be potted when ready; and half hardy annuals like nemophila, rhodanthé, and collinsia sown in pots for winter flowering. The tenderer pot plants removed from the greenhouse for summer exposure ought to be taken in again by the month end, particularly when there is continuous rain. Hoe and rake shrubby borders. The selection and training of young shoots for next year's yield should be seen to in the orchard as the various fruit trees complete the season's growth.

September.—Falling leaves give a lot of work on lawns and flower beds now. Clear all up daily, and give unremitting attention to plants blooming in the borders to obviate overlapping and rank luxuriance. Dahlias should be tied in, and the shoots cut away. Late in the month put out bulbs for spring display, hyacinths and the like being placed simultaneously in pots and glasses for window decoration, varieties of the narcissus tribe being similarly treated. Earthing-up celery may be proceeded with, potatoes dug, and arrangements for the winter and spring cropping of the vegetable ground carefully completed. Lift onions, drying them well in the sun, and gather tomatoes; transplant lettuces into frames for winter cutting, and thin spinach. Apples for keeping should be allowed to hang as long as possible, and be laid carefully away in a dry storing place. Borders may now be made ready for planting young fruit trees, and strawberry beds for the ensuing main crop should be filled with healthy young plants. Damp mounds should be avoided in the vine where late grapes are ripening, and firing attended to. Early vines, pot or planted out, will want proper pruning. Cucumbers and melons still bearing in the pits need air by day more than

moisture now, and mildew is a danger to be overcome by cautious watering in this respect and by the timely application of sulphur over the leaves. Before the greenhouse is filled for the winter is a good time for a repainting, which should be quickly and efficiently done on dry days. From outdoors and the cold pits the hestha, azaleas, camellias, and the rest of the plants for winter growth and blooming can then be stood in the best positions to remain. Pelargoniums cut down after flowering and re-establish for specimens, as also fuchsias, well hardened, will also come in to keep dry for the winter. The propagation of half-hardy plants by cuttings should be completed, frames as well as the warmest spots in the underpart of greenhouses and conservatories being fully utilised for the purpose. Striking having been accomplished on bottom heat, the cuttings will come on safely in a temperature of fifty degrees or so, which should not be exceeded in the greenhouse in autumn and early winter. Watering must be moderate, and ventilation free, so long as frost is never allowed access to the houses.

October.—From the summer flower-beds everything that has had its day having been removed, the time has come for substituting hardier species. After the clean sweep there must be a thorough sowing and sowing, and then wallflowers and many useful biennials and perennials, brought on for the purpose, are to be planted in the places of the summer occupants of the borders, the taller growing things farthest from the front. Polyanthus, violets, narcissus, primroses, pansies, well-divided rockets, lychins, and bordering of arabis, alyssum or other suitable frost-resisting, low-growing plants can now be put into position, spring blooming bulbs being interspersed according to fancy. There is endless variety attainable at small cost and easy of cultivation. Permanent borders may now be dug, and all the dead wood from shrubs cut away. Take up dahlia and begonia tubers as well as gladioli corns, and put them by, well dried, for the winter rest. Transplant ornamental deciduous trees and flowering shrubs. Chrysanthemums in pots must be taken to their blooming quarters before the frost can injure them, and some of the choicest pansies as well as all calceolarias worth keeping put into unheated frames for protection. Prepare tulip beds for massing effect, using a good depth of light fibrous loam to receive the bulbs. Primulas and cyclamens should be kept warm in pits preparatory for removal to greenhouse or conservatory shelves for flowering when bloom is scarce; and stocks, mignonette and many other things wanted in spring can be accommodated similarly. See that every plant in the greenhouse is clear of green fly, scale or other pests, and keep all kinds of succulent plants free from excessive water. All established vines which have finished fruiting may now be thoroughly pruned, if the wood is ripened hard, and a good general cleaning of the canes, by the removal of loose bark, is desirable, coincidentally with a dressing of the borders as requisite. In the kitchen garden late planted cabbages, brocoli, turnips, etc., should be well hoed. Young lettuces and cauliflowers may be planted on sunny borders, and pot herbs put in convenient places. The last of the potatoes having been lifted, and beet, carrots, parsnips, etc., safely stored, the ground should be well dug, trenched and manured. New fruit trees may be planted, and old ones where necessary rootpruned to keep down gross and unproductive growth.

November.—Edgings of all kinds in the flower gardens need trimming up well, and new ones of box can be planted at the beginning of the month. Digging and manuring, wherever fork or spade can be got to work, is essential, and opportunity should be taken to amalgamate with the soil in the process as much manure as is required. Lawns should be cleaned up and well rolled when the last fallen leaves have been swept away, and then left till the grass begins fresh growth. This is the best time to transplant most roses; their roots should be carefully spread in prepared ground, and pressed into a good compost, a surface dressing being given to complete the work. The tenderer tea and climbing varieties, where exposed, may advantageously receive protection against frosts to come. Liliums should be planted in the first week of the month, also the early flowering gladioli in pots. Phloxes divide and move

now. In the general clear up in the flower garden all stalks of stationary herbaceous plants should be cut away and burnt, with the rest of the accumulated rubbish and dead leaves carefully collected for rotting to mix in due course with potting compost. Prune gooseberry and currant bushes, also prune and nail wall fruit trees, and thin the larger orchard varieties judiciously, replanting and manuring as necessary. Rhubarb must be covered with litter, also endive and sea-kale, and celery may be finally earthed up and protected. A soot dressing should be scattered about cauliflower and cabbage plants. Hot beds should be renewed where exhausted, and fresh mushroom spawn placed in prepared beds for winter yield. Radishes, lettuces, and small salad stuff can be grown in frames, to come in handy before those produced out of doors are ready. Young vines may be started in bottom heat in pits, or over the flues in the vinery, which is usually utilised for the wintering of plants that do well there without injury to the grapevines overhead. In the conservatory there should now begin to be a good show, the chrysanthemums, geraniums, primulas, etc., affording the colour staple, while ferns, begonias, palms, and other ornamental plants combine to form an agreeable and easily varied decorative arrangement. The Roman hyacinths, early started, and some of the powerfully scented giant mignonettes are also among the flowering plants available for the end of the year in glass structures. The temperature ought to be equally maintained, overheating being guarded against quite as much as cold draughts. Remove all dead leaves and loose dirt to keep the air sweet and clean.

December.—Everything liable to injury by severe frost in the garden should receive some slight protection during its prevalence, and cocoanut fibre may be strewn upon bulb beds. Sweep snow from lawns, shake it from conifers, and roll grass when not too

frosty. Gravel or other walks ought to be kept tidy. Turning may be done early in December; good soda, firm flat fixture, and frequent rolling thereafter are essentials of success. Following severe frosts, it is well to press carnations and pinks firmly into the earth, and pansies may be treated likewise. Manure watering may be applied advantageously to borders, which have previously been well forked, either between growing plants, or where vacant entirely for the time being. It is a good plan to be active with the spade and fork in the garden in the winter, without disturbing the vegetation, dormant or otherwise. Any alterations, such as making fresh paths, or laying out new beds, can now be carried out. Nothing is worse than leaving the garden to look after itself all through the cold months. Horticulture must be systematic and practically ceaseless. In dry weather trenching and manuring may be pursued in the kitchen garden, and early-sown peas and beans peeping through should have the loose earth gently drawn up on each side of the rows for protection. A light covering of litter will be helpful to strawberry beds in frost. Give air cautiously during severe spells to pits and frames, and cover those containing delicate things with mats at night. Keep cinerarias and calceolarias near the glass, and water carefully as requisite when the flowers are coming out. Auriculas in frames, also carnations stood on ashes, should be kept cool and dry. Damp the early vinery floor on bright days as branching proceeds, and keep an eye on the outside border to see that the vine roots are practically as warm from the fermentation of material employed outside as is the foliage within the structure. Keep the greenhouse dry, and not too warm. Plants wanted for earliest flowering should be placed nearest the glass. Fancy pelargoniums and other subjects liable to harbour green fly must be watched and cleansed on the first appearance of the pest.

FLOWER CULTURE

(Embracing Window-gardening and Greenhouse Work)

Abelia.—*Abelia rupestris* is a useful deciduous shrub, reaching a height of 3 feet, and bearing in early autumn clusters of fragrant white bloom. Plant in a sheltered sunny position, in good light soil.

Abronia Umbellata.—Rosy-lilac, half hardy annual, 6 inches.

Abutilon.—Free-growing, hard-wooded greenhouse shrub, bearing pretty and distinctly formed flowers, some varieties having variegated foliage. Useful for training round pillars as an indoor pot-plant, and for plunging in a sheltered spot in the garden at the back of a bed in summer time. Sow in bottom heat in spring, and transplant into rich soil, or strike in September, potting off into good-sized pots.

Aconite.—The yellow mimosa makes a good greenhouse or window plant, and is easily cultivated. The Locust tree is really not a true aconite, but is a favourite for planting in ornamental shrubberies, and sheltered front gardens, where it will rapidly grow to a great height, though taking many years to mature. Bears sweet-scented blossom in June, and has particularly graceful foliage.

Acanthus.—Beautiful leaved South European herbaceous perennial, grows and flowers well in light border soil. Raised from seed or propagated by division. Commonly called "Bear's breech."

Achimenes.—Raised from seed in a hot-bed in shallow well-drained pots, these pretty plants bloom well in a warm greenhouse or conservatory, and do nicely in decorative hanging baskets. Leaf soil, rich loam, and silver sand, with a few lumps of charcoal over the drainage, should be employed, and they should be kept moist at the roots when growing and flowering.

Aconitum.—The blue monk's-hood is often grown at the back of borders or in front of shrubberies, where it gives little trouble. There are white and purple sorts, less common, but also pretty. The winter aconite,

yellow flowered, is popularly called "The New Year's 'fl'" because of its early blooming. It will grow in any corner almost, and gives no trouble. Seed of all the aconites may be sown in summer, and the young plants should be kept well-watered, and removed to their permanent quarters in the following year, or propagation by root division, as with many other perennials, is safe and easy.

Agapanthus.—August-flowering African lily, for pot culture or massing in beds, in the summer with gladioli; the blue or white varieties are very effective. Must be kept dry in winter, and if left out of doors protected from frost. Thrives in strong loam, not too rich, and does well in large pots or tubs. Well water with liquid manure in warm weather.

Agave.—The American aloe is the most generally cultivated of the agaves, and will stand in a big pot or vase on a terrace for many years. Whatever the agave is grown in should be well-drained, and the compost be fibrous loam, and coarse sand, with some old mortar, the whole firmly rammed down. Top dressing under the thick, fleshy, thorny-edged leaves may be applied occasionally with advantage. Heavy watering is helpful in summer, and any suckers thrown out may be potted off. Specimens planted out in favourable situations will reach 15 feet high or more. The plant dies after flowering.

Ageratum.—Dwarf, half hardy annual, bearing grey, blue, white, or rosy blossom, the former being oftenest met with. A useful bedder, easily raised from seed in gentle heat in March, or may be sown in a sheltered position outdoors later, and transplanted before placing in the border. Succeeds best in good light soil. Introduced from Mexico, and deservedly a favourite.

Aloxon Warcewiczii.—Bright, scarlet-blossomed half hardy annual, 1½ feet, prolific and useful for cutting.

Alyssum.—(See *Lemon Plant*.)

Alpine Plants.—The arbutus, gentians, and numerous other hardy favourites of the rock-garden and permanent border, indigenous to mountainous districts, come under this category. Most can be raised without difficulty from seed and started in small pots with a strong loamy compost containing sharp sand and grit, while some are also propagated by division. As a general rule, the climate of alpine, hardy, like those when well established, so that it is important to place them properly in the first instance, leaving room for natural development, and relying on seedlings for renewal or increasing stock. Good drainage is an essential of successful pot culture.

Alatrionia.—A showy, tuberous-rooted perennial, suitable for border cultivation, and needing protection in severe weather, with good soil to luxuriate in. Can be raised from spring-grown seed, and needs well watering in summer. Flowers, a mixture of yellow, orange, and intervening shades to flaming scarlet.

Alyssum.—Hardy, compact-growing border or rockery perennial, useful for edging purposes, 6 inches to a foot high. The variety saxatile is a very early golden-yellow flowering subject, and argenteum has beautiful silvery foliage. Seed should be sown in May to produce plants for following season's blooming, or cuttings can be put in a cold frame to start at the same period. The rock madwort, as the perennial alyssum is called, flourishes in sunny town borders. The "sweet alyssum" is a prolific British annual, which may be sown out of doors in April where wanted to bloom. It is white flowered.

Amaranthus.—Useful and distinctive annual, 2 feet high. Caudatus (the well-known Love-les-bleeding) and Hypochondriacus (Prince's Feather) are very useful for borders.

Amaryllis.—This bulbous-rooted plant may be given pot-culture in a greenhouse, being placed in deep pots as near the glass as possible, or out of doors, under a south wall in good, rich, peaty loam, mixed with matured stable manure. It reaches a feet high when at perfection, and bears gay, lily-like bloom, "her of white ground with rosy-purple flushing (as the *aviladonna* lily) all white (as *Longifolia alba*), or crimson (as *Formosissima*). There are other varieties, including *Lutea*, which is yellow, and *fers* in autumn. They should be plunged in 6 inches deep for outdoor culture and protected in winter; while the bulbs for pot growth must be planted up to the neck, and are best started in heat in spring. Whilst leaf formation proceeds, water freely.

Anemone.—The well-known "wind-flower" is difficult to surpass as a spring-blooming perennial, hardy and brilliant. The tubers should be planted in late autumn, when most kinds will flower in May. There are many beautiful colours and both single and double varieties, the latter later in blooming than the former. They prefer friable soil and a position free from keen wind, and will do well for years where well established, though some authorities advocate replanting after three or four seasons to avoid soil exhaustion and consequent deterioration of bloom. Lifting the mass with a fork and enrichment of the ground under the stool and around will suffice to sustain the choicest anemones at their best, if good rotten manure and sharp sand be plentifully employed. Many varieties will flower in mid-winter weather, and the scarlet fulgens is generally very early. The summer and autumn blooming *Anemone japonica* is very hardy, and its long flower stalks and cup-shaped white blossoms are always admired. The poppy-flowered French sorts are easy to deal with, and many of the singles which cannot at any stage endure frost. All are raised from seed, and their culture generally is dealt with in due course under that head later on. It

is sufficient to state here that the amateur who proceeds with care and discrimination, though he does not own a greenhouse or even a frame, can succeed in cultivating, if he takes the precaution of procuring good seed and attending closely to the directions, an immense variety of beautiful annuals, half hardy and tender. But he must approach the task with circumspection and systematically, using his wits as well as his hands, and not buying a lot of packets and emptying them out over borders or into boxes in patches, leaving Nature to do the rest. The growing of annuals of all kinds from seeds germinated in one's own garden is much more satisfactory than the purchase of plants raised in a nursery, though there is an added amount of trouble entailed. Also the former plan can be pursued with economy; whereas let each home gardener seek to have all the glory of providing his own display of annuals, and profit pleasantly by his practice. This dictionary, diligence, the instructions given on the smallest packets nowadays by reputable seedsmen, and experience together, will enable anyone with a real love for flowers to make a grand show almost all the year round, in a garden of modest dimensions, at a very small outlay, out of annuals alone. All the most desirable varieties will be found entered in the alphabetical order of their names here.

Antirrhinum.—The snapdragon is an old garden favourite, and a useful perennial that can put up with poor soil, especially if it be at all chalky. The more vigorous type of antirrhinum grows well upon rockeries and even on old walls; but good soil tends to perfection with the choicer varieties which floricultural selection has produced. Many fine-flowered sorts are now obtainable from seed, as also striped, veined, and marbled sorts of great beauty. By sowing in heat early in February, all snapdragons may be treated as annuals, transplanting into sheltered situations in good soil, to be moved to their permanent positions in May, when they will bloom in early autumn. After the flowering, cuttings may be taken, and will root easily in cold, close frames. The old plants may be cut down and returned for early summer flowering. A sowing of this favourite perennial may also take place out of doors in June, and transplantation to blooming beds in September, when the flowering will commence early the season following. They are very hardy, and resist drought, but should be moved on moist days.

Aquilegia. (See *Columbine*.)

Arceuthia.—A Chilean cone-bearing tree of a peculiar, yet highly ornamental character, with stiff, straight branches, almost at right angles from the stem, covered with pointed leaves, the variety most usually found out of doors in this country being imbricata, the "monkey-puzzle." Likes open situations, and will carry snow without injury, but is sometimes browned by severe frost. Not easily moved after establishment, but will stand for many years on lawns or in parks after it is established.

Arbutus.—A beautiful flowering and fruiting shrub, sometimes called the strawberry tree. Its clustered, cup-shaped blossoms are followed by deep orange or red strawberry-like fruits. Can be raised from seed or by layering, and flourishes near the coast in warm situations, growing best in peaty loam. It will reach ten feet high under favourable conditions. Smaller specimens of certain kinds of arbutus are grown in cold greenhouses for decorative effect.

Aristolochia Sipho. the "Dutchman's Pipe."—An ornamental climber with large leaves and peculiar shaped flowers; thrives as a greenhouse and sheltered out-door pillar plant when grown in good peaty loam, with a mixture of clean, sharp sand. Propagated by root divisions and spring or autumnal layering.

Aspidistra.—An easily cultivated plant, sometimes called *Richardia* and *Calla*, and more popularly the trumpet or Nile lily. Grows freely from offsets, and requires protection from frost only. Should be re-potted in October in good light soil, having rested in a dry place after finishing blooming in June; but in the growing state cannot have too much water if the soil is well drained. Its beautiful flowers are most distinctive, and attract the eye. One of the best of room-plants, not affected by gas fumes. Will keep in health for years in ordinary soil if nicely drained, sparingly watered,

and occasionally sponged. Bears small and insignificant flowers close to the soil, and is increased from suckers.

Aster.—Indispensable garden flower. Very varied in height, form, and flower shape, as well as coloration. The old China aster *sinensis*, 15 inches, has white, red, and blue shades, self or suffused. Then there are the giant comet varieties with very large flowers, the pretty dwarfs that keep down to 2 or 3 inches, the pom-pom-flowered type, the quilled German sorts, the flat French varieties, incurved, and others. Any of these can be grouped effectively in beds, and answer the demand for cut flowers admirably. They are treated as half-hardy annuals, sown in March in boxes or pans of light rich sandy soil under glass, in an airy sunny situation, transplanted later in a sheltered yet uncovered place to spread their roots and become sturdy, and bedded out in due course or potted off towards the end of May. They will stand watering with weak manure as the flowers begin to show, and top dressing is serviceable. The true aster is the Michaelmas daisy, a very useful border perennial of quite another character.

Aubretia.—A good border plant, or rock triller, with purple bloom and evergreen leaves. Perennial, 4 inches in height, grows best in sandy soil, flowers profusely in spring, with many sunny spots, and is easily increased by division of the roots.

Aucuba.—The familiar variegated laurel of the shrubbery and town garden, which resists smoke and will grow in any nutritive mould. Cuttings will strike in light soil readily in spring or autumn.

Auricula.—Alpine and show auriculas are distinct, the former being very hardy, the latter requiring to be cultured by division in autumn or from seed sown in spring under glass in sandy soil. Grown in pots, which should be small, auriculas must be given plentiful drainage, and require a sprinkling of powdered charcoal or wood ashes in the compost. They do best shaded from strong sunlight, and should be top-dressed with well-sifted manure or leaf-soil in February, and in watering care should be taken not to wet the flower buds or leaves. The eye of the blossoms of the Alpines is yellow, with gradations of varied rich colour deepening to the edge. The show sorts are either solid, green-edged, grey-edged, or white-edged, the more clearly defined the outer zone of the three last classes the better. The show varieties are particularly susceptible to damage by damp, and should not stand on the ground, but upon a bed of ashes if in a frame, or on shelf in the greenhouse. There are many splendid varieties.

Azalea.—There are outdoor and greenhouse azaleas, both beautiful, the latter excessively so when in bloom. The hardier varieties of the garden do nicely in sheltered permanent situations when grown in a compost of well-sanded peat and loam, soil which suits the pot sorts, also whether of the Indian or Chinese description, if charcoal be employed liberally over the crocks forming the drainage. Together these should occupy quite a third of the pot, and the charcoal may be advantageously steeped in liquid manure before being used. As in midsummer the plants should be taken out of the greenhouse and placed in open frames or under sunny walls to make new growth, which must be well ripened by the autumn. Watering with weak manured liquid during development is requisite, and strong sunshine hardens and ripens the new wood. Before bringing the plants into the greenhouse or conservatory in October they should be neatly tied and trained, the budding shoots being turned outwards, and a good cleaning and top-dressing given to every specimen, all traces of thrip being removed by dipping once or twice in tobacco water. Azaleas make splendid parlour window plants when the blooming period arrives. To get equal flower furnishing, besides discriminate tying of the shoots to nicely arranged stakes, it is better to train the plants round occasionally, thus obtaining equality of exposure to light. Efficient drainage and copious watering, when the azaleas are dry only, will ensure success. The reward of cultural care will be floral beauty of several weeks' duration. Plants of very large size can be secured by occasional shifts to larger pots at the

proper repotting period, specimens lasting for many years when treated as here directed. They like light and air.

Balsam.—Decorative, half-hardy, prolific-blossom annuals, very useful in conservatories or greenhouses or outdoors in summer, also for window show. They require rich soil to be grown to the best advantage, and stimulation to rapid growth from the seed bed onwards. Sow in early spring, in heat first, and in cool frames later, bringing on the young plants by shifts to larger pots, plunged in tan or fibre as required, watering with weak manure freely. For blooming seven or eight-inch pots are the best size, and for bedding-out the plants should be carefully removed without breaking the ball, just releasing the root ends and well watering to prevent check. They need staking nicely, being easily broken, both as to stem and shoot, and protection against heavy wet should be arranged where possible for outdoor balsam beds, as the diversified and beautiful blossom is very delicate. Colours range from pure white to vivid scarlet and rich purple, with many spotted and splashed flowers, which contrast prettily with the light green of the foliage and translucent stalks. The so-called "camellia-flowered" balsams are of gorgeous presentment. Their production is only a matter of cost and attention, and as feasible for outdoor culture as for indoor display.

Bartonia aurea.—Favourite bright yellow annual, fifteen inches high.

Bear's Breech.—See *Acanthus*.

Bedding Plants.—The plants for summer flower-ing display in outdoor beds and borders, arranged in masses or lines of colour contrast to produce effect, are chiefly of a nature so delicate for development in the open and have had consequently to be brought on under shelter, ready for placing in parterres when the last frost risk is past. In our treacherous climate it is highly important that premature planting should not be adventured upon. Better a little late than over early. Sunny May days are deceptive, and sometimes require supplementation of a wing night breeze, or a nipping wind. The great thing to do is to gradually accustom the subjects to the change. Take them out of the houses and frames, or having brought them from nursery or market, stand them in the open to harden before placing in the beds, giving protection against strong sun and excessive cold. Then have the borders well prepared, and the soil in good condition for the reception of the summer occupants, and your plan of arrangement well and wisely considered beforehand, letting example and experience be your guides. Watch the work of the gardeners in the parks, and gain the benefit of their knowledge. Place each plant out carefully, selecting dull, warm days, when rain may be looked for, if possible, for the operation. Spread out the roots well, and without inflicting injury, press in very firmly, the crown of the ball just below the bed surface to allow a slight hollow for preventing water running away before it begins to travel root-wards; give a thorough good soaking to settle the soil round, and should powerful sun follow the planting before the removed subjects are established in their new quarters, help them with temporary shade. A good start and no stopping thereafter will be the object to be aimed at. Only so can satisfaction ensue. Mid May is soon enough to begin bedding anywhere in Britain, speaking generally, and the beginning of June is safer, though the weather prevailing at the period must be the final consideration. The hardier bedders, such as shrubby calceolarias, well prepared, can go out first, with young and the bigger stuff of the biennial and perennial bedders be pressed into service, such as *selago*, *napaeus*, *delphiniums*, and the like, and *crasium* for the outer edging where desirable. Do not have the bedding mould too rich, but good, sweet, clean, and friable. Then in with the geraniums, lobelias, heliotropes, verbenas, petunias, ageratums, mimulus, salviae, echinops, or other succulents, begonias, perillas, pyrethrums, and what not, with a true eye for flower and foliage colour harmony and remembrance for height the subjects are likely to attain, the taller to the back. Put your dahlias to the back of all, and give them and everything else plenty of room. Do not crowd, or you will have weaklings soaring skywards or

willing to the ground. Arrange for supports to sweet peas, tropaeolum, and all climbing things you utilise. Give sticks to fuchsias and balsams that need it; and as the need arises later, peg down peonias, verbenas, heliotropes and lily-leaved geraniums, to permit of expansion and new shoot-breaking. Then watch and wait, and water when necessary only. Use the hoe freely to stir the surface soil, without disturbing the roots, and put in a stick here and there gently there, and all will soon be in going order. If you drop in a pot rose or lilium to make a break, see that the wind does not injure them, and everywhere aim at emulating Nature, and leaving her "ample room and verge enough." You'll be all right then, with little trouble, till early autumnal frosts call you to clear the summer beds and make way for winter. That's the whole art of bedding.

Begonia.—Flowering begonias, admirably adapted for bedding, greenhouse, and window decoration, as well as the metallic-looking, silver-belted, hairy-leaved sorts that furnish such distinctive ornamentation indoors, are tuberous or fibrous-rooted plants of much attractiveness. The large-leaved sorts can be propagated from leaves laid on good silver-sanded soil over bottom heat, the ribs and veins being slightly incised underneath with a sharp knife; but all kinds increase easily by root division, or can be raised from seed. There are many varieties and hybrids, compact and branching, large and small flowered, in numerous shapes and shades. Indoors they like warmth, moisture and shade, outdoors they should be well mulched and kept damp at the roots. They require light, yet specially rich soil and careful staking in most cases, the branching growths being very fragile. In the growing period forcing is advisable, with airy surroundings at the flowering time. Good seed, and dry tubers are obtainable of all the best sorts from the leading nurserymen, and young plants must be carefully slayed and potted on. They must be well watered in dry weather.

Belladonna Lily. (See *Amaryllis*.)

Biennials and Perennials.—Sweet Williams, Stocks, Canterbury Bells, Fox-gloves, French Honey-suckle, Honesty, and other indispensable garden flowers come under the heading of biennials. Most of them by early sowing made to flower the same year, and preserved after the biennial or fully mature period of flowering has finished by layering down branches or transferring base shoots. The carnations, saxifrages, and the like hardy garden favourites which preserve their leaves, and the multitudinous herbaceous border plants that die down annually to re-appear the succeeding season come under the perennial category, and all the chief sorts are noticed specifically in their order in this dictionary, and seeds and propagating instructions given in due course.

Borders.—Both for bedding plants and permanently placed herbaceous subjects of the perennial order, borders should be kept in good cultural condition by forking, cleaning, manuring, and general overhauling in due season, in exhaustion of the soil should supervene. Heavy ground requires breaking, old stools systematically dividing; light soil needs enrichment. Bulbous plants are generally gross feeders and quickly impoverish a border, so do wall-flowers and other strong growing things. Always use thoroughly decomposed manure, and fork in the dressing to mix evenly with the old mould. Let sun, rain, and air have free play, and do not be afraid of deep digging when you are at it.

Bouvardia.—Shrubby and serviceable greenhouse plants, with white, scarlet, and other coloured flowers, scented, raised by spring striking of root and stem cuttings.

Box.—The dwarf evergreen is chiefly in vogue for edging purposes, for which it is very handy, though it sometimes proves a harbour for slugs. The variety sempervirens is the best for finishing off borders, and should be planted in spring or autumn, and kept in neat trim at all times. There are variegated kinds of *Buxus*, *aurea* and *argentea* among them, useful for ornamentation.

Bones, Window. (See *Window Gardes*.)

Broom. (See *Broom*.)

Brisa.—Ornamental grasses, useful for bouquet-

making, and in floral decorative work generally. The family includes the "trembling" or "quaking" grass, the "ladies' tresses," and others. All may be grown in sunny patches from seed sown in March.

Broom-pot. *Broom-pot.*—These are very valuable garden biennials flowering well when flowers are scarce, and there is great variety of colour procurable, white, purple, violet, and many shades of red. They do nicely in good soil in pots, and can be put in cold frames over frost time, when they need protection; whilst those growing in open borders may be lifted carefully and replanted temporarily in sunny shelter till springtime, and then replaced where they are wanted to bloom. (See *Stocks*.)

Bulbs.—There are bulbs and bulbs, and bulbs—so-called—which are not bulbs at all. The hyacinth tribe, growing coat over coat, furnishes one class of true bulb; the lilies, scale over scale, another. Snow-drops and daffodils belong to the first group, and there are many lilaceous subjects. But crocuses and gladioli, and even more so the cyclamens, are only bulbs in external appearance. It is convenient to call the gladioli root-crown a corm, but when further away from bulb-land's centre, we come to arums, asphodels, lilies of the valley, flame flowers, ranunculi, anemones, irises, and pæonies—which some folk will insist on including in the category—we call a bulb, and discriminate between tuber, root, and bulb. There is no need, however, to be too pedantic here, for each subject has its due paragraph. Most bulbs for garden growing should be deep planted, in good soil, to keep them clear of frost influence, in well-drained borders free from tendency to waterlogging. They should be left alone after blooming until every leaf is quite dead, when they may be taken up and stored in the dry for the next planting, or allowed to remain in the natural course, when, if injury in digging be avoided, surprisingly good results will follow. The remark applies specially to the liliaceae, and such tuberous perennials as the iris and its allies. These mass splendidly, as do the gladioli, and improve by long residence in the ground. The culture of the bulbs, actual and so styled, is indicated elsewhere, both as to pot, glass, and outdoor growth.

Cacti.—Cacti like little pots, and quite as much sand as loam and peat to form the staple of the compost they stand in. Deep drainage and plenty of charcoal is more than half the battle with these curious succulents, and lime rubbish or crushed brick and well rotted leaf soil should be mixed into the mould when potting, all being dry when a start has been made. They require winter rest without much moisture, and should only be encouraged by gentle watering to make new roots in May; when a little later on any really essential re-potting should be very carefully undertaken. The cacti make capital window plants if the soil they are set in is well guarded against becoming "sad," and the rat-tailed, creeping cereus is a rare good hanging basket subject. Properly speaking cacti are greenhouse plants, and when their singular and brilliant blooming occurs they are most interesting. Shoots from the stem are easily rooted, if dried a little after breaking off, or seed may be grown.

Caladium.—A very beautiful, variegated-leaved, tuberous-rooted plant, nearly all the varieties of which do best in moist heat and regular shade. Eucalyptum and violaceum, with one or two more sorts, however, will grow if properly placed in a warm greenhouse or conservatory, and are particularly decorative. Young plants should be procured from a nursery, and treated carefully, when good results may follow. Rich soil, with peat and silver sand in plenty, must be employed in potting.

Calceolarias.—Beidling or shrubby calceolarias, yellow or orange, are propagated from cuttings made in September when the borders are cleared. These should be put into beds made in frames from which the frost can be excluded by a mat covering, and given little water till February, after rooting is ensured, though air should be given on damp days. A spring approach to the lights may be permitted by day, and replaced by night when frost is feared, gradually hardening off and giving more water until the time for

planting out, which is usually quite rare in mid-May. Pot specimens may be brought on earlier by transplantation and removal to the greenhouse. The large-flowered herbaceous calceolarias are usually raised from seed sown in summer in pans or boxes filled with rich moist sand-covered soil under glass. The minute seed should be thinly scattered on the surface, and when the seedlings can be handled they must be pricked off separately, and gradually potted on as necessary, watering and shading carefully after each shift. Heat is not essential, in fact, it is undesirable, in successful calceolaria culture, but fresh air as far as is consistent with safety, good soil, and good drainage are; also vigilance in keeping down vermin. In greenhouses well-grown calceolarias of the show kind are grand objects when symmetrically stalked for bloom.

Calandula.—These orange or yellow Scotch, or pot marigolds are particularly easy to grow, and yet most effective for filling gaps in exposed borders or shrubby belts. Once established they usually reproduce themselves profusely from self-sown seed.

Callipatria.—(See *Ceropegia*.)

Camellia.—This greenhouse favourite of Christmas time, with its beautiful waxy bloom and glossy leaves is harder than most amateurs imagine, and does well if kept clear of severe frost and intelligently handled. It does not ever need artificial heat except for forcing purposes, and early growth and maturity may be induced by judicious culture. After flowering is over early in the year the plants should be potted, if badly root-bound, and put in a cool place slightly sheltered, and when growth commences be moved right into the open, syringing often and keeping moist. Only when the flower buds are formed and the shoots well-ripened should the plants be taken indoors to protect the blooms and beautiful window or conservatory. They thrive in any really good soil, strong loam with sand and peat, and like an admixture of clean, rotten wood or rich leaf-mould. The camellia comes from China and Japan, and is a relative of the tea-plant. The red and white selfs are the best and most floriferous, but there are pretty striped and fringed sorts procurable. Shoots taken when just matured will root with care.

Campanula.—*Pyramidalis*, especially in the white variety, is a beautiful perennial bell-flower, and will flourish in any one place for years, besides being easily divided; and fragrant, and is a relative of the tea-plant. The Canterbury bells, biennials, are favourites everywhere, and deservedly so, for they virtually cultivate themselves, and give bright bloom over a long period. All the species may be readily raised from seed, and the florists have brought about many mutations, both in doubles and singles, and really good strains are cheaply offered in small quantity in nearly every catalogue.

Canary Creeper.—(See *Tropaeolum*.)

Candytuft.—No garden should be without this prolific flowering annual, so useful for cutting and so pretty in the borders. It has been immensely improved by culture; and reliable mixed seed sown in autumn in rich, light soil, and transplanted in due course, will give great satisfaction. The dwarfier varieties are most effective for bedding, the pure whites and deep purples particularly so. There are also biennial and perennial candytufts.

Canna.—This tropical plant, commonly called "Indian Shot," finds favour in many eyes because of its beautiful leaves and gorgeous bloom. It will succeed either as a greenhouse subject or bedded out of doors in a sheltered situation for the summer. Seed may be sown in early March under glass, and will grow rapidly if previously soaked in hot water. When flowering is finished out of doors, the roots may be stored for another season in dry soil in pots or boxes. Canna growing, once begun, will rarely be relinquished by amateur gardeners of taste. The canna is a gross feeder. Although of Oriental origin it is an adaptable plant.

Canterbury Bell.—(See *Campanula*.)

Carnation.—Carnation-culture is most fascinating, whether growing from seed be adventured, piping and layering be favoured, or all three be indulged in, and flowers successfully produced by any of the practices

may be very beautiful. There are selfs of many colours and shades, clove-scented and odourless, flakes and striped varieties, large-bloomed and small, tall-growing and dwarfs, compact marguerites on short stalks and quick flowering, each taking some care to cultivate, but all repaying the trouble, especially when experience has shown the way to avoid failure. Then there are the aristocrats of carnationdom, the winter or perpetual sorts that lord it indoors when gardens are at their barest. The latter are propagated chiefly from cuttings, and grown along in slightly-heated, well-aired frames or houses to tall flower growth, with beautiful results at the year end, when the cutting striking commences *de novo*. The marguerites, youngest of the carnation clan, are handled as annuals, from seed sown in gentle heat—a well-regulated hot-bed will serve—in February, transplanted under shelter, and finally put out in the blooming bed. From the best seed a good proportion of singles will come, often with the finest grass, but even these are decorative, and the grower will get some pretty surprises in doubles and baby bizzars, so to speak, besides a few showy singles, and perhaps a handsome yellow two in a small bed. The more orthodox Carnation offers wide scope for specialisation. You may grow the strong and velvety crimson old clove or antique gardens, which pleases the many still, or you may go in for yellows and yellow-ground, terra-cotta of size, all whites, or this or that class of colour marking; and then there are always the picotees to proceed further with. The method of culture of one will serve for the rest, and no two growers do exactly alike as to detail. Reliability as to true succession comes of cuttings, pipings, or layers struck and rooted in July, and later potted off or transplanted, but seedling from particularly choice blooms of your own production attracts a good many, because of its chances of getting a distinct novelty. April or May are good months for seed sowing, in pots or small boxes, covered by a pane of glass. Transplant the seedlings as soon as you can finger them into a bed of rich soil, at least nine inches apart, and let them develop. A cold frame may be advantageously placed over the bed for protection during the first winter. The best soil to grow carnations in, either as pot plants or in beds, is one-third well-rotted cow-dung and two-thirds rich maiden loam from mellow decayed turves, free from insect life. Pippings are young shoots drawn from the joints and started to root in light sandy compost under a hand glass, cuttings shoots which will not layer conveniently, and layers—the surest way of propagating of all—the bedding down, underslitting, and ground-pegging into good soil of strong side-shoots from the flowering plants in summer late June to August. These are detached and potted off after rooting. Many pot them in pairs, and they should be well-drained, eight-and-a-half inch pots being a good size to employ. Careful staking is requisite when the flower stalks are put forth. Keep away wire-worms from the roots and green fly from the grass.

Caterpillars.—(See *Pests of the Garden*.)

Celasia.—This is an old-fashioned singularity among half-hardy annuals, the variety *Cristata*, commonly called the Cockscomb, being a favourite for its curious crimson flower crest. Some of the other Celasias have pretty feathery spikes of bloom, which will dry well for vase furnishing. The seed comes up quickly from a March sowing over bottom heat, and the plants may be potted on for greenhouse beddecking or ultimate planting in borders, where they make a brave show.

Centaurea.—(See *Corn Flower*.)

Cerastium.—*Snow in Harvest*, a very valuable as a spreading border, herbaceous perennial, the variety *Tomentosa*, has soft, silvery foliage, and white flowers. It is propagated by division in early summer, and should find a place in every garden.

Chamaerops Excelsa.—The fan palm, a good conservatory decorator, or tub plant for a summer terrace or lawn, doing well in fibrous loam. Only needs protection from severe frosts in winter, and readily raised from seed or off-set suckers; it will stand out doors all the winter in favourable localities.

Charcoal.—This is indispensable as a filterer of the soil in plant pots, to prevent the formation of dangerous

acids, and charcoal dust mixed with any kind of mould is always of excellent effect. Well saturated in liquid manure the lumps and nodules of charcoal also act as a fine plant-feeding medium.

Christmas Rose.—The black Hellebore, a hardy perennial, with white blossoms in winter, and loves the shade. It will flourish in ordinary garden soil, and is propagated by division. Some pot it off for indoor decoration in December.

Chrysanthemum.—*Chrysanthemum* culture has made remarkable headway during the last generation, and one can get flowers now as big as saucers almost, with petals fantastically curled and twisted, or close globular bloom of exceeding beauty and rich colouring. Of the choicer sorts there are incurved and reflexed, pompons, Japanese, anemones, and others. Then we have the earlier blooming varieties of the garden, nearer the old type. The annual *chrysanthemums* also are very good for flower-cutting and decoration. These may be sown in April, on a sunny border, and afterwards transplanted or potted up. The early-flowering Japanese garden varieties can be propagated by cuttings or from seed, and grown by division. They need staking to withstand wind. The more ornate varieties call for a good deal of cultural care, but no coddling. Raised from cuttings or layers, they may be potted in April, shifted again in May, nipped back and hardened off, and finally transferred into good-sized blooming pots towards the end of June. They should be permitted to grow out of doors until October, and then moved to the greenhouse to flower, being well cleansed beforehand. No flagging must be permitted at any stage, and weak manure water must be frequently administered. The best soil is rich fibrous loam, with a little leaf-mould and decomposed cow-dung, and a plentiful sprinkling of clean, sharp sand and powdered bone. For extra fine flowers the side shoots should be kept down as well, the tops pinched off, and the fewer stems in a pot the better. Let the stock come from a good source, rubbish takes as much trouble as the best. When the old plants are cut down, they may be divided, potted separately, and given a good rest before new growth is encouraged.

Cineraria.—These early flowering favourites of the conservatory can be started from seed sown in May in heat, the seedlings being potted off singly and placed in a cool frame until late autumn. Finally at the flowering size they may go into a warm greenhouse to develop the flowers, which should begin to appear in October, and bloom on to Christmas or after. A compost of leaf-mould and rich loam, well mixed with old stable manure and powdered charcoal, as well as coarse, clean sand all being left rather rough will suit. In the growing state *Cinerarias* will absorb strong liquid manure readily, being particularly hungry subjects. Shoots at all weakly should be eliminated to give vigorous growth play, and the green fly pest kept down by fumigating the frames as necessary. Many lovely sorts may now be had.

Clarkia Pulchella.—Pretty purple, rose, and white hardy annual, eighteen inches in height.

Clematis.—These elegant trellis climbers, which luxuriate on sunny walls or in well-ventilated houses and make nice pot plants also like a good strong soil. They will stand nourishment, freely administered, when grown indoors, and should have judicious root-dressing when established in the open. The Jackmanii varieties are rich and fine, and vigorous of growth, and there are other choice sorts with large blooms. Some care is requisite in propagating, mostly obtained by striking sprouts, or short, dead shoots, in light sandy soil under a handlight. An easier way is by root division, after careful loosening up at the growing period. All the good clematises should be neatly trained as they extend, and weak shoots cut away.

Climbers.—Climbers are essentials of the garden and greenhouse, and for wall covering everywhere. As regards outdoor climbers, the best rule is to grow what does best in a particular situation in any given neighbourhood. The Virginian Creeper will spread fast and flourish anywhere, and the small-leaved, self-clinging variety, *Ampelopsis Veitchii*, is always neat. It has inconspicuous flowers and loses its leaves autumnally, but their gorgeous colouring at the close

of the season may be taken as compensatory for deciduousness. The ivies, particularly the small-leaved and variegated sorts, make pretty and permanent clothing for a house wall, and to do them well a deep and rich soil is requisite. Some other favourite outdoor climbers are the *Jasmines*, both the scented white, and the yellow flowering sorts, the latter blooming before leaves; the *Clematises*, which prefer a good loam and south aspect, the *Loniceras* or honeysuckles, which like shade and shelter, especially the yellow, reticulated Japanese kinds; the graceful *Wistarias*, with racemes of pale blue or white, that flourish in peaty mould, the *Fassion Flowers*, that need protection in winter where exposed, and must have a light soil to make the best of; the evergreen *Magnolias*, requiring a sunny, sheltered outlook; the winter sweet (*Chimonanthus*), with fragrant orange flowers opening about Christmas under favourable conditions; the Banksian and other small-blossomed, rambling roses, besides the tea-scented *Glorie de Dijon* and *Souvenir de la Malmaison* and their congeners; the vines, the tocomas, the bignonnias, catkins, carrying *Carrisa* slipper, the graceful coral barberry, the accommodating fern-thing which will grow anywhere, the bluebush, (*Ceanothus*), and the curious Dutchman's pipe (*Aristolochia*). Here is enough to choose from, and there are others. Most of them will increase readily from slips, layers or root cuttings, and the rest from division. They all need trimming and training at the proper season. The tenderer flowering subjects may be utilised as greenhouse climbers, where also the *tacsonias*, *lapanerias*, the *stephanotis*, *plumbagoes*, *kennedias*, and others may advantageously be allowed a free run either in a pot or border rooting, roomy and well-drained.

Cockscomb.—(See *Colossa*.)

Colchicum.—(See *Crocus*.)

Colossus.—French nettle, some style these particularly beautiful-leaved greenhouse plants, which luxuriate in moist heat, and whose variegated and often gorgeous foliage make them great favourites for all decorative purposes. Young plants, carefully hardened, may be put out late into summer garden borders, but should have a sheltered site, for cold winds nip them up, and they die at the first frost bite. They propagate nicely from cuttings struck in bottom heat in a close frame in close firmness. Rich soil is their delight, and fearless pinching back induces a compact habit.

Collinsia.—A genus of bright border annuals; bicolour, purple and white, 9 inches, very serviceable.

Columbine.—This is a very old cottage garden favourite, but the florists have improved it out of all knowledge latterly, and many long-spurred varieties of the always pretty herbaceous perennial obtainable from seed are extremely beautiful. They may be safely sown in April in any ordinary garden soil, and transplanted later on to nursery beds for ultimate removal to a permanent position. These hybrid columbines yield acceptable cut bloom.

Compost. (See *Soil*.)

Conservatory, The.—This is properly regarded as display house for the reception of plants brought to the perfection of efflorescence or foliage by culture, or an airy structure full of floral beauty. It is not, strictly speaking, so much a structure to grow as one to show plants in. Therefore, it should be spick and span and only of equable temperature; and it may advantageously open out direct from the dwelling-house, intervening between that and the greenhouse, vineyard or stove beyond, where such exist, and receding its subjects in full dress from them or from frames and pits in the garden. The conservatory should always have plentiful provision for ventilation, and is best situated on the southern side of any house, with which it should harmonise, as much as possible, as to size and otherwise, communicating by means of a glazed passage or corridor when spanned. Those who have but one glazed structure, and do virtually all their propagation and plant growing therein, will be well advised to call it and consider it a greenhouse, leaving the conservatory cognomen to the possessor of larger resources. The shadier portions should have place for ferns, palms, and indoor ornamental ever-

greens, or variegated foliage plants may occupy permanent positions of vantage in the Conservatory, the rest should be a constant/ changing exhibition of the best floral things attainable by its owner, leaving space sufficient for social enjoyment, the chief reason for any conservatory's existence.

Ceanothus.—Annual; dwarf or minor, a foot high, various colours, major, the climbing sort, is useful for trellis-work or trailing, and also possesses a variety of bloom.

Ceropegia.—Called also Calliope, a family of gray and useful border annuals reaching a foot or more high, bearing prolific blossom and chiefly a shade of yellow or yellow with red centre. Likes full sunlight, and grows readily from spring or autumn-sown seed, plants of the latter flowering, after moving, early and vigorously.

Corn Flower.—The Centaureas are showy things, growable in any garden. The bright blue cornflower is the favourite but the white comes in for cutting acceptably, and so does the rosy tinted. Then there is Depressa, an uncommon crimson-centred, dwarf-growing blue head, obtainable from seed of most nurserymen. All can be raised by autumnal or spring sowing in the open, and the seedlings take kindly to transplantation. The sweet Sultans are Centaureas, and their fragrance and floral beauty should secure them admission to any home plot. Suaveolens is their specific name, and they should be thinly sown on a sunny border in July in light soil for transplantation next season.

Cornflower.—These spring favourites may still be seen in many borders, and some of the hybridised and American sorts are pretty and useful. Sow seed in June for following season's flowering, transplanting in autumn.

Creeping Jenny.—See Money Wort.

Crocus.—This early spring blossomer, though not strictly a bulb, is generally so regarded and treated accordingly. It is a perennial, and once planted will last, if undisturbed, for some years, but division betters it occasionally, though no crocus should be taken out of the ground till its leaves are quite dead, when the roots may be stored away if space is needed for summer bedding. Mellow loam suits them, and they may be raised from seed sown thinly in sandy soil, the seedlings being pricked off later to develop. There are yellow, white, light blue and purple crocuses, also variously striped sorts, all quite hardy. When planted in early autumn in good light mould, two to four or six inches deep, they will make a brave show in spring, especially if massed, and they do well in sunny window boxes as well as in beds and borders, and can be grown indoors in saucers of rain water, containing small pieces of charcoal. Colchicum autumnalis, an autumn bloomer, as the name implies, should be planted in spring; its foliage dies in summer and grows again after flowering. The Dutch and all other crocuses are readily procurable in the finest sorts at a small outlay, and yield attractive bloom for years.

Cuphea Platycentra (Cigar Flower).—A pretty bedder, with almost black, scarlet, and white flowers, twelve inches high, grown from seeds or by cuttings.

Cut Flowers.—Flowers of all kinds are best cut for preservation or transit in the early morning before the sun has wilted them, while fern fronds may advantageously be gathered in the evening, and if placed for decoration purposes in vessels containing clean rain or distilled water and kept away from strong light or well below the level of artificial illuminants they will last longer than if carelessly dealt with. Renewal of the receptive water with coincident cuttings of the stalks of choice blooms, tends to prolong their duration. To pack for post put damp moss or grass to the bottom of a light, strong box covering with soft paper, arranging the heaviest blooms at bottom and the more delicate sprays and foliage above, leaving all firm but lightly disposed.

Cuttings.—Generally speaking cuttings of all kinds should be taken in dry weather or from pot plants which have not recently been watered, short jointed vigorous shoots being selected when the subject is in good growing condition. A clean cut with a sharp

knife must be made immediately below a joint on the detached shoot, all leaves, which would touch the ground, being removed. In planting, the soil in the box, pan, or bed, should be firmly pressed down and moist, and the cutting, save in exceptional cases, inserted only one-third its depth. Shade is essential, though light must never be excluded, and the plunging of pots containing cuttings is commendable. Silver sand and light sandy mould make the best cutting-striking material, and there should be ample drainage, for free air percolation through the soil is a requisite of success. These general directions apply to all sorts of soft-wooded cuttings, of bedding plants particularly, and most of them will strike quicker if placed over slight bottom heat. In some cases very desirable, indeed dahlia cuttings, for instance, will hardly do well without it. Myrtle, heat, camellia, and other hard-wooded subjects want little warmth below, but should be struck down to the drainage level in the striking pots. Side shoots from towards the bottom of the stem of a thriving plant, the shoots themselves ripe as to wood, and not yet case-hardened, give the best results. Fingers should carefully be removed from cutting groups as soon as discovered, or they will injure the rest.

Cyclamen.—Easily grown and graceful winter and early spring flowering plants for frame and house culture and conservatory decoration in winter. From seed sown very thinly in sandy, peaty loam, in pans kept at a temperature of between sixty and seventy degrees, and kept covered with glass or near the light in a greenhouse, the cyclamen can readily be raised. The seedlings may in due course be potted singly, and kept clear of frost influence. For blooming one bulbous root—it is not a true bulb—should be allowed to a five or six inch pot, particularly well-drained and filled with a compost of loam and leaf-mould, with a liberal admixture of well-rotted manure and sharp sand. Do not more than half cover the root with the soil, and press down firmly. After blooming give the cyclamen a rest, plunged in a shady border, and when the pretty leaves begin to grow again, repot, shaking the roots partially clear of the old soil. Cyclamens revel in moisture but must never be stagnated. They want air without draughts, and an equable temperature, plenty of light on winter days, and shelter from summer sun.

Cyclamen.—This pretty cool greenhouse and dry-soil garden subject—often catalogued by the dealers as Genista—yields a profusion of bloom, chiefly yellow, in spring and summer. All the brooms which this class comprises are easy to cultivate if one will but bear in mind the hot soil of their natural habitat. They are deciduous, and the smaller-flowered kinds, with their graceful foliage and tiny pea-shaped blossoms, are very decorative when in their full beauty, looking particularly well in a parlour window. The Labrum, whose golden tassels are familiar to town-dwellers in the early summer, is an arboreal Cyclamen.

Daffodil.—(See Narcissus.)

Dahlia.—Dahlias of all sorts must have strong sunlight and a free, airy situation to flourish in above ground, and rich gross feeding below. For each plant, when frost fear is over, a big enough hole should be dug in the open soil being taken out to a good depth and replaced with enriched rough mould to let the roots run in. It is well to put in a stout stake at the time of planting, and to protect the young dahlias from the slugs until it has grown out of harm's way. Leave a couple of yards at least between every two show or double dahlias if you desire fine blooms, and give copious manurial waterings as they grow. Trap straw with hay in small inverted pots at the top of the stakes when the flowers come, or they will lodge in and devour the petals. Cut away lateral growth, leaving but few branches and those the strongest. Relatively these instructions apply to the fancies and the pompons as well as to the big double show sorts; also to the singles and the cactus kinds, all of which now include many beautiful varieties. When frost blackens the dahlias in early October cut them down, and lift the tubers, putting the old sets away dry in a shed in boxes of sand or fibre, or ashes will do. As spring comes on shoots should be encouraged by re-

moving the roots to a greenhouse or warm frame, and these be taken off to start growth in small pots ready for planting out in June, labelling each correctly. Cuttings may also be made from the plants in autumn, and kept over the winter under shelter after striking, except in special circumstances.

Daisy.—Double daisies, white and red, quilled, or the hen-and-chickens variety, make nice border plants, and are serviceable for edging purposes. In good loams they will give a fine and long-lasting flower display, and may be raised from seed, though a certain amount of singles is sure to come. Propagation by division is sure, if done when flowering is over.

Delphinium.—To this genus belong numerous beautiful border annuals and biennials, as well as perennials, varying in height and colour. They are fine for grouping or for planting singly, the taller sorts being mostly bright blue, but there are delphiniums with spikes of pearly white and a particularly vivid orange-scarlet sort of dwarf habit. The annuals are sown in the open in March where they are to flower, the biennials and perennials in June and July, and transplanted when large enough to nursery beds or put where they are required to remain.

Deutzia.—A class of hardy flowering shrubs, bearing beautiful white bloom, like thin-stemmed snowdrops. Increased by cuttings, struck under glass in August, and liking a mixture of rotted cow-manure and loam to grow in. For forcing and pot culture generally the deutzias are well adapted, being very decorative when in flower. *Deutzia gracilis*, a compact, free-flowering dwarf variety, is a capital plant for window or conservatory.

Dianthus. (See *Pink*, also *Sweet William*.)

Dielytra.—*Dielytra spectabilis*, sometimes called the "lyre flower," is a pretty and popular herbaceous border subject, bearing handsome, bending branches of peculiar pink bloom, and having very attractive foliage. There is a white-flowered variety, less common, but easy to grow in light, rich soil. Both may be brought on for early show in pots in the conservatory, and readily increased by division. It is advisable to protect from severe frost, and they will take up a lot of water when coming into bloom.

Digitalis. (See *Forgive-me*.)

Dusty Miller. (See *Auricula*.)

Dutchman's Pipe. (See *Aristolochia*.)

Harwig. (See *Fests of the Garden*.)

Hecoreocarpus.—Half-hardy flowering climber, bearing racemes of orange bloom, will stand in a sunny spot out of doors in winter, if cut down after flowering and covered with litter till spring. It will ramble over stumps or trellises prettily. May be raised from seed in a hotbed in autumn; young plants being thus obtained for spring culture in the open, or for pot use in a greenhouse.

Hebeveria.—This is a rosette-shaped succulent, a good deal employed in ornamental bordering nowadays, and used also in rockwork. It carries a curious coral red spike of bell-shaped blossom, and grows well in any good, light, sandy soil. Increase by off-sets, which root with facility.

Hed-Plant.—A curious half-hardy annual, botanically styled *Solanum*, delighting in warmth and light rich soil. Seed should be sown in early April in pots plunged in a hotbed, the young plants being potted and placed near the glass as soon as they can be handled. When wanted to fruit in the conservatory or parlour, they should be transferred to good-sized pots. They will do well in frames if kept free from red spider by syringing; a little stimulation when the fruit is setting is helpful.

Erica. (See *Heaths*.)

Erodium.—Hardy rockery and edging perennial, dwarf and fond of dry warm situations; carries purple-spotted white bloom, propagated by root-partition, also from seed.

Erythronium.—Hardy annual, the orange-flowered *Perostichium*, twelve inches, makes a pleasing border subject.

Eschscholtzia.—California annuals now largely employed in furnishing our summer flower-borders. They are very hardy and may be sown thinly where they are to bloom in April. The yellow coloured

varieties are the most common, but there are orange-flowered, rose, carmine, and white *Eschscholtzias* obtainable of good seedsmen; also a perennial variety, California, with big, beautiful, deep orange-centred bloom. Some of the sorts close their flowers tightly at the approach of rain. They belong to the poppy class.

Eupatorium.—This is a genus of flowering herbaceous or shrubby plant introduced from America, chiefly used for greenhouse culture and closely related to the hemp agrimony of our British marshes. Some send up stalks of white tassels of bloom from the low leaf growth. They may be propagated by cutting, covered with a bell glass, and grow best in sandy peat and loam. There are purple and pink kinds to be had, and the vivid green of the foliage is very attractive. They may be moved out-of-doors in the shade in summer.

Eutoca (Phacelia) Viscida.—White-eyed border annual, one foot.

Eucyonium.—A common yet popular garden shrub, amenable to urban surroundings. Most glossy green. There are some variegated sorts, but all are ornamental, hardy, and easily increased by cuttings struck in good loam in the autumn from the preceding year's shoots. *E. europaeus* is the Spindle tree.

Evening Primrose.—This well-known flower is one of the *Einotheras*, which include a number of useful edging, border, and rocky plants, some of them annuals, others biennials, and some of perennial growth. The Evening Primrose is a biennial, but, if sown early, will bloom the same season. Its bright yellow blossoms, folding towards nightfall, are very familiar. The *Einotheras* prefer a light yet rich soil.

Everlasting. (See *Helioscymus*, also *Rhodanthe*.)

Ferns.—Any garden or greenhouse without ferns is quite incomplete, and nothing grows more easily if properly placed and treated. They require shade, all of them; and most prefer moisture as well. A good general soil to plant them in is a mixture of fibrous loam (mellow and fresh), clean sharp sand, and good leaf soil. In pots they should be well-drained, with porous sandstone in jumps above the sherds and mixed with the soil. Peat is helpful as a further ingredient of the compost for the tenderer ferns. All should be very firmly secured in pot or ground on introduction.

For outdoor growth in shady corners under walls, or in parts of rockeries where the sun's direct rays never reach, nearly all the British ferns, of which there are multitudinous forms, can be successfully cultivated; while under the stages or other positions in the shade within a cool greenhouse many exotics will grow luxuriantly. There the maidenhair and other adiantums are invaluable for decoration, and addition to flower bouquets, as are the pterises, aspleniums, and lygodiums. Of larger growth are the anthuriums and the osmundas, while the polypodiums, polystichums, scolopendriums, and hare-foot ferns can all be tackled successfully. Filmy ferns like the todia, trichomanes, and hymenophyllum may be grown under bell-glasses to conserve moisture. Ferns should be made the most of by every amateur.

Ficus Eliastus.—(See *India Rubber Plant*.)

Flax Plant.—(See *Linum*.)

Flos Adonis.—Hardy annual, deep red, nine inches.

Flowering Currant.—(See *Ribes*.)

Flower.—(See *Cut Flowers*.)

Forget-me-Not. The *Myosotis* are annuals, biennials, or perennials, but it answers well to grow them from seed as border plants, for the dainty blue blossoms are everywhere welcome. There are pink and white varieties, too, which will repay sowing in June for the following season's flowering. It is an accommodating plant, but always appreciative of water, and the shadiest part of the garden suits it better than full exposure to summer sun. A good strain of seed should be secured to begin with, and increase by division relied on later.

Fox Glove.—Handsome cultivated varieties of the *Digitalis* of our woodlands are easily raised from seed or propagated by off-shoots. They do admirably on

shrubbery borders in any ordinary soil, and there is a particularly fine white sort to be had at most nurseries, as also red, purple, yellow, and spotted varieties. A packet of good seed will produce pleasing results where there is space to exploit the foxglove properly. It should be remembered that the *Digitalis* possesses poisonous properties.

Frames and Pits.—These are of immense value in any garden, both to the possessors of greenhouses, conservatories or forcing houses of an ambitious character, and to the more modest horticulturist who relies entirely upon them and the hotbeds they may contain to carry his delicate stock through the winter. They are easily and cheaply constructed if one be content with things on a small scale. A glazed light or two will cost little, and any gardener can make his own frame out of rough wood, and to his own liking, movable or for placing permanently over a pit excavated in the ground. The principle to be insisted on is that they should be highest at the back, sloping towards the front, and that they should be fitted so to receive the top light when in position that rain is excluded. The frame may stand on low brick walls or stacked turves, or rest on the ground as considered most desirable. The earth may be excavated pit-form to secure depth according to requirement; and the interior may be wholly or partially filled with properly prepared stable manure to form a hotbed on which soil is superimposed, and thus may be renewed or removed when spent. Rows of frames can be arranged for more extensive operations by lengthening front and back and placing rest-rails to support the inner edges of the lights. The most costly purchasable frames are only elaborations of this idea of securing protection against frost, and resisting the influence of changeful external temperature generally; and the home gardener who knows how to adapt himself to circumstances will meet with a surprising amount of success at but little monetary outlay.

Gardenia.—A charming greenhouse evergreen, bearing beautiful waxy bloom, very odoriferous, and much in favour for button-hole wear. Will do best with much moist heat and profuse watering in the growing period, and whilst flower forming. Sandy, peaty soil, very rich is requisite, and a bottom heat of at least 50 degrees must be maintained to root heeled slips in well drained pots of silver sand and peat. *Gardenia florida*, the "Cape Jessamine," is a good sort for the amateur to grow.

Genista.—(See *Cytisus*.)

Geranium (*Pelargonium*).—The geranium, of all half-hardy subjects, is best styled everybody's flower. It possesses infinite variety as to foliage and blossom, and no sort is difficult to deal with. The zonales, so universally employed in window decoration, boxes, vases, greenhouses, conservatories, and as bedders, possess handsomely formed leaves, and bear beautiful bloom trusses, single and double, in colour from pure white to vivid scarlet, with rich salmons, delicate cerise, and many gradations of pink. These may all be kept sturdy and shrubby by toping, or trees; to grow tall at will. There are gold-leaved and silver-leaved sorts, bronze and gold varieties, silver tricolours and yellow tricolours in charming diversity, lovely as to foliage alone, and all floriferous. Then there are the scented sorts, with beautifully divided leaves, the staghorn lemon-scented and the peppermint variety; also the ivy-leaved trailers, single and double, with all the colours of the plant-foliage and the zonales; and through all the many mutations produced by hybridisation the geranium remains an easily grown favourite. Propagation is best by cuttings, taken when the old plants are most vigorous in July or later, rooted and left to stand in cold frames or greenhouse, or potted on at will towards the following bedding-out time, or as a further alternative converted by encouragement into specimens of size. The old plants after cutting down and potting out do best for this, being first given a good rest. The soil employed should be light and sandy, well drained and firmly pressed down for pot culture. For flowering well use small pots. The many beautiful varieties of show and fancy *pelargoniums* which are distinct from the zonale geranium,

are useful for conservatory and greenhouse treatment being harder than their more generally cultivated relatives. Regal *pelargoniums* these are often called, and there are the French spotted and large and small varieties, as well as the more elaborate doubles. They are increased by cuttings, best potted slugs in a dry light sandy loam after taking from the parent plant when the flowering season ends, and plunged in mild bottom heat to facilitate rooting. The pot on gradually pinching as root growth is encouraged and hardening by exposure to air as development goes on. When flower buds begin to show, the plants, then in their blooming pots, may go into cold frames or greenhouse, the former preferably, and be kept well syringed to stave off insect attacks.

Geonura.—Tuberous, hothouse, herbaceous, flowering plants, requiring rich soil, plenty of moisture, and a warm even temperature for successful culture. May be raised from January sown seed, by cuttings of shoots or leaves, or by tuber division. Compost of peat, fibrous yellow loam, and sand, in well-drained four to six inch pots will be needful for securing good blooming plants. The scarlet sorts are very showy when in bloom, and great care is essential to keep them clear of thrip.

Gladiolus.—This is a grand subject for autumnal display in massed beds, and may be raised from seed as well as from the tiny-looking bulbous off-sets of the old corns. There are numerous sorts of the "sword-lily," as this gorgeous plant is popularly styled, the early flowering and forceable *Colvillei* furnishing one fine type, and the *Gandavensis* and *Branchleyensis*, besides hybrids, other sections. The latter is the more common, and bears brilliant spikes of various colours in profusion. The corns may be planted out in good garden soil, rather light than strong, in March, cleaning the old roots and mould away and inserting each firmly in a surrounding of sand or dry ashes. They delight in a sunny situation protected from strong winds, and a dressing of well rotted manure over all after planting will be serviceable. The Bride and other early blooming varieties may be brought on by pot culture in pits for house and conservatory flowering. It is advisable to take up the corns from bed or border in late autumn when the leaves are dead, storing them in soil for next season's planting.

Gloxinia.—*Gloxinias* are generally regarded as stove or hothouse subjects, but may be cultivated successfully in frames where an equable hotbed is maintained, or in any warm greenhouse. They are exquisitely beautiful, and repay the trouble necessary to obtain the best result. Seed may be sown in fine soil in February, the pots being plunged under a bottom heat of about seventy degrees, which should be kept close by covering with glass, giving air cautiously. Cuttings from shoots sent up by old tubers may be grown similarly, or leaf cuttings can be taken and struck on silver sand over peat and fine soil in a hotbed. Transplantation after rooting and watchful care will secure bloom in the autumn for the young subjects, while the old tubers may be reported in spring in suitably-sized well-drained pots, filled with rich compost in which sandy peat preponderates, the result being a fine mass of magnificent bloom springing from beautiful fleshy foliage. Colours vary in the flowers from white to crimson and purple, with blotchings and splashing of captivating richness. Seed or tubers should be obtained from the start from a reputable source, the best being the cheapest in the end.

Godelia.—The purple flowering form of the popular *Evening Primrose*, or *Oenothera*, treated as a distinct species by many florists. An effective border annual, about a foot high, and quite hardy enough to be sown in the open in April for transplantation.

Grass Lawns and Borders.—Grass plot should be properly made, to begin with, and thereafter kept in trim by constant care. Get the ground, after digging, firm and even, and have it well cleared from any weed roots. Let it be slightly high in the centre, sloping regularly to the edge limit all ways. Then lay down turves, well mown, from old fine grass pastures, free of dock and daisies, in early spring. The turves should be clean cut, about one inch thick, a foot wide, and in 18 inch lengths. Get the strips close together,

and beat them down thoroughly. You cannot roll a newly laid lawn of turves too much, providing you keep it damp. Mow with a scythe as new growth commences, then roll again and again. Once the turves have attached themselves, you may use the lawn mower instead of the scythe, but watering and rolling are of the utmost importance. Get the grass established before midsummer sun can burn it. Nightly hoeing will obviate this. If you cannot utilise turves, buy the best prepared lawn seed mixture of a regular seedman, and sow it in March or April when there is no wind on the nicely-levelled surface, lightly covering it with sifted soil. Late August or September will do for the sowing, but early spring is better. A quarter of a pound of seed will suffice for two square yards, and it must be distributed evenly. Water nicely with a hose or can, after the seeding, unless steady rain immediately falls, and stretch black thread crosswise to pegs a few inches over the surface to impede sparrows foraging for seed or tender blades of grass. Also keep off children, cats, and dogs. Gently and frequently water and wait. Then when the grass is four inches high shave with a sharp scythe, mowing warily, and sweeping tenderly with a soft broom. Water again, always in the evening, mow and sweep once more. Next time you may put a light lawn mower over it, and leave the cut grass lying as it falls, sweeping before the following mowing. It will form a protective mulch against hot sunshine. Rolling on new-down grass must be commenced with caution, and seed should be scattered carefully and given attention where bareness is threatened. You cannot take too much trouble in getting the right start. Anything coming up coarse should be eliminated, and any hole made in so doing firmly filled, introducing a little seed at the time, until all looks, after mowing, like a billiard board. Thereafter keep it so by regularly cutting, sweeping, and rolling in spring, summer and autumn, and occasional attention as requisite in winter. Grass edgings should be kept constantly trim, using shears when that is most convenient; narrow strips of grass form the best and prettiest of all borders if kept close shaven and evenly green, but they must not be walked on like the pathways. Grass, in its place in the garden, may always be kept beautiful, and care to conserve it so carries a rich recompense of solid satisfaction.

Green Fly. (See *Pests of the Garden*.)

Greenhouse. The—"Who loves a garden loves a greenhouse too," sang Cowper in "The Task," and with the spread of garden love amongst us, there has certainly been a great growth of greenhouses, humble and spacious. Artificially-heated structures are requisite where half-hardy and tender plant culture is carried on to any considerable extent. They can be produced in sections, and are adapted for putting up in the most favourable available position, in sizes and at prices to suit almost every purse, as tenants' fixtures, so that any artisan or clerk can now-a-days have his own greenhouse, according to his circumstances or desires. Greenhouses may be either span-roof, independent of any other structure, or lean-to, the back being furnished in the latter case by a boundary wall or that of the dwelling house. They may be simply glazed and rendered water tight (with proper provision for ventilation) or they may be fitted with heating apparatus of a more or less elaborate character. The cool greenhouse, which excludes winter rigour from its occupants, will be found very serviceable to those of modest floricultural ambitions, especially if it be placed facing southwards. That to which provision for heating is added will answer, with any aspect, but this and the means employed for keeping the temperature artificially raised must be regarded as considerations of individual convenience. Supplemented by a frame or two, a greenhouse of even a small size presents many pleasing possibilities, from the growing and reception of various specimens of fine-flowering and otherwise ornamental plants, which may be removed to the parlour or conservatory when in full beauty, or remain to deck the stage on which they have arrived to perfection, and also for the propagation and preservation of subjects which will not winter safely with us' out of doors. Stepped staging is advisable where practicable, in combination with a

flat and comparatively narrow stage at the glass front returned at the ends, with additional and movable shelving near the roof on suspended brackets, also above the table-high side stage. Plenty of room should be left to get easily at every plant, and plenty of room under the staging for the reception of subjects for which a shady position is desirable, while provision for necessary ventilation is of the highest importance. Where there are flues or pipes for heating, kept warm by a properly placed fire outside, slated shelves may be fixed above for the accommodation of plants and young stuff needing bottom heat. Draughts must be most studiously avoided, and cleanliness strictly observed. Good, well-fitted joints in the woodwork, and neat glazing, preventing the ingress of rain, are essential. The management of a greenhouse is really a matter of practice and intelligent pursuit of well-weighted and attainable ends. To have bloom all the year round in a greenhouse there must be of course systematic selection of subjects. A few *Azaleas* to come on in May, large flowering pelargoniums to follow, then *fuchsias* and choice geraniums, variegated as well as green-leaved will supply the late spring and summer staple. *Heaths*, *Chrysanthemums*, *Primulas*, and a *Camellia* or two may make the main of a back-end and winter show. *Cinerarias*, *Liliums*, *Calceolarias*, *Cyclamens*, the *Deutzia*, *Everlastings*, a few fine *hyacinths*, a *myrtle* here and there, and some trainable blooming plants, like the *Lapageria*, *Plumbago*, *Abutilon*, and others, according to taste, may be taken up with, and if these be properly treated there will always be a gay greenhouse. For the rest, a following of the brief entries in this dictionary will be found to convey much that is suggestive and helpful to greenhouse beginners.

Guelder Rose.—A beautiful flowering shrub, with snowball-like bloom, propagated by suckers or by layers pegged down in spring. Prefers a sunny and open situation, and will grow in any good soil. The Japanese snowball tree (*Viburnum plicatum*) is a particularly handsome variety.

Guernsey Lily.—*Nerine Sarniensis*, an amaryllid with pale salmon flowers, not to be confounded with the *Belladonna Lily*. Bulbs may be had of the seedman early in August for immediate planting, and will grow and flower quickly in cocoa-nut fibre or rain water as well as in given good soil.

Hardy Annuals, Biennials, and Perennials. (See *Annuals*, *Biennials*, and *Perennials*.)

Heaths.—Small plants of the *Ericaceae* order from the Cape of Good Hope are obtainable at all nurseries, and make admirable greenhouse blooming subjects. They require good peat, broken up and intermixed with silver sand. In potting up great attention must be given to drainage, and the soil be very firmly rammed round the ball of each plant, and careful watering practised. If the plants are ever allowed to get dry at the roots, or on the other hand consistently over-watered, death will certainly ensue. Robust, bushy heaths should be chosen, and propagation obtained by cuttings of the tops of young shoots, inserted in shallow pots of well-moistened silver sand and kept over slight bottom-heat, these being closely covered with a bell-glass. The bell should only be removed to wipe away moisture from the interior until growth is perceptible, when air should be gradually given. When a good start has been achieved the glass should be taken away, and the plants potted off singly, and cultivated separately, never permitting drought at the roots, or there will be stunting and thickly set foliage. Charcoal with the drainage is good at each re-potting. Heaths are not good subjects for an amateur to grow.

Hedges.—Privet and laurel make good hedges, so do the taller growing box plants, the firethorn, arbor vitae, holly and quick combined, the yew, the hornbeam, or the common beech. All require topping and clipping carefully to secure good branching bottom growth. Plant straight, and not too thickly, to begin with, and leave room for air to act freely on the roots, preparing the ground by deep digging. Sweet brier is useful for the construction of low divisional hedges in the garden, if given moderate attention until fire and regular development be assured.

Heliopsis. (See *Sunflower*.)
Heliopsis.—Half-hardy annual, usually called the Everlasting Flower, various colours, one and a half feet high. Seed should be sown in March in gentle heat, the seedlings being later transplanted in sheltered borders. The flowers should be cut when young for preservation.

Hellebore.—The "Cherry Pie" is the fanciful popular name of this well-known and fragrant bedder and pot-plant. It can be grown from seed sown in gentle heat in February or a little later, and transplanted in light rich soil, or from cuttings taken in September and cultivated in cold frames like *calceolarias* in the winter. It is a capital pendent plant for ornamental baskets, window-boxes, or vases; or it can be trained for greenhouse or conservatory blooming by staking and tying. In the borders it should be pegged down and allowed room to run and spread. Before hedging out the hellebore needs hardening, as frost is fatal to it. Some greatly improved varieties have recently been introduced into cultivation, and seed of these can be obtained from all the leading nurserymen at a moderate price.

Hellebore. (See *Christmas Rose*.)
Herbaceous Plants.—This comprehensive term includes all low-growing vegetation, even when the plants throw up lengthy flower-stalks in their due season, but as a garden denomination it is usually associated with the flowering subjects, chiefly perennial, which find a place in permanent borders. Such a border intended for the accommodation of anemones, primroses, arabis, aubrietias, bulbs of many sorts, forget-me-nots, pansies, columbines, irises, dionysias, foxgloves, primulas, pink, pyrethrum, phloxes, gladioli, monardellas, marguerites, and many other beautiful blooming plants, should have careful and thorough preparation and after-tillage. It should be composed of good and nutritive soil, well-drained below, and be regularly and deeply manured. Preferably it should be wide, open, and sloping to south or west, with a wall or shrubbery behind. Discretion should be exercised in the planting, so that the dwarf subjects are to the fore, due regard being given to the flowering period of each. Superabundant growth must be checked by division at the proper time, and watering during drought not neglected.

Hibiscus Sinensis.—The "Chinese Rose," as this species is generally called, is a showy flowering shrub, which likes a light, sandy soil, and may be propagated by cuttings or by seed sowing. It will run up to ten or twelve feet high when once established.

Hippocrepis.—A genus of bulbous plants, including the Jacobaea and Barlaamias lilies, besides many pretty hybrids. Requires pot culture, in heavy rich loam, which should be treated with bone dust and powdered charcoal, and given free drainage. Propagated by offsets. Closely related to the amaryllis, with which it is sometimes confounded.

Holly.—The variegated and common green hollies are very decorative, and grow readily wherever there is room in strong or ordinary soil, not being injured by the smoke of towns. Once planted they are capable of looking after themselves, save in the matter of pruning, which should be done judiciously and to the encouragement of vigorous and symmetrical growth. Rows of ornamental holly make good screens in gardens for the protection of the tenderer subjects from northerly and easterly winds. Planting is best done early in May.

Hollyhock.—Hollyhocks propagate from short-jointed young shoots easily, but raising from seed is preferable, as the seedlings resist disease, to which this genus is very liable. Well selected seed can be placed in drills on a carefully prepared bed in April, so as to come up about an inch apart, covering with fine soil. Weed and water, and transplant without disturbing the roots when vigorous growth has begun, allowing ample space for development, and keeping off slugs and other injurious pests. In the second season stake, destroying all underbrashes when the flowers have shown, preserving only the choicest specimens, which cut down to about three inches high after flowering, and protect during the winter with litter after loosening the surrounding soil with a fork. The following year will furnish the finest bloom, from which seed

may be saved, and culture begun *de novo*. By watering with strong liquid manure during the growing period in dry weather, and pinching off laterals, very large flowers can be obtained from the carefully selected double sorts, and there are many of beautiful shades of colour, white, yellow, rose, red, and salmon.

Honeysuckle.—All the *Lonicera*s will strike readily from layered branches and cuttings taken during the growing period, or root divisions may be made. They are invaluable as trailers and wall and trellis climbers, and some are good greenhouse rambles, *Sempervirens* particularly so. Japonica, the small-leaved, variegated variety, is deservedly a favourite, and should be given a sunny position in the garden, and neatly trained or permitted to run over banks or stumps.

Honesty. (See *Lunaria*.)

Hotbeds. (See *Frames*.)

Hothouse. (See *Stove*.)

Hyacinths.—Anyone can grow these beautiful blooming bulbs, but not everyone is able to cultivate them to perfection. In the open garden the necessary procedure is simple. The soil should be well dug and manured, and the bulbs planted in October three inches deep and well surrounded with sand. When frost comes strew the beds with clean straw, easily removable in mild weather, and leave the rest to Nature. For pot culture, plant each bulb in a four-inch flower pot, or two or three if desired in correspondingly large pots, well drained and filled with a compost of fibrous loam, leaf soil, well rotted cow dung and silver sand, promoting root growth by covering the whole of the pot and bulbs six inches deep in ashes or cocoanut fibre until growth is well advanced, when gradually inure to light and take to a warm greenhouse or room to flower. Let the compost be rather rough and drain the pots thoroughly. The process may commence in September or October, and early bloom can be procured by careful forcing, aiming always at getting the pots full of root before upward growth is encouraged by light and air. Hyacinths may be cultivated in sand by dipping the vase or other receptacle containing the medium and the bulb in tepid rain water, or cocoanut refuse well mixed with charcoal well broken and powdered, is even better. They also grow nicely in china or other bowls filled with damp moss. The bulbs do well in glasses made for their growth if kept in a dark but not draughty or damp cupboard until the distilled or rain water beneath them, which should contain charcoal to keep it pure as long as possible, is well filled with roots. Then bring out into light and sun and keep clear of dust as the leaves and flowers and stem shoot up. Ripe sound bulbs should be selected, rather than loose large ones. The Roman and Italian Hyacinths flower the earliest.

Hydrangea.—A decorative half-hardy shrub from China, bearing very large trusses of pealy bloom, white to blue. Requires strong loam enriched, and plenty of water, weak soap-suds suiting it well. If left out in the winter it should be protected against frost. Partition of large clumps, or cuttings of half-ripe young shoots, after flowering, are the methods of increase. Hydrangeas make good tub plants for terraces or large conservatories, and will live for many years with a little care, cutting back after blooming, and top-dressing from time to time. They start well in a cool greenhouse, and like a little liquid manure or other fertiliser to help them along when the buds begin to appear.

Iceland Poppies. (See *Poppy*.)

Ice Plant.—This uncommon and attractive trailer, to which the florists give the lengthy name of *Mesembryanthemum crystallinum*, makes a good rock plant or hanging basket subject. It will flourish with a little trouble in the beginning, in any good soil, in a sunny situation. Sow seed in gentle heat in April, transplant to small pots and re-start growth, then turn out to harden, and finally set where wanted to remain, keeping down surrounding weeds. Some grow the ice plant for garnishing.

Impatiens.—A rather tender but handsome border plant, of the *barbata* tribe and curious because the seed vessel opens at a touch. Will easily propagate

itself by seeds when once the latter have been sown in the open. *Impatiens Sultan*, bright scarlet flowered, requires retaining in the greenhouse to bloom.

Indian Aloe. (See *China*.)

India Rubber Plant.—This capital parlour plant should be placed firmly in a pot, well-drained, of sufficient size, containing charcoal over the drainage, and filled with a compost of mellow sandy loam. It, once started, need only be watered when thoroughly dry, and that by immersion in rain or tepid water. It prefers a shady to a sunny window, and requires fresh air. Outdoor exposure is good for it in summer, and gentle sponging of the leaves to clear from dust keeps it healthy, with a careful shift to a larger pot, without disturbing the ball, when rootbound. Such treatment will carry this *Ficus* to large and handsome proportions. Cuttings of single-eyed shoots may be struck in sandy peat.

Indoor Decorative Plants.—The plant lover who does not possess a conservatory will often like to decorate his parlour or other dwelling-rooms with the choicest procurable plants, preferably of his own growing, and there are many subjects which lend themselves to this kind of display. In the spring, the hyacinth is available, and cinerarias, pelargoniums, calceolarias, begonias, and fuschias, among beautiful flowering plants, will keep up an indoor flower show over a lengthy period, while azaleas, primulas, and cyclamens, can be employed to brighten up the home. India rubber plants, small dracaenas, aspidistras, and numerous other foliage plants of moderate size may also be maintained in health at a minimum expenditure of trouble, as can many beautiful ferns, if kept out of direct sunlight and moist at the roots without stagnation. To this end, there must be systematic and sensible watering; just when each plant wants it, and aeration, as distinct from exposure to chills and draughts; also care to keep every growing thing below the level of gas jets. Plants for dinner-table decoration should be fresh and frequently renewed, brought in from the greenhouse or frame in their full beauty, and replaced when not in use or past their best, the pots in which they are growing being inserted into the larger ornamental vessels as command for the time being, and the surface soil covered neatly with damp moss. There is scope here for the exercise of great taste, and much can be accomplished with comparatively limited resources and intelligent attention.

Ipomoea Purpurea.—The "Morning Glory" of American verandas, a very useful climber, which goes prettily with the light leaves and yellow blossom of the canary creeper, when the two are permitted to intertwine on trellises. This *Ipomoea* has convolvulus-like flowers of various colours—purple, pink, crimson, white, and blue, and large heart-shaped leaves, and will ramble to a height of ten feet or so. It likes a light soil, and being half-hardy, should be raised from seed over a gentle hotbed in March, and planted out in May.

Iris.—Long-running, tuberous- or bulbous-rooted, hardy herbaceous plants bearing flowers of rich and varied beauty, some of them vying with the Cattleyas, *Lælias*, and other exotic Orchidaceæ in grandeur, and most are of peculiarly easy cultivation. White, yellow, purple, brown, with much variety of delicate veining, and blotching in some cases, the *Iris*es are universal favourites. The three upper and inner petals of the flowers are erect, the lower three drooping and generally reflexed. The German section is the more common and includes the yellow *Iris* or water-flag and the larger flowered purple and lilac, yellow-bearded Germanicas, which does so well in town gardens, and puts up stems to a feet high. The Spanish and English sorts are smaller, comprise greater diversity of colouration and pencilling, and are bulbous-rooted. *Iris*es are best planted in clumps for effect, and flourish in light, rich garden soil, making admirable subjects for a shrubby border. Propagation by division of the roots is accomplished with facility after flowering, and rather stronger soil and a shadier position than that accorded to the English and German varieties suit the Spanish sorts.

Isamee (Hymenocallis) Calathinum.—The Peruvian Daffodil, a sweet-scented, summer blooming,

bulbous-rooted plant, with large white, cup-shaped flowers, grows nicely on a south border, and makes a good subject for indoor display. Should be given light loam and leaf soil, rather rich, and ample drainage, and when planted outside, taken up in winter for rest and protection.

Ivy.—All the *Hedera*s are invaluable for growing on unsightly walls, and are most accommodating as to situation and soil, and some of them look very pretty, especially the smaller-leaved, close-clinging and variegated sorts. *Hedera Helix Canariensis*, the Irish Ivy, is a very quick grower, and soon covers a screen. It should be clipped closely in March. Donnell's Ivy and *Hedera atropurpurea* are particularly attractive and graceful subjects, so are also *Helix foliis argenteis* and *foliis aureis*, the silver and gold Ivies. Slips root readily in sandy soil in springtime in a shady position, if gently watered during dry weather.

Ixia.—A graceful Cape bulb, with long slender flower stalks, will succeed on a sunny outdoor border, but very suitable for the greenhouse if potted in autumn. May be raised from seed sown in September in light loam, in a cold frame. Peat or leaf mould should be liberally mixed with loam for the after culture of the *Ixia*.

Jacobaea.—The American groundsel, a gray and blooming annual, good for ribbon effects in the border, carrying crimson, blue, or purple bloom, and easily raised from seed or by cuttings, treated as those of the verbenas.

Jacob's Ladder.—A hardy, herbaceous plant, emitting a disagreeable odour, but possessing pretty fern-like foliage, and bearing showy blue flowers. The silver variegated variety, *Polemonium coeruleum variegatum*, makes a good decorative pot plant, or may be utilised as a bedder, in rows or otherwise, being easily propagated by root division if firmly planted in any light soil, and well watered at the beginning. Its leaves are medicinally used in many places as a poultice ingredient in ulcerous ailments.

Japanese Anemone. (See *Anemone*.)

Japanese Primula. (See *Primula*.)

Jessamine.—Fragrant, free flowering, and rambling shrubs, which may be trained as climbers or treated as trailers. The common white *Jessamine*, or *Jessamine*, is particularly attractive and powerfully perfumed. Nudiflorum, a yellow-bloomed variety, flowers in winter on the naked stems. There are sorts which require greenhouse culture, and are exceptionally beautiful. All may be raised from cuttings in sandy soil, started under a bell-glass.

Jonquil.—Hardy bulbs of the Narcissus order, very fragrant, flowering and elegant. Will last for years. Left alone out of doors if the old leaves are not cut away, and can be potted up for greenhouse and conservatory decoration, half a dozen in a pot. Both the doubles and singles propagate readily by division in September, and their yellow blooms are always attractive.

Kalocanthos.—Properly called *crassula*, this plant belongs to the house-leek order, and flowers in May, making a good rockery subject. It luxuriates in a mixture of sandy loam and brick rubbish, and is increased by cuttings and offsets. The white flowers, of jasmine-like formation, become suffused with red as they fade.

Lathyrum.—The graceful tree *cytissus*, whose golden tassels of butterfly-shaped bloom are so attractive and familiar in spring time, grows beautifully and steadily in any garden where afforded room, and can be raised from seed without trouble. The leguminous seeds are narcotic and poisonous to many animals, and very dangerous to children.

Lantana.—A capital genus of conservatory blooming shrubs, some sorts of which come in well for summer bedding. They are half-hardy perennials, in fact, and carry thick crowns of tiny verbenas-shaped flowers in endless gradations of delicate colour shade. In warm, dry ground, light and rich, they do best out of doors, and come from March sown seed in heat or cuttings taken in autumn. Must have winter protection in Britain.

Lapageria.—A handsome Patagonian evergreen

plant of climbing habit, requiring cool greenhouse culture, and may be trained on a balloon trellis effectively as a conservatory specimen, or round a pillar or on a back wall where the light has free play. They want rich sandy loam mixed well with peat, as a compost. They must have plenty of drainage, and need a lot of water. Their beautiful bell-shaped bloom, waxy white or rose, is very distinctive. Layering, at the growing period, affords the readiest method of propagation, but they may be grown by seeding in heat. *Lapagerias* are liable to insect attacks in spring, and must be kept scrupulously clean.

Larkspur. (See *Delphinium*).

Lathyrus.—The sweet pea. Of the perennial description there are several strong growing varieties, rosy-pink, red, and white flowered, all old favourites for trellises or fences, propagated from seed or root division. They are useful for bouquets and table decoration, and should have the seed pods picked off if continuous bloom is desired. The annual sorts, now vastly improved and innumerable in variety, are referred to under the heading "*Sweet Pea*."

Laurestinus.—Belongs to the *Viburnum* family, which includes the Cuscuter rose, or Snowball tree, but is an evergreen. Bears clusters of pinkish-white bloom in winter and spring. Succeeds in deep sandy loam, and prefers a sheltered situation. Small shrubs make good subjects for window decoration. Increased by suckers or spring layering.

Lavender.—*Lavendula vera*, so much favoured as an old garden subject, and cultivated extensively for perfume production, is best propagated by autumn struck cuttings, which should be put in light soil under glass, or may be increased by transplanting offsets. Straggling shoots should be pruned in spring where shapely bushes are desired. April is the time to plant out, either the white, or more familiar and typical lavender-coloured blooming sorts. Flowers for preservation should be gathered on a dry day, and not before they are fully opened and brown.

Lavender.

Leaf Mould. (See *Soil*).

Lemon Plant.—A greenhouse shrub with scented foliage, propagated by cuttings taken from young April growth. Use sandy soil to start, over heat, repotting into stronger and richer mould. Must never be exposed to frost.

Leucojum.—Hardy bulbs with flowers of snowdrop shape, but very considerably larger in size. The variety *verum*, the Spring Snowflake, flowers naturally in March, and may be forced for window show earlier. The Summer Snowflake is a May bloomer. Both are very hardy and can be grown in clumps in ordinary soil.

Lilac.—Though they will grow anywhere, the syringas are shrubs which pay for planting in good, deep, dry soil. The flowering shoots should be shortened about midsummer. There are attractive cultivated varieties of the syringas, both white and reddish-purple, and double Persian and Chinese, bluish pink and white as the typical shade. The latter, especially the white flowering form, are much forced as pot plants in frames by the market gardeners, but should only be so treated for one season, or at any rate not in two successive years.

Lilium.—No British garden or greenhouse without lilies can be considered complete, though the lily is not a British bulb at all. However, the lovely old white candidum has been cultivated in our gardens for over 300 years, as has also the scarlet chalcidonicum, or Turk's cap. Varieties of these should always be given outdoor treatment. So should the orange lily (coccineum) and the Martagon sorts, all of which are very effective in borders. Light or medium soils want well digging for their reception, with the incorporation of plenty of well rotted manure, and very heavy land is not suitable for lily growing at all. When the bulbs are planted in early autumn they are best surrounded by sand to save them from damping off before root growth has been established, and the clumps should not be disturbed for 3 years at least, though top-dressing of leaf-soil and manure may be lightly forked in with advantage in early spring. The bulbs may be put 5 or 6 inches under the surface, firmly pressed

upon sand, and for the first winter lightly covered with litter during extreme frost. A better plan still is to start the root growth in pots before planting out. For indoor culture the *Lancifolium* varieties, album, roseum, and rubrum, are grand, so are *Longifolium punctatum* and *astroangulatum maculatum*, besides the *Harford*, *Brownii*, *parvum superbum*, *giganteum*, *cordatum*, and gorgeous golden-rayed Japanese nomenclature. Leaf-soil rough and half decomposed, with mellow loam, some peat and plenty of river sand, mixed with wood ashes, makes a good general compost for the pot culture of lilies, which should be given extra liberal drainage, and a layer of charcoal over the crocks, planting the bulbs tightly an inch below the top of the soil. Sand is a good thing to cover the crown of the bulbs with, and if they be plunged, pots and all, in ashes or coconut refuse, tan, or leaf-soil to begin with, all the better. They may be kept dormant in a cold frame or under the greenhouse stage during winter, out of the reach of frost and water drips, repotted and grown on in spring, and placed in the greenhouse or conservatory, or turned out of doors altogether to bloom in summer. Sinking the pots of the choicer sorts in shady garden borders, the flower stalks securely staked, is a capital plan, and in the actual flowering stage they make splendid room plants. Water should be administered very sparingly until vigorous growth has begun, many promising auratum and other fine lilliums having been ruined by premature soaking. If the pots at planting be but three-quarters filled, top dressing with peat, sand, and rich leaf soil will help as the flower stalks shoot up. The choicer bulbs should be preferred, very loose-soiled ones not being so satisfactory even if of larger size than those of sound healthy development.

Lily of the Valley.—Thoroughly British lilies of the valley are not lilies at all, but *convallaria*. Propagation is best achieved by division of the root clumps, which should be planted in a shady and moist but well-lighted situation in good soil, containing a large proportion of leaf mould and some well-rotted manure. Place the clumps a foot apart. They do well in pots for out of season blooming in the greenhouse if retarded crowns are secured.

Linum.—Graceful annuals or perennials; flaxum (the yellow flax) and grandifolium (rosy crimson) are both under a foot.

Loam. (See *Soil*).

Lobelia.—An invaluable plant for dwarf bedding purposes, making an admirable subject for the front of borders or window boxes. Grows readily from seed, cuttings, or root division. The blues, speciosa compactum Paxtonii, and others are most in vogue, and there are some pretty white sorts. Gracilis, bushy, is a fine pot subject; erinus, a trailer, does well for hanging baskets and vases, drooping elegantly over the edge; while there are tall varieties, including cardinalis, bearing scarlet blossoms. Some particularly pretty doubles are now to be had also, less free of growth however, than the type, and requiring more care in cultivation.

Loose Tree. (See *Monarda*).

Lomandra. (See *Monaysuckia*).

London Pride. (See *Saxifraga*).

Lotus.—The bird's-foot trefoil, a hardy rock-work plant of dwarf, spreading habit, delighting in dry, sandy soil, and readily grown from seed. The common sort bears bright yellow blossom. Lotus Australia has rose spikes, and the variety Jacobus is a greenhouse perennial, purple flowered.

Love-in-a-Mist.—Dark, violet-blossomed annual, very peculiar foliage, 18 inches.

Love-Lies-Bleeding. (See *Amaranthus*).

Lunaria. Biennial. A pretty deep-violet flowering garden biennial, making 18-inch long leaf stems, the seed pods being serviceable for decorative purposes.

Lupin.—A free-flowering garden genus, annual or perennial, carrying long and stately spikes of bloom above robust and graceful undergrowth. Raised from seed, and increased by root division. There are various shades of white, yellow, and blue lupin, the seeds of the white sort being regarded as a highly

nutritious succulent food in some European countries. Indigenous to the Mediterranean shores and temperate Asia.

Lychnis.—*Lychnis chalcedonica* is a useful garden perennial, producing large heads of brilliant scarlet bloom in July. Good soil gives splendid results. May be put out in the border in spring and autumn when the plants part up well. "Ragged Robin" is the British meadow lychnis, and the Corn Cockle and Campion belong to the genus. The double-flowered cultivated varieties may be propagated by cuttings from side-shoots taken in June.

Lycopodium (*Selaginellus*).—An order of pretty, flowerless creepers, popularly known as club-mosses, many of the species being variegated. They grow well in ferneries and the shadier situations of the greenhouse, and spread with rapidity.

Madwort, Book. (See *Alyssum*.)

Michaelmas Daisy. (See *Alyssum*.) or perennial aster, are all vigorous subjects, and gross feeders. Multitudinous as to variety, the genus comprises almost every floral colour, and subjects of heights ranging from 2 to 5 feet, blooming between August and December. They spread rapidly, and should be cut up and replanted each second year, in spring time for preference, though autumn will serve, destroying the central part of the old stools. The Michaelmas daisies rank amongst the best of town grown hardy perennials.

Mignonette.—Of this fragrant favourite there are endless varieties, all of them thriving best in an open situation. Seed may be sown early under glass for transplantation, which must be carefully done with as little root disturbance as possible, or scattered about on borders anywhere where the sun shines, in April or May. Light soil containing calcareous ingredients suits mignonette admirably, and if it be prepared beforehand by manuring well, and the plants are thinned out and watered copiously during drought, splendid results will be achieved. It is a good window plant, indoors or out, and the giant mignonette is an attractive conservatory subject.

Mimosa. (See *Aconit*.)

Mimulus.—The "Monkey Flowers" are handsome perennials, bearing large flowers in which bright yellow coloration predominates, often splashed and spotted with brown, chocolate, or coppery red. *Mimulus moschat* is the common and pungently odorous musk, which delights in shade and moist warmth, Harrisoni being a large flowered variety. The minute seed should be scattered thinly and very slightly covered, and starts growth best in gentle heat. *Mimulus* seed sown in spring makes fine plants for summer bedding; autumn sown seed will produce early flowering plants for indoor embellishment. There is a double-flowered "hose-in-hose" *mimulus*, luteus nobilis by name, which some people prefer before all others on account of its curious formation. Rich soil should be employed, inclining to lightness, and plentiful watering is essential to their successful cultivation and management. All these plants are easily propagated by cuttings.

Moneywort.—The pretty trailer more commonly known as "Creeping Jenny," the botanical name of which is *Lysimachia nummularia*. Its long strings of loose-lying yellow flowers fancifully supposed to resemble rows of small gold coin, gained it the popular title of moneywort. Propagated by division, will grow almost anywhere, and is very useful as a hanging basket subject. Likes plenty of moisture at the roots.

Monkey Puzzle. (See *Arancaria*.)

Monk's Hood. (See *Aconit*.)

Montbretia.—A bulbous and distinctly beautiful subject, akin to the wild gladiolus as to root appearance and foliage, and requiring similar culture. The flowers are grown on gracefully branching stems, and are usually deep scarlet, suffused with yellow. *Montbretia* should be planted in a warm border in October, in rich yet light, sandy loam, with an admixture of leaf soil, about two inches apart and three inches deep, being covered with litter until March, when a mulching of short manure, preferably from an old hot bed, may be substituted. *Montbretia* like

plenty of water, especially in summer time, to prevent the leaf blades from browning at the tips. With ordinary treatment they spread rapidly, and should be divided and transplanted in late autumn, when they will afford a splendid display during the succeeding summer. The long slender branches of bloom, which keep well after cutting, come in admirably few bouquets and dinner table decoration placed in glasses with asparagus fern, maiden-hair, or other light greenery.

Morning Glory. (See *Ipomoea*.)

Moutanba Plant.—A pale-blue blossomed late-flowering shrub (*Caryopteris mastacanthus*) with prettily alivered under leaves, reaching 3 feet high, thrives in a sunny sheltered border in any good soil.

Mullein.—A flowering perennial or biennial border subject, botanically called *verbascum*, carrying erect spikes of showy bloom. *Phacelia*, 2 to 3 feet, has purple rose or white flowers, according to variety, formosum, 6 feet, dense pyramidal golden yellow olympicum, which should be treated as a biennial, bears branching yellow bloom. The plant has valuable medicinal properties, and may be raised from seed sown in spring in light soil, and transplanted before placing in its final position in the April following. Propagation of the perennial sorts may be successfully practised by division in spring or autumn.

Muscari.—Dwarf spring flowering bulbs of the hyacinth order easily cultivated in good garden soil. *Muscari moschatum* has vivid greenish spikes, musk-scented, botryoides (the grape hyacinth) is smaller and very attractive, with blue and white bloom; monstrosum (the feather hyacinth) has feather-like flowers; conicum, blue, is bright, beautiful and free growing. Should be planted out in September, and dealt with thereafter as advised for bedding hyacinths.

Musk. (See *Mimulus*.)

Myosotis. (See *Forget-me-not*.)

Myrtle.—A desirable half-hardy evergreen shrub, usually given greenhouse treatment, but amenable to outdoor culture in a sheltered, sun-warmed situation in this country. Should be well syringed when kept under glass, and grown in loam and leaf-mould well mixed with sharp sand. Strikes readily from growing shoots in light soil. Likes moisture, but should be guarded against frost. Its pretty white blossoms, and glossy green fragrant foliage make the myrtle very popular for conservatory and parlour window decoration.

Narcissus.—This tribe of hardy spring flowering favourites includes all the daffodils and jonquils. The bulbs may be treated as hyacinths for pot and general indoor blooming, and by planting them at intervals between the beginning of September and Christmas, a long succession of floral beauty may be provided. Either singly or several in a pot, they produce a pretty effect. Out of doors they are best planted first in well-drained and sheltered borders in September deeper than the hyacinth, say 5 inches down, and the beds lightly covered with dry leaves or litter. Good sandy loam grows the narcissus nicely, and they may remain undisturbed for three seasons with advantage, except where the soil is poverty stricken, when transplantation to a fresh position will help matters. The polyanthus sorts, though large of bulb, are the least robust, and the poeticus varieties should be planted or transplanted, as the case may be, as a rule, earlier than the rest.

Nasturtium. (See *Tropaeolum*.)

Nemesia.—An effective half-hardy annual, a little over a foot high, carrying a profusion of bright, orange, crimson, or scarlet bloom, sometimes showily blotched. Good for bedding masses or for mixing with other border subjects. Sow seed in heat in January, pot the young plants off singly, harden off, and plant out at the end of May.

Nemophila.—A neat, dwarf-growing floriferous border annual, particularly suitable for the front of the bed. They are propagated readily from seed sown thinly in drills where blooming is desired. *Isignis* is a pretty and compact spreader, white eye and sky blue, and maculata blotched purple on white is robust and larger flowered. *Phaceloides*, blue and white, is a perennial, and may be divided for increase, but the

varieties of insignia, of which the seedsmen offer many, are the best to employ for ribbining or masses, insignia grandiflora being recommended. Seed sown in August will bring about an early summer display, that got in on good soil in April comes on a little later and is perhaps the surer. Thin out to allow every plant room for free expansion. Cats always roll on this plant.

Nicotiana. (See Tobacco Plant.)

Trifolium. (See Clover in Mist.)

Wile Lilies. (See Arum.)

Oenothera. (See Evening Primrose.)

Oleander (Nerium oleander).—A handsome, tough-leaved, greenhouse shrub, bearing pink or white semi-double bloom. Should be grown in peaty loam and sand, and kept plentifully watered, the foliage being frequently sponged to ward off the brown scale attacks to which the genus is subject. Ripe shoots may be struck if root growth be started by immersion in rain water exposed to the sun. The flowers and shoots of the Nerium, the proper botanical name of the oleander, are both poisonous. It flourishes out-of-doors along the Mediterranean, and may be stood in sunny shelter on south-facing terraces in this country with safety when matured in pots if frost be guarded against.

Oleandra Haastii.—A box-like evergreen, sometimes called the "Bush Daisy," suitable for growth in a sheltered town garden for ledge ornamental purposes. Reaches a height of 5 feet, and produces fragrant white flowers. It grows well in loamy soil, and may be clipped neatly in spring or autumn without injury if discretion be displayed.

Orchids.—The growth of tropical orchids is a thing for the expert only with "all appliances and means to boot," which include a well-planned and appointed hothouse or stove. But many beautiful orchids from the Cape of Good Hope and sub-tropical or temperate regions may be successfully cultivated in an ordinary greenhouse, if intelligently treated; but there are some charming species hailing from Southern Europe, which require but slight protection in this country against winter rigour. Therefore, almost everyone who wishes may venture to some extent upon orchid-culture without fear of absolute failure. The terrestrial, or ground-inhabiting, orchids present least difficulty to the novice, and many of the cypripediums and other attractive groups may be dealt with in a manner entailing comparatively little trouble beyond the employment of a plentiful admixture of good peat and clean silver sand and charcoal dust with the potting compost, proper attention to watering during the growing period, and the provision of particularly complete drainage in extra clean pots of suitable size for the subject. Most of them flourish best in maintained humidity, with steadiness of genial temperature and freedom from draught, ventilation being given near the pipes. Overheating and atmospheric fluctuation must be sedulously avoided. A large range of orchids succeed where palms and the more delicate ferns flourish, and the combination always has a pleasing effect. An even winter warmth of 45 degrees and 60 in summer suffices for the healthy development of numerous lovely species from South America and the mountain districts of India, such as the masdevallias, lycastes, and odontoglossums, besides many of the oncidiums and others of the epiphytes, or tree-growing species, all of which must have management according to their natural need. Proper perforated pots, pans, or open teak baskets should be employed, or the plants may be secured to clean porous and undecaying wood blocks or pieces of tree-fern trunk. All these requisites may be obtained from the florist's without niggardly, and living sphagnum moss and specially selected fibrous peat are also readily procurable for use in lieu of soil where the species suits on air and moisture alone. Practical advice should be sought by beginners from a professional gardener well up in this fascinating branch of horticulture, and a good manual on the subject studied, when it will be found that it is possible to compass much with limited resources in a direction not always confidently adventured upon.

Oxalis.—Bulbous plants well adapted for rock-work and border growth, also for pot culture, their fresh

green foliage contrasting finely with the rich blossoms. *Oxalis floribunda*, with rosy-coloured flowers, is a good garden variety which will thrive in any light soil. *Oxalis acetosella* is the white, purple-veined, wild wood sorrel, which folds its flowers at night or under the influence of the hot sun.

Paeony.—Herbaceous paeonies are very hardy, so also are the larger shrubby section, sometimes called tree paeonies; the latter, in a very severe British winter, require slight protection. They will take up a great deal of nourishment, and should be planted in strong, deep, rich loam, into which a quantity of rotten cow-dung has been dug. They throw up above their large ornamental foliage great globular blooms of rich hues, crimson, rose, salmon, blush, and also pure white. A shady situation, yet open, suits them best, as strong sunlight will often cause the flowers to fade, and watering with weak manure decoction assists development. Some of the Chinese paeonies exude a peculiar perfume. They propagate by division after flowering, or from cuttings carefully layered, and can also be raised from seed, but the young plants will not usually flower for 5 or 6 years. Some white flowered varieties have sulphur or other tinted centre petals, and almost every season produce new hybrids. There are European paeonies with single flowers of great colour, but unlike those of the water-lily. Any of the tribe look well on large lawns, or in front of shrubberies.

Palms.—Many graceful palms flourish and endure for a lengthy period in full beauty in the greenhouse and conservatory, or as subjects for room decoration, and a goodly number will stand well out of doors in our climate with a little care in all but the severest weather. *Phoenix sylvestris* is one of these, and the variety *dactylifera* (the Date Palm) is easily managed. *Cocco Weddelliana*, which likes the shade; *Latania Borbonica* (the Fan Palm); *Araucaria excelsa*, *Kenedia Fosteriana*, the dwarf-keeping *Chamaerops humilis*, and *Geonoma gracilis*, *Rhapis flabelliformis*, and the Chilean *Jubaea spectabilis*, are all ornamental and easy to deal with. Inexpensive when young, they make handsome table plants, and most of them may be grown on by judicious shifts and outdoor hardening to a considerable size. They do not require large pots, comparatively speaking, at any stage, but should be very firmly planted, over ample drainage, when they will absorb any amount of root watering within reason, a good compost being fibrous loam, peat, and leaf soil in about equal proportions, with plenty of sharp sand.

Pansy.—The pansy, as we know it, large, rich, and beautiful, is what the florists have made it, from the basis of the viola, or wild pansy, of bank and hedge-bottom. There are two types, the British Heartsease, or show sort, with the variant colour patch round the small eye; and the Belgian, or fancy division, having the "blotch" as large as possible. The former type is sub-divided into selfs of almost every hue, white grounds and yellow grounds, and each class possesses an endless and ever increasing variety. The two top petals of the flower in both types should be of even coloration, correspondent with the belt surrounding the ground colour on the bottom petals, and in some of the darker British show selfs there is no discernible blotch. Propagation of the choicest named pansies is by cuttings, for seedlings are apt to vary widely from the parent; though packets of seeds saved from the finest and most perfect flowers of every variety are pretty certain to produce some very satisfactory plants. Sowing should be done immediately following blooming for display in the succeeding spring, or in April for autumn flowering. Fibrous loam three parts, leaf mould two parts, and some clean sharp sand, forms a serviceable pansy compost, and this should for beds, be placed at least 4 inches thick over a well-dug and drained subsoil to get fine bloom. Pot plants must be well crocked and carefully watered.

Papaver. (See Poppy.)

Passion Flower.—This interesting and very peculiar-flowered climber is usually reckoned a greenhouse or conservatory subject, but the variety *cerealis* will train up a sunny south wall in a sheltered spot out of doors, and do well in any good light soil. For pot culture, wound round a trellis or a pillar, it requires plenty of drainage. Cuttings should be taken with a heel, young

short shoots, and put into single pots of light, sandy compost in a close frame or under a glass to strike. Not only the blue sort, best known, and others like it may be grown easily in the greenhouse, but the rarer red coccineas and some white sorts, among which "Constance Elliott" is perhaps the best obtainable. The fruit of the *Pasiflora* looks pretty on the plant, and that of *P. edulis* is considerably delicate.

Pea, Sweet. (See *Sweet Pea*.)

Pea, (See Heli.)

Peat. (See *Heli*.)

Peatgarden. (See *Geranium*.)

Pentstemon.—Pentstemons like a peaty soil or rather heavy loam, particularly if it be well worked and efficiently drained. The hardy species contains a wide range of variety as to colour and habit. They are propagated from cuttings, or from seed sown in gentle heat in March, and transplanted after previous pricking out in a cold frame, to the blooming bed in May. Some of the choice florist sorts of pentstemon almost rival the *gloxinia* in beauty of bloom, and these should be raised from June-sown seed, grown on and sheltered over the winter for spring planting, being treated as half-hardy perennials. The cuttings are treated the same as those of *catananches* (which see).

Perennials. **Hardy.**—This term includes all plants which will winter out of doors and do not require renewal from seed annually or at most biennially. It therefore comprises most of the border subjects of a British garden, both those which die down to the ground in autumn or winter to re-appear the next season, and those which remain evergreen such as the carnation and the saxifrage. The principal varieties of both classes will be found fully dealt with *seriatim* in this dictionary.

Perilla.—A very useful annual for ornamental bedding purposes. *Perilla Nankinensis* may be raised from seed sown in gentle heat in March, the seedlings being pricked out in a cool frame subsequently, and planted in the garden beds at the end of May. Its foliage is deep maroon, almost black in some cases, and it carries a pink bloom, which may be pinched off to maintain the full force of the colour effect of the dark leaves in ribboning work if necessary. It grows to a foot or 18 inches high.

Periwinkle.—An evergreen trailer, sweet-scented, bearing pale blue flowers in springtime, and of rapid growth. Likes a moist shady situation and light soil. Propagated with facility by root division.

Pests of the Garden.—Snails and slugs are among the most destructive of the gardener's enemies. Cleanliness and the removal of the harbourage of these marauders is essential. Flower pots left lying in moist shady places, decaying vegetation, and rubbish of every description, afford shelter to shell snails which creep from under cover nightly to play havoc with young plant growth. All such hiding places should be abolished as far as possible, and irreparable concealment positions thoroughly explored by daylight, the pests being captured and killed, while persistent nightly searches must be made by the aid of a lantern or candle at planting-out time for both snails and slugs on the prowl. Throw them into an old pail containing a little water made strongly saline whilst warm; this will quickly kill them all. Lime sprinkled round seedlings and tender transplanted subjects impedes the small fry until wet has exhausted its fire, and they may be trapped by laying about cabbage or lettuce leaves and then made an end of. The "leather jacket" or "daddy-long-legs" larva do a lot of damage by eating through the stems of carnations and other juicy plants just below the surface, mainly by night. They keep close to their food, and should be searched for assiduously where suspected and destroyed at sight, whilst starlings and other birds which come insect hunting should never be scared away. Catch the wire-worm pest in pieces of carrot stick into pansy and pink beds, and keep the hoe stirring in the sunshine to turn out all evil things that infest the garden, so that you or your friends the birds may sacrifice them. Entice earwigs into hay in small pots inverted on flower stalks, shaking them into scalding water. Get a few toads to help you to keep wood-lice under, especially in frames. If the reptiles are thin and active on receipt, they will soon be fat and sleepy, and many

insects will have perished in effecting the change. Handpick and slay every ravenous creeping vegetarian you can find, looking most closely for a caterpillar that is generally endowed with protective mimicry. Throw the finest dry dust over the leaves of anything the turnip flea and his congeners attack, doing this when the leaves are damp. Hunt out the little brown grub that rolls himself in young rose leaves, and commit him and his shelter to the flames. Syringe every evening every plant, bush or climber, that any of the green flies or other aphides have got at, giving them, if you like, a dose first of weak tobacco water. Permit red spiders, the smallest microscopic thrips, and all the rest of the tiny eaters of leaf substance no peace, squirting at them often in early morning and dewy eve under where they are seeking a lodgment and maintenance. Encourage the ladybird, the eater up of these. When the insectivorous rascals get out of range amongst stuff that is forcing in frames or plant houses, it may be necessary to fumigate; then do the smoking with discretion, yet thoroughly. Mildew will go where cold draughts prevail. Then use flowers of sulphur on all affected parts. Proceed with cultural assiduity to keep your botanical belongings in robust condition, and you will not be overtroubled by the multitudinous pests which are always springing into life to prey upon sickly subjects that cannot resist their attack. There are also bigger pests, more difficult to circumvent if they get into a garden on mischief bent, cats, dogs, mice, moles, fowls, and even children not in sympathy with horticulture. Keep them out.

Petunia.—A half-hardy, soft-wooded, profusely flowering subject of great utility as a bedder and greenhouse or window blooming plant, luxuriating in a compost of rich fibrous loam with leaf soil to the extent of one-third, decayed cow droppings one-sixth, and sharp sand one-sixth. Sow in well-drained shallow pans, lightly sprinkling the seed with fine soil, and keeping close to the glass in a cool frame in April. Transplant the seedlings into single pots, grow on, watering freely, and pinching back to promote bushy growth, being gradually hardening as it proceeds. Peg down the longer shoots when in the borders, when the plants will throw up new growth bearing many flowers. Cuttings taken in August and put in light soil on a shady border will root readily, and may be transplanted to pots to shelter during the winter and bloom early in the following year. Petunias are fond of weak manure, and plentiful syringing, avoiding injury to the flowers, will keep down insect pests. There are many handsome sorts, both single and double, and great diversity of colour. In winter they must be kept fairly dry, and have plenty of air. Should mildew appear during the rest period a dusting with sulphur is advisable.

Phacelia Campanularia.—The Bell-Flowered *Whitlavia* (which see).

Phlox.—Phloxes are magnificent garden plants, both the perennial and the half-hardy annual Drummond variety. Their great trusses of delicate discoloured bloom, of many hues, always compel admiration, and the flowering period is lengthy. They require rich soil, deeply drained, and make large masses of matted root growth near the surface, so should be kept copiously watered and mulched with soft manure during dry weather. The perennials part readily when new growth is commencing, and cuttings may be made in spring and struck in sandy soil in a warm shady spot. The early flowering pyramidal section comes into full beauty in early June, while the decussate varieties of the perennial division are at their best a full month later. The annual Drummondii *Phloxes* should be raised from seed sown in gentle heat in March, and planted out in May in good soil, when they will make a grand display. They reach a foot high, and may be sown safely out of doors in the blooming bed, thinly, in April.

Physalis Franchetii.—"The Chinese lantern," a species of winter cherry, well worth cultivation for the decorative properties of its pretty calyxes and fruits, which last long indoors when gathered in the autumn. A rather poor soil suits this subject, which may be divided at the roots in spring and transplanted.

Piotee.—These very pretty perennials require exactly similar treatment, both for pit and bedding

culture, to their near relations, the carnations, from which they are distinguished by a narrow edging of dark coloration on the flower peaks, varying in shade from rose to scarlet or purple, and in breadth from a mere line to an eighth of an inch. The more even and distinct the marking, the more plicates are esteemed. They require particular care in keeping free from wireworm attacks.

Pink.—Garden pinks are no less acceptable than their lordlier congeners, the carnations, because of their sweet exhalations of perfume and robust and spreading growth. They propagate by root division as well as from seed and by pipings and cuttings, and make a delightful edging subject. There are laced and fringed varieties galore of the old-fashioned type, with a variety of coloration, white, however, being predominant, and even the single sorts are attractive. The florists have raised some very handsome, free-blooming, large-flowered pinks, among which *Her Majesty* and *Mrs. Sinkins* may be mentioned as specially excellent in all respects. All the pinks like a good rich loam to grow in, with which decayed cow-manure may advantageously have incorporation.

Plumbago.—A genus of climbing perennials, with flowers not unlike open blossoms of the *phlox* tribe, some varieties of pretty and delicate shades of blue, pink, and purple, and in cases quite white. The variety *capensis*, light lavender hue, is much favoured for training round pillars or along the rafters of green-houses. Rich, fibrous loam, with peat and sand, suits the plumbago, and it can be propagated by cuttings and rooting offshoots.

Polemonium.—(See *Jacob's Ladder*.)

Polyanthus.—The bunch-flowered garden primula, supposed to have originated in a cross between the cowslip and primrose. There are gold-laced, fancy, and hose-in-hose sections all readily raised from seed or root division, and each containing numerous varieties. They flourish in rich light soil and an airy situation, and young plants prefer shade from strong sun. Seed should be sown in summer, and the seedlings pricked off for later transplantation to commence blooming the following year. Clumps should not be allowed to remain unpurged more than three years or the flowers will deteriorate. The colours vary from white, through cream and peaty blue to scarlet, maroon, and nearly black, and from golden-yellow to deep brown, some having several shades of colour in combination, while there are doubles as well as singles.

Polygonatum.—A genus of herbaceous perennials, which include the feathery "*Solomon's Seal*," with distinctive pendulous green and white flowers at the leaf axils. Likes shade and soft good soil, and may be increased by root division.

Poppy.—The Papavers are a numerous family, light and graceful generally, pretty of foliage, and bright if evanescent of bloom. The satiny Shirley poppies, white, rose, and crimson, are capital summer bedders, and should be sown thinly in March on the borders and again in September for early bloom the following season, allowing each plant plenty of room to develop. They like light soil, and glory in sunlight. Other attractive annual varieties are the *Mikado* section, with fringed petals, the brilliant scarlet tulip, the carnation-flowered, the double-peony flowered, and the *Danebrog* or *Victoria Cross*, white or scarlet. Of the perennials, the Iceland poppies and the Oriental species, orange, red, or silvery, often with black centres, are great favourites; while the hairy sulphur and blue Himalayan sorts are, properly speaking, biennials, and should be so treated. They need watering at the root freely in summer. The elegant little Alpine poppies—rose, salmon, buff, orange, pale yellow, and white, are gems for the rock garden.

Portulaca.—The "*Sun Plant*," a large and brilliantly flowered yet dwarf growing half-hardy annual, delighting in a hot, dry situation. Best sown where it is to flower the end of April or early in May.

Potentilla.—A genus of herbaceous perennials, the smaller varieties of which resemble the wild strawberry. The wild Marsh Cinquefoil is a potentilla, but some of the garden sorts are shrubby subjects ranging from 1 to 3 feet in height, with floral coloration varying between white and scarlet or yellow and purple.

Propagated by division, or may be grown readily from seed. *Agropyria* has elegant silvery leaves.

Potting Hints.—Too much insistence cannot possibly be given to the importance of proper potting, as regards every plant so treated. The right size of the pot for the subject for the time being must be carefully chosen, and the pots should be rendered scrupulously clean and perfectly dry before the soil is placed therein. The drainage must be complete also, and systematic. Over the hole at the bottom a concave sherd or shell should be first placed, with clean crocks above, the larger below and smaller above. Next should come fibrous or lumpy mould, and then the requisite compost pressed firmly down whilst unwetted. Then the plant, its roots carefully spread, and finally the soil to surround it and reach the pot sides, all being nicely thrust down taut with the finger-ends and knuckles, leaving the stem of the subject erect and well fixed in the centre, with a good half-inch of space between the surface of the neatly-evened soil and the pot rim, more room being left in large pots to facilitate watering later on. To settle the soil round the roots, after planting, the pots should be plunged in a pail or other utensil with water reaching above the rim, given a good soak, and then stood to drain. Thus you get the fair start which is half the battle in pot plant culture. Careless and clumsy planting invites and occasions multitudinous failures. Free percolation of water round the roots, and efficient aération are quite as essential as suitable soil, and the former must be materially assisted by the use of broken charcoal above the crocks, and charcoal dust in the compost. Stagnation spells plant slaughter.

Primrose.—The common "pale rathe" Primrose of the British woodlands, always a welcome harbinger of spring-time, grows readily in leaty soil in shady nooks of the garden or hollows of the raised kitchen. The double varieties, mainly raised from a Japanese stock, are very hardy and very beautiful. There is a good range of flower colour in these, white, yellow, lilac, mauve, blue, and crimson. They are closely allied to the polyanthus, and succeed with similar culture, being propagated by division.

Primrose, Evening.—(See *Evening Primrose*.)

Primula.—What is generally understood under this head is the Chinese genus, *Primula sinensis*, so much cultivated for greenhouse and general indoor display in spring, though of course all the true primroses really belong to the family. There are many varieties, the florists having paid much attention to their hybridisation improvement. Good seed having been secured, it should be sown in a compost of half leaf-mould and a quarter each of yellow loam and sharp sand from March to June, over slight bottom heat, shading until after germination. Transplant the seedlings as soon as they are big enough to handle into boxes or pans, well drained. Later shift into single pots, giving a greater proportion of loam to the compost, and hardening by exposure to the shade. Top-dressing and manual watering (weak) may be given as the flowering time approaches, placing the plants near the glass in well ventilated frames, or on shelves in the greenhouse. Primulas can be increased by division of the crowns with a portion of stem and root attached to each place; when growth is established there may be repotting and treatment generally as for developing plants obtained from seed. The choicest primulas never need a temperature exceeding fifty degrees at night in winter to keep them in robust condition. Early sowing and forcing treatment will bring some into bloom in November, and successional flowering can be kept up into late spring. The variety *obconica* is a very persistent bloomer.

Prince's Feather.—(See *Amaranthus*.)

Propagating.—There are several methods of plant propagation, natural and otherwise. Seed-sowing will be found to have been treated in a separate paragraph. Offset from the parent bulb or stem of the plant above the soil furnish a second method of increase. Slips or cuttings are young shoots detached and trimmed with a sharp knife, for pressing down upon or into proper soil. These should be taken when the parent is in vigorous condition, if possible,

and clean cut below a joint, as this facilitates the formation of the callus, from which root growth must emanate, and cuttings must always be placed in the shade until the root growth has commenced. Division of the plant means the breaking up of the subject into separate pieces, each having its portion of stem, leafage, and root. These should be planted separately in a kindly and suitable soil, and tended carefully until capable of supporting themselves from the nutriment provided for the purpose. Propagation by suckers is the detachment of spreading roots which have thrown up a stem; these should be cut away as near to the stem from which they emanate as possible, retaining all the root development of the sucker in the operation. Runner propagation is the pegging down of low branching or superficially spreading growth to induce the formation of roots therefrom with subsequent severance of the shoot so dealt with. Layering is a modification of this, the root growth in that case being accelerated by an incision in the depressed stem. Some plants like the strawberry, "creeping Jenny," "mother of thousands," and others root their own runners, and are styled stoloniferous. Then there is grafting and budding, or the enforcement of a well-established, coarse, strong-growing subject to incorporate with itself a section taken from a tenderer and choicer relative, as the rose on the briar, fine apples on the crab, and so on. This is usually done by grafting, in which the standard is cut down and cleft perpendicularly to receive a prepared piece of the subject from which new growth is desired. The stock is condemned to spend the rest of its days in conveying nourishment to the graft, thus suffering total eclipse. There are numerous variations of practice in this latest horticultural particular, to suit different circumstances, and for their mastery, technical knowledge, which it is not possible to convey here in detail, is requisite.

Pyrethrum.—"Coloured marguerites" many people call the varieties of Pyrethrum roseum, which rank among the most acceptable of early summer flowering border perennials of the early herbaceous order. From the type they have so far diverged as to include subjects bearing the bloom of white, yellow, and red in many shades, as well as rose, and both double and single in form. Pyrethrums may be raised from seed and cuttings, but are most safely increased by root division in early spring. A second crop of flowers may be obtained by cutting down the leaf stalks to the ground when blooming is over, forking round, and watering with liquid manure to encourage new growth. Wood ashes or soot may be employed as a dressing for the double purpose of fertilisation and keeping slugs away when the shoots begin to appear on the crowns. Mulching is advisable, too, for pyrethrums where the soil is light, especially in time of drought. Tschihatsew is a close growing evergreen pyrethrum, good for growing on slopes instead of turf, and also for rockery furnishing. It bears long stalked white flowers. The strongly, and to many disagreeable, odouriferous feverfew, single and double white, also the useful golden-foliaged Pyrethrum parthenium aureum belong to this genus. For carpet bedding, lines of the latter should be pinched back to keep dwarf, and every flower bud removed.

Quaking Grass.—*Eriophora maxima*, the most popular of the curious annual trembling grasses, grows readily from seed, and is very useful for bouquet work and preservation for winter decoration.

Ranunculus.—Both Persian and turban ranunculus may be planted in November, 2 inches deep and 5 inches asunder, care being taken to place the tubers the right way up, or they may be set out surrounded by sand in February in deep dug pits of rich loam, well enriched with decayed cow manure, and whilst growth is in progress there should be plentiful watering. Offsets from the tubers, each, however tiny, having its accompanying root claw, furnish the most reliable method of propagation, for the ranunculus rarely comes true from seed. The tubers should be stored in a drawer containing dry sand when taken up at the end of July after flowering, until planting time. The flowers of the variety *acris*, in its double form, are sometimes called "Bachelor's Buttons." Gramineus

has blue-grey foliage and shining gold flowers. Gradations of white, crimson, scarlet, pink, yellow, brown, purple, and black selfs may be met with among the ranunculuses, and some of the flowers present two or more colours in combination, the markings and edgings being in cases very attractive. The type originated in the Levant, and the Persian section should be shaped like a ball with one-third sliced off the top, the petals lying close and light from outside to centre. The compact blooms of the turban are all of positive colour, and there are variations to a semi-double condition classed as French ranunculi, which are particularly floriferous and vigorous of habit.

Red-Hot-Poker Plant.—The tritoma, or kniphofia, as this singular and showy perennial is variously styled by the florists, is, in popular parlance, the "torch lily," "flame flower," or "red-hot-poker plant." It has long and graceful sword-like leaves and gorgeous spikes of orange and scarlet bloom, changing to greenish-yellow. It should be grown in deep-dug, well-manured soil, and planted with the crown about an inch and a half below the surface, and protected in winter time with a covering of litter or sawdust, firmly trodden, which may be removed in early May. The tritoma will absorb a large quantity of liquid manure in the growing period.

Reseda. (See *Mignonette*.)

Rhodantha.—Beautiful, half-hardy everlastings, of neat and compact growth, very decorative in garden borders and the conservatory or parlour window. Requires light and rich soil and sheltered situation, and must be raised in gentle heat from seed, and hardened before planting out on a warm border in summer. The flowers in the variety *Mangisii* are light rose with silvery calyx, and should be gathered young for drying.

Rhododendron.—These magnificent summer blossoming shrubs grow only to perfection in moist, peaty loam, quite free from lime, and must not have the bark broken or the stem loosened in re-planting. There is very considerable diversity as to size and flower coloration. Rhododendrons like plenty of room, and the shelter of tall trees from north and east winds. They flourish in towns if not crowded too much. The Dahurian variety flowers in early spring, when its pretty purple bloom is particularly welcome. Arboreum is a hardy and reliable hybrid, and the Catawbiense varieties are handsome both as regards flowers and foliage.

Ribes.—The "flowering currant," *Ribes sanguinea*, is familiar to most folk as a very pretty spring blooming shrub, whose abundant plinky and crimson racemes open with the opening leaves. *Ribes grossularia* is the gooseberry. There are other varieties bearing white and yellow florets, the latter being sometimes known as the "Buffalo Currant." Any soil and any position seem to agree with these bright and accommodating bushes, which are amenable to clipping for hedge-formation, and do not object to a seaside situation. They should be planted when the ground is not too wet and pasty, towards the end of October.

Rockeries.—The rockery, or rock garden, be it large or small, is largely a matter of individual taste, and the utilisation of opportunity in the choice and disposition of constructive materials. Brick burn, quartz, large clinkers, rough lumps of alabaster, broken marble, sandstone, limestone, or anything else at once available and suitable may be employed, and arranged in irregular and picturesque stepped banks, with many nooks and crannies to form receptacles for soil, in which to grow the right sort of plants, shrubby, herbaceous, and trailing. Stability in building up the rockery, coincident with avoidance of formality, and the provision of a plenitude of firmly-placed and nutritive mould between and behind the facing boulders, are the chief essentials, with perfect drainage under all. Every stone or whatever else be utilised should have its part in making a permanently fixed ledge, securing in position a sufficient depth and expanse of sunken soil to afford sustenance to one or more subjects, and to permit others to be planted nearby, and otherwise attended to without structural disturbance. The right sort of plants, and there is a wide range of choice, should be carefully selected and

introduced to the situation best adapted to their natural needs. Some require shade, some much moisture, some revel in strong sunlight. Perennials are preferable, as, once introduced, and properly established, they call for little after-treatment beyond keeping within bounds and occasional superficial dressing. Auriculas and alpinas generally, gentians, the saxifrages, the sedums, stonecrops, or (Creeping Jenny), aubretias, anemones, dwarfed trailing campanulas, arabis, rockcress, the houseleeks (*Sempervivum*), soldanelles, the catchflies or silenes, the smaller scillias or milkfalls, the bugle flower or ajuga, the "gold dust" or *orizysm*, the antenar, ("snow-plant"), the thrifts (*Armeria*), the alpine wallflower, cistus (the rock rose), the Virginian claytonia (which likes a moist habitat), the hardy cyclamens (requiring slight winter protection in most cases), the American cowslip (*dodecatheon*), *Dianthus neglectus* (the glacier pink), the rosette-like draba, the creeping mountain aven or dryas, *Saxifraga purpurea* (the hardy pitcher plant), the mountain thymes, the soap wort (*Saponaria*), the linacs or periwinkle, some of the smaller veronicas, the sanguinaria or bloodroot, the Alpine primulas, the dwarf Alpine phloxes (particularly the profusely silvery-grey flowering variety *stellaria*), *Platycodon Mariessii* the Chinese balloon flower), *Papaver alpinum* (the Alpine poppy), *Orobanchis vermis* (the spring-blooming bitter vetch), *Omphalodes verna* (a creeper with flowers like the forget-me-not), the dwarf wood sorrel, the creeping cup ower (*Nierembergia*), *Lithospermum prostratum*, *Erica carnea* (the winter flowering heath), the rock strawberry (*Fragaria*), the rock geranium or Crane's hill, the Hawkweed, dwarf-irises, *Lamium maculatum* (variegated foliage), all form admirable rockery subjects from which to make a selection, and many of the hardier ferns, such as *Scolopendrium*, spleenworts, and polypodiums, can be interspersed with effect in shady crevices.

Rocket.—Free flowering and hardy herbaceous plants, annual, biennial, or perennial in duration, and very sweetly scented. Will flourish in any good soil, and are easily propagated, the annuals from seed, and others by division. There are double and single sorts, mostly with white or purple bloom.

Room Plants. (See *Indoor Decorative Plants*.)

Roses.—Hybrid perpetual roses, growing on their own roots in bed or border, form the most considerable section of the "Queen of Flowers" cultivated in our gardens. The treatment necessary to make the best of them applies, with slight variation, to all the other classes of outdoor roses. The soil should be deeply dug and richly manured, and the planting may take place at any time during propitious weather after leaf-shedding and before the buds begin to swell in April. Any damaged root terminals should be trimmed off with a sharp knife, the root masses being then spread out wide, and covered with fine soil in a sufficiently large hole and pressed firmly. Fill up the surface and tread well all round, then give a good soaking to settle the mould in place. Standards budded on a stock should be given a stake for support. Pruning must be practised with discrimination, standards having all weak growth eliminated and the strong outward-pointing shoots cut back to four or five eyes in April, in each case the centre being left open, while own root roses should have the thick vigorous new stems removed entirely or shortened to a single bud, leaving no one shoot to cross another. It is better to prune a little late than too early, so that the new growth may not be nipped by severe spring frosts. In climbing roses the long ripe shoots may be pruned very much less drastically, and trained to wall or trellis with but a short length at the end removed, just before the buds begin to break. For all outdoor roses, plentiful root mulching with rich but well rotted manure to be washed down by rain or artificial watering is good. The staple of the soil should be strong loam. The Provence, Cabbage, Austrian and other summer blooming roses, including the favourite moss section and striped varieties such as the old York and Lancaster, flourish best in an open situation and not too stiff but

deep and rich soil. The hybrid perpetuals should never be too closely placed together, nor have their growing ploughed up by other garden stuff. These are whites, yellows, all shades of blush and pink to scarlet and deep dark crimson to choose from, and every good nurseryman catalogues the best varieties in each gradation of colour. China and monthly roses, either in beds or on walls, require a little protection in winter, which may be given by a covering of ashes at the roots. The alpinas, open petalled and generally semi-double are almost thornless. The Bourbons mass and bloom grandly in autumn, and some sorts, such as *Souvenir de Malmaison*, are so desirable that they should be in evidence wherever room can be found for them. Gloire de Dijon and others of the exquisite tea-scented section ought also to be in every collection, and amongst those most employed for wall decoration mention may be made of the coppery Noisette, William Allen Richardson, the white Aimée Vibert, the pale rose Madame Auguste Ferrin, Devonian, General Jacquinet, and the *Marchal Niel*, which should have a sheltered southern aspect. Any of the choicer roses do well as pot subjects in a cool greenhouse, and some of the climbers are useful for pillar decorations under cover. The white, red, and yellow Banksian and Ayrshire roses are splendid and floriferous ramblers. The dwarf polya. these roses are pretty pot subjects for window furnishing, many of them, and the climbing kinds, such as the Crimson Rambler, make a rich display. The ustrian Brans, single and semi-double, are particularly attractive when nicely grown, and the same remark applies to the evergreen climbers, Princess Marie (pink), *Félicité de Perpetue* (white), and the Garland, whose clustering nanken-pink flowers fade to white and exhale a musky odour. Even the commoner kinds of sweet briar are bright, showy, and always pleasing, and Lord Penance's hybrid couple admiration wherever introduced, the fruit being most decorative after the flowering is done. They need but little pruning. Roses are propagated by cuttings from suckers and by budding. Cuttings should be taken from shoots made in late autumn, with a small portion of the preceding year's wood attached, and struck in sandy soil in the open. Suckers are easily removed and transplanted. Budding, to succeed, is an art best acquired from demonstration by a gardener. Green fly should be removed by syringing or the application of insecticide immediately upon its appearance, whether on indoor roses or those of the open, and the "Rose Maggot" or larva of the leaf-rolling moth, must be looked out for and destroyed before it can effect mischief. Mildew sometimes gives trouble, when sulphur dusting should be resorted to whilst the foliage is moist.

Salpiglossis.—This is a curious half-hardy annual carrying petunia-like flowers, richly pencilled. It blooms in August, and reaches a height of 2½ to 3 feet. Sow in heat in March, potting off the seedlings singly and protecting them until the bedding out period—early in June—or they may be transferred to larger pots for conservatory or indoor decoration. The flowers are splendid for cutting. The plants like a sunny situation and very rich soil. Some of the varieties of *salpiglossis* have creamy-white flowers, veined with gold; others are velvety crimson, gold pencilled, and there is considerable variety.

Salvia.—Half hardy perennials for greenhouse flowering or ornamental summer bedding. They make pretty plants and carry very bright blue or scarlet blossom. They want winter protection, and cuttings or seed must be started in heat.

(See *Soil*.)

Saponaria.—*Saponaria calabrica* is an invaluable edging annual, dwarf and compact in growth, but a splendid spreader, studded with tiny stars of pink bloom, which continue through summer and autumn. There is a white variety, and both may be sown in drills in April in the border. If placed between Cerastium (Snow in Harvest) and the blue Nemophila, it gives a grand ribbon effect. *Saponaria corymbosa*, the Rock Soapwort, is a trailer and a perennial, capital for rockery work.

Saxifrage.—Hardy plants, mainly perennial, very suitable for town gardens and rockery decoration.

"London Pride" (*Saxifraga umbrosa*) is good for edging, especially in moist positions, and always looks pretty, especially when its light branching blossom is thrust up. The thick-leaved *Saxifraga*, or "Sow's Ear," is coarser but very utilitarian as a clother of barren soil, and the mossy varieties, *Camposii*, and the tufted *Cespitosa* are most decorative. The curiously encrusted *saxifragas* require a sunny and dry situation, and longifolia and Macrantha are much in vogue as pot plants because of their handsome bloom spikes. All these can be readily propagated by cuttings carrying root growth, and the distinctive *Saxifraga armentosa*, which is so great a favourite for hanging-baskets, and is commonly called the "Creeping Sailor" or "mother of thousands," increases by rooting runners, like the strawberry.

Scabious.—This is a sweet old garden subject, always welcome either in the annual or perennial form, and is often called the "pincushion flower." Its familiar stamen-studded discs of bloom, lavender, rose blue, purple, and sulphury white, are very useful for cutting. Some species grow wild in the cornfields, and *atropurea*, sometimes styled "the Mournful Widow," is a deep-hued and handsome cultivated favourite. Another popular scabious is *arvensis*, "the Gipsies' Rose" (blue), white and crimson, King, and the pure white *Snowball*, comparatively recent evolutions of the florist, find many admirers. The annuals grow freely from seed, and the perennials are propagated by division.

Schizanthus.—Half-hardy annual, which may be adapted to pot culture or for border growth in good rich soil. The peculiar shape of its pretty, varicoloured bloom has procured for it the popular names of "Fringe Flower" and "Butterfly Flower." Sown in autumn, it will come out in the greenhouse in the following spring early.

Schizopetalon.—Useful flowering annual, almond scented, twelve inches.

Schizostylis coccinea.—A late autumn flowering perennial, throwing up spikes of brilliant scarlet bloom, which may be protected by shelter for winter cutting.

Scilla.—The wild hyacinth, or "Azured harebell," cultivated varieties of the bluebell, are employed with effect in the garden for spring blooming. *Bilola* has white and rose as well as blue flowering forms, and *Sibirica* comes amongst the very earliest of outdoor flowering bulbs. Planted in autumn, and top-dressed in succeeding seasons, they will stand and bloom well for years. *Scilla maritima*, a Mediterranean member of this genus, supplies the Squill so much employed in medicine.

Scutellaria orientalis.—The "Skull-cap," a hardy, flat-growing little subject, with lilac and yellow flowers, good for border edging and rocky cultivation.

Sea Lavender.—The great Sea Lavender (*Statice latifolia*), with its graceful light blue "Everlasting" blossoms borne in spreading panicles, makes a splendid border subject if cultivated in a sunny position. May be propagated by division in spring. There are pink and white varieties.

Sedum.—The Stonecrop, and its congeners, an extensive family (chiefly perennial), of thick-leaved and spreading growth, many of them bearing flowers profusely, white, pink, or yellow, handsome, having brown, purple, or mealy-white foliage. Amongst the best of rocky subjects. The variegated *Virens monstrosum* is the curious cockscomb-headed sedum, whilst the variegated *Sibboldi* makes a good hanging basket plant. They will all grow well in shallow soil on rockeries or in pots in the strongest sunshine, and increase by division.

Seed and Seed Sowing.—Seed of all sorts should be good; that is, it should retain the fullest vitality, and therefore care should be taken to obtain it from a reliable source. Generally speaking, it is better to sow seed of the preceding season's growth, properly harvested and preserved, and this is the condition in which it usually comes to hand in packets from reputable vendors. If kept over to a second season seed ought to be stored as much out of the reach of damp and atmospheric action as possible. In

sowing, a good maxim is not to bury the seed further below the surface than twice its own thickness, though large and bulky seed may go down deeper by comparison. Fine seed like that of the annuals should be thinly distributed over an even, firm surface, and dusted with minute particles of covering soil; that a little larger in shallow drills, the ridges of which are afterwards to be gently replaced so as to make all level. The mould ought never to be pasty or sticky to receive seed, but crumbly or friable; therefore for outdoor sowing a dry still day is preferable, especially if this be succeeded by gentle rain. As to season and position chosen, both must be according to the variant requirements, so that the tender seedlings suffer no avoidable hurt from inclemency. Indoor sowing should be done in particularly well-drained pots or boxes of light and finely sifted soil which admits of the free passage of air or moisture.

Seedlings. Treatment of.—The tender seed leaves of every subject call for protection from insect attacks, from the voracity of slugs, and also from an excess of aerial heat. The great thing in managing seedlings is never to permit them to receive a check. It is often essential to secure germination by placing the seedpan over gentle bottom heat, and this having been accomplished, a slightly cooler and better ventilated position should be sought for the seedlings, chill being guarded against. Directly transplantation becomes necessary it should be proceeded with, the young plants being most carefully lifted, with as little root disturbance as possible, and pricked out into new quarters, whether in pots or boxes of properly prepared mould or nursery beds, allowing sufficient room for the next stage of development. Then shift on and on, coaxing the younglings into the perfect plant by the provision of increased nutriment and additional exposure to the atmospheric conditions most suited to its special case, doing everything intelligently and according to ascertained good practice.

Shrubs and the Shrubbery.—Besides *Rhododendrons* and *laurels* of various descriptions, there is a great diversity of suitable subjects for the furnishing of ornamental shrubberies in town and country, both amongst deciduous and evergreen species, while many bearing beautiful blossom are obtainable at any well-stocked nursery. There is the *Pieris* or *Andromeda*, of which the variety *floribunda* shows a wealth of white flowers not unlike *Lilies of the Valley* in March. Soil that would suit the *Rhododendron* does nicely for it, but good sandy loam without any peaty admixture will serve, if a sunny and open position be allotted. The *Laurustinus* or *Viburnum* comes in, so do the *Eunymus*, *Box*, *Berberis*, *Acacia*, the golden-leaved *Thuya* or *Arbor vitæ*, the tender green *Cryptomeria japonica*, the variegated *Cypresses* or *Retinospora*, the *Lilacs*, the cream-white *filaged Taxus*, the *Gaulther Rose*, the *Strawberry tree* (*Arbutus Unedo*), the *Tree of Heaven* (*Ailanthus glandulosa*), and the bold *Paulownia Imperialis*, which latter requires pruning hard back, annually, almost to the ground, to secure the best of its flowering. Other useful shrubs are the flowering *Currants*, the *Jew's Mallow* (*Kerria japonica*), many decorative *hollies* and dwarf *Conifers*, the orange-berried *Cotonaster*, the double *Gorse*, the *privets*, the *Snowberry* (*Symphoricarpos racemosus*), the larger *Veronicas*, the feathery-leaved *Tamarisks*, the sweet *Bay*, the white-flowered *Escallonia*, the glossy-leaved and yellow-cattened *Garrya*, the metallic looking and prickly *filaged Mahonia*, the bright and smoke-resisting *Olearias*, the *Mock Orange* (*Philadelphus coronarius*), the *Californian yellow wood* (*Virgilia lutea*), the shrubby *honeysuckles* (of which *Lonicera fragrantissima* is one of the best), the hardy *Azaleas* and *Heaths*, and many more that might be mentioned. They require varied treatment as to soil and situation, respecting which consideration of their natural habitat furnishes the best guide, but in most cases good garden mould over a well dug and judiciously manured subsoil will serve their planting and upkeep in vigour. There should be no attempt at crowding. Better a few well-chosen and shapely and good growing plants than a cramped lot of starved stragglers. One must have space for a shrubbery, but a selection from what is here specified will be useful to

many who have at their disposal banks and front gardens not occupied by small perennials or bedding plants. A great argument in favour of shrubs in ornamental horticulture is the little trouble most of them entail after discriminating plantation.

Silene Pendula.—Rosal pink border annual, one foot, good for growing on a rockery. There are double and single forms.

Slugs. (See Pests of the Garden.)

Snape-dragon. (See Antirrhinum.)

Snowdrop.—These sweet little spring blooming bulbs are best planted in October, though they may be put out later at the expense of retarded flowering. They delight in shady and peaty loam, and should be two inches underground, one inch apart, and subjected to no after disturbance, which explains why they flourish in a grass plot. There are autumn flowering as well as spring snowdrops, which should be planted as early in the year as procurable. Elwes (the Giant Snowdrop) is a spring bloomer and does well in a pot, for indoor decoration, if given plenty of air.

Soil.—Suitable soil, matured as to its components, each containing the full quota of nutritive qualities, is very necessary to growing success, both out of doors and as regards pot culture. Spent or soured soil, or soil otherwise out of condition, is worse than useless in horticulture. Therefore let there be, imprimis, prudent provision of essential ingredients, and afterwards their proper and thorough admixture. The preparation of soils and composts to supply the variant needs of plants is the elementary consideration which the amateur requires to get a mastery of. In practice he should have at hand as much as he will want of good fibrous loam, secured, if possible, by the stacking, root side uppermost, for six months, or until all vegetable life be dead, of closely shaven mellow pasture turves. Portions of the stack can be broken up and passed through a coarse or fine sieve as and when requisite, eliminating simultaneously any discoverable insectivorous germs, which may have obtained lodgment and retained vitality, a precaution which should have attention when all other compost ingredients are riddled and overhauled. Thoroughly rotted vegetable matter of almost any character will furnish the indispensable leaf soil, though of course, leaf sweepings, pure and simple, are best. When decomposition has become complete in the heap, any convenient quantity may be removed to the potting shed to dry and facilitate handling. But, procured from a common, and matured by heaping in an airy place where moss growth receives no encouragement, or purchased prepared for use, is another requisite. River sand, washed free of all other than silicate, must be provided. It may be sharp and coarse, or fine and smooth—as the silver or Calais sand so useful in the germination of seed or cutting-striking. Clean road drift furnishes valuable material for the gardener's service. Manure should be prepared by throwing short stable litter into a light pile and turning occasionally in the sun to sweeten it. That containing the excreta of cows should be kept separate from collections of horse-droppings. The former may be made ready for immediate use by charring, while horse manure is in the best condition for incorporation with garden soil after having done duty in a hotbed. Wood ashes, or the residuum of a bonfire of garden rubbish, possess fertilising properties of some potentiality and importance for the enrichment of mould, and decayed organic animal substances all have greater or less manurial value according to the amount and character of the phosphates and alkaline salts they contain. Burnt clay and marl can also be advantageously employed in horticulture, while man dressing lightens and mellow heavy land materially. To keep garden soil at its best there must be systematic digging, forking, and turning over, in order to promote aeration, drainage, and pulverisation, and composts used for pot plant culture should be cast away or worked in after impoverishment with stiff outdoor soil, to the lightening and consequent improvement of the bed or border earth.

Solanum. (See Egg Plant.)

Solomon's Seal. (See Polygonatum.)

Sphagnum.—A moisture-absorbing moss obtained from bogs and swamps, and employed in horticulture as soil for tree-growing orchids. Useful also for lying, after saturation, over seedpans to keep the germinating seed damp and dark.

Spiraea.—A genus of shrubby and mainly perennial marsh plants of which the wild "Meadow Sweet" is an example. Carries feathery spikes of very decorative flowers. *Spiraea japonica*, the familiar white conservatory sort, is grown in great quantity by the market gardeners for indoor decoration, in winter and early spring. The *Spiraea* thrive in well-drained, sandy loam, mingled with leaf soil, and are propagated by root division. In the growing and flowering period, *Spiraea* must have copious and frequent watering to keep them going. There are golden-leaved, pink, and white-flowered varieties, double and single. The varieties *Lindleyana* (white) and *Douglasii* (rose) will grow up to six feet high on a shady shrubby border, but the dwarf sorts are most in favour because of their pretty habit and adaptability to the conservatory.

Spring Flowering Plants.—Spring blooming plants are a great desideratum in a garden, and every effort ought to be made to have a good show in the borders as early as possible. Therefore, a liberal supply of anemones, subrotas, arabis, hardy winter flowering cyclamens, snowdrops, violets, crocuses, cowslips, Lent lilies, primroses, scillas, or snow globes. The exquisite little winter and spring frises, the star of Bethlehem, spring snowflakes (*Leucocorydium vernum*), and other hardy ground flowers should be secured. A piece of *Jasminum nudiflorum*, with its bright yellow flowers borne on the naked branch, should be secured for garden wall or trellis, too. All these and many more may be provided by planting at the proper time, and by no means should the odoriferous wall-flower, in its wide range of attainable variety, be overlooked. It seems to smell sweeter in the spring than at any other period, perhaps because it has the garden much more to itself then than later. A well-stocked and well-tended garden is very charming, but most of all when with bright hues *Flora* strives to shame *Winter* from "lingering in the lap of Spring."

Southernwood.—*Artemisia abrotanum*, an aromatic shrub with hair-like, segmental leaves, familiarly styled "Old Man," "Lad's love," or "Lad love lass." Very useful and pleasant for fringing flower bouquets, and easily rooted from cuttings. It may be grown to a good-sized bush and kept tidy by shortening the roots. **Starwort.** (See *Michaelmas Daisy*.)

Statice. (See *Sea Lavender*.)

Stocks.—These sweetly scented flowers are mostly half-hardy biennials, though there is an extensive section which need re-sowing annually from seed, and all thrive in a not over rich soil that contains old mortar. *Mathiola annua*, "the Ten Week Stock" is the most widely cultivated, and gets its distinguishing name from the fact of its generally coming into bloom at the age indicated. There are many colours of this, all beautiful, double or single, and they should be sown in March under shelter, pricked off to harden before bedding out. The Imperial or perpetual stock is an autumn bloomer, and will continue to flower up to Christmas almost during a mild season, if sown in early spring, or it may be sown in July to come on for the following June blooming. This variety is a robust German hybrid of the Brompton stock, a branching section of the genus which does not flower the first season, and is in consequence called the Winter Stock by some. It should be sown thinly in light sandy soil in an exposed situation during May, and transplanted after thinning in autumn, with great care. The Giant Cape stock, with glorious spikes of fragrant pyramidal bloom is a variation of the Brompton and needs similar treatment, with unstinted watering in dry weather.

The Stove.—This is a structure which scarcely comes within our present scope, adapted for heating to the temperature suitable for the cultivation of tropical plants. A small hothouse of the "stove" description, is, however, a very valuable thing in any garden, as it serves admirably for the propagation of many tender and beautiful subjects, which will grow in the greenhouse or bedeck conservatory when they have attained perfection, as well as permitting one to bring on gorge-

ous variegated subjects like the Croton, the Maranta, and the Alocasia or choice blooming plants such as the Alamanda, the Dipladenia, the Clematid, and the waxy Hoyas, Anthuriums, Pitcher plants, and many of the finest equatorial orchids. There also may be grown in the shade some beautiful fern forms, to whose healthy existence a heavy moist atmosphere is essential, as for instance—to take differing types—the gold and silver Gymnogrammes, the Hymenophyllums, and all the more lovely tribes (especially when young) of tropical and sub-tropical tree ferns. In case the smallest stove to ensure any measure of success there should be a tank fixed over the flue or hot water pipes, which furnish the requisite heat to the house, this tank from the warmed water it contains giving off something like the humidity that plants from a dense African or mid-American forest luxuriate in. By placing a pierced cover over this you will provide simultaneously permanent bottom heat which may be utilised for all sorts of propagatory and forcing purposes. Such a house can be constructed inexpensively, for it may advantageously be half sunk in the ground so long as provision be made to keep the stokehole outside free from flooding in wet weather. It must have efficient ventilating arrangements, particularly overhead, and should be span-roofed to catch all the sunshine, with means of ready-shading from the direct glare of summer, whilst the heating system must be efficient and easily controllable. Unless all this can be secured the amateur horticulturist is better without a stove altogether, and left to rely on holed and greenhouse. Herein is summarised the science of the stove, and the principles sketched apply to such a hothouse, whatever its size.

Sunflower.—The Sunflowers include Helianthus and Harpaliums, the former genus containing the tall and imposing subjects, with their great yellow discs of bloom, which are so conspicuous in many gardens in the autumn, the latter comprising numerous varieties of dwarf flowering plants, almost black at the centre, yellow edged and stamened. All are easy of culture, but the gross-growing giants need plenty of room and a rich soil to come to their best. They should be sown in April in front of the shrubbery or where they are to stand anywhere. The Harpaliums are perennial and should be so treated. There is a double Harpalium which comes in nicely for cutting.

Sun Plant. (See *Portulaca*.)

Sweet Briar. (See *Rosa*.)

Sweet Pea.—Sweet peas, of which there is now endless variety, all of very great attractiveness, should be sown in good soil, in March or April in a sheltered position out of doors, or in pots in a cold frame in February to be hardened for an early start in the borders. These should be planted out with great care, not breaking the ball or injuring the running roots, and pressed in firmly. There are dwarfs that make beautiful shrubby bedders, besides medium and tall growing climbers of every hue, soft and variegated. The latter should be staked soon after planting or trained up trellises, as the blue lengths, and given a sunny position, with plenty of watering. They may be pegged down as trailers also with effect. Flower cutting should be constant, as this prolongs the blooming period materially, by preventing seeding, and plenty of room should be allowed for the development of the full beauty of this engaging garden subject. The Eckford variety and some others of the more recently introduced sweet peas of the florists, foreign as well as British, are exquisite as to delicacy and shading and flower size and richness of aroma, and the culture of a selection of the most distinctive descriptions should be entered upon by every possessor of a garden. They entail but little trouble if the soil be well prepared and worked before the sowing, and the support supplied be suitable, and no summer flower gives greater satisfaction and is brighter and more acceptable than the universal popular Sweet Pea. The perennial Section is referred to under the botanical name of the genus, *Lathyrus*.

Sweet William.—A free flowering border perennial of much beauty and diversity of coloration, embracing many varieties of *Dianthus barbatus*. They should be sown in well-tilled beds of enriched soil in

June, and the seedlings pricked off as soon as large enough. Sweet Williams deteriorate greatly after the second season, and should be renewed from seed, or increased by off-sets. The auricle-eyed varieties bear immense heads of bloom, in which the individual flowers, white in the centre and edged with rich hues of crimson and other shades of red, are large and handsome. A good lookout should be kept for the "Leather Jacket" grub, which is very fond of eating through the stems of Sweet Williams just under the surface, and if not caught and killed will soon work devastation among and ultimately destroy the most promising plants.

Syringa. (See *Lilac*.)

Thrift.—*Armeria lauchiana*, the pink Thrift, is a splendid dwarf edging or rockery plant, delighting in a sunny position, and flourishing in good loamy soil. The variety *Vulgaris alba*, with white flowers, is neat and dense-growing, while *Cephalotes*, the Giant Thrift, is very useful for cutting. Increase by division, planting firmly singly or in rows.

Thuja.—The Arbor vitae, a very decorative shrubby subject, good also for growing in little beds or lawns, will flourish in fibrous loam, and the variety *Aurea variegata* is especially effective. Should be transplanted in April.

Tobacco Plant.—*Nicotiana affinis*, of delicious odour in the evening, is a fine subject either for the greenhouse or outdoor culture, and should be raised from seed sown in February or March in gentle heat, the seedlings being transplanted into rich sandy soil and gradually hardened if intended for bedding. It spreads and branches freely, if kept well watered, making immense fleshy leaves upon stimulation, and carrying pretty white tubular blossom of greenish tinge on the exterior. When the plants die down in the autumn they may be covered with ashes, when many of them will spring into growth again the following season, as the *Nicotiana* is, properly speaking, a half-hardy perennial. The variety *Macrophylla gigantea* is particularly large as to foliage, and sends up long flower spikes of a purple white shade, while there are some pink sorts; but the white type is the most generally useful and sweetly perfumed. It seeds readily in the border, and young plants coming up in summer bear mowing.

Tools.—There is an infinity of garden tools and implements in the market, all of them more or less useful, but most of them desirable and indispensable. What are indispensable are the digging-fork, the spade, the rake, the trowel, the watering-pot (with spout and rose), the sieve, the Dutch hoe, a pair of clipping shears, and a handy hammer, whilst, where there is grass, a scythe or lawn mower cannot readily be done without. The man with a greenhouse or even a hotbed will need a thermometer and a syringe, while a good garden hose will save an infinity of trouble wherever a good force of water is obtainable from the tap. A drill-hoe is very handy in sowing time, but the rake may be manipulated so as to perform its work where one is not available. "A good workman," says the adage, "is independent of his tools," and this applies in the garden. The man who really loves horticulture may obtain the best results by the employment of a very few simple implements, where the potter will fail though he should purchase the entire complicated stock of a vendor of so-called "garden requisites."

Trachelium corniculatum.—A good border or rockwork biennial, bearing pretty blue flowers.

Tradescantia.—A genus of perennial trailers, containing varieties suitable for ornamental baskets in the window or conservatory, or for greenhouse culture, with leaves sometimes prettily striped, produced on long and gracefully pendant growth, also some of a sufficiently hardy nature for summer bedding. The common Spider-wort is the most familiar of this form of *Tradescantia*. The greenhouse sorts require rich moist soil, and root readily from cuttings over gentle heat, or may be propagated by root. *Tradescantia Zebrina* is a good green or variegated subject for hanging over the sides of vases or pots in the winter garden.

Trees (Ornamental).—The *Laburnum* is a very

effective ornamental tree for even small town gardens, its racemes of yellow blossom being particularly effective in spring, and the Acacias come within the same category. Some of the purple birches, the variegated maples, the weeping ashes and willows, the All Saints' Cherry, the Siberian pea tree (*Caragana arborescens pendula*), many of the Conifers, the Japanese Sophora, the white beam (*Pyrus aria*), the double and single scarlet and pink hawthorns, and the flowering almonds (*Amygdalus*), are good subjects for breaking up the monotony of low growth in a garden, and all of them may readily be established by autumnal planting in deeply dry soil. Vigorous saplings of all the arboreal species mentioned are procurable at most nurseries at prices from a shilling or less upwards, according to size.

Tritoma. (See **Red Hot Poker Plant**.)

Tropaeolum.—These elegant climbers, with which may be included for the purpose of convenience all the hardy annuals, Nasturtiums whether tall or dwarf growing, are easy of cultivation and profuse flowering. Their brilliance of colouring is untruncated, and given proper soil, which should be rich and sandy, they occasion little trouble. In the greenhouse they may be trained up canes or to the rafters, or allowed to hang over the sides of suspended pots. Nothing need be said as to how to grow the common Nasturtium. It grows itself wherever it has once been introduced, but the choice species, both single and double, should be sown in heat and carefully hardened when intended for pot bloom out of doors, and they require frequent watering. *Tropaeolum canariensis*, the Canary Creeper, is a pretty and very distinct climber, which may be sown and grown in window boxes or on the border as well as in the greenhouse. The tuberous-rooted *Tropaeolum azureum*, bearing blue flowers, will not stand outdoor treatment, but succeeds well in a warm greenhouse, as does *Tropaeolum tricolorum*, with red and black-tipped.

Tuberose.—This is a white-flowered and odoriferous bulbous-rooted plant of Indian origin, which should be started in sandy loam in a frame over gentle heat in January, giving each bulb a very small pot to itself, and giving no water till growth commences, and then but a very little, plunging the pots to the rim. Repot into larger sized (say 3 to 4 inch) pots when the roots show through the drainage hole, then plunge again until the flower spikes show, when the plants may be placed in the greenhouse or conservatory to bloom, where they last long and exhale a delightful perfume.

Tulip.—Good old mellow loam, perfectly free from any insect life in any form, should be employed for tulip culture inside and out, all stones being carefully sifted out. The best time for planting the bulbs outdoors is from mid-October to mid-November, and the beds should be well drained. Press the bulbs in on a good layer of the prepared loam, six inches apart, then cover to a depth of about three inches of soil. In taking up the bulbs after blooming for storing until the following season, allow the leaves to turn yellow first, and dry the bulbs in paper bags in the air and sun before putting away. There are singles, doubles, and semi-doubles, some of the former, including the early-blooming *Duc van Thol* description, being particularly handsome. These are well suited for pot culture, and they may be grouped effectively in large pots. They require plentiful watering when blooming, and must be shaded from the sun if the rich coloration is to be prevented from deterioration. The parrot tulips, large and showy, are grand for out-of-door culture. The summer (or May-flowering) tulips comprise most of the handsome selfs, and will stand from year to year in a suitable border. They are tall and sturdy of growth, and require rather more room individually than suffices for the earlier sorts.

Valloia.—The Scarborough Lily, a handsome bulbous subject for greenhouse culture, requiring rich, sandy loam with a peat and old mortar admixture, and large deep pots to develop in properly. Plant six inches deep at midwinter, and do not water after first settling the soil, which should be well drained, until growth commences, when weak liquid manure may be occasionally administered.

Verbena.—One of the best of bedding plants, possessing much variety, readily raised from seed or from cuttings, while pegging down the growth will root it, facilitating increase by division. The treatment accorded to the petunias will succeed for verbenas culture, and the best soil for them is a loam, leaf-soil and sand amalgam. Young plants in the cold frame should be hardened off for transfer to the flower beds in late May, and pegging down after growth be well begun out of doors will induce new shoots and protracted blooming. What is commonly called the "Scented Verbena" is a plant botanically known as *Lippia citrifolia*. It makes a very good greenhouse pot plant, the leaves emitting pleasing perfume on handling. The common verbenas, or "Holy Herb," and the wild hyssop both belong to the true verbenas family.

Veronica.—The evergreen speedwells are grand autumn bloomers for garden or greenhouse, and will flower all through the early months of winter if late planted, while the annual Veronicas (of which the little Commander Speedwell, or "God's eye," is an indigenous British variety) are invaluable for spring blooming. For early show these should be sown in autumn, and the taller growing perennial sorts, with handsome white, mauve, or purple flower spikes, propagate either by root division or cuttings, and should be planted out in spring.

Viburnum. (See **Gaulther Rose and Laurustinus**.)

Vinca. (See **Periwinkle**.)

Viola.—This genus includes all the pansies dealt with elsewhere, but the same is generally taken to signify the "tufted" bedding species so floriferous and so suited for ribboning in summer borders. Their proper cultivation is similar to that which the showier pansies succeed under, and there is a great variety of flower colour from white to plum coloured, with many shades of mauve, lavender and blue between, as well as numerous gradations of yellow. A good top-dressing of short manure or rich leaf soil after planting out and frequent watering at the roots, will be found very helpful. They seed prolifically, and can be increased readily from cuttings. The pretty little *viola cornuta* is a good outdoor edging subject still, despite the attractions of its more recent rivals, *Neapolitan*, *Russian*, and other imposing varieties of odorous violas or violets, as people call them, for distinction sake, are readily grown and forced in greenhouses, if it be borne in mind that they are shade lovers.

Wallflower.—The hardy *Cheiranthus* holds its own, and always will, amongst spring blooming favourites of the garden. It is well worthy of such constant sufrage, for its culture calls for little care, and its odour and rich coloration are ever pleasing. From the light straw of the old type to blood red, with much striping, splashing, and intermingling of the browns, we have wallflowers galore, both single and double, the latter being increased by cuttings, and all the rest from seed, which will grow anywhere. Seedlings should be transplanted early. The wallflower likes a light soil containing old mortar.

Watering.—The watering of plants in pots in the house or greenhouse should be regulated by the real need of each individual subject for the time being, moisture being gently and thoroughly renewed when a dry condition has been arrived at. This can be ascertained by examination, and tapping of the pot is a good guide. A dull heavy sound as the resultant of this will indicate that there is no drought within, and it is a very great mistake to overwater, which is apter to injure a plant than drought, which can readily be corrected. Effect as little disturbance on administering water as possible, and this can be obviated by standing a thirsty subject in a pail or tub until the water reaches a shade above the rim, letting it absorb as much as it can, and then replacing it on its shelf after draining. As a rule plants want comparatively little watering save in the growing or blooming period; they must have their rest time like other living things. Let this always be remembered. Outdoor watering must be governed by the state of the weather and the condition of the plants.

Weeds.—Weeds should be eradicated immediately

on their appearance, remembering the proverb "ill weeds grow apace." Not only are they always unsightly in the garden, but they rob the plants under culture of necessary sustenance most seriously if permitted to remain. Hand pulling after showers is an effective method of weed-destruction, for then the roots are readily and completely withdrawn, and the hoe should be kept actively employed on the surface of borders in the sunshine, as this kills the unwanted vegetation at the most vulnerable stage, besides doing the legitimate occupants of the soil a great deal of good by promoting the filtration of air and moisture to the roots. Vitriolic or other corrosive acid applications properly diluted may be employed for stopping the persistent growth of unsightly mossy weeds or grass on gravel walks which it is undesirable superficially to disturb, or even strong saline watering will often suffice, especially if done under a hot sun. Moss growths on the surface of soil in flower pots should be removed by stirring and dressing. It is usually an indication of inefficient drainage, in which case remove the cause.

Wattia grandiflora.—The grandest intense blue of any outdoor annual (called also *Phacelia campanularia*). It is a delicious dwarf six inches to a foot high, with satiny flowers like little gloxinias. Seed may be sown outdoors in March and April for summer show.

Window Garden.—Some sorts of plants may be grown inside or outside any window, if a proper selection be made either in pots or warden cases indoors, or in pots or boxes exteriorly, protected or otherwise. The great thing is proper selection. Inside, the warden case, or humbler bell-glass, are only requisite where humidity is essential to the health of the subjects included, otherwise judicious shade and ventilation will suffice to keep a properly placed and properly potted plant fresh and beautiful for as long as it is desirable to retain it in a room. A warden case, fern case, or pot collection of any kind under glass in a parlour, should be planted by one who understands the subjects employed, and provision made for efficient drainage into an accessible bottom tray, charcoal being employed to facilitate filtration, for stagnation at the roots, combined with an atmosphere more or less unnatural, will kill any delicate plant, or at any rate reduce it to an unsightly and sickly state. But many pretty ferns may stand within a north-looking window, with overhead cover, and flourish exceedingly for a lengthy period if carefully tended, and many more, as well as numerous ornamental-leaved and pretty flowering plants, in a window with a northern aspect. For windows facing the east the range or selection of suitable subjects is still wider, while the window fronting the sunny south will only give trouble in requiring shading to obviate the scorching of most plants placed either outside or directly within for display. Little acacias, arbor vites and clematises are amongst the plants which will adapt themselves to the first position. For the second aspect camellias and begonias are suitable, so are trailing plants of "Creeping Jenny" and *polemonium* besides *viccas* and *sempervivums*, and snowdrops, narcissi, and other spring blooming bulbs. Western window plants, and those which will flourish either there or to the south, need not be particularly specified, the range of choice is so large, but it may be well to hint that *verbenas* in pots, show *pelargoniums*, *petunias*, *heliotropes*, *everlastings*, *fuchsias*, *cockscorns*, *calceolarias*, and cacti, always do best in parlours looking due south, and the same may be said of the oleander. In all cases there should be daily opening of the upper window sashes to let out gas-fouled and otherwise vitiated air, and to let in "the wind of God," without exposing the plants to a draught. There must be neither parching nor over-watering, while the leaves of palms and indiarubber plants kept indoors will be better, for an occasional sponging to prevent dust from choking their pores. Window boxes outside are a matter of taste as to construction, but if they are regarded as an ornamental adjunct, from which to rear a beautiful floral wall a good deal will be set up. Let the box be faced with virgin cork or plain (not brightly coloured or gaudily figured) tiles, and left hollow within to receive plants in pots.

which may be removed and renewed readily, and surrounded by ashes or fibre to keep them cool. Thus you will find your window gardening to be facilitated. You can train your climbers up the window sides, and let your trailers hang over as well from plunged pots as if they were stuffed into one box, the soil in which is liable to caking and souring, and you will be readily able to keep the roots of all the plants cool, each in its own best-liked compost. If you go in for a glazed protecting case or frame outside, you increase your range of employable floral subjects, and construct, in a sense, a miniature conservatory. If you do this do not omit to have the top light hinged to admit of efficient ventilation, and leave plenty of room for getting at the glass for cleaning everywhere. Those possessing available sunny windows, sheltered from wind, have the best chance of making a satisfactory and continuous floral outside display, but discriminate selection of plants and judicious treatment will accomplish much. Nothing brightens up a street more than a bit of really good window gardening, and he who provides it pleases not only himself but every passer-by, and receives praise and blessing accordingly.

Winter Cherry.—A very ornamental perennial, which will grow under shade, and produce its pretty decorative fruit anywhere in good sandy soil. It makes an acceptable conservatory or parlour-window subject, and is largely grown by the market gardeners for dinner-table display.

Witeworms. (See *Pests of the Garden*.)

Wistaria.—A deciduous climber with pretty foliage, and handsome tassell-like flowers of purple, blue, or white colour, very suitable for a south wall. There is a double flowering variety, and one with variegated leaves, which resemble those of the ash in formation. The wistaria may be increased by layering down shoots at midsummer, and these should be severed and transplanted in spring.

Worms.—Worms out of doors are good friends of the gardener, helping with the drainage and manuring of his borders materially, but they do some mischief in throwing unsightly upcasts on to grass lawns. Sweeping and rolling will remove this, and make a dressing for the grass, when the worm may be considered to have been the occasion of more good than harm. But worms in a flower-pot are most undesirable. They work through the drainage hole, work up to the top of the soil, and then drag down finely ground mould amongst the crocks, clogging all up and promoting stagnation, which kills. If a plant goes sickly, its leaves yellow, and the flower buds droop, while the soil is seemingly all right, knock that plant out of the pot, and if you find a big worm and some puddle at the bottom, lay the trouble to this. Turn him out, re-pot, and most likely things will soon mend with the plant. Pots stood out on ground are liable to the intrusion of worms, but if placed upon sifted ashes are not so much so, as the worm does not care to wriggle through them.

Xeranthemum.—The annual "Everlasting" from which "immortelles" for wreath construction are made, a hardy annual, with purple or white flowers, requiring rich soil for its successful cultivation.

Yuccas.—The sharp-pointed, sword-like leaved "Adam's Needle," some varieties of which are quite hardy enough to stand out of doors and endure the British winter. *Yuccas* like strong but sandy soil. *Yucca gloriosa recurvifolia* has curling leaves; *filamentosa* (the "Silk Grass") is a distinctive and decorative description of *Yucca*. They only flower occasionally in this country, white spikes tinged with green. Propagation by root division.

Zinnia.—Brilliant-flowered half-hardy annuals, good for border bedding or massing. Very free flowering and long lasting. *Zinnia elegans* has varieties with flowers in white and many colours, crimson, scarlet, rose, bronze, buff, lilac, and violet, some with double blossom. The seed of this should be sown in heat in early March, and the seedlings transplanted to make good stocky subjects for placing in the borders in June, the warmest situation possible being accorded them, and very well-enriched soil. The doubles make good pot plants. No British summer could be too hot for the Zinnia.

Zizyphus.—Fruit-bearing, evergreen shrubs, which mostly require greenhouse treatment in this country, and a compost of sandy peat and good fibrous loam. *Sativa*, or *vulgaris*, is known as the "Jujube Tree," and another is especially interesting because of the supposition that from its spiny branches was formed

the crown of thorns worn by the Redeemer on the Cross of Calvary. *Zizyphus vulgaris* is sufficiently hardy for out-door planting in a sheltered place. These shrubs may be propagated by root cuttings, or by striking slips of ripened wood under glass.

THE KITCHEN GARDEN.

General Hints on Vegetable Culture.

The choice of ground for kitchen gardening will be governed in a good measure by opportunity; but it should be as open and sunny as possible, and, if that can be managed, slope gently towards the south to facilitate surface drainage. Protection should be afforded against north wind by a wall or close fence, and where the vegetable ground is at the southern end of the flower garden—a very good position—a thick hedge of good height should be provided to act at once as a screen and a shelter. Holly and quick mingled do very well for this, the holly planted on the flower garden side for ornamentation sake, the quick to the south to complete the solidarity of the shelter. If the hedge be clipped pretty frequently its appearance and utility will both be improved. In very exposed places where easterly winds are frequent a close hedge or low fence on that side of the kitchen garden is also desirable. On the south and west all the light, air and sun-heat obtainable are wanted, and this should be borne in mind when the positions of runner beans and tall rows of staked peas is determined upon. The former do very well in short rows at right angles with the north hedge, or, if one long row will suffice, parallel thereto, while the peas, being hardy, may run advantageously alongside the eastern fence, with room between to get to the eastern side of the row and work the hoe, gather the crop without trouble, and permit the sun to shine down on to the roots. Position having been settled and the walks planned and made, preparation of the ground next demands attention. Perfect drainage, and the land in "good heart" are the things to be aimed at. Both can be accomplished by assiduous culture only, after a thoroughly sound beginning. A good time to start is late autumn, and trenching to a depth of a couple of feet is advised, to be repeated at least every third season, spade-deep digging being practised in the intervening years in the formation and preparation of the beds for the reception of the various vegetable plants, seeds or sets, as the case may be. The trenching should be complete, a thick covering of good manure being incorporated in the turning over of the soil, which must be left very rough for rain, frost, air and sun to work on, and may have a surface dressing of soot and salt, with sand also if the ground be particularly heavy. The subsoil if clayey should certainly not be brought to the top, but broken up and reserved at each spadeful, mixing therewith road refuse, the coarser components of the leaf-soil and manure heap, wood ashes or anything else suitable for enrichment and to assist free drainage. Light ground of good depth and loamy may be trenched from bottom to top. Forking over prior to settling the beds for planting will work in even all superficial fertilising dressings, but there should be avoidance of trampling down solid in getting the smooth surface requisite for seeding many subjects and the planting out of small stuff. Root growth should find easy passage through the ground, and be amenable to atmospheric action and equally permeable to rain. For the rest, the culture of vegetable subjects is indicated hereafter alphabetically.

Alexander.—Sometimes called *Allsander*, this old herb used at one time to be cultivated similarly to celery, and used medicinally, the stalks in scorbutic complaints, and the seeds and a decoction of the acrid root as a stomachic. Sown in rich, light soil in April and May, in drills from 2 to 3 feet apart, and thinned out to leave a foot between each plant in the row, and earthed up to blanch at a foot high.

Artichoke.—The Jerusalem is a suitable subject for growing alongside a fence, as it helps to form a screen for the garden in that position; the tubers should be planted in early spring time in rich and well-drained soil, 15 or 18 inches apart, and if there be more than one row it is best to have the rows nearly a yard from each other. They should be set 6 inches deep, and lifted for storage in autumn. The ground should then be well forked over, incorporating as much short manure as possible, and, if stiff, lightened with an admixture of sand. When the tops have reached a foot high, earth them up, potato fashion, and keep clear of weeds by frequent hoeing. If stored for use they must be placed in dry sand to exclude light and air, or the tubers will be a bad colour on cooking. The white-skinned "Mammoth" Jerusalem artichoke is far better and smoother than the irregular old purple sort.

The Globe artichoke is cultivated entirely for the sake of its immature flower heads. Sow in a hotbed in March, potting out the seedlings singly and hardening for planting out in June in groups of three or four, or increase by carefully transplanted offsets. Salt dressing is good for the artichoke. There are several serviceable varieties of the early purple artichoke, besides a number of the large green Paris section, and all bear best in their second and third seasons. The conical-headed French sort is the most esteemed in Britain, while the *Lea* variety is very much in vogue in Paris. If the tubers be not all lifted in November, cut down the decaying leaves and stalks, covering the ground a foot thick with ashes or litter, removing same in March. Eliminate all but two or three of the young shoots in each case, using offshoots to form a new plantation.

Asparagus.—An asparagus bed should be from 3 to 5 feet wide, formed by taking out the earth to a depth of 3 feet, and throwing in at the bottom over subsoil broken by digging a considerable quantity of well-rotted dung, and incorporating with the soil returned to form the bottom spit over this a good deal of short, rich manure. Then a large proportion of sand should be intermingled with the next spit, leaving the top spit almost all sand, with a liberal amalgam of salt

and some soot. Put the plants in 6 inches deep in April, a foot apart, running east and west, and when growth has commenced dress with salt, using about a quarter of a pound to the square foot. Plants may be raised from seed in drills in the bed at the end of March, or elsewhere, for placing in the bed the second year, but the heads should not be cut until the third year from seed, so if time is an object roots two or three years old will require to be obtained from a nursery. When the leaf stalks die in autumn and the dead stems are removed, spent hotbed manure may be laid over all, after forking between the rows with the digging fork without injury to the roots, and this and the summer salt dressing will be all that is requisite to keep a bed in good bearing for a number of years if it be made well out in the strong sunlight and the plants be put in originally 6 inches or so apart in the rows. Asparagus is good for cutting about when green peas begin to yield, and should not be gathered too freely, else it will run small. Always cut as near to the cooking time as possible to get the delicate flavour at its best. The pretty "grass" of the asparagus is very useful for bouquet garniture.

Asparagus.—An edible variety of the *Solanum*, or Egg Plant, a half-hard annual, extensively cultivated in Southern Europe. Sow in heat in April, prick out the seedlings singly into four-inch pots, well drained, using a compost of rich, sandy loam. Harden off gradually, and stand the pots in June in the sunshine, watering freely when growing and fruiting. The fruiting plants are very ornamental, especially the scarlet sort.

Balm.—A sweet-scented flowering herb, the leaves of which used to be in considerable demand for making a cooling drink, with a lemon-like flavour. Botanically called *Melissa officinalis*, the balm possesses very ornamental foliage, and flourishes in any ordinary garden soil. Propagated by root division in spring or autumn.

Basil.—This herb is raised from seed in gentle heat in March. Thin out the seedlings, give air freely, and plant out in a warm border of rich light soil in early June. Bush basil is the hardiest variety.

Beans.—Broad or Windsor beans crop best in a strong, heavy soil, with plenty of good short manure worked in. If sown in October on the south side of ridges running east and west, about 3 to 4 inches apart, they will get the benefit of all available sun without being waterlogged when cold rains are frequent, and come into bearing early. Seed for succession may be sown similarly, but on the level, in drills, in January, drawing the earth up to the stems on dry days when the young plants are three to four inches high, a plan which induces root development. Four feet should be allowed at least between the rows, and broccoli or spinach may be planted midway between to make the most of the space. Care should be taken not to clog the ground by trampling overmuch in planting the seed, and a board may be used during the operation advantageously. Where high winds cut across the rows, a line of string may be stretched from end to end, the seeds having been put in zig-zag so that every second plant-stem comes into contact with the supporting line on the opposite side. Topping the stems after the beans are set is good practice, burning the shoots, as this not only defeats the black aphid, so partial to the foliage, but promotes pod filling. Early Lion. Pod is a good variety for first crop, the Broad Windsor, Green Windsor, Dutch Long Pod, and Leviathan being better for late successional sowing, which may be continued until towards the end of April. Runner beans should be grown in deep rich soil alongside a fence with a southerly or easterly aspect, or in the open in double rows 3 inches apart with 3 inches also between each bean. Sow 2 inches deep on a good thickness, say 3 inches, of soil superimposed upon well-rotted manure laid upon a worked subsoil, in early May, or put out young plants raised in boxes from seed in a frame for mid-May starting in the garden. For climbing support, a double row of light poles should be stuck along the lines of runner plants, inclining towards each other and crossing towards the top, horizontal sticks being dropped into each junction and tied with tarred string to make all taut against

strong wind. Topping the shoots when the summit of the pole has been reached induces bushy fruiting growth. It is well to protect against possible late spring frosts a little at nights at first, and in September when the bine is in good bearing a loose night covering will often save the beans for a week or two of further yield should a premature cold snap come, followed by open weather. All seedsmen have good strains of the popular scarlet runner, also of the white Dutch runner and the red and white Painted Lady, a very pretty variety, but less prolific as to pod production. Copious root watering in warm weather, at night or early morning, is good for runner beans. Dwarf or French beans may be sown in mid-April in sunny positions or a little later where sun warmth does not reach so well, good rich loamy soil being provided, in rows a foot and a-half to 2 feet apart, the seeds being put 1 inch underground in batches of three, each batch being 9 inches to a foot from the next. When slug dangers are past, any more than one plant remaining in each batch may be eliminated, leaving only the strongest looking. Draw the soil towards the stems on either side as the plants grow, carrying the ridges as high as possible. Sir Joseph Paxton is one of the best of the early French beans. Canadian Wonder should be sown a little later, say in the beginning of May. A dressing of soot and fine lime will retard the progress of snails and slugs, which are very fond of young bean shoots, while adjacently laid little heaps of brewers' grains will attract them, when they may be caught by candle light, and killed in salted water. Manual waterings at the root in the growing period will add to the productiveness of those and all other beans. For haricot beans the pods must be allowed to remain for the seed to ripen, but the faster the pods are gathered for cooking in the fresh state the longer the beans will continue in bearing.

Beet.—Turnip-rooted is the best of the early red beets so useful for salading and pickling, and should be sown in the beginning of April in drills rather over a foot apart and a little less than an inch deep, thinning out to 8 inches apart. A bed in which previous cropping has taken place, and which was heavily manured, therefore, suits beet, the soil being light and well pulverised, but if this be inconvenient the ground should be dug out, trenched, and manured with well-decayed dung at the bottom. A light dressing over the bed when the plants are a few inches high will be of service, and weeds should be kept down. Red Castianaudary, Dell's Crimson, and Cheltenham Greentop are good main crop sorts, and may be sown in the middle of May. White or spinach, grown for the tops, which are cooked spinach fashion, should be sown in April and August, the latter sowing being for a winter supply. The leaf stalks and midribs of this species are sometimes stewed and eaten like sea-kale. There are yellow beets, not appreciated in the kitchen, and white sugar beets, not grown in English gardens. In lifting the roots in October great care should be taken not to bruise the skin or break off the tap root, and the leaves should be cut a good inch above the crown to prevent bleeding, which would spoil the colour of the root in boiling. They should be stored in a dry, frost-proof shed, laid on sand, with sand over each variety.

Borecole.—Borecole, also of allied kale and winter greens, belongs to the great Brassica family, and is cultivated for the leaves, which stand all but the severest frost, and for the sprouts in spring. The borecoles do not take so much out of the ground as cabbages, and may be planted after peas when the haulm has been cleared without further manuring, or may be put in between rows of potatoes or beans. Sow in a seed bed in April or May and again in August. The Buda kale should be seeded in May and transplanted in September. Dwarf curled greens are the old Scotch curly, close, compact, and curled; the tall green curled runs to 2 or 3 feet high, and cooks well after frosting. Cottage's kale is a variety of the Cavalier cabbage, and a hybrid between Brussels sprouts and one of the kales, a very tender fine green, reaching as much as 4 feet high; it must be planted wide apart. Purple, or sprouting borecole, is very much like the all green curled kale in

everything save colour. Ragged Jack does very well in cold and exposed positions; variegated borecole is ornamental as well as useful; Jerusalem and Egyptian kales are both excellent, and the latter very hardy. All the borecoles are the better for having the soil drawn up to the stalks as growth proceeds, and should be hoed frequently, as stirring the ground surface is very beneficial to the plants. The sprouts are good for use as long as their stalks will snap off easily.

Broccoli.—Broccoli is a variety of the cauliflower, differing therefrom in having the flower stem longer and not so fleshy, and head not so compact. It does not attain the size of the best cauliflowers, nor does it furnish such delicately flavoured eating. It needs good, rich, well-tilled soil, and should be sown under glass in early spring for autumnal use, and in late May in the open to stand until the following spring. The broccoli is harder of constitution than its congener the cauliflower, which it succeeds in cropping, and may be cut up to Christmas, and even later. Broccoli must be planted firmly and about a foot apart, and when the flower is forming have a leaf or two broken over the head for protection, save in the varieties which curl their leaves in naturally. Early Purple Cape, Early White Cape, Early White Waterlander, Autumn Giant, are among the best sorts for autumn and early winter cutting. For late winter and spring use the Ponzance, Leamington, and Purple Sprouting may be recommended, and for the latest supply Late White Protecting is good. Strains of these and numerous other descriptions are offered by all the seedsmen. The young broccolis should be well watered after transplanting from the seed beds until established, and those standing the winter have their heads bent down facing northwards to check root action and render them less succulent during frost, besides facilitating shelter with dry litter or bracken when the weather is very severe. The spring varieties come in most acceptable for the table at a time when the supply of the finer vegetables is scanty.

Brussels sprouts.—A protracted growing season is essential to the maturing of these excellent vegetables, which belong, of course, to the Brassicas. March sowing in light soil in a cold frame, and transplantation into deeply-worked and well-enriched ground will produce stems a yard high covered with close sprouts to the extent sometimes of a peck a stalk. They should be planted in rows a foot asunder and each plant a foot apart. The cut off the heads as soon as the stems have arrived at the full height, so as to conserve all the strength of the plant for the perfection of the sprouts, others retain the head as an umbrella for the side-growth. The earliest sprouts come in for the table in November, and they continue to yield in improving quality until Lady Day. It pays best to get good reliable seed of this and every other vegetable, and this is assured by going to a reputable firm.

Cabbage.—Cabbages proper have their inner leaves growing close to the stem, and each layer below tightly superimposed, green outer leaves blanching those within almost white at the heart. They and their allies prefer a loamy soil, well drained and well manured, and can assimilate a lot of moisture in dry weather, and copious waterings. Liquid manure during the growing period. For spring cabbage a sowing should be made in beds of friable mould during the third week of July, the seed being placed in drills. Transplant later to prepared ground 18 inches apart and earth up to steady the stalks and protect the roots as growth goes on, hoeing frequently, and dressing the surface with either short manure, lime and soot mixed, or any favoured manufactured fertiliser during showery weather in early spring. Earliest of A.S. and Early Dwarf are capital spring cabbages. Christmas Drum-head should be sown in the beginning of April, so should the St. John's Day variety, while Early York may be sown in May. The coleworts, sown in June and early July, come in for autumn cutting. Rosette and Hardy Green are good sorts, and will do in rows rather more than a foot apart, allowing 3 inches between each plant. During August Enfield Market may be sown, as well as Nonpareil, and planted out the next month where peas or beans have been cleared. In

all cases lime, salt, and soot mixed may be applied as a dressing to the seed bed with advantage, and dusted on the seedlings after a shower to prevent attacks of the cabbage fly. Weeds should be kept down by frequent hoeing and hand-picking, and caterpillar minimised by continuous hunting and lime-dusting when the dew is on the leaves. Red or Milan cabbage, so popular for pickling, should be grown from seed sown at the end of July and again in April, and transplanted later in due course, the latter culture being similar to that of the other cabbages. The Red Dutch is a general favourite, and other serviceable sorts are Utrecht Red and the Dwarf Red, both rather smaller but firm and fine flavoured. The red cabbages must stand in the ground until the hearts are quite hard.

The Portugal cabbage, sometimes called Couve Troughuda, is a Brassica of very distinct type, and somewhat tender of constitution, requiring to be sown in spring for autumnal use. Only the fleshy leaf ribs are eaten, prepared for the table like sea-kale. The Portugal likes a good rich loam to grow in.

Capitulum.—Ornamental plants, especially in autumn, when the fruits are ripe. They should be raised from seed in a hotbed in February, the seedlings being pricked out into single pots of light rich soil, and given successive shifts until each occupies an 8-inch pot. They require a genial temperature, and may remain in the frame until the fruit begins to change colour, though in the extreme south they will flourish in the later stages in a warm border if planted out in June. The pods ripen in September, and will keep a year or two in a dry room. Capsicums like plenty of water and some liquid manure in dry weather, and for pot culture should be given good drainage, and frequent overhead syringing. In the green state the pods are employed in salads and for pickling, or used for making Chili vinegar, either ripe or unripe. Fully ripe and powdered they furnish cayenne pepper. The Chili and Bird pepper are both shrubby subjects, and require peat in the compost, and will endure through the winter if kept dry and not retopped. The Bell pepper is wilder than these latter, and is admirable for salading or eating with cold meats.

Cardoon.—A perennial from the Mediterranean shore, related to the artichoke. The inner leaf-stalks are tied closely together around the stem in autumn and blanched for eating, the whole being bound in straw bands except the tips. Sown in shallow trenches in deep rich soil, and a warm situation in May, and kept copiously watered, cardoons are ready for the full blanching process after a few gradual earthings up by September. During severe frosts the exposed leaf tips need protection. On gathering trim away all but the blanched heart with a sharp knife, when the "chard" or edible portion is ready for the cook. The Paris cardoon, the largest of the tribe, is the most tender, but the prickly leaved and Tours varieties, as well as the red-stemmed cardoon, are all held in esteem.

Carrot.—Soil for carrot culture should be very deeply dug, and manured in the autumn, at the bottom of the trench, and if at all stiff the land must be lightened with sand and peat. Break up the surface with a rake in spring, working in a good inch dressing of wood ashes, and leave all smooth for seeding in shallow drills, covering the seed very slightly with finely sifted soil, and pressing down with the back of the rake. Powdered chalk and coarse salt may be incorporated with the top dressing before sowing in early April. Thin out to four inches apart in the case of the early Shorthorn variety, which is of delicious flavour when young, and water well from soon after the leaves commence to grow, taking great care to keep weeds down. Larger carrots want correspondingly more room, and the improved Altringham variety is a capital main crop sort. It can be sown till after midsummer. Liquid manure applications assist development. After October is over no carrots should be left in the ground, for retention there tends to make them crack. Loosen the soil with a long-tined digging fork, and draw each root carefully, cutting off the tops and storing them in a cool place for use in the kitchen. Light soil, deeply drained, with a layer of rich manure well down at the bottom of the pre-

pared bed, will give good clean carrots, free from forking, which is always undesirable. Before the general harvest, carrots should be drawn as requisite regularly, leaving those that remain to mature more and more free to feed and thicken.

Cauliflower.—Cauliflowers, like cabbage, require a deep rich ground to grow in, only more so; and, being somewhat tenderer of constitution, they should be planted in a position sheltered from the north. Otherwise their culture is very similar, as to seeding, transplantation, and the rest, to that requisite for the summer sorts of cabbages proper. Cauliflowers from Corsica and the Mediterranean coasts, cauliflowerers have been esteemed as excellent for ages. The June eating sorts, of which the Dwarf Erfurt and Snowball varieties are very good types, should be sown in a warm border, with some shade from direct noon sun, in the middle of August, and transplanted into cold frames to stand the winter in October. If frames be not available, then a position on a south, sloping, well-sheltered border will serve, the soil being fine and rich, and protection being afforded during severe frost by hurdles, mats, or some other convenient contrivance. Finally transplant into the prepared perfecting ground in May. Walcheren and Magnum Bonum are fine mid-season sorts, and Autumn Giant is grand for late cutting, and these should be sown and grown on accordingly, as in the case of successional cabbages. Good root watering, with occasional stimulation by liquid manure, is advisable in droughty weather, and on the commencement of the head formation the leaves should be bent over to keep the hearts clean and white. Draw up the earth to the stems when it is dry and friable, take off all decaying leaves, and hoe often to prevent the establishment of weeds, and let air and warmth down to the roots. Also watch out for caterpillars closely, for, if permitted to secure a lodgment, these pests will frustrate all your efforts.

Cauliflower Broccoli. (See Broccoli.)

Celeriac.—The turnip-rooted celery is cultivated for its tuber alone, and therefore does not need blanching or trench growing like celery proper. It is a hardy biennial subject, and is employed either sliced in salads or for cooking, having the peculiar celery flavour. Sown and transplanted early, it may be put out into ground in May, when it will soon develop its irregular root knob, which will in some cases attain a weight of over three pounds. The roots should be lifted before the beginning of November and stored in dry sand.

Celery.—Sow seed in a moderately warm bed under glass in March for all ordinary purposes, or a month sooner if a very early table supply is required, using good rich soil. Transplant by pricking out the seedlings when they have reached 3 inches in height, which will be about 5 weeks from the time of putting in the tiny seed. They may be transplanted either into pots, or a cool frame, using a compost of loam and well-rotted dung, the latter in preponderance. Water freely to obviate lanky growth. Planting out in the open prepared trenches should take place at the middle or end of May, a warm part of the garden, being selected. Take out the earth to a depth of 18 inches to 2 feet, allowing a width of fully 15 inches. At the bottom lay 6 inches of well-forked hot dung to stimulate the plants, putting a good covering of fine soil over the manure, and heaping the remainder of the removed mould neatly along the banks for earthing-up purposes later. Put your celery in 8 inches apart, planting firmly and carefully without breaking the ball, and then water as liberally as you like, remembering that the genus is a marsh dweller naturally. Do not begin the earthing-up too soon, but get a sturdy start, applying liquid manure or soot water occasionally to assist you. When your plants are 15 inches high remove suckers and side growths cleanly, and tie up the leaf stalks lightly towards the top with bass, very carefully banking up the earth from the ridges in dry weather, and avoiding the introduction of soil amongst the leaf stalks. Make your banks gradually by repeated heaping, sloping the earth down evenly until the ridge reaches almost to the leaves. The final banking should be completed before the first severe frost comes, and then dry litter or fern may be lightly laid

over all for protection, and removed on mild days to permit the leaves to dry. So you will get good thick, firm heads, well blanched and crisp, and lasting over a long time of yielding. A dressing of dry lime upon the soil employed in earthing-up will keep the worms and slugs from troubling, and a little quicklime in the water used occasionally for supplying root moisture is also effectual in the same direction, while, should the celery fly put in an appearance, soot may be dusted advantageously over the foliage when it is damp. In gathering celery commence at the end of the row, removing one head at a time by forking down to loosen the root without disturbing the remainder of the crop, and pulling up from well below so as not to damage the stalks. Grow from the best quality of seed, whether you are using the white or red varieties, the former being most in favour.

Chervil.—A useful salad herb which should be sown in drills over nicely-manured ground in March for summer use, thinning thereafter, or in August, in a warm dry situation to stand the winter, the latter crop requiring protection against severe frost.

Chicory.—The tender roots of chicory, succory, savory, or wild endive, the roots of which are cultivated for grating to amalgamate with coffee, are in request for winter salading. Seeds are sown in drills on a border in May, the plants being thinned out to 4 inches apart and allowed to develop. Then, in August, all the leaves are cut off to within an inch of the ground, to promote new growth. About the commencement of October the whole plant is lifted with a digging fork, the larger leaves again cut away, and the roots pruned. Then the chicory is planted in dry, light soil, closely in shallow boxes, and covered with litter to protect from frost, watering when needful. The plants may be taken, boxes and all, into a warm, dark shed or cellar, to blanch and complete preparation for the table, the leaves being usually cut when about 6 inches long, and quite crisp and tender.

Chilli.—Chilli fruit, like that of the capsicum, is cultivated in the greenhouse for its pungent properties as a pickle, and for infusion cut up in vinegar. The seed is sown over gentle bottom heat, and the young plants potted off singly and shifted later into larger pots. If the chillies are to be gathered green, the plants may be placed in a warm border in June, but should the fruit be wanted to fully ripen it must be developed indoors under glass. (See also Capsicum.)

Chives.—Cultivated for their succulent leaves, onion-like, but rather milder in flavour, and very useful in soups, also for salading. A perennial, propagated by root division autumnally, the clumps growing nicely in ordinary soil with little attention. The tender leaves are cut up by some turkey-raisers for admixture with the food of their newly-hatched birds.

Colewort. (See Cabbage.)

Corn Salad. Sometimes styled the "Lamb's lettuce," this weedy annual is employed in France and in a small way in this country as a winter and early spring substitute for lettuce in salads. Should be drilled in upon a warm border in September, in rich light soil, and weeded and watered as may be needed, and litter must be placed over the plants in very frosty weather. The leaves must be picked when young and tender to afford satisfaction.

Cottage's Kale. See Borecole.

Cress. The seed of the garden cress may be sown thickly in shallow boxes of light soil at any time, or in the open ground from March to October, on a moistened surface, and covered either with a sheet of glass or stretched paper to assist germination. In winter the seed pan may be placed on a hotbed. The seed leaves only are eaten, with those of white mustard, as small salading, or they make an agreeable accompaniment to lettuce. What we commonly call cress is a Central Asiatic annual; the Golden or Australian Cress is eaten with the leaves a little more advanced in growth, and may be sown out-of-doors all through the late spring and summer. Curled or Normandy Cress is hardy and fine flavoured, and comes in for garnishing as well as salad purposes. It should be sown in drills in a sunny border and treated and gathered somewhat like parsley.

Cucumber. Cucumbers can be grown under glass, at any season of the year, by adjusting the temperature and moisture of the soil employed and the surrounding atmosphere to their needs. The frame of the forcing house in which they are cultivated requires to be maintained at a temperature ranging from about 70 to 75 degrees, and never permitted to fall below the former. This is the first essential of success. When such a condition can be managed by warm water pipe heating or hot-air flue medium, cucumber cultivation becomes a simple matter. But a great many amateurs have to rely upon hot beds, which must be constructed according to an approved method. A sufficiency of fresh stable manure must first be procured, short saturated litter and dung being its principal components, and the whole in a full state of fermentation. This should be well shaken and turned over at intervals of a few days, at least three times, amalgamating dry leaves and vegetable refuse thoroughly with the admixture in the later stage of preparation. Then pitch-fork the whole, steaming hot, into a good deep pit or frame, or range of frames, standing fully exposed to the sun and sloping southward in a sheltered position. Place on the top light or lights and leave all to settle for a few days and bring the heat to the top. Next tilt the light up a little to allow all the accumulated rank steam to escape. When the contents of the frame have cooled down to about 55 degrees in temperature, a covering of good rich loam may be spread over all 3 inches in depth. The surface should be as much as 18 inches below the level of the front or lower wall of the frame. When you have reached an ascertained steady temperature of not more than 80 degrees on the top of the hotbed (below the superficial soil-dressing), which may be tested by plunging the bulb of a garden thermometer 6 inches down, you may proceed to make mounds or hillocks of rich soil to receive the cucumber plants, raising these so that the leaves at maturity will approach within 6 inches or so of the glass. Your cucumber plants, raised from good seed sown in single pots of leaf-soil, drained each with a lump of fibrous turf, may be planted on the mounds when the second pair of leaves are well formed and the first shoot has commenced to move, the hillocks having meanwhile warmed equally. Hillock each hillock a little, basin-shaped in the centre to facilitate watering. Watering, with restricted ventilation, will raise the heat by increasing fermentation, less moisture and more air administered will in a corresponding ratio cool the hotbed. In giving air you must be careful to proceed so as to avoid draught or uneven distribution of temperature, and all will go well. Experience herein, following the principle laid down, will soon enable you to proceed with confidence. Your growing compost may well consist of two parts yellow fibrous loam, containing knobs and lumps of mature turf roughly broken and laid towards the bottom of the bed, and one part good peat, the remaining fourth being leaf soil. To this add clean sharp sand to the extent of a twentieth. Let the cucumbers, in the pots wherein they seeded, stay in the frame 3 or 4 days unplanted, to get into the same condition of soil warmth as that you will set them at liberty in, and so receive no check. When the young plants have formed two joints, stop by pinching off above the second, both the shoots remaining being again pinched back above their third joints. Succeeding young shoots should have their tops pinched off also with the finger and thumb at the second or third joint. When growth is well under way, select three or four principal shoots to form branches of the cucumber vines, laterals of which should be allowed to fill the frames and bear fruit. This filling of spaces at command with selected runners having been accomplished, all new runners and shoots must be eliminated as they form. Keep moist by sprinkling the leaves from a rose, always using tepid water, and shade from noonday sun to prevent scorching, giving a little air at the same time cautiously. You want all the light you can obtain without sunburning, and when water is given at the roots it must be tepid if you would freely succeed and keep the plants always healthy and in good bearing.

The thing to strive for is air, moist and fresh, and yet constantly at the temperature indicated. Sunheat will give you a deviation to 5 degrees extent at least higher at mid-day, even if you are particularly cautious as to putting air on in the morning and withdrawing it at the proper time, but this is a natural condition of plant life. In a forcing house where the heat is regulated by an easily governed boiler or by fire-heated flues, it will be necessary to maintain the moisture by waterings and floor sprinklings, and the cucumber vines, grown in borders over, or near to, the flues or pipes may be trained to trellises to hang the fruit down naturally and straight. In the frames glasses will be necessary to secure straightness for the finest fruit, but, with quick, healthy growth achieved by practicing the precepts here expounded, there will be little malformation that matters. Gherkins, and some fairly-long hardy outdoor cucumbers, of which seed may be readily obtained, give satisfaction if grown in a sunny yet sheltered position in good hotbeds in the garden, the young plants being started off under bell or handglasses and lightly syringed overhead in the evenings to promote humidity as much as possible. The plants being maintained in vigour, their thick large leaves will give the requisite shade to the running and fruiting shoots. The fruit not introduced into training glasses may be laid on pieces of slate to prevent discoloration underneath, and all decaying leaves should be removed.

Curled Greens. (See **Borecole**.)

Custard Marrow. (See **Marrow**.)

Egyptian Kale. (See **Borecole**.)

Endive.—A very useful salad plant, easily grown in light, porous soil, well trenched, and enriched, in any sunny garden. Seed may be sown in shallow drills on a pulverised bed surface in June, raking all even. Thin out the weaker seedlings, leaving 18, more robust plants about a foot apart all ways. When fully grown, the plants, having had the soil drawn up to the roots, during development may be blanched by tying up and placing inverted flower pots over them. The process takes a week or more, and it protects against injury from frost as well as giving the requisite whiteness to the heart leaves. Batavian endive is a satisfactory sort to grow and of fine flavour, its lettuce-like leaves having an appetising bitterness; but the curled sorts, green, white, and the New Moss Curled are in great favour if less hardy. The staghorn variety of the latter will stand outdoors well on into the winter under a south wall. Some protection must be provided for the crowns in severe weather.

Fennel.—Fennel, cultivated as an ingredient of sauces and salads as well as for pickling, may be raised from seed sown in April, and covered lightly with soil. Transplant the seedlings a foot apart and pick off all flower stalks as they appear in order to ensure fine leaves. A good bed will last for several years. The leaves possess valuable digestive properties, and are a corrective of flatulence.

Garlic.—This powerfully pungent bulbous perennial, a very little of which goes a very long way, requires similar culture to the shallot, being propagated by separation of the cloves of which the bulbous root is comprised, and setting them out in spring in rows in rich and friable soil and a sunny situation, planting 3 inches deep and a few inches apart. Weed the bed well, and dry when ripe in the sun for storing. A small clove of garlic inserted in the knuckle of a leg of mutton will permeate the whole joint, and the mere rubbing over of a warm dinner plate with a cut clove will affect whatever is served therefrom with the strong garlic flavour.

Greens. (See **Borecole**.)

Horseradish.—Horseradish requires rich, deep soil for its proper cultivation, and a moist situation suits it best, the object being to obtain long, straight, smooth root growth. Sets or pieces of root should be planted at the bottom of a deep and well-manured trench, and a single shoot only allowed to grow above ground at one time in each case. In digging, the earth should be carefully thrown from the root to be gathered, so as to get up the full length without damage to it of the stick. It must be harvested before frost

hardens the ground when wanted for winter use, and stored in damp sand.

Jerusalem Artichoke. (See *Artichoke*.)
Jerusalem Kale. (See *Borecole*.)
Kale. (See *Borecole*.)

Kohl Rabi. The turnip-rooted cabbage, as Kohl Rabi is often called, is half a cabbage and half a turnip to look at, having a bulbous stem like the latter, and producing broad, cabbage-like leaves. The root, when eaten young, is very palatable, and the Kohl Rabi stands frost as well as drought, so that the leaves often come in handy for the pot. Sow in drills or in seed-bed in spring, and transplant later to a foot apart, watering if need be till growth begins, after which nothing but occasional hoeing will be wanted. Early White and Early Purple Vienna are both serviceable sorts.

Lamb's Lettuce. (See *Corn Salad*.)

Leek.—Leeks may be sown in February or March in wide drills, on a well-prepared and well-enriched bed of light soil along with onion seed, the young onions being drawn for spring consumption, leaving the leeks to stand and mature. The soil later should be drawn up to the leek stems, to promote blanching. A better plan is to grow them in shallow manured trenches, celery fashion, setting each leek from a seed bed in a dibbled hole in a centre row, 6 inches apart, and just covering the root fibre at the bottom of the hole with fine soil. This leaves room for swelling, and subsequent earthing up, putting light soil lightly near the stem in the process, will produce fine white stems. Liquid manure waterings suit the leek well, and the crop should be mature by September. London Flag is a capital sort. Scotch or Musselburg leeks attain a large size and are very hardy. Large Rouen are amongst the best for main crop, and Early Netherlands come in first for use. For exhibition purposes leeks are sown under glass early in the year, hardened by transplantation and cultivated in protected and richly manured trenches.

Lemon Thyme. (See *Thyme*.)

Lettuce.—A hardy annual, whose crisp and juicy leaves are of old dietetic renown. It requires rich friable soil, and a nice open situation, but not too much exposed to strong sunlight, and should be sown broadcast on nicely prepared and narrow beds from March onward, thinning and transplanting carefully, so as to leave each lettuce at least 6 inches apart. Hardy cabbage kinds may be sown early in August to stand the winter, and removed when handy for the purpose to a warm border, allowing 8 inches between the plants. These will be at their best for cutting in May, and for succession seed may be sown in a cold frame in February, the seedlings being pricked out in a frame for later transplantation. Thereafter the open air sowing will suffice. Early Paris Market is a delicious sort for spring sowing, and Hammersmith Hardy Green stands the winter well. Other satisfactory cabbage lettuces are Drumhead, Tennis Ball, Brown Dutch, and Neapolitan, a splendid summer strain. The culture of the cos lettuce is the same as that for the cabbage varieties, and White Paris Cos is amongst the best for summer cutting. Sugar Loaf Bath Cos is handsome, and Brown Cos capital for winter use. Lettuces will greedily devour liquid manure applied to the roots during the growing period, and quick development improves the flavour and adds to the leaf crispness. The cos lettuce leaves may be carefully drawn together when growth is well advanced and tied towards the top with soft bast to help heating and blanching.

Manuring.—Systematic digging and trenching after the annual muck-spreading will accomplish most of the manuring essential to successful vegetable culture, save in the case of special subjects like asparagus, especially if followed up by mulches of short manure at planting or seeding time. The latter is a good plan to go on all summer planting, and with regard to sowing any but small seed, such as that of onions, parsley, carrots, etc. Gas lime makes a fine dressing for fallow land on which cabbages or turnips are to be grown, and this, like stable manure, should be on the ground for some time prior to digging in. Nitrates or other clean fertilisers may be advantageously applied to quick-growing root and green crops when the

growth is well started and they can absorb the nutriment therefrom. Peas, onions, kidney beans, and cabbages are all voracious feeders, and the ground in which they are cropped ought to be first enriched as much as possible, but it is wasteful to apply fertiliser to leguminous crops after the stalk and bine have started, as pea and bean plants get all the nitrogen they need from the atmosphere. Manure from the stable anywhere where seed feeding has been going on should be fully fermented before being applied to the ground, or there will assuredly be a very undesirable weed crop. Old hotbed manure is a grand thing for the land, and, generally speaking, farmyard manure and road sweepings, both in the best condition, are preferable for application to the kitchen garden to manufactured soda nitrates, ammonia sulphates, or superphosphates, however the freedom of these latter from strong odours and their easy distribution may tempt one to make use of them. Seaweed, blood, crushed bones, sewage, nightsoil, and many other kinds of animal and vegetable refuse may be utilised in various ways in the ground, the great thing being to employ them intelligently and methodically.

Marjoram.—Pot marjoram and winter sweet marjoram are hardy perennials, which grow well in warm, dry soil, and may be divided and planted in spring or autumn. Cutting the stems of the plant should be done in summer, drying in bunches in an airy shady place. Knotted marjoram is rather a tender subject, and should be raised from seed in slight heat in March, and transplanted later to a sunny border.

Marrow.—The vegetable marrow varieties of the edible gourd genus are extensively cultivated, and must be first raised from seed sown in a hotbed or greenhouse, in light sandy loam soil, the seedlings being transplanted into single rows to harden off ready for planting off on a sunny bank sloping southwards or an old rubbish heap or dung heap, being given a rough mound of rough turf loam and broken sods to run their roots in, kept well watered and clear of weeds. They abominate stagnant moisture, but cannot very well receive too much if the root drainage be complete. It is not necessary to make a hotbed specially for marrows, any raised collection of well-shaken refuse will serve to give them an elevated position in the sun and furnish a good growing start, but it is admirable to cover the young plants with a handglass tilted a little at first, or otherwise afford shade and protection against mid-day sun and possible night frost. Late May or early June is quite soon enough for outside planting. The Cream, White, Long Cream, and Long Green are all good sorts for cropping. The curious flattened and scalloped-edged Custard Marrow eats sweet and requires similar culture to the oval and cylindrical sorts. The huge pumpkin or squash needs a lot of room for its great rambling shoots. It sometimes enormous fruit is not gathered immature for the table, like that of the Marrow, but ripened for mashing, and pie or jam making.

Milan or Red Cabbage. (See *Cabbage*.)

Mint.—Any little piece of mint root will establish itself readily, and this very useful herb should be grown in sufficient quantity in good soil, in a damp or shady border, well pruned in between a wall and a deep edging or the roots will invade neighbouring territory. March is a very good time to plant. Just when the bloom stalks begin to show cut and dry in the sun for bunching and kitchen use. In late autumn cut all the remaining stalks level with the ground and dress the surface with a good inch of fresh soil. Spearmint is of course the most called for in the kitchen, but peppermint and pennyroyal are both worth cultivation and are easily managed when the conditions are favourable. The root runners of the peppermint keep above ground.

Mushrooms.—Most people like nicely cooked fresh mushrooms, and these delicious fungi may be grown easily all the year round by making upshot beds indoors or out and artificial spawning. A very good situation is a warm damp cellar or any outhouse where the atmosphere is moist and close. The foundation of any mushroom bed should be a sufficiency of well-rotted stable manure, turned over in the sun three or

four times to sweeten, and well mixed with about a quarter of its bulk of good loam at the last time of turning. The bed should not go above about two feet high and be given a gentle slope and well beaten down with the back of a spade. Smaller beds may be made up, sloping from front on wall, on shelves in shed or cellar, always getting about the two feet depth. When the bed temperature is down to about 75 degrees two inch bits of the spawn bricks to be had of all florists should be broken off and inserted freely over the surface of the manure, pressing down and covering with an inch of good garden soil. Then cover with an old mat or bag to exclude all light, and if the place be moderately warm and your spawn is good, you will in six weeks or so find mushrooms under the mat. Then, and not till then, you may water with warm or tepid water from a rose can, and a salt dressing over the beds will add to their fertility. Outdoor mushroom growing presents little difficulty. Stable sweepings shot together, then tossed into a conical heap, soon become dry enough for the purpose in hand, so that flat beds, or what are more customary out-of-doors, long conical ridges, can be quickly made therefrom. These beds or ridges must be made up when the material is warm up to about 60 degrees, as they must be trodden or beaten down quite firmly, a process which will greatly reduce the heat. After they are made wait a day or two to see how they heat, and when they fall to 75 degrees or a little lower, spawn and cover them with an inch, evenly all over—of good yellow loam, then cover all with a few inches in depth of short litter. Should a rainy period follow, the beds must be protected from excess of water, indeed they are best without any until mushrooms appear. A covering of mats or easily removable platted straw over the beds or ridges is very helpful. Never use stable spawn, got it fresh from the grower or a reputable garden requisite establishment, or you will be badly disappointed.

Mustard.—As an accompaniment of cress for small salading this is indispensable, and should be sown similarly, broadcast, in pans, boxes, or on borders, the soil made smooth and moist. Press the seed upon the surface, but do not cover, or the stalks and leaves will be gritty. Water gently with a fine rose after the leaves are first formed, and shade from the sunlight to keep green. Sow often and cut quickly.

Onions.—Autumn sown onions escape the fly which is such a pest to this esculent. Give them good soil, well tilled, and sow in drills, 9 or 10 inches apart, thinning afterwards freely. This will give plenty of spring onions for the table, and with weeding and hoeing later large bulbs for maturing and drying for winter use. Dressing with soot and crushed common washing soda staves off the maggot and promotes fertility. Seeding in February or March, covering thinly with fine soil, will give successional growth. The White Lisbon is fine for spring salading, Golden Globe and Tripoli sorts come in for summer use, the Giant Rocca is grand for autumn sowing. Fresh manure, except when trenched deep down, is not reckoned good for an onion bed, but wood ashes and charred refuse are excellent for working in before sowing. At maturity, that is when the leaf stalks begin to die down in autumn, pull up the bulbs and let them dry on the ground for a good week, turning occasionally, before storing away where frost or damp will not get at them. The Spanish onion is preferred by many for its mildness, and the Giant Madeira, of great size, is also a favourite while the silver-skinned is perhaps the best of all for pickling, and Blood Red very handy.

Parasley.—March sowing for summer supply and June seeding for winter use is the practice with this very useful biennial garnishing plant, which may run along the edges of borders advantageously. Take out a narrow little trench a foot deep and lay along the bottom broken brick rubbish and old mortar, filling up with good loam, and sow the seed thinly in drills. Cover lightly with sifted soil and water very gently from a fine rose, and thin out the plants, watering freely in dry weather thereafter.

Parsnip.—The Parsnip is cultivated in deeply trenched sandy soil, the manure being well worked down into the subsoil to prevent forking of the roots. Sow in lines, say 25 inches apart, thinly in early

March, covering the seed very lightly with finely sifted soil. Thin out when 2 inches high to not less than 8 inches apart, hoeing freely afterwards. Take up the roots in November, cutting off the tops before storing away in a cool cellar. They are hardy enough as a rule to withstand frost if left in the ground and covered lightly with bracken, but would begin to grow again in February if permitted to remain, and quickly deteriorate. Large Guernsey and the hollow crowned varieties make clean and handsome roots, nutritious and fine flavoured.

Peas.—Ground for pea cultivation should be trenched to 2 feet deep, during the winter, and left quite rough for the frost to get well at it. Work in a lot of good fresh manure at the digging, and fork over freely before planting, which should be done without solidifying the earth by trampling too much. Burnt garden rubbish and wood ashes are very good for incorporation with the mould in which peas are sown. A friable and calcareous soil is preferable for this admirable leguminous ascult, and dry days are best for the sowing, which may commence in November in the most sheltered positions, Ringleader and Little Gem being suitable sorts for the earliest crop. Sow in drills 2 inches deep, covering with nice light soil after gently pressing each seed down, and "stick" when 4 to 6 inches high, drawing up dry soil in ridges to the stems, which affords shelter and induces good root growth. In frost a little bracken or clean litter may be laid over the young upspringing plants. In January a second early crop may be sown, and Little Marvel in drills towards the end of February 3 inches deep. Successional sowings to continue the yield right on into autumn can be made according to requirement. The wrinkled marrowfalls go in very well in March, and Ne Plus Ultra is fine for the latest c-cropping, being a quick, free grower. English Wonder, American Wonder and some other dwarf kinds will do without sticking at all if the soil be well ridged round the stems. Mulching with good short manure is good for peas in dry weather, and copious root watering also if the soil be deeply worked and drained. Leave as much room as you can between the rows, and run them north and south for the main crop planting, cabbages, French beans or onions between to occupy the surface intervening.

Potatoes.—Potato culture is the most important of all kitchen garden work, and should therefore be approached with full understanding and systematically. To begin with, the ground must be rich but sweet. Soil heavily manured for a previous crop such as celery, then thrown up roughly for frosting in the winter, suits potatoes well, for fresh manuring, either at planting time or subsequently, tends to make the tubers "soapy." Sandy soils previously enriched make the best flavoured and finest conditioned potatoes for the table, if not the heaviest crops. Charred vegetable refuse is valuable for working into the surface soil when the "sets" are planted, and a sprinkling of dried wood ashes along the trench and over the "sets" will often be helpful in warding off disease. Never attempt planting potatoes too early except for forcing, lest a light frost blacken all the promising row of peeping leaves and put you back weeks later than your more prudent neighbour who has deferred operations. The Ashleaf sorts are among the best of the early kidney-shaped potatoes, though Snowflake and some others of the white-skinned section are very good. Beauty of Hebron is a fine pink-skinned kidney variety for early yielding, while for a later crop among the kidney Bonum is a capital white and "La Americana" a profuse yielding coloured sort. Select round kinds are Early Market (white) and Triumph (tinted) for first crop, and for main crop and late the old "Regent" and Magnum Bonum (white), also Purple Prince (a deep-coloured, heavy-yielding kind). To get a very early outdoor supply, a small bed of Ashleafs may be planted as soon as in January as the ground will work. On a south border under a sunny wall, protect from frost with light spruce or furze branches at night or by day in hard and cold wet weather, but letting the winter and early spring sun get to the beds.

Radish.—Early radishes may be procured by sowing in favourable February weather on a well-

prepared bed of light loamy soil on a warm border or in a sunny corner of the garden, with an old light or two or a collection of straw-covered hurdles to afford protection on cold nights, or they may be grown in cool frames by removing the cover during the day and replacing when frost is about. The soil should be rich and friable, and nicely drained, and the seed may be sown thinly and broadcast, giving tepid moisture with a rose in dry weather, and keeping the birds scared away. Quick growth is the thing to strive for.

Rampion.—The white, fleshy tap-roots of this biennial are boiled and eaten like asparagus, or used raw—as also are the leaves—in saladings. Sowings in the shade in good soil in drills 6 inches apart should be made in May for winter supply, or in March for late summer and autumn use, thinning out to 6 inches apart. Weed well. Rampion roots may be stored in sand in November, and will keep a long time.

Rhubarb.—Rhubarb may be planted in spring or autumn in well-dug and richly manured ground, placing the divided crowns 3 to 4 feet apart. Tubs or wide chimney pots can be placed round the sets in autumn to give an extra early supply of long, juicy stalks, and the ground should be well mulched with short decayed manure after pulling.

Rue.—Besides being a medicinal plant, Rue is useful for garnishing, and may be grown from seed sown in April, or propagated from slips.

Sage.—Sage should be grown in light, rich soil, and is propagated without difficulty by slips taken after flowering in the autumn, or by layering in spring. Harvest and dry in the air in September, preserving in light paper bags for pulverisation of the leaves in seasoning preparations in the kitchen.

Salsafy.—Salsafy, sometimes called the "Vegetable Oyster" because of the delicate flavour of the root when properly cooked, is a biennial. It should be sown in light, rich soil, well manured from a previous crop, in April, the plants being thinned out to about a foot apart.

Savoy.—The Savoy is a kind of cabbage with blistered leaves, very hardy and improved as to flavour by exposure to frost. Successional crops may be sown in February, mid-March, and late April, for later transplantation. Savoy requires well enriched ground to grow in, and plenty of room, from 15 inches to 2 feet of space per plant, according to the size of the sort. Tours is an early and excellent variety, Golden very handsome, and the Drumhead extra large but coarser in flavour and best suited for field culture and cattle feeding.

Scorzonera.—Scorzonera requires similar culture to Salsify, which it resembles as to root save for the back skin. To get the roots of Scorzonera large it may be permitted to grow on to the third year, and in cutting the leaves away for storing care should be exercised not to injure the root crown.

Sea-Kale.—Sea-Kale may be raised from seed, or cuttings of the root extremities or "r thoms." The seed should be sown about the beginning of April in drills 3 or 4 feet apart, and 3 inches deep. Thin out to 3 inches apart, and transplant later, say in July, into nursery beds, which should be of light soil. Throughout the late summer and autumn these must be watered and weeded. The following March carefully transplant all into well-prepared beds of deeply-dug and manured soil, 4 or 5 feet apart, and 3 inches deep. In the yard apart, place kale pots subsequently over each clump to protect the assemblage of crowns, covering all with 3 feet of fermented manure. The blanched stalks should be cut for use when ripe, going down to the roots, and the crowns may be used in the same manner as rhubarb and sorrel, or in the following manner:— Boiling and salting to preserve for the earth's worms piling.

Shallots.—Shallots are Syrian bulbs, excellent for pickling or for flavouring purposes, and may be planted in autumn or spring in good light soil, a warm situation being requisite for the first two settings. The after-treatment is analogous with that of the Potato Onion, and differing but little from what is necessary in the culture of ordinary small onions.

Skirret.—An oriental fleshy-rooted perennial, the roots of which are used for boiling and serving like

Salsafy. May be raised from seed, the seedlings being transplanted into a good depth of much enriched soil, allowing a foot to each plant, and watering well in hot weather.

Sorrel.—The leaves of this plant are employed in flavouring soups and in salads and sauce preparations. It will grow readily in any ordinary soil, and is propagated by division, planting in rows in early spring. The leaves are gathered singly for use, and are peculiarly acid to the taste.

Spinach. Spinach needs rich yet light land to grow in to perfection, and a plenitude of moisture. The seed should be sown in drills a foot apart in mid-March, and when the plants can be safely handled they must be thinned out to 4 inches apart. A good place to grow them in is between pea rows. The Round-leaved is a very good summer sort, and the Prickly-seeded spinach will stand the winter if sown in August, where it will come in for winter and early spring use. The leaves should be plucked singly as they grow. The full size, Spinach Diet, or Perpetual Spinach may be grown similarly to spinach. The Lettuce-leaved Spinach furnishes an abundance of succulent foliage for winter cutting, but requires slight protection against frost in hard weather.

Tansy.—Used occasionally for garnishing. Its plumose foliage exhales a very powerful odour. Used to be employed for imparting a peculiar flavour to certain puddings. It will grow in any odd corner.

Tarragon.—Propagated by root division in March and October, and should be grown in a dry and warm spot, in good rich soil. Cut down for kitchen use as winter approaches.

Thyme.—May be raised from April sown seed in good light soil, or increased by root division in spring, planting about 4 inches apart. Lemon thyme is much esteemed for its delicate perfume and delicious flavour.

Tomato.—The Love Apple, a South American fruiting annual, which has now assumed a highly important position as an article of dietary and commerce. Can be grown from seed sown in heat from January to March. The young plants must be pricked off into boxes of rich sandy loam and leaf soil as soon as the seedlings are up. When the second or third leaf appears, into well-drained 4-inch pots, and kept well up to the glass in a cool frame. Two further shifts will be requisite, to 6-inch and 12-inch pots respectively, if the plants are intended to be fruited in the pots, and in these stages of culture they should be gradually exposed more and more to air. They must be kept in a cool frame or cold pit, and when they are in flower, the pots being gently tapped to distribute the pollen for the purpose of fertilisation and assisting the fruit to set. The pots must be very well drained, and a stout stick be placed for training each plant, to in order that the fruits may not drag them down. They may be planted out in a sunny border in May at a distance of 2 feet apart, in which case they may be handled from 4-inch pots in May or early June.

Turnips. Turnips may be had early by sowing *Half Lion* White Forcing in a cool frame in February, or on a warm border in March, and this with judicious thinning, will quickly produce nice usable and delicately flavored roots. The heads must be carefully rubbed and brushed, but cleaned, and the turnips, if of any matter, so that well-rooted manure only should be employed in enrichment with as much charred vegetable rubbish and wood ashes as can be worked in, and after the sowing, a dressing of guano over the seed bed, and a covering of straw, or of manure, if the seed must be covered but very lightly, with fine soil, in shallow drills a foot apart. Thin the plants early to 6 inches asunder, and pull every alternate turnip for early use, leaving the rest to mature. Hoe frequently and water the young turnips occasionally, and if the plants are small, water them more liberally. If possible, and should the turnip flea appear on the beds, dust with lime after rain or when the dew is on the leaves, or a dressing of soot will do good. Early *White Strapleaf* is a very useful turnip, so is the *Purple Top* for forcing, and the *Swedish* for the cellar. *Yellow* and *Yellow Finland* fine for winter use. The *Jersey Navet* is an oblong variety which yields well to

does the Garden Swede. It should be mentioned if it turnip seed be immersed in soft water for a day before sowing germination is expedited.

Waxen-wort.—An indigenous perennial, which will grow anywhere, but is most pungently aromatic when produced on poor dry soil.

FRUIT GROWING.

Apple.—Generally speaking, apple trees require a good loam soil, with a subsoil of clay, though many kinds will grow and fruit well on a calcareous or gravelly subsoil. They should not, as a rule, be planted in low-lying ground or a moist situation, nor yet in a high and exposed position. A good maxim is to select the sorts of apple which do best in any locality for planting thereabout, having regard to the positions available; and counsel from a practical grower with a knowledge of the neighbourhood should be obtained by the novice, not only as to apple trees, but with regard to every description of fruit tree, bush, or plant of any kind, the cultivation of which is contemplated. Those whose available orchard space is limited will do well to go in for apples grafted upon the Paradise or dwarfing stock, which should not be planted nearer than 12 feet apart, while standards of the Free, or Crab stock, must not be placed closer together than double this distance. When the trees are received for planting, any time between November and March, care should be taken that they are not exposed to frost. The ground having been properly prepared according to its condition and the special need of the subject, a hole should be dug sufficiently deep and wide to receive all the roots without any cramping. Do not set too far down, though the soil may be loosed below the bottom root layer; it is better to lay out the roots too near the surface than too deeply. Be guided by the earth mark on the stem indicating how the young tree stood in the nursery. If the land be poor, work in with the planting soil some well-rotted manure. First trim off with a sharp knife all jagged root ends. Stand the tree upright in the hole, spreading out the bottom roots in an even radiation from the stem upon a nice even surface of mould, pressing or treading down firmly. Then put in more soil, holding up to the stem the next range of roots and filling in earth until they will lie horizontally. Extend and press these into position horizontally, and so on until the surface is reached, treading all well down, but avoiding caking.

Apricot.—Apricots flourish in good sound loam, with a chalky admixture, and may be planted in yard-deep holes in a sun-warmed and sheltered position, with a broken brick layer for drainage. Rotten leaves, to the extent of a quarter to three-quarters of the loaming staple, should be mixed well with the planting soil. Stop all leading shoots in pruning, and pinch back such as are not required to properly furnish the wall. Thin thickly-set fruit off partially at once, reserving a final thinning until the fruit has stoned. Protection against severe frost will prevent damage. Hemskirk, Moor Park, Orange, and Breda are recommended for outdoor fruiting.

Blackberry.—Stony banks and other waste places may be profitably utilised for the cultivation of the Blackberry, which will absorb heavy manurial dressings. Root cuttings of the wild British variety can be readily introduced, or a selection should be made from the numerous improved sorts stocked by nursery growers, accepting the advice of the specialist as to the variety best suited to the situation.

Cherry.—Every garden or orchard in which space is available should afford room for a cherry tree or two. A deep rich loam, well drained, over a dry subsoil, suits most sorts admirably. Those grown on walls should have a southerly aspect, and careful training is essential, while for orchards the standard form is best. Cherry trees, especially bush trees, should be autumn pruned, as this goes a long way to prevent objectionable gumming. Elton Heart is a capital white-hearted cherry, while the Biggareens fruit well a little later;

Yam.—The Chinese Yam, a fleshy-rooted perennial climber, throwing up annual stems, possesses thick club-shaped, starchy fleshy roots, not unlike those of the potato in taste after cooking. Pieces of the root may be planted in sandy soil, moderately manured in April.

The old Black Heart and Cluster are satisfactory dark orchard sorts, and for walls Black Eagle and the Morellos answer well, the Kentish variety of the latter being able to accommodate itself to almost any situation.

Currants.—Currants, as bushes, or trained on walls, will grow in any garden, but thrive best in deep, moist, rich soil, and are readily propagated from cuttings of young growing shoots struck under a hand-glass in light sandy soil from October to March. These or young bushes should be planted out in the autumn the second year 5 feet to 2 yards apart. Prune in winter, leaving the leading shoots about 6 inches long, and shortening the bearing wood on the sides of the branches to form spurs an inch or two long. The black currant needs only the weaker branches taking away to leave the robust growth to stand clear. Cut off any shoots on which aphides obtain lodgment, burning them forthwith. Trench in manure, well rotted, autumnally, and remove all suckers from the red and white varieties, encouraging them in the black section. Also cut out old-wooded wood and the leafy growth in the centre of the bushes, aiming at getting them open, with even and regular branching, and umbrella shaped. Good general-use currants are: *Red*, *Lace-leaved*, *Red Dutch*, *Champagne*, *Cherry*; *Black*, *Black Grape*, *Naples*, *Ogden's Black*, *Carter's Black Champion*; *White*, *White Durr*, *Wilmot's Large White*, *White Blanche* (almost amber coloured). Figs need a south wall and a sheltered situation, with firm loam soil, and frequent waterings with liquid manure during the growing period. A chalky subsoil is congenial, and protection against frost is advisable which shows in the late shoots in the spring following from an attempt at ripening, which will occur in the summer should it prove hot and genial. These bearing shoots should be trained at full length to the wall, and cut back to one eye when fruiting is finished. Figs best suited for outdoor culture in this country are *Brown Twikey*, *White Marselles*, and *Brunswick*.

Filberts and Cob Nuts.—Filbert and Cob Nut trees or shrubs make a very good screen in a large garden, and are ornamental in addition to being utilitarian. They will thrive in any ordinary soil which has been well manured, and should be planted in autumn, and pruned in April, which much improves them. Also planted rather closely in a sunny situation, they form capital hedges. The Kentish Cobs and the Red and White Filberts are all free growers. The pendulous catkins which show in early spring so prettily are the male flowers, and should not be shorn away too ruthlessly in pruning, or there will be few nuts on the trees later.

Gooseberry.—Gooseberry bushes like loose rich soil, absorbing but not retaining much moisture. They are propagated by cuttings, and should be planted in early autumn 7 or 8 feet apart, and pruned in January. The ground round the bushes ought to be forked lightly once a year, care being taken not to disturb the roots, and a little liquid manure is beneficial, also a superficial dressing of old horbed stuff. Let the main stem of young gooseberry trees run to a foot high before allowing lateral branches to extend, then prune as you would a red currant bush. If the caterpillar puts in an appearance, hand pick and destroy the pests. Good varieties are: *Red*, *London* (very large and smooth); *Turkey Red* (smooth, late, small, and prolific); *Red Champagne* (hairy). *Monarch* (rich colour, large and hairy). *Yellow*, *High Sheriff* (large and very hairy). *Yellow Champagne* (small, fine-flavoured, late, hairy). *Gipsy Queen* (smooth, large,

hairy, pale-coloured). *Early Sulphur* (smooth, bright and abundant). *White*, Whitewith (downy, splendid flavour, large, hairy, bearded). *Greenish* (creamy white, smooth, large). *White Chagne* (small, sweet, hairy). *Snowdrop* (hairy and prolific). *White Fig* (small, smooth, and will hang till it shrivels). *Greens*, *Green Gascolne* (small, early, and deep coloured). *Shiner* (very large, round, smooth). *Thunder* (hairy, rich-flavoured, large, early). *Heart of Oak* (smooth, oblong, large, yellow-veined).

Grapes, Outdoor.—If suitable vines be planted, in a properly-constructed border, against a high warm house or other wall with a southern aspect, ripe grapes may be secured by careful cultivation out of doors in favourable seasons in this country, and a well-trimmed vine is always very ornamental. The best sorts for this treatment are *Royal Muscadine* (white), the old *White Sweetwater*, *Miller's Burgundy* (purple), *Black Cluster*, and *Chasselas Vibert* (white and sweet). The border may be made on the ground itself, if with an asphaltic or concrete foundation all the better, but the bottom must slope gently down to a drain. Chalk, well rammed, say 4 inches deep, makes a good first layer. Upon this place a thickness of a foot of rubble, rough and free from dust and dirt, with an admixture of large broken bones, calcined or not, but clean. Next a layer of turves, grass-side downwards, and on the top of this, a depth of not less than 3 feet (3 feet will be better) of compost. This should be formed of five parts rich fibrous loam, one part of half-inch bones, and one part old mortar and broken-up bricks, with wood ashes, charcoal, and burnt clay or ballast. All is to be thoroughly mixed and placed on the border dry, being kept in position preferably by an outer wall of firmly-piled reversed turves, dressed smoothly on the front, so as to have the appearance of a shapely bank with a slight slope from the ground level inwards to the upper surface of the border, which should be as wide as possible. When all is nicely settled by a few preliminary waterings, the vines may be planted out in spring time, when the young shoots are started, spring being a good season for the operation, though October will serve. Plant with the stem from 1 to 2 feet away from the wall, spreading the roots carefully about a foot down, to reach to a half-circle outwards. Press the soil firmly upon these, leaving a little depression at the top to facilitate waterings afterwards, which should always when necessary be so administered as not to disturb the border structure. Before planting, each young vine for which there is wall space should have been pruned to have on the one main stem three branches or collars, from each of which in turn a shoot springs. These, by systematic pruning, are worked in successive long rod lengths, one to run horizontally as far as it will on the wall space available, the second half the length, and the third to be pruned and held back for the production of the renewal shoot. The pruning of the rod which has done fruiting duty in the preceding season and the training in of the shoot to succeed it, ought to be accomplished during late February in open weather, before the sap begins to rise. All the young shoots should be neatly nailed to the wall without bruising, in mid-May, when they have attained a length of 3 or 4 feet, pinching off the ends 6 inches beyond the last young bunch. At midsummer the branches may advantageously be gone over again, and all fruitless growth not required for the next season's wood cut away. At any late time should there be too vigorous foliage further judicious stopping and pruning must have attention. The bunches may have the berries thinned out very carefully with grape scissors when this appears desirable, to allow space for their individual expansion. Water in very dry weather, and should the vine-mildew appear on the leaves, like a fine white powder, sulphur dusting must at once be resorted to. (See also *Vine*, *Vadour*.)

Japanese Wineberry. (See *Wineberry*.)
Logan Berry.—A cross between the Blackberry and the raspberry, very pretty for training over wire arches or trellises, and a free grower. The fruit, resembling that of the raspberry, is useful for culinary purposes, and the correct cultivation is similar to that requisite for the raspberry, save as to the training of the long rambling shoots.

Medlar.—A deciduous tree, bearing hard green fruit unfit for eating until "bletted" by keeping two or three weeks after gathering in November, when it is agreeably acid and slightly astringent. Does well in a loamy and moderately moist ground. May be propagated by budding on the quince or whitethorn, and requires rather free pruning. There are several distinct sorts of medlar, the Dutch and the Stoneless being most frequently met with.

Melons.—Melons may be grown readily in hotbeds and frames, made up as for cucumbers. They require a good deep bed of very firm loamy soil over a fermenting manure. Never more than three fruit should be permitted to form on one plant, as all appear at about the same time, and three is enough—select the most promising and central—to tax the nutrition-providing powers of each subject. Let these swell coincidentally, nipping off every superfluous shoot. It will be necessary to keep the air dry in the frame whilst fertilisation of the female flowers is being secured, and this can be accomplished by slightly opening the lights at the back at night. When the fruit is well set and swelling, slip a slate under it, and keep up the heat and moisture in the frame liberally until the first sign of ripening appears, after which aim at securing dryness again. As soon as the stalk looks like separating from the fruit, it is ripe; it should then be cut at once and eaten as soon as possible, or the flavour will deteriorate. A second crop may be induced by allowing new shoots to start from the centre and cutting all away beyond them, remoulding up the bed with fresh soil and giving liquid manure to get the new growth going, and then proceeding as before, save that this time only two melons should be fruited to each root. From setting to ripening occupies about five weeks. Mildew can be kept down by sulphur dusting and cautious increase of air, and it may be necessary to fumigate to disestablish red spider. Fresh-slaked lime round the neck of the plant is often useful in the prevention of damping off. Good seed of scarlet, green, and white fleshed varieties of melons may be had of all nursermen of repute, and should be raised as cucumber seed is.

Mulberry.—A tree of Persian origination and ornamental appearance, bearing richly aromatic and juicy oblong fruit in some favour for dessert. Likes a deep loam, and plenty of moisture and a sunny position; either as a standard or trained to a wall. Propagated from cuttings or by layering the young branches. The fruit of the Black Mulberry is the only kind eaten in Britain; the White Mulberry is utilised in China for silkworm feeding.

Nectarine.—A smooth-skinned variety of the Peach, which see.

Nuts. (See *Filberts*.)

Orange.—Ordinarily when the orange is cultivated in this country it is rather because of the ornamental habit of the plant and the beauty and odoriferousness of its blossom than on account of the fruit, which rarely reaches perfection, with even an expensively appointed and spacious orangery. But with some considerable trouble oranges may be fruited very well in a British hothouse, and some of the handsome Tangerine sorts thoroughly ripened. This is a matter for the possessor of a hothouse, though, who is scarcely expected to seek cultural counsel in these pages. He who was not at command a roomy glass structure to such the temperature is never below fifty on the coldest winter night is wiser off from any attempt at orange-growing. He will never produce fully developed fruit, though, with luck, he may maintain small orange trees in sufficient health to get them into blowing and bearing, and be able to use them for ornamenting a conservatory or a parlour.

Peach.—Peaches and nectarines are nearly related, the former having its delicious fruit downy-skinned, the latter smooth. Both are usually grown grafted upon the plum or almond stock, and trained to walls or wooden trellises when cultivated out of doors, the branches being tacked or nailed to the support until the leaves fall, when they are released to facilitate pruning. Wispes of straw are bound round the ends of the severed branches for protection during the winter, re-nailing and supporting being performed in spring to

assist new growth. When the leaves fall in autumn they should be swept up and burnt, as they generally harbour the germs of various insect life. Peaches and nectarines flourish best in calcareous loam, of good depth, resting upon a gravelly or well-drained subsoil. Four year old trees are those usually sent out by the nurserymen; and the approved pruning method is to cut back the young shoots to two-thirds of the wood grown in the previous year. Bearing only results from wood of the current season. Fruit set too thickly should be thinned when the flowers fall, and again when the leaves have been permitted to remain so far reaches marble size. Rivers's Early York, a large and handsome peach, of splendid flavour, is one of the best varieties for garden growth, while among nectarines Early Rivers's bears fine fruit which ripens out of doors during auspicious weather before the end of July.

Pears.—In selecting young pear trees for planting—whether they be on the free (or wild pear) stock or upon that of the quince—many people like to have them one year from the graft, others those of two or three years' training. Wall pears require branch pruning and training in winter, and the rubbing off of superfluous shoots during summer. Marie Louise and Beurre Hardy are grand wall sorts, while for standard, pyramidal, or bush growth, Pitmaston Duchess, Targonelle, Williams's Bon Chretien, Doyenne du Comice, and Louise Bonne de Jersey are all choice fruiters. The Black Worcester is a fine culinary pear.

Plum.—Plums succeed best on loamy soil, with gravel or light clay at a good depth below; but there must be good drainage. They are grown bush form, as standards or half-standards, and as wall trees. They are supplied by the raisers on numerous stocks, and after planting, on the principle explained in dealing with apples, plum trees do not require much pruning, as over-free use of the knife sets their resinous, juicy "bleeding." Root-pruning is useful to check rank growth in the plum orchard, and young shoots forming too freely on bush and wall plants should be promptly pinched off, to let in the light and air to the wood which will be productive, and root suckers should be removed assiduously every autumn, or they will quickly prove exhaustive to trees and land alike. It is advisable to afford support to pendulous branches when laden with fruit, as plum wood is peculiarly brittle. Very good plums to grow are:—Early Orleans (a fine wall sort), Victoria (dessert or cooking), Golden Gage (dessert), Washington (hardy Gage), Monarch (dessert), Pond's Seedling (culinary), and Wyndale (very late cooking). Mirabelle, or cherry plums, bloom very early, and require shelter and a warm aspect. They are long stalked, red and yellow in colour. White Magnum Bonum is a choice plum, and so is Rivers's and Early Apricot. Of the damsons, Kentish Cluster, Prune, and Blue Prolific are recommended.

Quince.—Largely employed as a dwarfing stock for certain kinds of pears, but sometimes cultivated for its powerfully odoriferous and astringent fruit, which makes good marmalade. May be propagated from cuttings, and treated as an orchard-tree. The Portugal Quince produces the finest and largest fruit.

Raspberry.—Raspberry plantations are best started in the autumn, and, properly attended to thereafter, they will continue to bear abundantly for years. The ground should be prepared by deep digging, and heavy manuring. Many growers prefer row-planting, allowing about a yard between the rows. Plant firmly, obtaining strong canes, with a plentitude of fibrous roots, and shorten to a uniform height. The weaker suckers should be excised in June, leaving about half a dozen canes to each plant. The ground round the plants or bushes should not be disturbed with the fork after they are once established, but a good dressing of rotten manure may be given annually. Autumn-bearing Raspberries should be kept rather thin. October Yellow is a very fine late sort; Glenfield is quite black; the Red and Yellow Antwerp, White Magnum Bonum and Carter's Prolific are all held in high esteem, and Superlative is worthy of its name, as it is certainly one of the very best.

Strawberry.—Strawberries must be cultivated in a deeply-dug and highly enriched porous soil, sufficiently drained. Dark yellow loam, not at all sticky, and thoroughly worked well before planting time in August, will give a good result. Plant the rooted runners from the nursery bed in rows 3 feet apart, allowing a foot between each plant. Bring them in the trowel singly, with a good ball, disturbing as little as possible in the operation, press down and round firmly, and water occasionally until new growth is evident. In the spring a good top-dressing of loam is helpful, and a few days later a mulching of long litter worked under the leaves will conserve moisture and keep the fruit clean when it comes to develop. Strawberry plants should never be permitted to get at all dry at the roots, and plantations must be renewed not less seldom than every third year. The old leaves may be advantageously cut away after fruit gathering, a mulching of short well-rotted manure being applied at the same time. Only a sufficiency of runners must be allowed to start off from the rows to serve for new plant material, and the secondary runners of these should be chopped away and destroyed. It is bad policy to replant the layered runners, after their individual development elsewhere, in the parent-bed when renewal time comes. Then a thorough re-trenching and re-making of the beds should take place, importing plants from a distance, placing out your own raised runners in quite a fresh situation. Change of ground is good for strawberries. Royal Sovereign, Sir Joseph Paxton, Vicountesse Hericart de Thury, and British Queen, are amongst the best early fruiting sorts; while for successional yield Frogmore Late Pine, Waterloo, Lord Suffield, and Wonderfil, are all admirable.

Vines (Indoor).—To grow grapes thoroughly well and with certainty in this country it is necessary to have a suitable glass structure, and provision for keeping under a proper temperature therein, either by an efficient system of hot water apparatus or by well-constructed flue, circulating warmed air through the house, such air being heated at an outside furnace of proper dimensions and receiving regular attention. Theinery may be small or capacious, according to its owner's means or desiring, but it should be well built, well placed, and well looked after. The border from which the vine or vines receive nutriment ought to be partly internal and partly external, and its arrangement internally should form a supplementation of what has been advised for outdoor grape culture, continuing well over the floor of the structure, and in communication with the outside border made as directed. Planting of the vines may proceed internally as was indicated to be good practice outside, sufficiently large apertures in the brickwork supporting the frame of the house having been left purposely for the roots to run through. Training of branching shoots of the indoor vines will be up the sides and beneath the glazed top of the house, instead of upon an external wall, the most important difference being that short rod or spur pruning will be permissible alternatives in after treatment. Indoor vine borders will require frequent watering with tepid water, and forcing must, when necessary, be managed with circumspection, fire heat being supplied gently at first, and gradually wrought up to the requisite maximum, as much ventilation being afforded as a general rule as the weather will permit.

Walnut.—The walnut tree luxuriates in a deep sandy or calcareous loam, freely exposed to light and air. It is usually raised from seed, and is improved by cutting off straggling growth in autumn, saying—"a woman, a dog, and a walnut tree, the more you thrash them, the better they be"—is most misleading. It is essential that as little injury as possible should be inflicted when walnuts are gathered, fruit being borne at the extremities of the preceding season's shoots. Highflyer is accounted the best of the cultivated varieties.

Winberry (Japanese).—Liking a sunny spot, this delicious fruit, of intermediate flavour between that of the blackberry and the raspberry, is borne in August on the suckers of the previous season's growth.

PEARS' DICTIONARY
OF POULTRY.



EDITED BY

C. A. HOUSE.

*Editor of "The Poultry World," and author of "The Fantail Pigeon,"
"House's Canary Manual," &c.*

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Pears' Dictionary of Poultry, Pigeons, and Cage Birds

Edited by C. A. HOUSE

Editor of "The Poultry World," Author of "Amateur Poultry Keeping," "Bantams, and All About Them," "Pigeons, and All About Them," "House's Canary Manual," "Cats, Show and Pet," "Cavies: Their Varieties, Breeding, and Management."

INTRODUCTION.

In a previous edition of this CYCLOPÆDIA we spoke of the increased attention that was being given to the subject of poultry-keeping by British farmers and cottagers. That increase has been well maintained. Wonderful, indeed, has been the advance made in the breeding of high-class pure breeds of poultry, and astonishing have been the achievements of poultry-fanciers in the perfecting of the show points, not only of the old and strongly established breeds, but also of new ones as well. Some writers decry the poultry-fancier. The poultry-fancier is the man who has done more than any other to raise the status of poultry-keeping in the British Isles. If it were not for the poultry-fancier, whose one aim is to keep perfection and purity of breed to the front, the poultry of the country would soon degenerate into a worthless lot of mongrels. It is only by keeping our breeds pure that advance can be made in the utilitarian properties of egg-production and poultry meat. Another benefit which the poultry-fancier confers on his country comes through the educational value of poultry shows, which, generally speaking, are run entirely by poultry-fanciers. A man may read about the millions of pounds which we send out of the country each year for table poultry and eggs, and in the usual fireside manner will shrug his shoulders and think what fools British breeders are not to produce more eggs and poultry themselves. That is about the extent to which you will rouse the average Britisher in cold print; but take him to a poultry show, interest him in the beautiful colouring and feathering of the Plymouth Rocks, the Wyandottes, the Leghorns, and Minorcas, and his fireside interest departs. In its place comes a vigorous, wholesome enthusiasm. He asks questions as to egg-laying qualities of the different breeds, the fineness of their flesh, their adaptability to confinement. He then goes on to wonder if in his little suburban garden it would be possible for him to put up a house and run suitable for half-a-dozen, or maybe a dozen, hens, just to supply himself and family with the maternal "new-laid eggs for breakfast." For the largely increased interest in poultry-breeding, thanks are due, as we have said, to the numerous poultry shows which are held in different parts of the country, and to the other numerous educational agencies which have been at work during recent years.

The most revolutionary incident in connection with poultry-keeping has been the introduction in recent years of what is known as "The Intensive System of Poultry-Keeping." By the adoption of this system it is possible for any town-dweller who has a small yard behind his dwelling-house to indulge in the hitherto altogether impossible pleasure of poultry-keeping. This system, as yet, is quite in its infancy, but it is being taken up with the greatest enthusiasm, not only by townsmen, but also by country people too. In fact, one gentleman has 3,000 hens being kept under the Intensive System. Briefly, we may say that this system is the keeping of large numbers of fowls in very confined space, with no out-door run, but with an upper and lower chamber to the poultry-house. Special feeding is resorted to, but the great secret of success, so far as the Intensive System is concerned, is the admission of plenty of fresh air into the house, the constant attention to cleanliness, and the keeping of the hens always on the scratch. We have not space here to go more fully into details, but those wishful to pursue the matter further may obtain at the small cost of sixpence a most excellent little booklet by Mr. W. Powell-Owen; its title is, "The Intensive System of Poultry-Keeping," and in its pages are given illustrations of intensive house, boxes for growing green food by the process known as sprouting oats, chicken-rearing flats, and the other chief appliances. The Intensive system is quite a new thing,

it is therefore too early to speak of results, but one is bound to confess that it gives evidence of completely revolutionising poultry-keeping in this country.

We hear from time to time some sad stories of the experiences of those who have sought to supplement their incomes, or to obtain their whole livelihood by poultry-keeping. But from these we must not draw the moral that poultry-keeping will not pay. Poultry-keeping is a business, and, like any other business, it needs to be conducted upon businesslike lines. Any misdirected business comes to a smash, whether it be the breeding of poultry or the working of a diamond mine. Those who desire to indulge in poultry-keeping should first of all learn the rudiments of the art on a small scale before they launch out into wider fields. In other words, no one should enter into poultry-keeping on a large scale until he has first of all tried his "practise hand" on a few birds. Practical knowledge and experience may be gained from a small stud, and once the elementary principles have been mastered, the student can then enlarge his borders; but the novice who would be successful should commence in a small way, and then go on to higher things. At first there will not be much profit, but as experience is gained so the profits will increase. If proper care and attention are given to the work there will be no loss either in the early stages or in the later and more extended form. Failures in ninety-nine cases out of every hundred are traceable to the adoption of wrong methods or to neglect.

With these preliminary remarks we may now proceed to set forth in dictionary form the various things which it is useful for the poultry-keeper to know. Our information is gathered from recent practical experience, and should enable those who study it to follow the pursuit with a reasonable chance of success. It is best not to expect too much to begin with, otherwise disappointment may follow.

In the following sections the various breeds of poultry, including the bantam varieties, are first enumerated, and their points, peculiarities, and economic value briefly noted; following which comes a mass of closely-digested matter, as to poultry-rearing and treatment and the appliances requisite to success in the keeping of fowls.

Ducks, both utilitarian and ornamental, are then dealt with similarly, and, in order thereafter, attention is given in a like manner to geese, swans, turkeys, guinea- and pea-fowls. To make this Dictionary as complete a Bird-Fanciers' Guide as is consistent with conciseness, pigeons are briefly noticed before passing to the consideration of the avian pets of the household.

The Cage Bird section at the close will be found to comprise practical details concerning the different kinds of domestic favourites, foreign as well as British, and their management in health and ailment; with notes on the breeding and rearing of canaries, and all the rest of the birds usually met with in confinement, on the stocking of aviaries, and the selection of cages, besides much other helpful information proper to the subject.

BREEDS OF POULTRY:

Their Points, Peculiarities, and Value.

Akbions are the result of a cross between two Sussex breeds; are of white plumage, and make good table birds. In recent years they have been given the name of white Orpingtons, and are to-day one of the most popular breeds known. They are good layers of large brown eggs.

Anconas are small, active fowls and non-sitters. They are probably the result of a cross between Black and White Minorcas, and the first specimens were brought from Ancona to Britain about 1884. They are of mottled black and white plumage and yellow legs with black spots; single combs; good layers of white eggs in summer, but not remarkable for table qualities.

Andalusians are a beautiful Spanish variety of slate-blue brown colour, with very beautiful dark edging or lacing to the feathers, and much resemble Minorcas in form. They are good layers of white eggs; but are faulty breeders, not more than half the chickens hatched being of the true markings, even when the eggs are from prize birds.

Asseels are small, heavily-built birds of the best Indian Game type, and they are very pugnacious. They are only moderate layers, being chiefly kept for show purposes.

Bakie, a local name for the Dumpy breed so popular in parts of Scotland.

Bantams are kept more for pleasure than profit as a rule, but there are many beautiful varieties, both in the game and other sections. They are the result of carefully selected small "sports" of the larger varieties, fresh in reality, encouraged into perpetuation by fanciers, especially in Japan. Thus we have Black Rose-comb Bantams, the Black Hamburg in dimin-

utive; and the Game varieties are also dwarfs of their fully-sized progenitors; the Old English Game Bantam is one of the most popular of these dwarfs; White Rose-combs, hooted (mainly white, though blacks have been shown), Plymouth Rock, Scotch Grey, Silver-spangled Hamburg, Partridge and Silver-pencilled Wyandottes, Brahmas, Leghorns, Minorcas, Anconas, Andalusians, Japanese, Nankin, Frizzles, Cochins, formerly known as Pekins, and Sebright Bantams, the latter with their pretty lacing on the beautiful gold and silver ground colours. All have their admirers and exhibitors.

Bolton Greys, a Lancashire local name for a variety of the Silver-pencilled Hamburg.

Brassals are a Belgian breed; practically the same as Campines, but generally rather larger in body, and coarser in its markings. Not a good table bird, but a prolific layer.

Brahmas are a fine Indian breed which attain a good size, but have fallen off considerably in recent years in point of quality. They are large, of erect bearing, and heavily feathered. There are two varieties, light and dark, the light variety being the best. The eggs are large and brown. They consume much food, and are frequent sitters.

Bredas are a French breed of fowl, sometimes styled Guelldres, not much favoured in Britain, slightly crested, large wattled, and resembling the Polish variety in general characteristics.

Brown Leghorns. (See Leghorns.)

Brown Game. (See Game.)

Buttercups, Sicilian. (See Sicilian Buttercups.)

Campeans are a Belgian breed, small, active, non-sitters; they have barred plumage, single combs, and slate-blue legs; are good layers, and useful when young for table purposes. There are two varieties—Silver and Gold, the former being most in favour.

Chittagong, an Indian fowl, large in size, of the Brahma class.

Chittiprat, a Yorkshire local alternative name for the silver-pencilled Hamburg.

Cochins. These are well-known members of the fancy variety come from China; large, bulky, of low carriage, pronounced cushion, and heavily feathered. There are five varieties—buff, partridge, cuckoo, white, and black. Buff Cochins are the most popular. They are neither good table birds nor good layers, but produce a fair number of eggs in winter, and of large size. They are good eaters, and are mostly kept for show.

Columbian, a black fowl, a cross between the Malay and Spanish, very hardy, glossy plumaged, and a layer of enormous eggs, now rarely heard of.

Coucou de Mailles are a Belgian variety of not much value except for the table.

Courtes-Pattes, a short-legged, bearded French breed; good all-round fowl, but seldom seen in England.

Crecals, or **Creolans**, a name sometimes given in America to the Silver-pencilled or Silver-spangled Hamburg.

Creve-Coeurs are a black-plumaged French breed, very popular in its own country, but not over well suited to our climate. They have a two-horned comb and large crest. Good layers and table fowls.

Danvers White, an American breed formed by crossing White Dorkings with Buff Cochins; a good fowl for laying and hardiness, but superseded by the White Leghorn.

Dominiques, one of the oldest American breeds, cuckoo marked, rose-combed, four-toed, yellow-legged, hardy, excellent layers, good table-birds.

Dorkings are the oldest English breed; square-bodied and deep-breasted; most valuable for table purposes, but not very good layers. Much used for crossing with game to produce table-birds. There are four generally recognised varieties—dark, silver-grey, white, and cuckoo—and several other little-known types, such as the red. The usual weight of a cock is from 7 to 11 pounds, and the flesh of these birds is of excellent quality. The eggs average over two ounces.

Duckwing, a class of game fowl, in two distinct varieties, yellow or golden, and silver-hackled; both are beautiful, and possess all the good table-points of the game breed generally. There are also Duckwing Leghorns.

Du Mans are a black, rose-combed, French breed, almost entirely bred for utility.

Dumplings are sometimes called *Go-laighs* or *Bakles*, and are much in favour in Scotland; they have large square bodies and very short legs; the colouring varies. Both good layers and table birds.

Faverolles are a modern French variety at present in great favour. There are two varieties—salmon and ermine, the former being most generally met with in this country. It is a first-class table breed. Its great claim to recognition is the early maturity of the chicken.

Friszles come from Eastern Asia, and are remarkable for the peculiar backward curl of their feathers. Their plumage is commonly white, but there are also brown and black specimens. They are only moderate layers.

Game Fowls are usually poor layers, but capital sitters, and the hen make good mothers. Splendid table birds, their chief objection is their incorrigible pugnacity, which hardly seems to have abated since the cruel old cock-fighting times. The old English game fowls are largely used for crossing with other breeds, and the Game-Dorking hybrid is about the best early-developing table-bird we have. The leading varieties of Old-English Game Fowl are the black-red, brown-red, pie, duckwing, black, white, henry, birchen-yellow, and ginger-red. The modern Game Fowl is of little use, except from an exhibition standpoint.

Gondook, a handsome variety of the Rumpless fowl, black and upright, very lively and iridescent of plumage, very rarely met with.

Hamburghs. There are five principal varieties—black, silver, and gold pencilled, and silver and gold spangled. They have a large rose-comb with long and pointed spike, and large, round white lobes; the legs are a dark slate blue, except in the black, which should be darker, approaching black; they are non-sitters, and fairly popular for show purposes. They are more appreciated for their beauty and activity than for their other qualities, although they are good layers of white eggs. Cuckoo and White Hamburghs are both occasionally met with.

Hanny Game are a variety in which the cock-birds have straight tails and plumage like the females, and have been bred true for many years in Cumberland, Westmorland, Devonshire, and Cornwall. The hatched strain of Sebright Bantams is founded upon this peculiar variety of fowl.

Houdans are a popular and precocious French variety, with heavy crest and bib and curious leaf-shaped comb; plumage similar to the Ancona; a good layer of white eggs, and a very useful table-bird; makes a very good cross with Game or with Orpingtons; not very popular for show. The economic merits of this fowl are very great.

Indian Game, a huge-boned member of the Asiatic Game family; very heavy, fair layers of buff eggs, most useful for crossing with Dorkings, Orpingtons, and Faverolles to produce table-chickens. Good sitters and excellent nurses. Popular for show.

Japanese Bantams are pompous looking little white birds, with straight black tails, laced with white, and very short yellow legs. Some varieties have been exhibited in speckled and cuckoo colouring.

Japanese Long Tail. A bird somewhat like the old English game fowl, save in the peculiar respect of the tail of the male, which sometimes reaches a yard or more in length. They are somewhat delicate, and quite unfitted for an English utility poultry yard. (See *Yokohamas*.)

Javas are an American production; large, good layers of coloured eggs, and a nice table-fowl; three varieties: black, white, and mottled; little known in England, but worthy of attention.

Jersey Blues. American, Plymouth Rock shape, and Andalusian shaped plumage; not of much merit.

Jungle Fowl. The wild poultry of the Orient, supposed by many to be the originator of all the modern domesticated breeds.

Klondyke. An American mongrel production, with much Silkie blood; white; has been shown in England, but gained little or no favour.

La Bresse. A French breed of the highest table quality. Two varieties, grey and black; good layers, but rarely sit.

La Fleche. A black French breed, with two-horned comb, but no crest, famous as a table bird, remarkable for fineness of flesh, good layers, but seldom sit.

Lakenfelders are a comparatively recent importation of Dutch or German origin, with white body and black hackle and tail; very small, good layers of white eggs; enjoy fair popularity; but are very wild and rather delicate.

Lancashire Mooney. Local name for the Hamburg fowl.

Langshans. Originally came from a district in China on the Yangtze-Kiang, and have proved a very valuable breed. They have brilliant black plumage; are very good layers of rather small, dark-coloured eggs, and are of capital table quality; the original type had moderate length of limb and big body, but birds bred for show nowadays are much taller. A strong effort is now being made to popularise the original type.

Leghorns. A rather small, non-sitting, active, Italian breed; very good layers of large white eggs; heavy combs and large white lobes; several varieties—white, brown, buff, blue, black, pile, golden duckwing, silver duckwing, and cuckoo; most of these enjoy considerable popularity for show. As layers they are

generally unsurpassed and are hardy, useful birds, though not specially good for the table.

Le Mans. A small-crested, French fowl, of the *Crève Cœur*, or "split-heart" comb genus.

Lincolnshire Buffs are a local breed of poultry, large and fine-breasted, overshadowed of late years by the Orpington class, which possess the best table qualities of the older variety, besides being better layers as a rule.

Malays. A big-limbed variety of the Asiatic Game family, bred mainly for show purposes.

Manchester. Alternative name for the Rose-comb Blues.

Minorcas are one of the best breed of domestic poultry. Medium sized and of Spanish origin; large single combs and white lobes—very good layers of large white eggs; highly recommended for sheltered runs; very popular for show; white and black, non-sitters. Not of much use as table birds.

Modern Game. Very tall, evolved from the Old English Game, and bred solely for show; very popular, several varieties—black-red, brown-red, pile, duck-wing, birchen, white, black, etc. (See also **Game Fowls**.)

Mooney. A Lancashire name for the Hamburg; the Golden Mooney and Silver Mooney are the yellow and white varieties respectively.

Naked Necks. Curious variety of Transylvanian origin, with necks devoid of feathers; several colours.

Nankin Bantams. One of our oldest breeds, and seldom seen now; they are of a cinnamon hue in colour, and are believed to have been the foundation of many other varieties, especially Sebrights and Game.

Negro Fowl. The Silkie is sometimes so styled because of their very dark skins.

Old English Game. The original type of English fighting game; shapely and handsome; fine framed for table, and very valuable for crossing; still very popular for show; several varieties, black-red, brown-red, spangled blue, blue-red, birchen, brassy-back, black, Furness, tassled, crele, henny, etc., with variations in the females.

Orloffs. A Russian breed; large, very big heads, with beards and muffs, useful for general purposes.

Orpingtons. An English composite breed, and one of the most popular of the day, originated by Mr. William Cook, of Orpington. Lay well in winter, and are very valuable birds, of great size and cobby shape; very hardy, and good layers of brown eggs; capital table birds; highly recommended. Several varieties—black, buff, white, Jubilee (a tri-coloured variety), and spangled. There are both single and rose-combed Orpingtons, and the former are favourite exhibition birds.

Passebecken. A German breed, little known in England.

Pavlov. Russian, believed to be the original of the Polish breed; little known.

Pheasant. A Yorkshire local alternative name for the Hamburg breed of poultry.

Phoenix. A name given at times to a variety of the Japanese long-tailed fowl.

Plymouth Rocks. A splendid American composite variety; large, tall, handsome, rich orange-yellow legs, and moderate single comb; splendid layers of brown eggs summer and winter; mature early; are capital sitters and mothers; good table birds, but yellow skin; very popular for show. Four varieties—barred, white, buff, and black. The latter, thus far, have not been very popular, but are now being brought very prominently to the front, and are proving themselves most valuable as a general all-round fowl. A Rose-combed variety has in recent years made its appearance, but has not been popularly received.

Polish. A very handsome crested breed, of Continental origin; very popular in France and Holland; good layers and hardy if they can be kept from wet; non-sitters as a rule; chickens rather delicate; several varieties—white, silver, gold, white-crested black, buff-laced or chamois, blue-laced, etc.; has curious formation of skull.

Ramelslohers. German breed, useful for general purposes. Bred little in England.

Redcaps. An English breed of the Hamburg type, but with very heavy rose-comb, found in Derbyshire and Yorkshire; capital layers of large eggs, winter and summer; pullets soon begin to lay; plumage gold spangled with black.

Rhode Island Reds. American, large, long, deep bodies, rich chestnut-red colour; valuable all-round breed; yellow legs; rose and single combs.

Rosecomb Blues. An English type of laying fowls; very large. Good layers; met with in Lancashire.

Rumpless. Are a curious breed without rump and tail formation. They are of several colours; met with in several parts of the world, and may be attributed to a freak of Nature; occasionally exhibited. Not a very useful bird.

Scots Greys. A Scottish variety; barred plumage like a Plymouth Rock, but white legs spotted with black; good layers and table birds. A fine all-round fowl.

Sebright Bantams. Handsome little birds, the type of which was founded by the late Sir John Sebright, by first crossing between Polish and Nankin Bantams, to get the lacing of the former and the smallness of the latter, and then with a dwarf of the "henry" game species, to obtain the "henry" hackles and tail of that fowl. Thus the Sebright type was secured, and there are gold and silver sorts, both rose-combed.

Shawwoods. A large, white American breed not common in England, slightly feathered yellow legs, good layers and table birds; lay large brown eggs. Highly spoken of.

Silkies are supposed to come from Japan; very small, with white, silky plumage and curious mulberry combs and slightly feathered legs; popular for show, especially among ladies; most useful as sitters and mothers for Bantam chickens or pheasants. Skin very dark. Hardy, and lay cream-coloured eggs.

Silician Buttercups. An old Italian breed "Uccello di Joire" (flower bird), or "Longhi Sicilian," meaning Sicilian spout. Introduced into America about sixty years ago, but for the last twenty years seem to have disappeared. Interest in them was revived in 1911, and a club formed. English breeders became interested, and in 1913 birds were introduced into England. They are essentially utility birds, being exceptionally good layers. In shape they take after the other Italian breeds, such as Leghorns, Andalusians, Minorcas, and Anconas. In colour the cocks are somewhat similar to Rhode Island Reds, but not quite so dark. A rich bright red is what is required. The hens should be a rich deep golden buff, mottled with black. The legs should be willow-green. The name comes from the comb, which is altogether different from any other known breed of poultry. It is cup-shaped, with a row of spikes round the cup.

Silky Cochins, sometimes styled "Emu" fowls, are a rare variety, in which the webs of the feeters have no adhesion.

Spanish, similar to Minorcas, mostly black-plumaged, with large white hanging-facets; once very popular for show, but now only occasionally seen; good layers of large eggs. Like Minorcas again, there are white varieties of Spanish, but they are very uncommon.

Sultans.—Very beautiful small white breed from Turkey; large crests and bills, flowing tails, and heavily feathered legs and feet; not very popular, because of the difficulty of keeping them in good plumage. Good layers of large white eggs; small eaters and non-sitters.

Sumatra Game. A sprightly black variety of the Eastern Game family; capital layer of white eggs, now becoming popular in England.

Surrey Fowls, so famous for their fine table quality, are chiefly identifiable with the Dorking breed, or are crosses of that fine bird and some other variety. They are grown on rapidly as chickens, and then fattened for market by "cranning."

Sussex. A type of utility fowl largely bred in Sussex for producing table chickens. In recent years

have become very popular as show birds. Four varieties, red, speckled, light and brown.

Wyandottes. A splendid and comparatively new American composite breed; shape something like a Brahma, but do not carry so much body feather, and are clean legged; they have rose combs and yellow legs; many varieties—silver-laced, gold-laced, white partridge, buff silver-pencilled, buff-laced, blue-laced,

black, cuckoo, and Columbian. Splendid hardy winter layers; good table-fowl; has high economic merits; highly recommended and very popular both as utility and exhibition; are good setters and most careful mothers.

Yokohamas are fine long-tailed birds from Japan; rather rare; good layers. (See *Japanese Long-tails*.)

POULTRY MANAGEMENT IN HEALTH AND DISEASE.

Accommodation.—The numbers and character of the fowls kept should be suited to the accommodation, as to runs and housing, which can be provided for them. Overcrowding will lead inevitably to fouling of the ground, disease in the birds, and disastrous failure. (See *Houses, Runs, etc.*)

Ale is sometimes mixed in the meal, of which the soft food for fowls is formed, to give the birds extra brightness and spirit, but the practice is not one to be recommended, save as a restorative expedient, and then there are many things more suitable than beer for the purpose.

Appliances for poultry-keeping need never be elaborate, provided they are always practicable and utilitarian. Plain and home-made fittings for runs and fowl-houses nearly always answer as well, if contrived with ordinary ingenuity, from the materials convenient to hand, as costly appliances from the hardware manufacturers and poultry-appliance dealers whose multitudinous utensils and superfluities are on view at shows and stores. (See *Water Troughs, Winter Management, Coops, Incubating, etc.*)

Bantam Keeping, save for the sale of choice exhibition stock, is not a hobby pursued for profit's sake. The midget fowls are much more ornamental than utilitarian, but they are engaging in their habits, and give delight to the children of the family and often to the grown folks too, especially those of the gentler sex. Bantams require little house room, and cost little to keep; but most sorts can fly high and easily, so that it is prudent to keep their runs wired over or covered somehow. Their eggs should be hatched by themselves or little fowls like Silkies, and selected small corn should be fed to them with canary and other bird seed, milk-sops, boiled rice, rolled in dry meal, and cut-up kitchen scraps. Shape and feathering being correct in the many varieties of Bantams, smallness is the thing to achieve, therefore breeding should be from the most diminutive stock. Save for the adaptation of all things to size, no variation need be made in the general treatment of bantams from that which is requisite for larger breeds of poultry.

Barredorps. Fowls are hapiazard mongrels, hardy but not profitable, that is to say, not so profitable as those upon the selection of which a little trouble has been expended. They eat as much as the more reliable and purely bred or carefully crossed birds, and therefore their keeping is not to be recommended.

Black Breeds of fowls are well suited for town fanciers, because their plumage is not susceptible to damage by the grime of an urban atmosphere. Here the Minorcas, Leghorns, Crève-Cœur, and Spanish come in, also the Orpingtons of ebony shade; the Langshan is good, too, save for the circumstance that its feathered feet are apt to get clogged and shabby-looking in a limited run range. And all the black breeds almost lay very large white eggs, and endure close confinement well if properly attended to.

Bonedust is a valuable help to the securing of stamina in fowls inclined to leg-weakness. It should be ground from clean dry bones to the consistency of oatmeal, and mixed with the soft meal.

Breeds, Selection of. If number and size of eggs are the main objective of the poultry-keeper, the Mediterranean fowls have no superior, that is to say, those breeds which originated in South European

countries and the varieties obtained by crossing them, the leading sorts are the Spanish, Minorcas, Andalusians, and Leghorns, all long and clean of leg, prolific egg-producers, and comparatively poor table-birds. Other good layers are the Hamburgs, Houdans, Langshans, Wyandottes, Plymouth Rocks, Orpingtons, Game, Brahmas, Cochins, La Flèches, and Polish. Quality of meat is found at its best in the Dorking, Game, La Flèche, Crève Cœur, Wyandotte, Orpington, Brahma, Houdan, Polish, and Langshan. Size and weight are afforded in the Dorking, Langshan, Plymouth Rock, Orpington, Crève Cœur, Malay, La Flèche, Cochins, and Brahma breeds; the two latter, however, expend a great deal of their food energy upon feather-production. If hardness be a chief requisite, all things considered, Leghorns perhaps come first; and in order thereafter Houdans, Wyandottes, Orpingtons, Brahmas, Langshans, Cochins, Minorcas, and Andalusians. For sitting and nothering purposes combined, the approved order in pure breeds may be thus given:—Dorking, Game, Dummies, Silkies, Brahmas, and Cochins. For all-round purposes, Langshans, Orpingtons, Brahmas, Houdans, and Plymouth Rocks are good; and so are well-selected crosses such as the Langshan-Minorca. If brown-shelled eggs are desired, Cochins, Brahmas, Orpingtons, and Wyandottes are well in the running. (See also *Cross-Bred Fowls and Table Poultry*.)

Broody Hens signify their desire to engage in the natural business of *nidification* by going "on the cluck." Should this be the time when the fowl-keeper desires to commence a sitting all well and good. Give the birds their complement of eggs in proper nest boxes, placed in a retired position; the hens will do the rest. But if you don't want them to sit, don't drive them about, or put them barbarously into water, or try to starve them to your way of thinking. Get a small coop with a barred bottom and front; stand it on four bricks in a sunny corner. Place the bird in it in full sight of other fowls and feed it well for three or four days. Unable to sit down comfortably it will soon get over its broodiness, and become lively on being restored to liberty, and commence laying again shortly. But every hen of sitting propensity should be penned to nest now and again, if only for the rest it gives the birds; forcing egg-production and interfering with the laws of Nature too much is harmful.

Buying Fowls is an important matter to the small fancier. He should only buy what he really wants and at the time best suited to his own convenience. These matters having been settled, let him, if possible, go, money in pocket, to the stockyard of a breeder, make his own selection, pay a fair price for the birds he buys, and get them home to the accommodation he has previously provided. Or by watching the advertisements in the poultry papers of the reputable raisers, and communicating with them by letter, he can always get his wants satisfactorily supplied in these competitive days. But he should sedulously avoid unknown advertisers, who purport to be underselling the regular breeders. That way grindling lies. The same caution applies to the purchase of egg settings: go always where there is acknowledged reputation at stake if you want to save yourself loss and vexation, remembering that the best is the cheapest in the long run.

Carriage of Eggs.—Eggs for transit by post or

all should be sent in light strong boxes. Specially made boxes are readily procurable, with stiff card partitions, but any box of suitable size and rigidity will serve. A good plan is to put an inch of bran at the bottom, wrap each egg loosely in soft paper, place them about an inch apart and an inch from the box sides, filling in all round and covering with bran; then lay a soft sheet of paper down gently before screwing or cording on the lid, as the jarring of driving nails is sure to do damage. Mark the box "EGGS," guard against avoidable delay on journey.

Castor Oil used frequently to be given as a purgative to fowls, but the late Mr. Lewis Wright, a great authority on the subject, who put the matter thoroughly to the test, pronounced strongly against its use in the poultry yard; salts or jalap he recommended as aperients in preference where necessary, with the advantage of being followed by no after ill effects.

Chicken Rearing.—For the first day newly-hatched chickens need no food. After twenty-four hours, having first fed the old hen to keep her from gobbling up the delicacies intended for the chicks, give them some chopped hard-boiled egg mixed with crumbs or meal moistened in milk but not made at all pappy, putting mother and progeny under a coop, with a covered clipped grass run in front of it if possible, crumbling the food down on to a board in front of the coop bars, and continuing the feeding just as long as the little ones will peck it up with avidity. After a few days, instead of milk for damping the soft food water will serve, and a few scraps of well-chopped cooked meat will be very helpful, while there must always be finely-cut green food as well, if plenty of fresh grass is not obtainable. Also clean fresh water so placed, that the chicks cannot get their feet into it. Little and very often is the motto for successful chicken-feeding. At the end of a week give one of the many chicken meals which are on the market alternately with the mixture of various small grains known as "Dry Chick Feed." There are many firms supplying such mixtures. This may be continued for months. After this dry feeding only unless the birds are intended for flesh, then continue the mixed diet of soft and dry food. When the dry feeding has become the staple there must be plenty of sharp, small grit about to help the working of the gizzard. Let the chicks run and scratch with the old hen till they are six weeks to two months old. The roosting places provided for them must be quite free from draughts and damp, the worst enemies of chickenhood. They should be on clean straw or dry moss peat till they can perch properly, or their breast bones may become crooked. So soon as the cockerels commence to crow they should be taken away from the pullets, and if the young gentlemen become over-pugnacious, as they sometimes will, it is time to separate them. At six months old, a little extra meat may be fed to the pullets with an occasional mixing of stimulant spice in the meal, to bring on laying. Bone meal may be introduced also twice a week into the soft food for both cockerels and pullets advantageously to assist the upbuilding of their frames; and coops and fowls should be kept clean with disinfectant and insecticide, a little sulphur being rubbed under the wings of the chicks and about the head, neck, thighs, and rump, to keep the lice and fleas away.

Chilled Hens, so rendered by the vagrancy of the sitting hen, a misfortune to which they are liable if the absence of the sitters is more extended than half an hour, or even less in very cold weather, can often be put to rights by immersion in water warmed to one hundred and five degrees or a little over, being kept there until the errant hen has manifested readiness to resume her place on the nest, or some substitute has been secured. Many an unhatched chicken's life has thus been saved.

Cleanliness is absolutely necessary to success in poultry management. The fowl-house need not be ornate, but it must always be sweet and clean, the run dry and free from excreta and refuse, the food troughs and water-vessels rinsed spick and span daily, the perches clear of dirt and verminous insects, the nest boxes whitewashed and the nests frequently renewed,

and the birds provided with a dust bath without the regular use of which they cannot be comfortable.

Cockerels must be either killed off, sold, or provided for separately when they begin to give trouble. They may run together in little flocks, divided from the pullets, until they are quarrelsome; then, unless "mated up," they must be penned apart, each with his own little house and run.

Condiments, or **Chicken Spices**, are very good in their place, when the birds are "a bit off colour." Cayenne pepper, ginger, aniseed, pimento, are all useful, but the prepared powders of reputable vendors given with sugar, according to directions on the package, are usually reliable.

Coops may be of varied form, but they should never be too small, and always rain-proof, free from draughts and dry as to the flooring, being slightly raised above the ground, ventilated towards the top, and fitted with a sliding front to give complete protection in bad weather. Also they must be constantly sweet and clean, whitewashed and disinfected within, and placed, if possible, on a sunny grass plot, sheltered from wind, with a sloping board running up to a broadish sill in front of the bars; the slope to afford easy access to the sill on which the food for the little ones is scattered in their early days, and where the fresh water for their drinking is placed in a simple fountain. These are the only essentials.

Crooked Breasts usually come from encouraging confined birds to roost too early and on too narrow perches. Keep the youngsters to the floor, on straw or litter, till four months old if you can, then let the perches be stout enough to support the breast properly as the birds squat to roost. There is no remedy—save the hatchet cure or killing.

Crop bound may be a distressing condition in a fowl arising from the swallowing of a bone or some other hard and indigestible substance, giving rise to obstruction. It is more an accident than a disease, and may need a simple operation for its relief. First try pouring warm water down the sufferer's throat, then patient and continuous kneading of the crop. If this does not afford the requisite relief, make a careful incision near the top of the crop about an inch long, and remove the contents gently with a small spoon, stitching up the wound nicely with a glover's needle and horsehair thereafter, the stitching of the outer skin crossing that securing the inner membrane.

Cross-Bred Fowls may be well worth keeping if the crossing be accomplished intelligently, the sorts and the individuals being properly selected for a given purpose. One good cross producing hardy offspring is the Houdan-Minorca. The pullets lay good-sized white eggs prolifically all through the winter. The Houdan-Leghorn cross is also satisfactory, and the laying capacity of the Buff Cochins can be considerably enhanced by crossing with the Redcap, the progeny of the two being handsome, and well-suited for a limited run.

Langshan-Minorca crosses give a capital combination of white, juicy meat for the table, and big brown eggs for the basket. A Dorking cock run with half-bred Indian game pullets will produce immense and fleshy poultry, mainly white-legged. The Houdan-Dorking is a fine table cross, too, white of skin and flesh, the pullets laying white eggs. Orpington pullets themselves good layers, mated with a Houdan cockerel, will give chicks which mature quickly and make fine winter egg producers. The great thing in crossing is always to get a good pure-bred male bird to mate with pullets of an ascertained utilitarian strain, first cross or second cross.

Delicacies for Moulting Birds.—Mix three quarters in weight of oatmeal to a quarter of bran, and pour over boiling water. A little chopped-up meat may be given if in small quantities. Leave to swell near fire or in oven for half an hour, and mix with equal quantities of pollard and pea meal, or split peas boiled soft. Hemp seed may be given two or three times a week, and buckwheat is very good. A tonic in the water often helps. A little Epsom salts, or what is known as Douglas's mixture—iron and sulphuric acid. A lump of sulphate of iron and three drops of acid to each gallon of water, or a teaspoonful of tincture of iron will do as well.

DISEASES OF POULTRY.

Poultry are liable to many ailments, more or less serious. The principal diseases which trouble the poultry-keeper and his stock are grouped together alphabetically here for convenience, with brief directions for treatment.

Abortion.—If a hen gets dropping her eggs about, often shell-less, and moves continually, fasten her up awhile alone in a pen with a nest in the corner, give her soft food and a little bi-carbonate of soda in her drinking water. She may have been chased about by a spiteful "gamey" hen, or persecuted by one of the opposite sex. Remove the culprit.

Apoplexy.—Cause: over-feeding and excitement effect, generally swift fatality. Sometimes a cure may be possible if bleeding from the vein under the wing be promptly practised, with jalap and salts aperient, quietude, and spare diet to follow for awhile.

Black Rot.—Symptoms: blackening of the comb, feet and leg swelling, emaciation. Treatment: purge and give warm stimulant food, rubbing carbolic acid vaseline into comb and legs.

Bronchitis is differentiated from an ordinary cold by coughing. Isolate, put nitric acid sparingly into the water, sweetening slightly with glycerine. Cayenne and ginger in the soft food.

Bumblefoot.—Not uncommon in heavy fowls, and arises from a growth under the ball of the foot. Cut away carefully, and if suppurating, dress with antiseptic after cleansing, binding to exclude dirt.

Canker.—Symptoms: ulceration about head and ears, with discharge from the eyes, watering first, then thicker and fetid. Fluid carbolic acid, with lead lotion ointment, may effect a cure.

Catarrh, or common cold, may be prevented from developing into the dreaded Roup by early isolation in a sheltered corner; two or three drops of tincture of aconite and soft warm food.

Cholera.—Chicken cholera is a deadly disease, commencing with a greenish discharge, becoming later white and watery, and accompanied with excessive thirst. Isolate in the shade, disinfect the water trough and replenish often with clean and quite cold water, giving fresh green food and small doses of cholera mixture from the chemist's.

Comb Diseases.—Black rot, chiefly attacking Spanish fowls, has been noticed; White Comb troubles Cochins mainly, and is characterised by white spots which extend to the neck, causing feather-shedding. Treat as for Black Rot, save that a lotion of turmeric and cocoa nut oil is sometimes serviceable.

Consumption, or "going light," is a wasting disease, which can rarely be arrested; but hypophosphates in the food and cod-liver-oil in the meal or with quinine in capsules may overcome the tendency if treatment be commenced early enough.

Cramp is caused by exposure to damp or running over saturated ground. Remove the fowl to a dry warm house, with boarded floor, strawed or moss-littered, plunging the legs first into warm mustard and water for a few minutes, drying well. This may be repeated occasionally until improvement is shown.

Drops.—Soft or Swollen. Usual cause, over-drinking from morbid thirst. Isolate, feed sparingly with soft food containing stimulant spice, and give a very little water after meals with nitric acid in weak solution.

Debility.—Raw eggs down the throat two or three times a day, cooked lean meat, chemical food, cod-liver-oil, a teaspoonful twice a day; such generous treatment may save the life of a costly bird; others so affected should be destroyed.

Diphtheria is a form of canker with internal ulceration. Isolate at once, give an aperient, feed on unpeppered soft food, dress the interior sores with a camel-hair brush dipped in carbolic and sulphurous acid in iron tincture and glycerine, and dust the exterior ulcers, after cleansing, with iodoform. A little brandy in the food may help; but it is only worth while taking this trouble with very valuable fowls.

Dysentery is something worse than diarrhoea, and not so bad as cholera, and should be treated similarly, but a less vigorous, than the latter.

Elephantiasis attacks the fowls with large and coarse scales on the shanks chiefly, and may be contributed to by sudden exposure to very cold wet. It takes the form of unsightly scurf and encrustation of legs and feet, and is very contagious. Curable only in the onset stage, the treatment is carbolic acid oil or glycerine ointment, after scrubbing with soap and tepid water, with weak sugar of lead as a last resort. The birds should be kept on dry ground and given stimulant food.

Eruptions usually arise from confinement and uncleanness; correct the uncleanness, give plenty of green food, especially chopped dandelions, put powdered sulphur in the soft food, and dress the affected parts with carbolic vaseline. Constant scratching of the head is a symptom.

Fits. Try dripping cold water over the fowl's head from the tap, or bleed under the wing.

Gapes. Cause, worms in the windpipe, a frequently fatal ailment of small chickens. Place camphor in the water; strip a small quill feather, moisten it with turpentine, introduce it into the trachea, and withdraw it with the worms adherent, which destroy. Patience may succeed. There are generally ticks on the heads of chickens with the gapes; destroy these with mercurial ointment.

Giddiness, like fits, may be incipient apoplexy. It is manifested by the chick or fowl running dazed as in a circle; treat as advised for fits.

Gout. Swollen and inflamed feet and legs indicate gout. Keep the bird dry, feed up with green-meal, give an aperient, and a half-grain colchicum extract twice daily.

Indigestion.—See the grit-box is well supplied; this complaint usually arises because the gizzard is not working right. Feed moderately on soft food, with a very little lean meat, and give half a pill of rhubarb occasionally.

Inflammation of Rump.—This usually occurs in the gland above the tail where the secretion which fowls use for keeping their feathers sheeny is stored. Open with needle, squeeze out suppurating matter, and foment with warm water, afterwards cleansing with antiseptic solution. Repeat if necessary.

Leg Weakness.—When young birds, especially of heavy breed, outgrow their strength, and squat about on their hocks, bandy legs or knock-knee may result, quite spoiling the bird's appearance. Generally there has been improper feeding. Put some bone-meal in the food of the cockerels and pullets, and give them plenty of barley-meal and sound corn, with cod-liver-oil and chemical food, and a little lean meat. Also let there be plenty of oil, lime rubbish and crushed oyster shell within the reach of the birds.

Liver Disease arises from over-stimulation, confinement, and damp, and is most frequent in the larger Asiatic breeds of poultry. It is hereditary, and birds known to be tuberculous or torpid of liver should never be bred from. Green food and careful dietary may ward it off in early stages, but if the liver complaint has got well hold, as indicated by consistently yellow droppings, kill off the sufferer.

Pale Yolk in eggs may point to lack of sufficient green food. See to this.

Peritonitis may be suspected when a hen, in full lay, with a bright red comb, manifests pain and distress. It is inflammation of the abdominal lining membrane, produced perhaps by over-stimulation of the ovaries. Sometimes holding the hen in a covered basket over steam may do good.

Pip.—A hard and horny appearance of the end of the tongue in fowls and chicks is generally nothing more than the result of nasal obstruction. Give an aperient, put in a warm place, bleed properly, and apply a little chlorinated soda to the tongue.

Pneumonia.—The brachial cough, with very difficult breathing and gasping, often attacks chicks artificially hatched on their emergency from an overheated foster-mother to the air. Rub turpentine into the feathers under the shoulders, bring the little invalid into the warm, feed on milk and bread; give a little antimonial or ipecacuanha wine from a teaspoon.

Rheumatism.—Almost, save for joint swelling, like cramp, and needs similar treatment.

Roup occasions more mortality in the poultry yard than all other ailments combined. It culminates from a common cold, and is highly contagious. A bird attacked with the eye and nostril running, characteristic of this disease, must be shut away from the rest at once, and everything it has been in contact with disinfected. If the roup rattle in the throat has begun before detection, there will be small chance of saving the patient. Pellets of meal with pepper in them may be forced down its throat two or three times a day to keep it from sinking, and a little tincture of aconite given in small pills. Give a jalap aperient, and put camphor in the drinking water. Persevere for a little while, if it be a good bird, but your chance is small.

Scaly Leg.—Treat as if Elephantiasis, and keep the birds in the dry.

Serofula.—A form of liver disease, which see.

Ulceration about the vent, in hens, may be treated alternately with white precipitate ointment, and carbolic vaseline. They should be kept apart.

Worms in the intestines irritate and put fowls out of health. They should be eradicated by turpentine pills or santolin, followed by an aperient. Neglect of treatment may lead to serious results.

Disinfectants are frequently requisite in poultry, and carbolic acid in solution and carbolic powder are very valuable for sweetening the houses and runs, and for cleansing and rinsing the utensils, especially when there has been roup or any other contagious ailment in evidence. A little should always be used in the whitewash.

Dust Bath.—The fowl's way of cleansing is to roll in the dust. Let them, therefore, have plenty, clean and dry, a good depth of it where the sun comes but the rain does not, with a lot of fine ashes in it, and some black sulphur. Clear the lot away occasionally and renew.

Dutch Everyday Layers or "Everlasting Layers" were names given to the "Pencilled Hamburgs" prior to their importation to Britain. The Batavians have long held this breed of birds in esteem for their egg-producing qualities.

Egg-Bound.—Generally an aperient will rectify this, but chopped groundsel rolled in butter is recommended by some; and an olive oil injection, or the passing of an oiled feather (sweet or linseed oil will serve) up the vent and round the egg will often be found helpful.

Egg-Eating.—This is a vice on the hen's part, contributed to by her keeper. It generally arises from the absence of shell-forming material in the run. The hens peck to the shells of the eggs they lay to get the material for forming more shell which instinct tells them they ought to have, and this gives them a deprived taste for the egg which is difficult to eradicate. One hen also sets the others a bad example, and soon many eggs are devoured. Plenty of old mortar rubbish and cracked-up oyster shell should be provided for the hens to pick at in confinement. Then a blown egg or two filled with mixed mustard or a few very rotten ones, should be laid about, to disgust the delinquents who break them to satisfy their unnatural craving.

Eggs, either for setting or incubation, should be kept with the large and downward stood in holes in a board. This preserves freshness and vitality longer than lying them in bran or keeping the small end down. For long keeping some grease or wax the eggs, some store in lime-water or in a paste made from quicklime, some pack in dry salt, some in bran, some bury in an airtight box, but nothing is better than steeping them in a solution of silica or "water-glass" as soon after laying as possible, and keeping in a cool, dry cellar, where the foot cannot come. Don't try to retain hens for laying

purposes after two and a-half years old; an odd bird or two may keep in profit longer, but it will be the exception rather than the rule. Fat forming meals should be largely eschewed when egg-production is the principal object; a warm breakfast is good on very cold mornings and it should mainly consist of cooked and easily assimilable food, and fresh bones and meal help the egg yield.

Enemies of Poultry.—Keep the cats away by wiring, and exclude rats by a good deep concrete, else you will lose birds and eggs in a very disheartening way; mice will nibble your nest boxes and get at any food left about—and there never should be any left about—otherwise the smaller rodents do little harm. Insects are pestilent little enemies of fowls; but they can be circumvented by cleanliness and constant care. (See also **Parasites of Poultry**.)

Fancy Poultry.—Bantams, already dealt with, come under this head; so do all such as are reared and kept more for show than utility; some of the newer breeds of this order may have passing mention. Buff Orpingtons were raised from much crossing at Orpington by the Cooks with an utilitarian end and in view of the rearing of Buff Plymouth Rocks, Buff and Buff-faced Wyandottes, also Partridge Wyandottes, White Plymouth Rocks, and White Indian Game, appear mainly to have been aiming at novelty and pure "fancy." Anconas were "fancy" to begin with, but their egg-producing prolificacy rescued them from the merely ornamental state. Silkies are fine sitters, but count more in the beauty category than for practical usefulness, and the Japanese Long Tails are quite bizarre, and belong to the aviaries of the monied fancier, as also do the various Frizzled Fowls, Naked Necks, Sultans, Ptarmigans, Rumpless, Fowls (or "Cock of the Woods") from Persia and Ceylon, and certain other poultry curiosities which have their admirers amongst the wealthy.

Fattening for market is a process carried to a great length by the "craemers" and "combers" of the Continent, and at several British establishments of a specialistic sort; but less extensive poultry raisers find it answer to go some distance in the same direction for profit's sake. The principle striven for is after growth has been attained to give seclusion and rest from everything else but the business of plumping out. The birds are confined in semi-darkness and tempted by stimulant food to eat as much as can be got down their throats. Ground buckwheat, crushed Oats, maize meal, etc., form the staple diet with the addition of suet and other fats, moistening with milk.

Feather-Bating is a pernicious habit in some fowls that have been fed on heating and stimulant food, and kept closely confined. Laziness from repletion and lack of health-promoting activity often starts it, and when a bird in a batch begins the practice, others retaliate, until the whole pen presents a sorry spectacle. Change the diet, give abundance of green food; put short straw or moss litter on the floor and bury their corn to make the birds scratch for a living; this will give them something better to do than stripping off their own feathers and those of their miserable companions. Also hang up the green food in bunches on a string and make them jump up to get it. If this fails to cure them, wring their necks.

Feathers are of some economic value in fowl-keeping; carefully kept and properly cured by bakings and dryings. They are not nearly so good for bed-stuffing as the downy breast feathers of the goose, of course; but well selected, and the larger ones stripped, they come in well for pillows, bolsters, and cushion making.

Feeding of Poultry requires proper consideration and systematic regulation. Over-feeding—save for fattening previous to slaughter—is distinctly bad and disease-inviting; whilst mal-nutrition, or the giving of improper food, is only less harmful in degree. The dietary should be wholesome, varied, sufficient; and no more. In dealing with chicken-raising we have indicated the best practice as regards immaturity. For grown fowls with a free range two meals a day will be enough; one in the early morning when they are let out of the house, and the other in the evening before going to roost. These will pick up green food and much supplementary aliment during the hours of

roving. Confined in a small run birds should have a slight breakfast of soft food, meal moistened with scalding water and mixed with scraps is good. Before mid-day a handful of loose corn per bird may be scattered and covered to be scratched for; green food, such as cut grass or anything else available, may be given an hour or so later. Last thing, a feed of good sound grain should be supplied. As to quantity, as much as the fowls will eat greedily is a good standard to go by, always rather leaving them a little hungry than allowing anything unconsumed to lie about. They want less when not laying than when in the swing of egg-production, and still less during the moulting periods. Half-a-pint of grain a day should suffice for half-a-dozen healthy adult birds. The soft morning food is best if fully cooked, being most easily digested thus, but scalding will serve as an occasional alternative; the kitchen waste should be incorporated. Bones need to be dried and ground; they are splendid poultry food. Of grain, good hard wheat stands first in value; barley and oats next. Indian corn should be given but sparingly; it is too heating, except in the northern counties, and where birds have free range. **Bandaging.** Band.—When the **sceding** of chicks is difficult and retarded, warm milk should be given to help them on, and a little tincture of iron put into the drinking water.

Fractures of the shanks in fowls are easily set by replacing the broken bone in position, and securing with splints formed of folds of porous brown paper saturated in white of egg. Other bone fractures sustained by fowls are very difficult to mend because of the restless disposition of the birds, but bandaging may be attempted with valuable fowls which have met with an accident of this painful character.

Frost Bite may be prevented in severe weather by well oiling the combs and wattles of the birds, or rubbing in vaseline, so as to prevent the adhesion and freezing of water after the act of drinking.

Grass Runs are grand things for fowls if sufficiently large enough to retain their greenery on constant usage; but otherwise they are better not attempted, for a defoliated patch from which the grass has been nearly scratched and trampled away is unsightly and injurious. A small plot of grass, kept closely cut, is very good for young chickens; but for the older birds the grass range should be very extensive to be of practical service.

Green Food.—"Plenty of it" is the order for the would-be successful poultry-keeper to observe. Growing greenery, picked and pecked by the birds ranging at will, is best; next best, the fresh cuttings of the lawn, short and sweet, and not thrown into the runs in such profusion as to be left lying to rot. Cut up lettuce leaves, cabbage leaves, dandelions, cress, and anything else fresh and assimilable should be supplied to the extent the birds will eat it up clean. Don't permit cabbage stalks and mid-rib to stay in the run to decay and render the place unwholesome.

Grit is indispensable to fowls in captivity. It forms their teeth, without which their food cannot be properly digested in the gizzard. The grit must be hard, angular, and sharp to be of full service, and nothing equals flint broken up small. Smooth gravel is of little service.

Hens, as a rule, should be killed off at the age of two years and a half, when the first sign of the moult appears. Their best laying days are then over, and they will henceforth, if allowed to live, deteriorate for table purposes. Very fine and valuable birds may be retained for breeding purposes, but even they are better cleared out of the way to make room for their juniors. (See also **Broody Hens**, **Mating** and **Milking Hens**.)

Houses for fowls should be so designed and built as to give the requisite accommodation for the poultry intended to be kept. They need not be costly or ornate. The simpler and better constructed they are the more satisfactory they will prove. Suit the size of the house to your requirements, let it face the south if possible, and let it be wet-proof and wind-proof, the floor elevated from the ground, with a hen ladder giving access from the run to a little closeable entrance door at the front, and let there be a big door at the

back to facilitate cleaning. Put your perches on one level well below the essential ventilation holes towards the top of the house, and light it by a small window either at the north side over the door, or in any other convenient position. Both light and fresh air are wanted if you would keep your birds in health. If you "go in" for Brahmas, Cochins or Orpingtons, you will need only very low broad perches, or none at all, and you must have plenty of clean straw or moss litter on the floor; if with dry sand, ashes or lime dust amongst it all the better. If the floor be raised and boarded, a layer of concrete or asphalt upon it will be good for securing dryness and excluding vermin; and this will be even more necessary should the house bottom be the ground.

Incubating—Artificial.—This is a process rendered fairly easy to all poultry-farmers, female as well as male, who have at command a dry and airy room and any one of the many makes of incubator manufactured by reliable firms. The best—size and extent of course being a governing condition—are those which are at once the costliest and cheapest, an imperfect incubator "is dear at a gift." The capacity of the incubator should be such that its possessor may have accommodation for the produce of; and its working will require the unremitting attention of the person in charge. It should stand on a firm table in a well-ventilated position where there is no draught, and the heating apparatus be regulated to maintain a steady temperature of from 102 to 104 degrees, whilst the provision for airing, turning and moistening the eggs must leave nothing to be desired. Study of the directions given with the incubator and practical experience of its working can alone make its management a success. An Artificial Foster Mother, or Reaver, will be requisite to receive the chicks after hatching, this being a portable construction containing a glass covered run and a wired-in run in front of a chamber into which the chickens can come and go, as they will, such chamber being kept at a uniform heat of 60 to 62 degrees, according to the outside weather, and the whole concern being readily cleanable. The "Foster Mother," of which there are numerous satisfactory makes in the market, must be placed in an apartment the air of which can gradually by full and free ventilation be brought to coincide with that out of doors, so as to obviate chill when the chicks have to be transformed to the open. The feeding of the youngsters should be similar to that recommended for hen-hatched chicks.

Infertile Eggs can be detected readily by the fourth day of incubation, and even earlier, by experienced persons by holding up to a strong light; if they then look perfectly clear they should be withdrawn from the nest or incubator and used for culinary purposes. Should too many hens be running with one male, or the cock bird be lacking in virility, this will occur, and it is obviously useless to waste time over trying to hatch eggs which are infertile.

Iron is useful in the drinking water of fowls in cold or wet weather, giving "tone" to the birds. A teaspoonful of the tincture of steel is very serviceable.

Killing Poultry should be swiftly and humanely accomplished. Tie the legs quickly and firmly, and dislocate the neck with a quick wrench of the wrist of the right hand, the neck being grasped lightly by the left; or chop the head clean off at one blow with a sharp chopper, the neck being laid on a solid block. Either of these plans is better and quicker than severing the jugular or penetrating the brain through the mouth with a knife. Some strike the fowl smartly and heavily on the back of the head with a stout stick or block of wood, and if this be done deftly instant insensibility and death will be the result. Hang the bird up by the feet for the blood to drain downwards.

Lime is essential to the welfare of fowls, and for the formation of the shells of their eggs. It should therefore always be provided in some form in the runs, and clean old mortar is a ready means of its supply. Lime that has not lost its "quickness" by use and exposure is apt to yellow the plumage of white-feathered birds, if laid about profusely or employed too freely as a component of the dust bath.

Mating should be arranged as to number of hens

allowed to run with one male, according to the breed. The Houdan is particularly active, and the lighter classes, such as the Hamburgs, Minorcas, Leghorns, and Wyandottes, can have more hens in the pens than the heavier birds like Brahmas, Cochins, Dorkings, Langshans, Orpingtons, etc., without prejudice to the fertility of the eggs. In this particular, season makes a difference too, the eggs laid very early not being so certain to hatch as those on setting as those produced in the spring and summer.

Moulting is a "ticklish" time with most fowls, though a perfectly natural condition. Everything proper should be done to help the birds over the moult. Those with the most vitality get through the feather-shedding and renewal the quickest. Old birds are long shabby; they should be got rid of altogether. Hens slow of moulting through being "run down" by heavy laying should be placed apart, given specially generous feeding treatment, and supplied also with a suitable tonic, such as iron tincture in the drinking water. (See *Dilemmas for Moulting Birds*.)

Nests and Nest Protection.—Nests, generally speaking, are best in their natural position, on the ground, whence the eggs derive the necessary moisture. A little soft straw, confined between two bricks, in a secluded corner where the rain cannot come to the sitting bird, is all that is really requisite. Fern leaves are good nest material, insects do not seem to relish the smell of them. Whether for incubation or for mere egg-laying, the nest-boxes, if such there be, should be placed in privacy, but yet readily getatable by the owner or attendant, well-ventilated, and scrupulously clean. If of wood, scour and whitewash them frequently, and renew the bedding often. By no means have them exposed to cold, though airy; but let the position be such as to protect against wind and frost, so that the eggs of a sitting hen may not be chilled unduly in winter, or very early spring time, when she gets off for food and exercise.

Oyster Shells smashed up well, are capital for laying fowls, for the lime in them is good for the birds and the eggs they lay, while the harder and less soluble portions render the gizzard to grind the food.

Parasites of Poultry.—lice will swarm on the birds, their perches, nest-boxes, and the houses they inhabit, if cleanliness be not observed by the poultry-keeper, and the proper dust-bath be not provided. But if there be regular and thorough cleaning out, and whitewashing of the whole interior arrangement at least twice yearly with good hot lime in which sulphate of iron or even paraffin is mixed, with occasional spraying about of dilute carbonic acid, or dusting with some good disinfectant powder, there will be little trouble from lice or any other vermin. The dust-bath should be sifted and renewed frequently, and sulphur may be scattered over it occasionally.

Peat Moss Litter is an invaluable material for strewing thickly over the floors of fowlhouses, so long as it can be kept dry. If permitted to become saturated with damp it is dangerous. It should be crumbled down fine, and frequently stirred or raked about; and then acts as an absorbent and deodoriser.

Perches ought to be wide enough to afford support to the breastbone of the bird, a good height in the house and out of a draught, with none above any other—else there will be warfare for the highest vantage point—and free from cracks or interstices in which lice may lurk.

Pucking.—Poultry should always be done when the bird's body is still warm, as the feathers come away much more easily than later. If necessary the fowl may be singed after stripping, but this sometimes discolours the flesh.

Poultry Points.—A few technical terms used in the poultry "fancy" may be explained. Deaf ears are the ear-lobes or skinny folds hanging below the true ear. Gills or wattles, the red pendent structures at each side of the beak. The narrow neck feathers found also on the saddles of the cock-bird, are called "hackles." "Pea-comb," a triple comb, like three in one, the central part the taller of the three. Fencilling, small striped markings across or down the feathers. Saddle, the part of the back nearest the tail in cock-birds; usually called the cushion in the hen. Shank,

the scaly portion of the leg. Sickle, the upper feathers of the tail covert in the male birds, often long and gracefully curved. Top-knot, or crest, the crown feathering of birds like the Polish, Crève Cœur, and Houdan. Vulture-hock, projecting feathers on the hock-joint, as in the Brahma. Wing-bar, a line of contrasting colour across the middle of the wing, caused by the variant marking of the lower coverts. Wing-bow, the shoulder of the wing.

Profitable Poultry.—Poultry, properly selected, managed and cared for systematically, according to the counsel given throughout this section, will be profitable. Where all the food has to be purchased, if it be bought in the best market and none of it wasted, the keep of a hen will come to about six shillings a year. If she be well chosen and dealt with as we have endeavoured to direct, she should average 150 eggs a twelvemonth for the two years of her full laying life. There is a fair good profit on the eggs alone here; and she and her fellow hens should pay for the keep of themselves and the cock easily. For sale or home consumption when she goes out of profit, she should be worth as much as she cost up to the time of laying her first eggs. Haphazard poultry keeping, inattention, the extravagant purchase of useless appliances, and, above all, the stocking of unsuitable birds and their retention in the yard beyond the proper period, will most certainly result in loss.

Pullets, Care of.—The term "pullet" is not properly applicable to a young hen fowl after the end of the year in which she was hatched, but it is generally so called during the early months of the year following. The young birds should be quartered apart from the cockerels when the pullets' combs commence to reddish and the cockerels begin to crow, and give plenty of grit and oyster shell as well as green food. If they are over-precocious and lay their first eggs as early as five months old, as some pullets will, they may advantageously be kept back a bit by transference to another run. Let the development of all the organs be complete before mating up and encouragement to full laying. Only the best and most promising pullets should be selected for stock, the rest being fattened and killed for the table or otherwise disposed of.

Roosting should not be encouraged in chickens, till they are about four months old, that is, on the regulation perches. It is far better for them to squat in the straw or moss litter on the fowl-house floor, away from the perches overhead, or a smooth, broad shelf may be fixed for their benefit about a foot high, and parallel with the perches, on the warmest side of the house. Sprinkle this with sand and ashes, and strew broken straw upon it, with more dust on the top of it to prevent the adhesion of droppings to the plumage and frequently sweep the board clean.

Runs should be as large as there is space at command for, covered in by a water-tight roof at the top if possible, and constructed with an open-wired front and a wind-proof back and end, either of boards or brick. The wiring should be stout, well-meshed from about 12 to 18 inches below, and 6 inches high, to permit of walking about in and cleaning with facility. Have it in a dry place, facing west or south, to afford shelter from the more trying cold winds, and let the floor be of gravel or sifted ashes, laid thickly on the natural ground. Give access by a wired door, preferably close to the front of the fowl-house, where the birds enter through their own sliding door.

Setting. Secure and select the best eggs obtainable. The trouble entailed in hatching and rearing a poor bird is as great as the best requires, so that the first cost of the egg is by no means the only consideration. Get the most reliable eggs you can for the purpose you have in view in breeding. Let the shape, if you personally select, be perfect, and the size normal, according to the standard of the breed. The number of eggs should vary according to the size of the hen, a large bird like a Cochins can cover thirteen easily, a smaller fowl will find difficulty with less; an 11 fewer ought to make a clutch in cold weather than a warm; nine to eleven is a good average. Let the bird be set as soon on in the year as convenient, for the earliest profit, in a dry, quiet corner out of reach of molestation on the ground, a hollow lined with soft oat

straw making a good nest. Dust the hen on the under parts with pyrethrum powder before she begins her three weeks' sitting. This will prevent her being bothered by insects. (See also **Nests**.)

Show, Preparing for.—A few hints on preparing choice birds for exhibition may here be given. If there be any tendency to scurf or scale on the shanks, get these clear by scrubbing gently with soapsuds and an old tooth brush three times a week; and anointing with sulphur and neatfoot oil or vaseline, after wiping dry. Give the bird powdered charcoal in its food to clear the system and impart tone, and a fair amount of fresh linseed twice a week with its corn; this will afford gloss to the plumage. Let the dietary be varied and the exercise ample, making the specimen scratch for its food. A little cooked meat daily, fed out of the hand, will help to give condition, also render the bird tame. Cleanse the wattles, comb the face with a soft, damp cloth, and when dry rub vinegar over them with a small sponge to give extra brightness. Wash the birds thoroughly all over, and very carefully, the day before sending off to the show.

Sitting Hens.—Supplementary to the paragraph on "Setting," a few further hints on the management of the sitting hen may here be given. When she goes broody put her on "pot" eggs first; if she settles to sit steadily, the first time she goes off to feed, replace these with the eggs you want to hatch. Let her off regularly, and at the same time daily for food, drink, exercise, and dusting; she should be away from the nest ten to twenty minutes. Sprinkle the eggs with lukewarm water occasionally during her absence, and if any egg has got broken accidentally remove it and cleanse the rest; this is most essential. On the fourth day, if you can manage it, examine each egg carefully to see whether any remain translucent; if they do, remove, for they are clearly infertile. If they are cracked slightly during incubation, neatly mend with strips of thin gummed paper or gold-beaters' skin. Should any chicks hatch out on the twentieth day, remove them, directly they are dry, to a basket lined with soft flannel indoors near the fire until the rest "come off." Don't attempt to feed the chicks thus removed. They have enough egg yolk inside them to sustain them for twenty-four hours. Put hen and chickens under a properly prepared coop when the "clutch" is complete. Feeding the youngsters with chopped egg, oatmeal, etc., must commence when they are a day old, as directed in the paragraph on "chicken raising."

Soft Eggs are a sign of functional disorder or disease in the hen, often arising from over-feeding; sometimes their origination may be traced to the absence of shell-making material in the run. Reform the dietary in the first case, repair the omission in the second. Pounded raw oyster-shell has the quickest effect of any shell-forming substance available for poultry-keepers.

Sulphur, powdered, in the moulting period, and to hasten egg-laying, is good for pullets and hens alike, a small half-teaspoonful to each fowl twice a week.

Table Poultry.—Reference to the paragraph on "Breeds" and "Cross-Bred Fowls" will show what kind of birds to select for the best meat-producing results. The desiderata are quick maturity, meatiness,

white, fine-flavoured and firm flesh—especially of the breast, which should be broad, long, and deep—and size. Beauty of plumage and other fine points are of no consideration, and oviparous fecundity does not matter at all in birds bred purely for slaughter. But fowls with white feet and legs market better than the yellow-shanked sorts.

Trussing for market should be simple; setting the hocks back and the wings into shape and securing the legs is all that is requisite after plucking. Further preparation for the spit should be left to the purchaser and the cook, as should the "drawing" of the birds, for anything that entails cutting the skin or flesh of the fowl assists decomposition, which the raiser certainly does not desire to have expedited until his financial interest in his produce is ended.

Water Troughs should be simple and easy to cleanse. A good deep earthenware saucer with a garden flower-pot inverted in it is good, inexpensive and effective, in that it leaves the drink accessible to the beaks of chicks and fowls of larger growth without affording room for the feet of either. There are many good glazed earthen-ware "fountains" to be purchased cheaply; also convenient galvanised "tip-over" metal troughs for insertion in the frame work of the run, readily removable for scouring, and accessible from outside for replenishment. The chief essential is cleanliness of the utensils and their constant refilling with perfectly fresh and cold water. The position of the vessels should be sheltered, for sun-warmed drink is both disagreeable to and bad for poultry. (See also **Winter Management**.)

Winter Layers.—Perhaps the best fowls for egg-production in winter are the Orpingtons, Brahmas, and crosses between the Minorcas and Langshans, Minorcas and Wyandottes. Hatch these kinds of birds as early as you can in the season; they will get over their moult and commence re-laying very early. Thus it will be seen that to be sure of winter eggs you should choose not only the proper hens but the proper time for their launch into life.

Winter Management.—Warmth is essential for the maintenance of fowls in full vitality. Carefully exclude all draught from the hen-house, whilst retaining full and free ventilation. Let the runs be sheltered from cold blasts, and the food varied and wholesome, nourishing, appetising, and comfortably hot without being over-stimulating.

Worms are not the best food for fowls as a rule, though they will scratch for and greedily devour them. The most dangerous worms for poultry dietary are the larger earthworms from the runs which have become at all fouled, for the bodies of the wigglers may have given lodgment to the pestilent germs of the tapeworm and other enemies of warm-blooded animals. (See also **Parasites and Diseases**.)

Wry-tail is a great fowl disfigurement, wherever it occurs, and is apt to become hereditary, so that it is as well not to breed from birds thus deformed. Some breeders, when it does not do to spin out, essay a surgical operation for the correction of wry-tail; but this is hardly worth while, save in the case of youngsters likely to make in all other respects fine exhibition birds.

BREEDS OF DUCKS.

Useful and Ornamental.

Aylesbury.—Unsurpassed for table purposes, pure white in colour; bill should be pale flesh-tinted, not yellow; eyes blue, body long and deep, ready for market at eight weeks old.

Brahma.—An ornamental variety, light brown, pencilled dark; a similar duck is found at the Cape of Good Hope.

Black Cayuga.—Early maturing, lustrous black, as large as the Aylesbury, blue-black bill, shanks bronze or dark slaty; good layers, fine fat.

Black East India.—Small size (smaller the better for show), glossy plumage, black feet and legs, drake's bill orange, duck's black, small boned, good layers.

Call Ducks.—"Fancy" birds, grey or white, used

occasionally as decoys, small, the white varieties have bright yellow bills, very lively.

Campbells.—Introduced by a Gloucestershire lady of this name a few years ago, by hybridisation between the Indian Runner Kouen and wild ducks, which latter they resemble; rather small, but grand layers.

Carolina.—The summer or Wood Duck of America, a beautiful variety of ornamental water fowl, closely related to the Mandarin, red bill, black margined, surcled at the point; glossy green crest; throat, collar, over the eye and belly white; breast chestnut, cheeks and side of the upper neck violet; back dusky bronze tinged with green; side, under wing, fine lined with black over drab; tail deep black tinged with yellow;

wing spot blue and green, not so bright in the duck as the drake; yellowish red legs and feet.

Cayuga.—The large American black duck. (See **Black Cayuga**.)

Crested.—An ornamental duck, with a pretty top-knot.

Duolair.—A cross or sport from the familiar Rouen duck, much marketed in France.

Falcated.—Black pencilled in the drake on silver-grey ground; head purple glossed with green and crested, throat white; almost as beautiful an ornamental duck as the Carolina and Mandarin varieties.

Indian Runner.—Chiefly fawn and white, small but unequalled as an egg producer. When crossed with the large ducks makes a bird of value for table, and prolific as to laying quality.

Japanese Teal.—A very beautiful bird, allied to the Mandarin; the drake especially being handsome of plumage. The female resembles the Mallard.

Mallard.—The white duck, or Mallard, is sometimes found amongst the inhabitants of ornamental duck ponds.

Mandarin.—Sometimes called the Chinese Teal; the most gorgeous of all the ornamental ducks, and quaint of appearance; very small, and affectionate in their pairing, though the drake is apt to be quarrelsome with other males of his genus, and with ducks to which he has not been properly mated. A broad cream-coloured stripe extends from the front of the sides of the head, across the eye, to the back of the neck. A variety of bright colours appears over the body, and the bill is crimson.

Muscovy, or wild Musck duck.—Very large, the drake often reaching over ten pounds in weight; mainly black and white in patches; flesh good when eaten young; lays few eggs, the male fighting anything he comes near most pertinaciously.

Orpingtons.—These have been bred by members of the Cook family of Orpington, who also originated the Orpington fowl. They are found in two colours at present, buff and blue. They are shapely, good-sized birds, following the Rouen somewhat in shape, and the Indian Runner in style and carriage. Like the Orpington fowls they have great utility properties, being good layers and carrying a fair amount of flesh. They are hardy, and mature quickly, thus may be said to be good all round utility birds.

Fekin.—Fine uitarian duck, good-flavoured flesh, hairy, fast-growing; very large, pale straw or cream-coloured, deep yellow bill, long deep bodies, downy, reddish-orange shanks.

Penguin Duck.—An ornamental bird, marked by the downward tendency of the rump.

Rouen.—Well described as a larger and tamed wild duck; handsome and utilitarian, a capital layer, but rather late in reaching maturity; the drake has a greenish-yellow bill, black at the tip; head and neck

lustrous green, with white, ring low down towards the breast, which latter is rich claret; back grey and green, under-parts grey; tail black, bright blue wing bar.

Runners.—(See **Indian Runner**.)

Spotted Bill Ducks.—Rare fancy birds from India, with a peculiarly bright green wing spot, pale brown breast all spotted with dark dots like a trout, jet-black bill with yellow tip.

Summer Duck.—(See **Carolinian**.)

Teal.—The ordinary British Teal and the Garganey Teal are not found on ornamental lakes, nor is the Japanese Teal.

Whistling Ducks, sometimes called "Tree Ducks," because of their habit—in common with the Mandarins and Carolinas—of perching on boughs. The White-faced Whistling Duck is handsomely pencilled and many coloured; the Red Tree Duck is even prettier.

Duck-rearing Notes.—Ducks are naturally hardy birds, and readily adapt themselves to circumstances. Of course they are waterwield, but they can be kept profitably with the merest apology for a pond to disport in or with none at all if intended for early killing. However the duckpond is constructed, it should have its side sloping easily down to the water, to enable ducks and ducklings to get in and out without difficulty. Also provision should be made for cleaning out the artificial pond frequently, especially if it be of small dimensions, for ducks are dabblers at fouling water. The duck-house never need be an ambitious affair; any dry, well-ventilated shed will do, the floor covered with clean straw for the birds to lay their eggs in. Fasten up the birds every evening and they will usually do their laying during the night or early morning. Mate four ducks with one drake soon after the moult, and feed them extra well to get eggs almost daily until their batch of from ten to forty has been laid, then they will rest for a few weeks. Hens will hatch and mother ducklings very well; the incubatory period is twenty-eight days, but the duck is a good siter and may be allowed to hatch her last batch. Hard-boiled eggs, coarse meal or breadcrumbs moistened with milk, grits, fine shredded meat, with plenty of cut-up greenstuff, especially lettuce, form the best food for the ducklings for the first three or four days, after which the eggs and milk—moistened food may be discontinued; but plenty of meat should always be given, and fleshy refuse which is not diseased or tainted being acceptable to these omnivorous feeders. After the second week ducklings with any range will pick up a lot of slugs and insect food for themselves; but besides this they should be fed regularly three times a day with boiled rice, barley-meal, sharps, household scraps, and anything else handy, giving them on each occasion as much as they can gobble up clean. At ten weeks old they will be fit to kill, and that is the most profitable way to dispose of the bulk of them.

GEESE.

For Food and Fanny.

Canada Goose.—A handsome and ornamental long-necked bird, an aboriginal of North America, half-way between swan and goose in general form. Head, bill, and greater part of neck black, with a peculiar white cravat at the throat, body grey, grading to nearly white underneath, wing, quills and tail nearly black, grey-brown eye, long, lead-coloured legs and feet, imposing carriage, swan-like and graceful on the water. Makes less gross eating than the ordinary goose. Average weight, 9 lbs.

Chinese Goose.—Is in two principal varieties, both great egg-layers, though the size of the eggs is but two-thirds that of the common goose, which only lays about fifteen times on an average during any year, while the Chinese will lay as many as thirty for a "clutch" three times or more each season. Midway between swan and goose in size, and pretty in form. A night swimmer with a harsh note. One sort is white, with deep blue eyes and orange pale brown-striped down the back of the neck, shanks, and bill, and a large black knot at the base of the latter, from which

it is sometimes styled the "Knobbed Goose. The brown variety, so-called, is predominantly yellow-grey, with darker brown stripe down the back and neck, and very dark brown bill and eyes, dark orange shanks, and a feathered "dewlap" under throat. Occasionally called the "Spanish Goose."

Careopsis Goose of New Holland.—A very handsome fancy water fowl, but the gender is even more of a fighter than his Egyptian relative, if possible, and a "positive terror" on a pond.

Danubian or Sebastopol Goose is pure white, curiously frizzled, the plumage being soft, silky, and turned back. Weight about 15 lbs. Not uncommon on the Danube, but the first specimens came to Britain from the Black Sea. Interbreeds with the common goose.

Egyptian or Nile Goose is tall and slender, grey to black on the upper parts, pale buff beneath the breast, beautifully pencilled with black, chestnut patch round the eye, purple bill. A strong flier and incorrigibly pugilistic.

Emden Goose.—Very big and white, square bodied, waddles along close to the ground when fat. Flesh-coloured bill, orange shanks, bright blue eyes, long winged. Comes from Emden in Westphalia. Ganders will weigh 20 lbs. or more. Matures rapidly.

Gambian Goose, or "Spur-Winged" Goose, from the powerful spurred formation on the wrist-joint of the wing. Has a large excrescence at the top of the base of the bill; grey black save as to cheeks, throat, and under parts, which are white. Bill and legs dull red. Shy and tall, and smallish as to size. More ornamental than useful.

Indian Bar-headed Goose, has three black bands across the back of its white head. A distinguished-looking bird for ornamental water.

Italian Goose is the newest importation to Britain amongst the family of utilitarian geese. It weighs about 15 lbs., is a good forager, and almost as

prolific an egg-producer as the best layers of the Chinese varieties. It is a non-sitter, a quick maturer, and finely flavoured.

Magellan Goose, sometimes styled also the "Chilian Goose," is prettily shaped on breast and back and gentle in association with other water-fowl.

Nile Goose. (See Egyptian.)

Sandwich Island Goose. Hardy and prolific, much bred and sold for "fancy," in Belgium.

Sebastopol Goose. (See Danubian.)

Toulouse Goose. The giant of the Anserine group, and a good layer for a goose to boot. One extra fine pair will weigh 60 lbs. together. Grows to a big frame quickly, but puts on flesh rather slowly. Comes in for Christmas well. Grey of colour, darkest on the back. This is the bird whose liver is swollen by confinement in heat to an enormous size to make the *foie de Jais* gras that epicures profess such fondness for.

GEESSE REARING NOTES.

Geese require a wide range of liberty to do well, and common or pasture land, with a pond by the way, to rove over in flocks unmolested. So kept, and with stubbles to forage in during the autumn, they will pick up the most of their living, and thrive and fatten exceedingly. Fed in the mornings before being let out for the day, and in the evenings before retirement, they will generally return to the homeyard with regularity, after a little early teaching or driving; but if not, a little child or even an intelligent dog will lead them to and fro quite easily. The ganders, however, will speedily show fight to any unchivalrous meddler; and sometimes put strange children and timid women folk to fearsome flight with their hissing and rustling onslaughts of bill and wing. They want a dry and airy shed, bedded with clean straw, to sleep in. Three geese may go to each gander, and they should be mated up as soon after moulting time as possible, and given extra liberal dietary to bring on the egg-laying.

The eggs, which take thirty days to incubate, should be "set" under broody hens of the Brahma or some similar large breed, four or five to each hen. Damp the eggs with lukewarm water twice a week or so when

the foster mother is off feeding. When the goslings hatch out they will not require very much attention, being very hardy; but, being likewise very voracious they will want a lot of feeding. What is good for chickens is good for goslings, only more of it is needed with plenty of flesh meat and green stuff; spring onions are good, in supplementation. In bringing on the youngsters for market let them have their run for development daily, and liberally feed them with meal, corn, turnips, and potatoes, at both ends of the day; then for the last three weeks of their short life keep them in confinement and induce them to cram as much as they will with Indian corn, oats, and boiled potatoes. Brewers' grains and kitchen scraps of all kinds are also helpful to prepare the goslings for consumption as "green geese" at Michaelmas, about which time they are best for the table. The big older birds are grosser eating. They rarely lay till over a year old and will live to a great age if enabled to do so, breeding for many seasons. The big Emden and Toulouse geese, and cross-breeds fattened up for the Christmas markets, are usually three-year-old, or at least two-year-old birds. Some geese sit very well themselves, and then bring up their brood with exemplary attentiveness.

SWANS.

Swans in the wild state are met with everywhere but in actually equatorial regions. Two species are common to both Europe and America, and a third, of well-marked differentiation, in Australia.

The Mute Swan is the largest and best known of all the Cygnus group. Spotless white on every feather, its slender curving neck, red bill with a large black protuberance at the base, soft brown eye, and dark feet are familiar. It is not mute as the name would imply, but its voice is softly musical if somewhat melancholy. There is a variety, equally large, but slightly different as to shape of cranium, to be found on the Baltic, and called generally the Polish swan. Its cygnets are pure white from the egg onwards, thus variant from the true Mute Swan, whose young are hatched grey, and long remain so.

The Whistling Swan is also white, slightly smaller than the Mute Swan, with shorter and thicker neck, and yellow bill without the black bump at the base. It has a tuneful voice, and many sweet notes frequently come forth, especially when on the wing. When wounded or distressed, those are prolonged and accentuated in volume, and no doubt give rise to the old legend of the Swan song, which Shakespeare had in mind when he made Emilia say in "Othello"—"I will play the swan and die in music." Berwick's swan is a still smaller white bird, slight and short of neck.

The Black Swan from Australia is well known now the world over. Not quite so large as the Mute Swan, it is sooty-black to grey of plumage, scarlet-eyed and red of bill, the latter being white-tipped. These Antipodeans are not quite so quiet with other water birds in collections as their white relatives are.

The Black-Necked Swan comes from South

America, and is sometimes known as the Chilian swan. Its neck and head are jet black, the rest of the body white. The bill protuberance is most marked, and red of colour, the bill itself being of a leaden hue. This bird swims with the neck straight like a goose, and its cygnets grow with great rapidity.

Swan-keeping.—Given a stretch of water and some privacy swans of the common breed may be trusted to look after their own affairs. They make an enormous nest close by the water in which the hen lays six to nine thick-shelled, dirty-white, green-tinted eggs. These take thirty-five days to hatch, and the downy-grey cygnets are taken into the water by the mother at two days old, both the parent birds giving their young the most assiduous attention. A few grouse or a little coarse oatmeal thrown upon the water will be eaten with avidity by the youngsters, and corn may be fed regularly to the old birds; or a trough by the edge of the stream or pond may have suitable food placed in water for the benefit of the whole family, who are models of affectionate attachment. The cygnets may often be seen on the back of one of the old birds whilst swimming. Swans fly well, for such great birds, when once fairly on the wing, but get up into the air with some difficulty, and always from the water. Their flesh is considered good eating when the birds are young, and used to be much esteemed at the tables of the great. They live to a great age, and resent interference, especially during the sitting period and when the cygnets are small; at these times the male swan will exhibit pugnacity on the approach of any intruder, especially if a stranger. The young are very nardy. Swans pair for life, and in the wild state migrate from place to place in flocks. They will swim long distances in streams or rivers.

TURKEYS.

Utilitarian Turkeys.—The great "gobbler" of our farm yards came to us first from across the Atlantic two centuries ago. He was a wild aboriginal roamer of the prairies and brush of North and Western America, and occurred in a varied form in Mexico, Yucatan, Honduras and the whole central portion of the New World. To Britain he took kindly and the Eastern Counties suited his development particularly well. In Norfolk the turkey-raisers fixed a type which secured high favour for the Christmas table, black, spotted white on the wings, and fine of flavour, but not usually so large as what came to be called the Cambridge turkey, tawny grey of feather. Both breeds have latterly been improved considerably by the introduction of new blood from the mammoth cultivated bronze breeds of America. Size, quality of flesh, and length of breast are much more sought after in the marketing turkey of to-day than beauty of appearance or purity of pedigree. There are white turkeys to be met with occasionally in the yards, but they are not encouraged, being supposed to be delicate constitutionally. The Cambridge "bronze" predominates in the stubbles of East Anglia because it comes to greater size than the darker Norfolk variety, though the latter gives the whiter and finer meat. The Cambridge turkey cock, April hatched, should make eighteen pounds for the Christmas market, the hen about two-thirds of that weight, both in their feathers. The bigger birds thirty pounds weight and over, are usually two-year-olds.

The American Bronze Turkey is the product of crossing by Transatlantic breeders between the best domesticated varieties and selected wild birds, and has been shown up to forty-five pounds weight and over.

The White Turkey runs rather small, but is pretty to look at, and choice flavoured in eating. The cock generally retains the hairy black tuft on his breast, and the red and blue on the head add to the attractiveness of the bird when alive.

Fancy Turkeys.—The Mexican turkey has white in his tail and covert feathers. The Honduras turkey is beautifully ocellated, bronzy green in ground colour, bounded with gold, lustrous black, and lower down with intense blue and brilliant red. He has no hairy tuft on the breast, and the lower part of his naked neck is smooth. This handsome bird seems only to flourish in tropical or sub-tropical regions. Crested turkeys have been known, but they were probably "sports" or freaks of nature.

Turkey Rearing.—Turkeys lay on an average from twenty to thirty eggs before wanting to sit, sometimes considerably more. The period of incubation is twenty-seven to twenty-eight days. For the

first few weeks of their lives young turkeys require unremitting care at the hands of the rearer, being most delicate and liable to cramp, and so stupid as not to be able to forage for themselves sufficiently. As they are mostly hatched under hens—six or seven is as many as can be covered properly—it is a good plan to put a few common fowls' eggs into the nest about the seventh day of incubation, so that the more active chickens, coming out at the same time as the turkey poults, may teach their foster brothers and sisters how to feed. The turkey is herself a good sitter and a capital mother, and she is generally given her last seven or eight eggs to incubate herself. The poults should be kept to a dry and sunny covered run, free from draughts and damp, which is death to them. Cleanliness must be observed in every particular, both as to feeding utensils—to prevent sourness in the food—and as to the state of the run and the coop or sleeping shed, the floor of which should be raked from the ground and covered with often-replenished dry soil or fine moss peat litter. Remember that on no account should the young turkeys get into the rain, and see that their feeding is regular and proper. Once an hour during daylight is not at first too often to feed the poults, just as much as they will clear up eagerly, and no more; and the diet needs to be judiciously varied. For four or five days custard of egg and milk, haribolled eggs, and minced dandelion leaves, or chopped boiled nettles, should only be given; afterwards groats, barley meal, with a mixing of boiled potato, and occasionally a little rice or other small grain, are good. To this must be added young lettuce or green onions, cut up small, or dandelions again. A little pepper with the food is often given for stimulating purposes. It will do the poults no harm to run about on a sunny short-shaven grass plot when they are a month old. About the third day, and again at six and eight weeks old when "shooting the red," are their most critical times, and at both these periods they require extra vigilance. Later they pick up strength wonderfully, and become exceedingly hardy, roosting out in the open in all weathers. The food of barley, tithing, meal, potatoes, turnips, and all kinds of food, especially if made into a mash with milk; they eat greedily when past the perils of poulthood, and glean most assiduously in the oat and barley stubbles after harvest. They want plenty of green meat, and some brick dust to scour their stomachs with, but they should never be given peas or any sort of pulse, for it is hurtful. Turkeys are killed for market by breaking their necks, the breast bone also being broken to plump them out,

PEA FOWLS.

Everybody knows the peacock and his almost indescribable beauty, his proud carriage, and his haughty air. He is a natural ornament of the lawn of many a mansion, walking, with muzzing gait and wondrous tail extended, over the greensward, or sunning himself on some picturesque terrace-wall or spreading tree branch. He comes from the gorgeous Orient, and has been acclimatised in Britain for hundreds of years. He has graced the banqueting board at many a royal feast, for his flesh makes fine eating. The domesticated pea fowl of this country is identical with the wild bird as found in India, China, and Ceylon to-day. The Japanese pea fowl inhabiting Burnah, Siam, and the Sumatra also, is of even glossier iridescence than the more generally known variety, and has a crest nearly twice as large; his hen, like that of his Indo-Chinese relatives, is very much soberer of plumage than himself, and also minus the noble ocellated tail. The black-winged or black-shouldered pea fowl would appear to be more of a "sport" than a distinct variety, and the white and pied specimens of the bird one occasionally sees are also "freaks," and not nearly so strikingly handsome as the typical species.

Management.—Pea fowls, once at maturity, seem pretty well able to manage themselves, given suitable surroundings; that is to say, a park to wander in at

will, and shade and shelter against climatic inclemency; and even these they prefer to discover and select.

The shrill screech of the cock when weather changes impend, or when he believes it will bring him a food donation, is scarcely claiming to the ear. The birds should be fed with regularity, which will keep them from flying far afield, and four to five females may be permitted to each male. The hens lay in a cunningly hidden nest, in some dense copse by preference, and sit well, if quite undisturbed, for the incubatory spell of four weeks; they are the very best of mothers, and lead about their little ones for fully six months. The feeding of the chicks should approximate to that proper for the young of the guinea fowl; but if there is a good range of short grass, and immunity from feline interference there will be no need to bother much about them after the first fortnight, for the fond mother will see to their every want. In the beginning the young cocks and hens are alike in appearance, the males not attaining any of their domestically distinctive beauty until eighteen months old, and not coming to full magnificence till the moult of the third year has passed. The pea fowl is a sorry sight during the moulting time, when he will mope and hide away, but it is soon over, and in his new bright plumage is proud enough to show himself again for admiration.

GUINEA FOWLS.

Varieties.—Three distinct sorts of the Guinea fowl are found in British collections, the speckled type from West Africa, called the Vulturine Royal Guinea Fowl, and met with wild also in an identical form in the Cape Verde Islands and the West Indies. It is sometimes called the Pearl Guinea Fowl, from the fancied resemblance of its spots to pearls. The body colour is grey, the neck hackled brownish-grey, horned on the top of the head, red-wattled, white under eye and on the ear lobes, slate-coloured legs. It carries the stern low, and has an arching back and tail in one long circular sweep. The white variety is wild in Madagascar, and the pied sort is said to be the result of a cross with the darker birds. There are blue and dun Guinea fowls, almost spotless, occasionally to be met with, and in some cases the colouring of the commoner kind is reversed, the ground hue being almost white and the speckling dark purple. The birds weigh about four pounds each, the male and the female being very much alike in appearance. Generally two hens run with one male bird, and the female has a very harsh call-note, like

the creaking of a greaseless axle. They are delicate eaters, and lay many cream-coloured eggs pointed at one end, hiding their nests when they have liberty.

Rearing.—Guinea fowls are of wild and wandering habit, and will find food for themselves if not penned and kept in the country, roosting in the trees at night. They are quarrelsome, and "drive" other birds, such as pheasants and game, remorselessly. Guinea fowls do not often themselves want to sit, so that their eggs are placed under ordinary hens, and take twenty-six to twenty-seven days to hatch out. The chicks are pretty little brown-bodied things, beautifully striped, with the legs and beak orange red. They have very small crops, and require feeding at first almost half-hourly, on ants' eggs and insects, ground oats, chopped egg, cooked meat, and chicken meal. It is quite as necessary to keep them free from damp as is the case with young turkeys, and the care in their rearing must be in no wise relaxed until the horn on the head is grown. Guinea fowls never do well closely confined; they must have range to be healthy.

PIGEONS AND PIGEON KEEPING.

Pigeon-keeping is a very interesting hobby, indulged in by many in town and country. As such it seems to demand some little attention here, though of course pigeons are not poultry, neither do they properly come within the category of Cage Birds, because usually they are permitted where and whenever possible by their owners to fly freely at liberty during at least some portion of the day, reliance being placed on the "lumping" proclivities of each pigeon to bring it back to its own cote, where it knows food and protection await it. This of course does not apply to the more highly bred and valuable exhibition varieties which are kept in aviaries.

Pigeon-Breeding is a hobby which appeals strongly to those fanciers who have not space at command to enable them to "go in" for poultry-rearing, but even pigeon-keeping may become both engrossing and costly if prized birds and champion flyers are "lunkered after." Before giving a few practical notes on poultry-keeping, we will briefly enumerate the leading

Pigeons and their Points.

Antwerp.—A strong big-bodied bird, in fact, the largest of our English fancy pigeons, excepting the Runt. It has a very stout beak and waxy skull, the preponderating colours are silver, dun, and red.

Archangel.—Rather uncommon; the head and breast copper coloured, wings, back, and tail rich, lustrous black or green, small crest, rich red eye.

Barb.—Small, slightly wattled, rich pink ceres round the eyes, came first from Barbary; the colours are black, white, yellow, red, and dun.

Blue Rock.—Common, good flier, containing many of the points of the wild originator of the domestic pigeon breed.

Carrier.—The "king of pigeons," abnormally developed as to beak, wattles, and eye ceres; rather larger than the ordinary pigeon. Colours principally black and dun, others white, blue, and pied. Head should be flat, narrow, long, and straight. Not the famous flier, but an exhibition bird entirely, and very costly, many having been sold at £500 each.

Cropper.—A variety of Pouter, smaller than the ordinary English Pouter, and differs in shape and feathering of legs. The Norwich Cropper has been much fancied by breeders in the city of Norwich, hence the name. The Cropper is smarter and more active than the Pouter. Colours: black, blue, white, yellow, red, dun, silver.

Doves are mainly indoor pets, and are dealt with in the Cage-bird section of this dictionary.

Dragon.—One of the wattled family, stouter and stronger in build than the Carrier, has a peg-shaped wattle, and its ceres are much smaller and finer than those of the Carrier. Colours: blue, blue-chequer, grizzle, silver, yellow, red, red-chequer, white, and mealy.

Fantail.—Sometimes called the Broad-tailed Shaker. Tail spread and erect, neck long and tapering, breast round and protuberant. Colours: white, blue, black, silver, red, yellow, and chequer.

Helmet.—Rare, white-bodied, coloured, helmet-shaped cap and coloured tail.

Homing Pigeon.—The "Carrier" of to-day—the bird most useful for long-distance flying races—has been bred up to perfection by fanciers in Belgium and elsewhere on the Continent, also in this country.

Homers, Show.—A large, strong variety which has been evolved by crossing the Antwerp with the Homing or Racing Pigeon. A very handsome and powerful-looking bird, with stout beak, long, gracefully-curved face and skull, dark ceres, and white eyes. Colours: black, blue, silver, yellow, red, dun, also chequers in these colours. The chequers produce the best show specimens.

Homers, Exhibition Flying.—Among the most popular varieties known to English breeders. It has been produced by the crossing of the Working Homer with the Show Homer, and is the latest creation in English Pigeon Circles. The chief points are stoutness of beak, length and levelness of face, which should take somewhat after that of the Magpie in shape, dark ceres, white eyes, smart, alert carriage, shortness of body and feather. The Exhibition Flying Homer is a very handsome Pigeon, and a decided acquisition to the previously known breeds.

Horsemans.—A cross-bred Carrier, rather less wattled, smaller and shorter in the neck, now scarce.

Jacobin receives its name from the frill of turned-back feathers running up the neck to the top of the head. Pretty and distinguished looking. A very popular and largely bred variety.

Laugher.—Now rare; in size resembles the common Flying Tumblers, generally grey mottled or red. Has a curious prolonged set of call notes broken with a sound like a little laugh.

Magpie.—Marked like the mischievous bird of that name; descended from a strain of German Tumblers. A smart, engaging bird, and one of the most largely

bred in England. Colours: black, red, yellow, blue, silver, dun, cream.

Modena.—An Italian breed which has secured great popularity amongst English breeders in the second decade of the twentieth century. It is a member of the family known as Hen Pigeons. The chief points are a short, round body, short wings and tail, the latter being cocked up and not carried down like that of most breeds. It is found in a great variety of colours, with most delicate and beautiful lacing, chequerings, and markings.

Nun.—Small in size; the body colour is white, the head, ten outer flight feathers, and the tail are coloured; at the back of the head there is a shell crest. Colours: black, red, yellow, dun.

Owl.—Small, round-headed, shy, rose-frilled after the fashion of the Turbit. Blue and silver the most esteemed colours.

Pouter.—A high-class bird with a globularly developed crop, should measure twenty inches from beak tip to tail end, stand very erect, and keep his tail off the ground. The English variety is said to be a cross between the Horseman and Cropper. Colours: blue, black, yellow, red, strawberry.

Rock.—The common pigeon generally provided for shooting matches.

Runt.—A bird of extreme antiquity, one of the oldest, as it is the largest breed; a pair of Runts will weigh from 4 lbs. to 5 lbs. They are ungainly, clumsy looking birds, and not much appreciated in this country. Colours principally blue and silver.

Shaker.—Another name for the Fantail; the narrow-tailed shaker is a half-bred Fantail.

Trumpeter.—Takes its name from its deep voiced note; is noisy in spring, or when highly fed. Feathered on feet and legs, has a shell crest at back of head, and a twin-crown arrangement on head, known as the rose. Colours: black, white, and mottled.

Tumbler.—Short and long-faced, fine fleshers, with a peculiar falling attitude at times on the wing. Short legged, wings drooping to the ground, neck squat, chest broad, head circular, eye central; Almond tumblers are much prized, the normal colour being that of the shell of the nut named, with black and white on the end of the quill feathers, and the body spangled with black. There are many colours and varieties. In self colours, red, yellow, black, white, silver. Birds which have a white mark under the beak, and bald-heads which have a white head are found in all colours mentioned. There are also chequers and blue-barred. In the Mottles and Rosewings there are blacks, reds,

and yellows. The Tumblers are again divided into Muffed and clean-legged.

Turbits have the breast feathers reversed and standing out full fashion. The best fetch fancy prices. Turbits have short beaks and small round fronted heads, with the top somewhat depressed, and a large eye. Colours: black, blue, yellow, red, dun, strawberry.

Pigeon-keeping Notes.—Pigeons are best kept in a dry and draught-proof loft—into which neither rats nor cats can get—with shelves ten inches broad or so running round the walls, and partitioned into compartments of, say, sixteen inches wide, with an entrance hole towards the end, over an alighting board. The water fountains should be replenished daily. The old birds must be properly fed with maple peas, tares, dari, wheat, and a little small maize. Some of the larger breeds need the addition of tick beans, especially the Homing Pigeons, while some of the smaller, such as Short-faced Tumblers, Orientals, and Foreign Owls, do not require maize, and few peas. They must be supplied with old mortar, gravel, and salt—or "salt cat"—and great cleanliness ought to be observed in the cote or loft. The pigeons will begin to breed at nine months old, and each pair will, if allowed, have six to eight nests (always two eggs at a time) during a year, and continue to breed for several years. Valuable pigeons should not be allowed to nest more than three times in the season. The period of incubation is 28 days, and the "squeakers" are fed at first by a secretion of the old birds called "soft food," and later with disengorged corn. The young cock birds are rather larger than the hens, and have a more prolonged squeak. A variation in dietary is good; the birds will eat any kind of corn and small beans, as well as peas, tares, and vetches. Lettuce, mustard and cress, small cabbages, etc., are suitable green food. Pigeons are apt to breed feather lice, which tobacco fumigation will clear away; white-washing and the free use of disinfectants will keep mites out of the nest-boxes and off the birds; while ticks may be dislodged by sulphuring. The birds are liable to a few ailments; wet rot should be combated by steeping green rue or mixing permanganate of potash in the drinking water; dry rot, which comes mostly at the moulting time, may be cured by two or three cloves of garlic sometimes; canker is often caused by the birds pecking each other, and the sore parts may be rubbed with honey and burnt alum; nigrims are incurable. In difficult moulting saffron may be given in the water to stimulate the birds; hemp seed is also beneficial at such times.

CAGE BIRDS.

British and Foreign.

It will be convenient in this section of the dictionary, to give in alphabetical order a few particulars of the principal kinds of birds, foreign as well as British, kept as cage-pets or in aviaries, indoor and outdoor, noting the leading points of the chief feathered favourites. These notes are supplemented by concise useful information concerning cages and their selection, the stocking of aviaries, the treatment of bird diseases, etc.

Bengalee.—Pretty fawn and white birds, much petted in Japan, and introduced as aviary subjects into this country by the dealers. Not much of singers, nest freely, but generally neglect or entirely desert their young.

Blackbirds.—Lively and bright, this familiar songster of our shrubberies and hedgerows takes kindly to a cage if hand-reared from the nest. He needs a good-sized wood-shell cage, and besides crushed hemp-seed and bread, rape and other seeds, should have a few worms, slugs, and insects given him as tit-bits, and a little ripe fruit occasionally. He will sing his thanks for these attentions, and his ebony feathers and crows beak and eye cere will be all the brighter for them.

Budgerigar. (See **PARAKEETS**.)

Bulbul. Oriental varieties of the Nightingale, useful aviary birds, very fond of ants' eggs and meal worms. Head, crest, and throat jet-black, rest of plumage chiefly olive-green, tail long and graceful,

must be protected from frost. The red-vented Bulbul is brown on back, tail, and wings, black on crest and top of head, red on vent, and red spot under eye; chin, throat, and ears white.

Bullfinch.—Black on head, rosy red-breasted, this familiar hard-beaked British finch is very much of a small cage or aviary favourite. Fed on German summer rape and canary seed, and occasionally, by way of a treat or change, give crushed hemp-seed; also give a tree branch to peck at for buds and insects. Bullfinches will pipe almost any time if patiently taught.

Buntings are all pretty aviary birds and the Yellow-hammer is the most familiar of the family. It requires insects as well as seed food to keep it in good health. The Girl Bunting is distinguished by a dark triangular patch on the throat; the Corn Bunting, a shy bird, is rather larger than the Yellow-hammer, greyer in colour, and speckled on the breast; the Black-headed Bunting, is black on the throat as well as the head. It is a winter visitor to Britain; so is the

Lapland Bunting a somewhat smaller bird, with the black marking reaching on to the breast. The Snow Bunting is mainly white, with some chestnut feathering; it dislikes heat, and prefers a stone to sit on to a perch.

Canaries are of many sorts, much hybridised and specialised by the fanciers. The bird came originally from the Canary Isles, where in the wild state it was not yellow as we generally know it, but a dark olive green. The deep yellow colouring, originally a sport, has been fixed by selection. The leading varieties are the Yorkshire, the Belgian, the London fancy, the Scotch fancy, the Norwich crest, the Norwich plain-head, the Lancashire, the Lizard, the Cinnamon, and the Border fancy, all of which have numerous well-defined sub-divisions. The canary has also been a great deal "crossed" with other birds of various breeds, the result being what is known as "mules," as the goldfinch mule, the linnet mule, the greenfinch mule, the siskin mule, and the bullfinch mule, all these, of course, being infertile. Of what are known as canaries proper there are several distinct classes of nearly every one of the leading varieties, the plain or self-coloured, and the variegated, each of which is again divided into yellows and buffs, or as the old used to style them jonques and meales. There is considerable diversity of size as well as of colour, shape and marking; thus the Copsy has been bred to eight inches long, while the little Border has been dwarfed down to nearly half that length. In different localities the fanciers fix their types of excellence according to their own ideals, and set up standards which "rule out" all the rest. The Yorkshires, whatever their colour shade, must be models of extended uprightness; in the Scotch, shoulders must be as heavy as possible, whilst the front of the bird must be cleaned out like a half circle or bent like a shag in tension; the Belgian must droop the head and shrug out the shoulders, the more the better; the Norwich is nearer the normal as to outline and build, high colour being aimed at by the breeder as much as nicely-rounded plumpness. Cinnamons are slightly less "stocky," fawn of hue and always red-eyed; the Lizard must be dark and dusky of body colour, capped and spangled, smallness with him is generally reckoned detrimental. The Lizards are styled golds and silvers, not yellows and buffs as are all the other breeds. Variegation, too, is the forte of the London fancy; and, as for the crested classes, everything with them is subordinated to "topping" development, even to the point of compelling the poor bird to look only downward upon its little world. Green canaries there are too; and every shade imaginable of yellow-self, from intense orange, eloquent of cayenne and marigold diet, down to the pale primrose of the buffs. Harking away again from simplicity, all the graded colourings, from the full rich jonque to the washed-out white, may be either mottled or splashed in contrasting darkness, clearly and without "running." So that the canary fancier can give "points," almost to infinity, to the feathered object of his hobby, even though he may incline to contemptuousness of the divergent choice of others. In addition to all these, which may be termed the show varieties, there are the German Rollers, so much esteemed for their song, which at one time were always called Harz Mountain Rollers, but now-a-days the best are not those from the Harz district. Choice Rollers are very valuable and may cost anything from 50s. to £10.

Cardinals are American birds, some of them as large as thrushes, rather sparrow-like in shape, big and strong of beak, pugnacious of habit, and often prettily feathered. The Cardinal Grosbeak, or Virginian Nightingale, is the gayest of the group, with a red with a black ring round the bill and a patch on the chin of the same hue. The Grey Cardinal, rather smaller, comes from Brazil, is slaty grey to white on the under parts, crest, head, and throat scarlet; the Green Cardinal is yellow and black, with a greenish sheen; the Pope is a little smaller, crestless, with the red feathering short and slight; and the Yellow-billed Cardinal is the least of the family, with a brownish-red head and a bright yellow beak. All make active and pretty aviary birds, and require some shelter in winter; food, chiefly

canary seed and millet, with ants' eggs, insects, and fruit.

Chaffinches are handsome little birds favoured in Germany as house pets. They sing and learn tricks well under patient teaching. Their food should be similar to that of the Canary, only giving more rape seed. In the moult they moult much and are very apt to pine and die. They brighten up an outdoor aviary much, and will nest if given the necessary accommodation.

Cockatiels are properly speaking parakeets, and though crested not at all allied to the cockatoo family, with which on that account some associate them. Cockatiels are grass or ground birds, with great swiftness and activity as a forager for food on foot. Seeds, insects, succulent roots, and small fruit, are the staple food. The cockatiel is a capital aviary subject where space is ample. It is grey and white, with a little yellow in the breast and on the face, dull red on the ear coverts, and black under the tail.

Cockatoos are amongst the most striking and attractive of the parrot race, most of them capable of a considerable amount of culture in the matter of tricks and talk, and generally gentle and graceful under domestication. The snowy-white lemon-crested Cockatoo from Australia is a prime favourite; the rosy-breasted, triple-crested Leadbeater's Cockatoo is particularly handsome; the Great Salmon Cockatoo from the Moluccas is also mainly white, with a pearl-bloom tinge on the front, a broad backward inclining crest, and puffy, loose feathering; the bare-eyed Cockatoo of Western Australia, spare of crest, red-throated, is about the best of talkers of a numerous loquacious family. The Antipodean Rose Cockatoo is occasionally mistaken for the Grey African Parrot, but his white head and small crest should save him from being so confounded, though the latter lies flat when the bird is not excited, and he has his bit of red colour on the breast and not on the tail; the slender-billed Cockatoos have the upper mandible curved forbiddingly and lengthily over the lower, but are very tractable birds of all that. There is a Goliath Cockatoo, big of beak, and sooty feathered, which comes from New Guinea; some "all blacks"—forming a kind of link between macaw and cockatoo—rather scarce Australian birds; and a number of pretty sulphurous to ochre-crested white cockatoos from the Carolinas and Philippines, all small and black-beaked.

Dippers are shy stream-waders and mainly water-feeders, as big as blackbirds, save for the shortness of the tail. Slate grey on the back, white breasted, browner below, tripping of gait, can swim well, using their wings as fins. Only fit for a large aviary, with a little stream and secluded nooks in it.

Doves are gentle, engaging little pets, and will, most of them, breed in suitable wicker cages or aviaries if themselves hand-reared. The Turtle Doves are prime favourites, but the Ring Dove or common Wood-pigeon, the Stock Dove, and the Rock-pigeon are all kept in cages, or aviary compounds, with success. Our Turtle Doves will interbreed with the Barbary Doves or the larger Egyptian Turtle Dove. Those with plenty of aviary room may keep some of the other very pretty foreign doves which the dealers have specimens of at times, such as the Long-tailed Masked Dove from the Cape, sometimes called the Harlequin; the crested Goura of the Philippines, the Nicobar Pigeon, the Bronze Wing, the delicate Diamond Dove, the plump little Zebra Dove, the glistening Green-winged Dove, both from the gorgeous Orient; the charming Tambourine Dove, chocolate above and white below; and the pink-eyed pure white Java Dove. All the latter must be kept warm and given room to exercise their wings to be a success. Canary and millet seed, with darts and soft oats, suit the smaller doves, the larger may have any good corn peas, vetches, and buckwheat as well.

Finches of all kinds, foreign as well as British, make admirable aviary birds, and most of them will nest under confinement. Chiefly seed-eaters, they are all, more or less, fond of millet and canary seed, and like ants' eggs and meal worms, girdles, etc., especially when rearing young. The Green and Grey Singing Finches are great favourites with many bird lovers, the

former being sometimes styled the Cape Canary. The tropical and sub-tropical finches are, of course, suited only for indoor aviaries, at least in the winter time. Some of them cost a lot of money.

Flycatchers are shy but restless little birds, not unlike tits in action, but longer tailed. They need either a large cage or an aviary to do well, and must have as much insect food as possible, mealworms, ants' eggs, etc. The Pied Flycatcher is the commonest, the Spotted Flycatcher and the Red-breasted Flycatcher—the latter being a little Robin—are also sometimes seen in confinement.

Greenfinches are pretty birds, but poor singers. They have powerful pointed beaks, and a patch of bright yellow on the wing. Ordinary bird-seed will do for this hardy finch.

Goldfinches, or Redcaps, as some people prefer to call them, are the most beautiful of British birds, besides being fine songsters. At first—and until the moult—the young birds are grey feathered on the head. Their rape-seed should be scalded, and any hemp seed given them ought to be crushed; thistle and teazle-seed should also be given them. Goldfinches are very fond of green-stuff, but it is important that it should be fresh, and their drinking water should come from a pond or well.

Jackdaws are the smallest of our crows and not the least mischievous. The bird is generally allowed to ramble at large during the day time, leaving half a dozen wing feathers clipped to keep him from flying right away. The male has more crest and more grey on the head than the hen. They can be taught a lot of tricks and seem to know many intuitively. Jackdaws are omnivorous and will take anything from the table; but they ought to have a dead mouse occasionally as a treat to keep them in condition.

Jays must be kept to themselves, or there will be murder in the aviary; a big basket cage is best for them. They are beautiful birds, with a lot of blue about them, and very bold. The cocks can be taught to talk. They are fond of peas and beans, worms and insects generally; and must have a certain proportion of animal food of some sort.

Keas are the Parrots of New Zealand, and though by nature mainly herbivorous, enjoying a varied diet of roots, berries, and such food, they have contracted a taste for kidney fat, and indulge it to such an extent that they have become wanton sheep-killers in the eagerness to procure this dainty fare.

Kingfishers are bright and beautiful birds, and require a large aviary with running water and living fish in it for their food, and convenience for seclusion. They take very badly to confinement, and are so dirty in their habits as to be quite unsuited to any sort of imprisonment. The Halcyon of the ancients, the Kingfisher is altogether out of place in a cage.

Larks will strive to soar whenever they wish to sing, so that a soft cloth or balize top must be provided for their cage, also a fresh turf for them to peck at. They do much better in a large cage than in a small one, with plenty of room to run about, and road-dust to roll in. Larks require insect food as well as seed.

Manakins are Central American birds about as big as our thrushes. The Bronze-Spotted and Golden-Winged species are mainly black and white, with very shaggy shoulders. They live in the damp depths of the forests of Brazil and Guiana, and feed on seeds and insects. Sometimes will breed in a large and warm aviary or bird room. The voice is inharmonious.

Mocking Birds are American thrushes, long of tail, grey and white in colour, and not such fine singers as they are generally reputed to be. They may be treated in captivity like our own thrushes, and should have a little insect food in variety.

Nightingales do not sing in cages so well as in the woods or shrubberies, which they make melodious with their summer warbling by day as well as night. They are readily hand-reared when taken from the rather slovenly nest and fed on ants' eggs, mealworms, gentles, and almost any insects. Very small red garden worms, not over an inch long, and cut in two, may be given to them; but being migrants, they are difficult to retain in captivity for any length of time in

this country. Matchless in song they are soberly clad, brown-tinted above and grey below.

Nuns are Asiatic and African finches with white or black heads, and should be treated as other foreign birds of the same character, whether kept in small cages or as aviary specimens.

Nutmeg Birds, sometimes called Spice Birds, may be reckoned relatives of the Nuns, and need similar treatment in captivity. They are chocolate coloured above and brown speckled on white beneath. **Finches** are sweet singers, and should in captivity be accommodated with larger cages than the tiny cramping wired boxes usually provided for them. Grey, brown, or speckled feathers are worn at different periods by these birds, and the cocks have a rosy breast tint autumnally when at liberty. Small seeds are their only necessary food. They interbreed with the canary, the linnet mule being a very fine songster.

Love Birds are most interesting pets, pretty of way as well as pretty of feather. Miller is the best seed staple, white or spray, and they will most of them eat cooked maize, ants' eggs, and sweet sponge cake. The so-called Abyssinian Love Birds are green and yellow with black markings and red bills, surrounded by a broad band of orange. They really come from the West Coast of Africa, and must be kept warm and out of all draughts. The Rosy-faced Love Birds are rather larger, and have the mask on the face of a pretty peach shade, and the bill white. They will breed in confinement sometimes if given a cocoa nut husk to nest in.

Magpies are chattering and destructive Pies, and should either have restricted liberty or a large cage. They will eat anything, and are restless lumps of mischief. The common British Magpie is in the spring-time velvety-black, relieved by pure white on wings and breast.

Parakeets are magnificent birds, many of them. Much smaller than the macaws, they have long tapering tails like them, but feathers on the cheeks instead of bare skin. There is an intermediate group, with partially-feathered cheeks, called macaw parakeets. Parakeets are gentle, vivacious, and apt at talking. They are found in the forests of every part of the world save Europe, and their plumage is chiefly green, with markings of red or blue. Perhaps the Rosella Parakeet of New South Wales is the most beautiful and brilliant of any, though the King Parakeet, the Tippet of the Antipodean Broad-tails, is another particularly gorgeous bird. Of the smaller parakeets, none is more striking than the Auniceps, or Golden-headed parakeet of New Zealand. It is only 8½ inches long when full grown, and half of that is tail. The forehead is scarlet, with a band of golden-yellow behind. Most of the rest of the feathering is green, with some blue and yellowish-grey. Maize, either cooked or raw, hemp-seed, nuts, fruit, biscuit can be fed to parakeets and all the parrot tribe, and they should be offered clean water to drink two or three times a day.

Parrots are a large family, and properly speaking, do not include the long-tailed macaws or the gorgeous lorikeets and lorikeets, nor the parakeets, cockatoos, and cockatiels already treated. All of them require protection from cold, and cages or perches, which may be placed out of doors in the summer. The dietary has been indicated sufficiently, save that the lorikees need boiled rice, sweetened with honey. They want water to bathe in, and must be kept out of draughts. Sop is not a bad thing for parrots for a change, but they ought not to be given meat. Chickweed and ripe corn in the ear are enjoyed by most of these birds. Some will live to a great age in captivity. Perhaps the Grey Parrot from the African West Coast is the greatest favourite, but the Green Amazon is favoured by some. Their beaks are very powerful. The aras or macaws come from Brazil and other parts of South America.

Ravens are quick, sagacious birds, full of fun and frolic, and quick to learn any kind of talk. They want a lot to eat and plenty of room. What they can't eat they'll hide. The hen is larger than her male, but not so glossy black. They like tasty food, and will destroy anything for mischief's sake, even to eating white lead and staircases, as Dickens's used to do.

Redpolls are very like linnets, except as to size, being a little smaller. They come to Britain to winter, and tame readily, breeding late. The young may be hand-reared on bread and milk, or a paste of buck-wheat flour. The red on the poll and breast will not long remain under captivity, either in cage or aviary.

Shrikes are Indian birds of robin-like habit, ten inches long. They are good aviary birds, of very handsome black-blue, and rich brown plumage, and may be fed as recommended for the nightingales.

Shrikes are the smallest of British birds of prey, and must, of course, have insects and flesh food, such as small mice, or pieces of rabbit with the fur adherent. In an aviary they must be kept away from the young of other birds, or they will certainly destroy the nestlings. The Red-backed Shrike, or Butcher Bird, is rather a fine-looking fellow; the Great Grey Shrike is more of a rarity, and the Lesser Shrike and the Woodchat are not often seen in collections.

Siskins are yellow-green to greenish-grey, with black on the head and throat of the male. They mate with the canary, and are very docile, requiring similar feeding to that bird or the linnets and other finches.

Starlings are capital talkers at times, and good aviary birds, with a quaint way of walking when foraging for food. They eat many insects, and are fond of berries and soft, ripe fruit. In the springtime they are very beautiful when the sun glints on their lustrous plumage.

Tangars are American fruit-eating birds who like a few insects occasionally, but prefer grapes, ripe pears, bananas, oranges, and summer fruit generally. Sometimes they live solitarily, sometimes in flocks, the Grosbeak Tanager building quite a little bird town in the top of a palm tree for the accommodation of a large family group. The Scarlet Tanager is the brightest of the Tanager species.

Thrushes require similar feeding and accommodation to their Blackbird relatives. They will sing very sweetly in a cage, and are fond of sunflower seeds and fat white slugs or shell snails.

Tits are most interesting aviary birds, their quaint nest building and peculiar way of turning topsy-turvy in searching crannies of bark for insect food being most diverting. The Great Tit is black on the head; the Blue Titmouse is half his size; the Coal Tit has white cheeks and a grey back; the Crested Tit is a rare Scottish bird with a tuft on its head; the Marsh Tit is darker than the Coal Tit except for the absence of the black patch on the throat; the Long Tailed or Bottle Tit hangs up its wonderful mossy nest to a tree branch; the Bearded Tit is now very rare. All must have ants' eggs or insect food of some sort, and they prefer to find it for themselves.

Wagtails are restless waders, some call them "Feggy Dishwater" because of their quaint habits. They are insect eaters in the main, all the varieties, and they should never be caged, but kept in aviaries with a running stream and a grass plot.

Warblers are a numerous family, headed by the Nightingale, already noticed, and including the Blackcap, Dartford Warbler, the White Throats, the Wrens, and the Chiffchaff. In captivity they must have ants' eggs or similar food.

Weaver Birds are little African species varying from sparrow to starling size, and very good aviary birds, especially when they can be induced to do their wonderful nest making either for pastime or nidification. They are a numerous family of many colours, as some of their names sufficiently indicate, and all will eat millet and canary seed.

Whydah Birds are long-tailed, hard-billed, seed-eating birds about as big as Canaries, and coming from Senegal, and South Africa. The peculiarity is the disproportionately long tail which the male develops

at the breeding season. They change their plumage twice a year, and the Paradise Whydah has tail feathers thirteen to fourteen inches long, without being the most liberally endowed of the family. They want millet and other soft seeds as a staple, with some insect food or ants' eggs.

Aviaries and Aviary-stocking.—Aviaries may be indoor and outdoor affairs, simple and inexpensive, or ornate and costly, according to the taste and the means of the bird-fancier. They may be part of a conservatory partitioned off, with hanging and other plants in it, and capable of being heated to suit the needs of tropical and sub-tropical birds. In that case there should be ample accommodation for the numbers and species included, and a proper sorting of the birds without overcrowding. Ventilation should be perfectly arranged for, and great attention given to cleanliness, for strange bright birds otherwise would soon become bedraggled and miserable looking. A good deal can be done in a bird room with exotic feathered favourites by an ingenious handy man; but the hobby is rather an expensive one if the fancier has to go often to the dealers. It is well not to attempt too much, and a study of the foregoing paragraphs will be found helpful if the natures of the various birds and their habitat be borne in mind. As regards the harder British birds, most of them are suitable for keeping in an outdoor aviary of sufficient dimensions. It should be about fifteen feet high, zinc-roofed, and properly guttered, opened to the south with a wired front and glazed sides, and a stout back of brick or woodwork, all well-constructed. The perches and trees, nesting accommodation, etc., should be as close a following of Nature as possible at all points, and there must be proper cover and seclusion and the necessary water supply.

Cages.—Blackbirds, thrushes, and such birds should be placed in roomy cages, with a draw-out floor for cleaning, boarded back, and covered food and water vessels; larks require a board front to take fresh turves, and a sort of top to the cage; canaries and the finches generally may have all-wire cages, or wire with japanned metal top or back, in the shapes known as Chinese, Gothic, Cottage or Arched. Glass part of the way up conduces to cleanliness.

Bird Diseases and Bird Medicine.—Pip is the commonest of bird ailments, being of the nature of a cold. A pill of butter or pepper will sometimes do good. Epilepsy arises usually from over-feeding; olive oil may afford relief, or plunging in very cold water. Moulting time requires very careful feeding, extra cleanliness, and perfect freedom from draught, with a little iron infusion in the drinking water. Saffron is good for costiveness, especially if given with linseed oil, and for catarrh speed-well infusion and some pectoral elixir may be recommended. Giddiness may be prevented by covering the cage-top with a cloth in many cases. Feather eating is most frequent where the confinement is close and the cage small; room for flight will generally cure it. Over-stimulating food will make any bird ill, and very likely kill it in the end; let not this error of dietary be perpetrated by any bird-lover. Asthma comes of letting a bird, accustomed to artificial heat, get into a draught; many cage-birds are ruined thus. Generally speaking, a bird hanging in a window is in a draught. We are no advocates for bird coddling, but keeping your pet out of currents is most essential. If your cages and perches are quite clean always, and you keep the claws of your birds mostly cut, there will be little fear of sore feet. Camphor water, weak, is good for washing the feathers of birds suspected of harbouring red mite, and a good insecticide may be used at the nesting period with advantage. Fir-tree oil is recommended. The higher the cage is hung in a room the worse the air for the bird.

PEARS'
DIGTIONARY
of COOKERY.



EDITED BY

A. BEATY-POWNELL.

Editor of the Cuisine and Le Ménage Department of "The Queen."

Pears' Dictionary of Cookery

INTRODUCTION.

By A. BEATY-POWNELL

(*Editor of the Cuisine and Le Ménage Department of "The Queen"*).

When "wild in woods the savage ran," the art of cookery was not much better understood than the art of painting; but as civilisation advanced the sense of taste developed as well as our other senses (as Nature intended), and the cook came into existence. So, from century to century, the art of cookery has progressed, and at the present day has attained a degree of perfection unknown in any previous age.

But cookery is an art of many branches; and it may be on expensive or on economical lines. There are people who imagine that good cookery is mainly a matter of cost; but this is a mistake. Good, sound, healthy cookery comes as much within the scope and duty of people of moderate purses as of the rich. Beyond a certain limit, cookery loses itself in those higher reaches of delicate refinements that may properly be left to *gourmets* of leisure, taste, and means.

This Dictionary of Cookery aims at being a practical, serviceable guide to good cookery, adapted for the ordinary household.

Everyone knows the difference between a meal, simple in itself in the extreme, and yet nicely served, and the same meal served anyhow, and it is the aim of this Dictionary of Cookery to show how this may be done.

English cookery has long been a term of reproach, but this at last, owing to the strenuous efforts of men and women who are authorities on their special subjects, is fast becoming a thing of the past.

For some time now the meals of those who have not to consider expense have been served with a view to obtaining the best results in the simplest manner, and yet with absolute perfection. All fashions filter down, and luckily this one has proved no exception to the rule. Little as it may be imagined, in years long gone by English cookery held a really high position in the culinary world, and English cooks were justly famed, and there is every prospect, with the increased advantages at people's disposal, that this may once more become the case.

The great secret of success in cooking lies in making the best of the materials at our disposal, and this applies equally to every class. It is gradually being borne in on us that there is no reason to limit ourselves to the eternal round of joint, whether beef or mutton, varied occasionally by a chop or beef steak. Everyone should aim at giving variety, and the directions that follow are such that any one with a good will may follow them.

Every woman should make a point of grasping the fundamental principles of roasting, boiling, and frying, and last, but by no means least, should understand the proper way of making the simple sauces, for there is the greatest difference between melted butter, for instance (the sauce that is perhaps the most commonly used), properly made, and the ghastly paste-like substance which usually is served in many households.

The following recipes are intended for the average household, but offer a number of ways of serving the most ordinary food, and yet are within the means of most homes. They are alphabetically arranged for greater convenience, and are given in the simplest possible terms.

Much of the happiness of the home depends upon the manner in which the daily meals are cooked and served. Where the cooking is bad, it is wasteful; where it is good, not only is economy served, but health; and by varying the menu from day to day, however homely the range of fare may be, the palate is ministered to, the appetite is strengthened, and every day becomes more or less a day of good cheer. A sense of comfort and gladness always accompanies

the serving of a dainty meal; and in the following pages will be found an adequate round of suggestions for satisfying all reasonable culinary tastes and requirements, without involving unnecessary cost.

Before proceeding to give a selection of approved recipes for various dishes, savoury and sweet, covering the whole range of cookery—poultry, fish, meat, vegetables, fruit, pastry, and confectionery, as also pies and puddings of many kinds—suited to the table of an ordinary house hold, we propose to devote two short introductory sections to useful notes and hints on the kitchen and cookery generally. The opening section deals with kitchen work, kitchen utensils, and the care of the larder, and each paragraph, complete in itself, is sequential in a way to what has preceded it. This is followed by the section in which numerous homely, but important, Cookery Hints are similarly arranged; after which, in alphabetical order, under a sectional system of entry, with cross-references to prevent repetition and facilitate consultation, come the culinary recipes, all given in the plainest possible language.

KITCHEN NOTES.

Beef Choosing.—When beef is chosen see that it is of a bright red colour, and the fat a rich yellow. Should a sirloin be purchased, see that it has the undercut, if you are able to cook filets of beef; they are quite delicious, and make a sirloin a two-days' hot dish. The filets should be served the first day, as they are taken from the undercut, and the next day you have the sirloin ready to roast.

Beef, to keep Sweet.—To one gallon of water add one and a half pounds of coarse salt, half a pound of brown sugar, half an ounce of pearl ash, and half an ounce of saltpetre; mix and heat to boiling point, and skim well; let cool, then pour over the meat.

Butter.—To test whether a suspected compound is butter or oleomargarine, melt it, immerse in it a bit of cotton wick, and set the tip alight. Butter burns with a dainty and agreeable odour, while oleomargarine has an unpleasant smell.

Butter, to keep Firm.—In hot weather, fill a large basin with cold water, put as much kitchen salt in as the water will dissolve, fold butter in grease-proof paper, and drop it in. Stand basin in the coolest corner of larder.

Cakes, to keep Nice.—Have large cake boxes, or a stone jar, and cover closely with a tight-fitting lid.

Cheese, to prevent Mould in.—Rub the cur part with butter, and cover with white paper.

Coffee and Teapots.—To be kept sweet, should be scalded after using every time; also, occasionally throw into them a cupful of wood ashes or some powdered borax; fill with cold water, and bring slowly to a boil.

Eggs, Buying and Testing.—In buying eggs, a clean rough shell is to be preferred to one that is smooth and sticky. The most certain test is to put them one at a time into a basin of cold water. A new-laid egg will sink like a stone; an egg that has been laid a few days will rise a little at the largest end, and in proportion as they become actually stale, will assume nearly an erect posture in the water; an egg that floats is infallibly very bad.

Fish Choosing.—Any fish that is broad and thick of its kind is to be preferred to those that are thin and narrow. See also that the eyes are bright, the gills red, the scales closely laid and shining, and that the fish feels stiff. Stale fish has always a lumpy feel, especially about the vent; the eyes become filmy, the scales brown and flabby, and the whole presents a dingy appearance.

Fish, to keep.—If fish is found to be slightly tainted, a good thing is to steep it for a short time in a weak solution of permanganate of potash or boric acid, which destroys the tainted particles, and leaves the fish perfectly sweet and wholesome.

Food of any kind must not be suffered to become cold in any metal utensil; even tin or iron, however clean, give an unpleasant flavour.

Food, keeping Warm.—When it is necessary to keep a meal warm for a late comer, place the plate or

dish in a steamer, over a pan of boiling water, protecting with a cover that will just sit over the edge.

Glasses in which milk has been served should be plunged into cold water before they go into warm water. Egg-spoons and cups should be treated similarly. Egg stains can be removed from spoons by rubbing with a little salt.

Kitchen tables and shelves may be kept very white and clean if you have this mixture used for scouring them with. Half-pound sand, half-pound lime. Work the dissolved soap into the dry ingredients. Put the mixture on with a scrubbing brush, and wash off with plenty of cold water. Lemon-juice well rubbed into kitchen tables quickly removes all grease.

Knife cleaning may be facilitated by taking a strip of old carpet, tack it tightly on the knife-board, and sprinkle with scab brick. This will produce a good polish without scratching the knife.

Meat may be kept good in summer by lightly covering it with bran, and hanging it in some dry cellar.

Meat safes should always be put in an airy place, and if possible where a draught may blow through. It should be emptied daily in summer and wiped with a clean wet cloth. Keep a dish of charcoal standing in the larder.

Pans of all kinds should be cleaned and put away directly after use. If this should on occasion be impossible, fill the pan immediately with hot water and soda, to prevent the grease getting hard and caked. Saucepans should always be washed inside and out, and in these days, when one rarely meets with an open fire, it is easily done. A pan that is rusty, or even a little dirty, will prevent soup which is cooked in it from being clear. Every cook should be provided with a saucepan brush, and armed with this, and a little soap and soda, she will scour the insides and outsides of her pans till they shine like new.

Poultry, Preparing for Table.—If obliged to dress poultry immediately after killing, steep in boiling water, and feather while in the water. This method will make it as tender as if killed some days previously. To prevent drying, and to improve the bird, tie a slice of raw bacon over the breast when roasting. By rubbing the breast of a fowl with lemon juice before boiling, you will be able to send it to table with a snow-white appearance.

Spoons of wood are far superior to metal ones for cooking work. Fruit which is being stewed or cooked in any way should never be stirred with an ordinary metal spoon.

Stains on baking dishes can be easily removed by dipping a piece of flannel in whitening, and rubbing it well into the stain.

Tea and Coffee should be kept in glass jars rather than tin canisters.

Wine, to Cool.—To cool a bottle of wine without ice, wrap a flannel wetted in cold running tap-water round the bottle.

COOKERY HINTS.

Culinary Terms.—The following are culinary terms often met with but not always understood:—

Aspic.—Savoury jelly for cold dishes.
As gratin.—Dishes prepared with sauce and crumbs and baked.

Baba.—A peculiar sweet French yeast-cake.
Bechamel.—A rich, white sauce, made with stock.
Bisque.—A *purée* made of shell-fish.

Blanch, To.—To place any article on the fire till it boils, then plunge it in cold water; to whiten poultry, vegetables, etc. To remove the skin by immersing in boiling water.

Bouchées.—Very tiny patties or cakes, as the name indicates, mouthfuls.

Bouillon.—A clear soup, stronger than broth, yet not so strong as *consommé*, which is "reduced" soup.

Braise.—Meat cooked in a closely-covered stewpan, so that it retains its own flavour, and those of the vegetables and flavourings put with it.

Brioche.—A very rich, unsweetened French cake, made with yeast.

Canneton.—Stuffed, rolled-up meat.

Consommé.—Clear soup or *bouillon* boiled down till very rich, *i.e.*, consumed.

Croquettes.—A very savoury mince of fish or fowl, made with sauce into shapes, and fried.

Croustades.—Fried forms of bread to serve minced or other meats upon.

Entrée.—A small dish, usually served between the courses at dinner.

Fondant.—Sugar boiled and beaten to a creamy paste.

Fondue.—A light preparation of melted cheese.

Marinade.—A liquor of spices, vinegar, etc., in which fish or meats are steeped before cooking.

Matalote.—A rich fish stew with wine.

Mayonnaise.—A cold sauce or dressing, chiefly for serving with salads.

Meringue.—Sugar and white of egg beaten to sauce.

Mireton.—Cold meats warmed in various ways, and dished in circular form.

Purée.—This name is given to very thick soups, the ingredients for thickening which have been rubbed through a sieve.

Rémoulade.—A salad dressing, differing from mayonnaise in that the eggs are hard boiled and rubbed in a mortar with mustard, herbs, etc.

Soufflé.—A very light pudding, steamed or baked.

Trifle.—A sweet made from sponge cakes, macaroons, etc., with jams, wine, or liqueurs.

Vol-au-vent.—Minced meat, in light puff paste, cut oval or round.

Cooking by Gas.—Joints cooked in a gas stove sometimes have a grassy taste because they are placed in the oven before the stove is lighted. You should always see that your oven has fully ten minutes to get warm, when the gas is only half-turned on. Open the door for the first few minutes that the air within the oven may free itself of gas. When this has been done, close the door, turn the gas full on. These remarks also apply to bread.

The Stock-pot.—This is an important thing in cookery. Put whatever bones you may have into a pan kept for the purpose (previously breaking them in pieces), boil them for three or four hours at least, then pour off the liquor into the stock-pot, and add to each gallon the meat off a knuckle of veal, a pound of lean beef, and a pound of the lean of a gammon of bacon, all sliced, with two or three scraped carrots, two onions, two turnips, two heads of celery sliced, and two quarts of water. Stew the meat quite tender, but do not let it burn. When thus prepared it will serve either for soup, or brown or white gravy.

Clarifying Dripping.—To clarify beef or mutton dripping, put into a basin pour over it boiling water, and keep stirring the whole to wash away the impurities. Let it stand to cool, when the water and dirty sediment will settle at the bottom of the basin,

Oven, Testing the Heat of.—Place a piece of white paper in the oven, and if the heat be too great it will blacken or burn; if it only turns a light brown colour it is fit for pastry. If the paper turns a dark yellow shade, the oven will be right for baking the heavier kinds of cake; if a light yellow, then it is fit for sponge cakes and the lighter kinds of biscuits.

A tea-cupful of flour equals four ounces.

Tomatoes, to Slice.—Put them for a few minutes into boiling water; they will then peel easily and cut without waste, and in no way spoil the flavour.

Beetroot, to Peel.—When the beetroot is thoroughly cooked, take it out of the saucepan and hold it in your hand with a clean cloth; then, with the other hand, gently draw the skin off. This leaves the beet smooth without waste. It must be done when hot.

Onions, Peeling.—To remove the smell of onions, rub the hands after peeling them on a stick of celery, and the odour will be entirely removed.

Candied Peel should always be placed in the oven before cutting up.

Raisins will stone quite readily if warmed before stoning them.

Currants and Raisins.—To clean raisins and currants, roll in flour, and then pick off all large stalks. If currants are washed, they must be dried before being added to cakes.

Taploca, Cooking.—Before cooking taploca for a pudding, soak it in water until it is swollen, and allow a pint-and-a-half of milk to every ounce of taploca—weighed before soaking.

Dishing and Garnishing.—Dishes which are served hot do not permit of as much garnishing as cold ones. Proper attention should always be given to the cutting and trimming of meats, the moulding of croquettes, meat-balls, or anything served in pieces, and also to the dishing of the same. The garnishes for meat dishes are so various that it might be said their only limit is the resourcefulness of the cook.

Flour, Browning.—Have always handy a jar of browned flour for colouring gravies, soups, etc. To prepare this, place a quart of flour at a time in a dripping-tin, in a moderate oven, and stir it about at intervals till brown. Keep the jar well covered.

Cream Substitute for.—Stir a dessertspoonful of flour into a pint of new milk, taking care that it is perfectly smooth. Simmer it to take off the raw taste of the flour. Beat well the yoke of an egg, and stir it gently into the milk. Pass all through a fine sieve.

Butter, to Cut Clean.—When cutting butter from a large roll in very cold weather, first dip the knife into boiling or very hot water, when all trouble of breaking the butter will be obviated.

Cake, Testing a.—A sure way of telling if a cake is well baked is to lightly insert a skewer in the centre, and if clean when withdrawn the cake is perfectly cooked. To find out whether there is any alum in cakes or loaves, heat a knife and thrust it in. Any alum will partially cover the knife.

Chop, Cooking a.—Pour boiling water over the chop, when it has been placed in a colander, in order to close up the tissues and enable the chop to retain the nutritive juices. Grill over a clear, hot fire, and turn carefully so as not to prick it in any way.

Boiling.—When boiling meat, keep the lid of the stewpan down tightly. When boiling dumplings, keep the lid of the saucepan raised. If this is done, the dumplings will never be heavy; that is, if the water is kept boiling the whole time. Boiled puddings should be plunged at once into boiling water, and should boil fast, not simmer.

Steaming Steak and Kidney Puddings is better than boiling them. They are far lighter and more digestible; but allow double the time for cooking, or they will not be done.

Broiling.—To broil meat or fish, the fire should be quite clear. Set the gridiron over the fire to get hot, while a lump of butter or nice sweet dripping is melting on a plate in front of the fire. Well wash the fish

or meat, whichever you wish to broil, under the tap. Never put any but salt fish to soak. Dry the fish on a clean cloth; lightly sprinkle with salt and pepper.

Carving Fish.—The implements generally used for carving boiled or braised fish are either a silver fish-slice, spoon, or fork. If a long-shaped fish is to be carved, such as bass, salmon, &c., trace first a line along the backbone, beginning at the head and finishing at the tail; then cut the fish into slices, and lay each piece on a separate plate.

Apple Jelly.—Simple. Put into a pan 2 oz. of best leaf gelatine with a quart of hot water, a dessert-spoonful of salt, the juice of a lemon, 3 bay leaf, a teaspoonful of good brown vinegar, a tablespoonful of tarragon vinegar, a small onion sliced, 5 mixed peppercorns and allspice, and the whites and shells of 5 eggs. Let this all boil up, and then run it through a jelly-bag wrung out in hot water.

Bacon Kromesekies.—Cut some very thin slices of streaky bacon about one and a half inches broad by two inches long. Lay each slice flat, and place a little nicely-seasoned minced meat on each. Roll up the bacon tightly, taking care that the meat does not escape, and put aside in a cool place. Prepare the frying batter and let it stand for two hours. To serve, dip each roll into the batter, plunge into deep boiling fat and fry a golden colour. Garnish with parsley.

Bacon, Macaroni and Tomato.—Take half a pound of bacon, half a pound of macaroni, six tomatoes, grated cheese, butter, pepper and salt. Boil the macaroni in salted water till tender, then drain and cut it in short lengths; fill a buttered baking dish with alternate layers of macaroni and tomatoes, flavouring each layer with grated cheese, pepper and salt, and putting small pieces of butter between them; cover the top with fine breadcrumbs and bacon cut in dice; bake in a moderate oven and serve hot.

Bacon and Tomatoes.—Peel a pound of ripe tomatoes, and cut them into a stewpan with one-third their bulk in fine breadcrumbs, a seasoning of salt, pepper, lemon juice and minced parsley, three ounces of fresh butter, and a teaspoonful of very finely chopped onion, and stew over a gentle fire from fifteen to twenty minutes; then have ready some daintily fried pieces of stale bread, half inch thick and two and a half inches in diameter, which have been fried a golden brown in boiling clarified fat, and well drained in order to render them quite crisp and dry—and arrange these neatly on a very hot dish; pour the stewed tomatoes over these, garnish round the edge with small slices of prime bacon, cut thin, and toasted or fried, and dish up very hot.

Beef, Chooching. (See "Kitchen Notes," Introductory.)

Beef, à la Mode.—Melt two ounces of beef dripping in a stewpan; fasten two pounds of steak in a nice shape, flour it and fry it a nice brown on both sides. Pour in good stock to barely cover the beef; add a dozen or so of mushrooms, peeled and cut in halves. Simmer gently for three hours, when the meat will be quite tender. Serve on a hot dish, with the mushrooms round it.

Beef, Boiled.—Salt the aitch-bone joint or brisket for about four days. Cover with water in a saucepan and boil. Quick boiling will make it tough. Remove all scum, and add, to boil until soft, some turnips and carrots. Also dumplings, if liked.

Beef, Boiled, Round of.—Take about eight to ten pounds of the silver-side of beef, and salt for nine or ten days. Skewer up into a round, bring to the boil with sufficient water to cover, and then very slowly simmer until tender.

Beef, Brisket of (Baked).—The joint is very appetising, stuffed and breaded, and very cheap too, which is an object in most households. Take out the bones, and fill the holes up with good stuffing, of whatever sort is liked best. The stuffing must be well seasoned. Dredge the pieces of meat well over with flour, and pour over it about half a pint of broth or stock; bake or for three hours. Skim all the fat off the gravy, and serve.

Beef, Brisket of (Boiled).—Lay the brisket in brine, turn every day, and rub into it brown sugar

and pickling spice. In about a week the beef is ready. Boil very slowly until the meat is quite tender, remove the bones and gristle, and press. Glaze and garnish.

Beef Cake.—The remains of cold roast beef; to each pound of cold beef allow a quarter pound of ham or bacon and pepper and salt, a few herbs, one or two eggs. Mince the meat and mix all the other ingredients, and bind with one egg, or two if required. Make into small square cakes, fry in hot dripping, and serve with brown gravy poured over.

Beef, Fillet of.—Put this in a pan to pickle for twelve hours. Cover with bacon to lard it, and add a sliced onion, parsley and seasoning. Roast for one and a quarter hours for four pounds of beef. Glaze, and pour Spanish sauce around.

Beef, Roast.—Allow one-quarter hour for each pound of meat, and one-quarter hour over. Place two metal skewers through the middle of the joint, which can be easily withdrawn before serving. The metal conducts the heat to the middle, and ensures it being cooked right through. If you prefer underdone meat, do not use skewers through the middle. Garnish with scraped horseradish.

Beef, Roast Ribs of.—Dredge the joint with a little flour, and place before a clear fire or in a hot oven. Baste often, and allow two and a half hours to ten pounds of beef. When cooked pour the dripping from the pan, add a little boiling water with a sprinkle of salt, and boil up in the pan, then pour this gravy over the joint. Serve this with Yorkshire pudding and horseradish sauce. When the ribs of beef are boned and rolled, a little more time should be allowed, such as three hours to ten pounds, as the joint is more solid.

Beef, Spiced (Cold).—Rub coarse sugar into thick flank or rump beef, and leave for twelve hours. Then rub in one ounce of pounded saltpetre, and a quarter of a pound of pounded allspice. Leave this for another twelve hours, then rub in one pound of salt. Dry the joint, put in a pan with a little oil, and bake very moderately for four hours. Turn a few times while cooking, and cover if getting too crisp.

Beef Steak and Cucumber.—Dip a rump steak in salad oil and broil over a clear fire until done; place on a dish and serve with cucumber cooked in the following way. Cut a cucumber, after peeling it, into pieces about three inches long; cut each piece into quarters, put in a stewpan with a dessert-spoonful of butter, four spring onions finely sliced, pepper and salt; put the lid on and stew quickly until tender, about ten minutes, tossing the stewpan frequently to prevent it turning, then add a teaspoonful of flour mixed with two tablespoonfuls of milk, or, preferably, cream, and a lump of butter the size of a walnut. Place round the steak and serve.

Beef Steak, Stuffed (Cold).—Make a stuffing with three ounces of bread crumbs, thyme, chopped onions, suet, salt, pepper, and bind with a beaten egg. Spread this over the steak, roll up, and tie together with string. Put in a cloth, put it into warm water with a little salt in it, and boil slowly until tender. Serve cold, cut into thin slices, with some salad garnishing.

BEVERAGES, SOME HOMELY.

Beet and Apple Cider.—One bushel of sugar beets mixed with nine bushels of apples makes a cider richer and of superior flavour to that made from apples.

Dandelion Wine.—Gather two quarts of dandelion petals—that is, the yellow petals of the flower, pour over them half a gallon of water, warm, but that has been boiled; stir, and cover with a flannel cloth, and leave for three days, stirring now and again. Strain it then, put the water into a pan and boil for half an hour with the rind of a lemon and an orange among it, and a little ginger. Then slice the lemon into it, and add one and a-half pounds of lump sugar; when cool put in a bit of bread with a quarter of an ounce of yeast in it, and leave it for a day or two; then put it in a jar and leave it for a month or two.

Ginger Wine.—To make ten gallons of ginger wine, take eight gallons and five pints of water, twenty-

four pounds of loaf sugar, thirteen and a-half ounces of ginger, four pounds of raisins, eight Seville oranges, six table-spoonfuls of yeast. Bruise the ginger, and boil the ingredients half an hour; let it stand till nearly cold, then put it into the cask with the juice of the oranges, raisins, and yeast chopped small. Let it stand six or seven days, put in half an ounce of isinglass and a quarter of the best brandy. Bung up the cask and let it stand three months, then bottle off.

Glean Gooseberry Wine.—To make nine gallons of wine, take half a bushel of fruit crushed or pounded, twenty-eight pounds of loaf sugar, a quarter of brandy, and half an ounce of isinglass. When the fruit is well crushed put the water on it; let it stand three days, stirring it twice a day; strain it, and add the sugar. When dissolved, put it in your cask, it will ferment very much. In three days add your brandy and isinglass and bung it up. Bottle it in March, and in three months it will be very like champagne. It will keep good for years.

Hop Beer.—Boil five ounces of hops slowly in nine gallons of water for about three-quarters of an hour. Strain over three pounds of brown sugar in a large pan, add a little bruised ginger, and when luke-warm add about three or four table-spoonfuls of yeast, and let it ferment. If this is to be kept, add a little brandy, for it is not easy to keep any fluid containing sugar without it. After twenty-four hours, strain off and bottle, tie down the corks tightly, or draw from a stone or wooden cask as required for use.

Lemon Syrup.—Put in a basin a pound and a-half of loaf sugar, one ounce of citric acid, with the rind and juice of two lemons. Pour over all one quart of boiling water, and let it stand till cold, stirring occasionally. Strain and bottle. A wine-glassful of this to a tumblerful of water.

BISCUITS.

Biscuits, American Breakfast.—One pound of flour, two table-spoonfuls of baking powder, quarter pound of butter, a little salt. Well rub butter into flour after sifting in baking powder, then make into a nice soft dough with milk; stale milk is really best. Roll out to half an inch thickness, cut out in rounds with a pastry cutter, bake in a very hot oven. When wanted for use cut open and butter. These are very good.

Biscuits, Clean-out.—Take half a pound of desiccated cocoanut, quarter of a pound of caster sugar, and a table-spoonful of flour. Put them in a bowl, and mix them well together. Beat up the whites of three eggs into a stiff froth, and very lightly add it to the mixture. Drop a spoonful at a time on greased paper or tin, and bake in a moderate oven until pale brown.

Biscuits, Cracknel.—Take a quart of the best flour, and four yolks of eggs well beaten, in which has been mixed a little nutmeg, a small tea-spoonful of caster sugar, and half a gill of orange or rose-water; pour this into the flour and make a stiff paste. Then roll it out, and work into it by slow degrees a pound of butter, and when thoroughly united roll out to a proper thickness, which is about the third part of an inch, and cut into strips; throw them into boiling water and let them continue to boil till they swim on the top. They must then be taken out and plunged in cold water to harden, after which they are to be slowly dried; wash the tops with well-beaten whites of eggs, and bake on tin plates in an oven sufficiently brisk to make them crisp, but by no means too dark a brown.

Biscuits, Ginger.—Mix a quarter of a pound of butter to a half pound of sugar, add one pound of flour with ground ginger to taste and two cupfuls of water. Roll this out thin, stamp out, and bake on greased flat tins. When the biscuits are done, brush them over with beaten egg, and place on sieve till cold. Keep in air-tight tins.

Biscuits, Plain.—Mix one pound of flour and twenty ounces of butter together, a pinch of salt, and enough water to work into a smooth dough or paste. Roll out thin, cut into fingers, and bake in slow oven.

Blancmange, Almond.—Take four table-spoonfuls of cornflour, a quart of milk, and sugar to taste. Mix the cornflour with cold milk to a smooth paste,

then make the remainder of the milk hot, and pour it gradually over the cornflour. Return to the saucepan and boil gently for eight minutes, stirring all the time. Sweeten to taste, and flavour delicately with almonds. Have ready two ounces of blanched and chopped almonds, stir them in the blancmange, and then pour into a wet mould. Turn out when cold.

Blancmange, Chocolate.—Grate an ounce of chocolate, and mix it with cold milk, then pour over it a quart of boiling milk. Return all to the saucepan and boil until it tastes cooked. Mix four table-spoonfuls of cornflour smoothly with cold milk; now pour over it, stirring all the time, the milk and the chocolate. Sweeten and return to the saucepan, boiling it for four or five minutes. Remove from the fire, add half a tea-spoonful of essence of vanilla, and then pour into a wet mould.

Bread, to make.—Dissolve a halfpennyworth of fresh German yeast in a breakfastcup of lukewarm water. Half a tea-spoonful of brown sugar mixed with the yeast will help it to froth. Mix in a dry, warm bread-pan three pounds of good flour, with three tea-spoonfuls of salt, and one and a half pints of water. Then make a hole in the centre, and pour in the dissolved yeast, stirring it with a spoon. Put the pan, covered to keep off draught, near the fire to rise, leaving it about an hour and a half until the centre bubbles up. Knead lightly and well. Cut the dough with a knife, shape a little with floured hands, and put in the greased tins. Put the tins near the fire, covered with a light cloth, until the dough has risen to the top. This will take from one and a half to two hours. Then bake in a hot oven. Small loaves take about an hour.

Bread, Brown, to make.—Take seven pounds of whole meal, put it into a pan and make holes in the centre. Mix two ounces and a half of yeast with one quart of warm water, pour this into the pan, and with a spoon work enough flour over and set to rise for one hour near the fire. After this time the dough will have risen, and the meal will be cracked. Then work in more water and a dessert-spoonful of salt till you have kneaded all into a light dough, and all the paste has worked from your hands. Set this to rise for an hour, covering with a cloth. Make into loaves, bake one hour.

BUNS.

Buns, Almond.—Put half a pound of ground almonds in a basin with a quarter of a pound of brown sugar, and a tea-spoonful of ground cinnamon. Mix these well together, then break in one whole egg, stir this well in; if not quite moist enough, break in another small egg, but it must be quite firm, not too moist. Put table-spoonfuls of the almond paste on well-buttered paper, not too close together, and bake in a moderately hot oven, taking care the buns do not burn, nor get too brown.

Buns, Cherry.—Sift together three-quarters of a pound of flour and one pound of ground rice; rub in a quarter of a pound of butter. Add three ounces of dried cherries cut in four, four ounces of caster sugar, two tea-spoonfuls of baking powder, two eggs, and a little milk. Bake in small, well-greased tins for about twenty minutes, and in the centre of each bun place a cherry.

Buns, Plain Doughnuts.—Beat into a cupful of milk with a pinch of carbonate of soda, one egg, a cupful of sugar, a very little flour, and stir until smooth. Add a table-spoonful of melted lard, a little salt, and enough flour to make a stiff dough. Shape the doughnuts, and drop into almost boiling fat.

Buns, Maids of Honour.—Roll gently for a quarter of an hour half a pint of milk, with two table-spoonfuls of fine bread-crumbs, two ounces of butter, and a little lemon peel and sugar; then add three well-beaten eggs, and stir till the mixture becomes quite thick. Strain through a sieve, line a dish or several patty-pans with puff paste, fill it half full of the mixture and bake.

Buns, Raisin.—Take one cup of sugar, one cup of sour-milk, one cup of raisins, small cup of butter, one tea-spoonful of soda. Flour enough to mix stiff,

CAKES.

Cake, Almond.—Put half a pound of ground almonds in a basin with half a teacupful of flour, a teacupful of sugar, the grated rind of a lemon, with one whole egg, the juice of the lemon poured on the egg. Mix this egg and lemon well into the cake mixture; if not moist enough, use part of another well-beaten egg. The cakes must be merely moist enough to make into round balls with well-floured hands. Put the cakes on a well-buttered cake-tin; bake in a cool oven until crisp and brown.

Cake, Banana.—Put in a saucepan four table-spoonfuls of sugar, four of sherry, and the same amount of orange juice; place over the fire, peel and slice thinly six bananas and add to the liquid. Cook them five minutes. Make a sponge or cup cake and bake it in a biscuit tin. When the cake is partly cool, split it and spread half of the prepared bananas over the lower part; place the top of the cake on the fruit, and put the remaining bananas over the top.

Cake, Boston.—Rub half a pound of butter into one pound of flour with the hands, then mix well with a heaped dessertspoonful of baking-powder, half a pound of brown sugar, and six ounces of grated cocoanut. Break in two whole eggs, and with a little sour milk or buttermilk mix all together. It must not be too stiff or too soft. Put it in a well-buttered cake-tin; bake in not too hot an oven one hour and a quarter.

Cake, Bread.—Separate from the dough when making common white bread as much as is sufficient for a quarter loaf. Knead well into this two ounces of moist sugar, the same quantity of butter, and half a pound of currants; warm the butter in a teacupful of good milk. When thoroughly kneaded, make the dough into the form of a cake and bake in a tin.

Cake, Caraway.—Put half a pound of flour in a basin, and with the hands rub in four ounces of sweet dripping or butter, a teacupful of brown sugar, and half a teacupful of caraway-seeds, a heaped teacupful of baking-powder, and two whole eggs. Mix well together with a little sour milk to a fine dough; well butter a cake-tin or baking sheet, put in the cake mixture, and bake in a not oven three-quarters of an hour.

Cake, Currant.—Rub four ounces of butter lightly into two pounds of flour, add half a pound of sugar, one pound of currants, half ounce of caraway seeds, and a quarter ounce of allspice. Warm a pint of milk, stir in three table-spoonfuls of fresh yeast, and make the mixture into a light dough with this liquid. Knead well, and put the dough in a tin lined with buttered paper. Leave in a warm place to rise for an hour or more, then bake in a well-heated oven.

Cake, Rich Fruit.—One pound of seedless raisins, one pound of currants, half a pound of finely sliced citron, half a pound of butter, quarter pint of good brandy, half a pint of molasses, half a pound of brown sugar, one teacupful of grated nutmeg, one teacupful of ground cinnamon, the same of cloves and mace, six eggs, and half a pound of flour sifted with one teacupful of baking soda. Dredge the fruit with flour, stir butter and sugar with a wooden spoon, and add the eggs one at a time, stirring a few minutes between each addition. Next add the molasses, brandy, spice, and sifted flour, and lastly stir in the fruit. Butter one large round cake-tin and line it with brown paper, fill in the mixture, and bake in a slow oven from three to four hours. Great care must be taken that the oven is just right.

Cake, Ground Rice.—Two table-spoonfuls of ground rice, four ounces of flour, the same of butter, two ounces of caster sugar, two eggs, and a teacupful of baking powder, with a few drops of almond or lemon flavouring. Beat the butter and sugar to the substance of cream, add rice and flour, then break in the eggs without previously beating, mix well, and add baking powder last. Bake in moderate oven.

Cake, Icing For.—One pound of caster sugar, one pound of sweet almonds, the whites of four eggs, and a little rose-water. Blanch the almonds and pound them to a paste with a little rose-water. Beat the whites of four eggs to a stiff froth. Mix them with the almonds, add the sugar, and beat all together till quite

smooth. Spread over a very rich cake, and put into the oven to dry.

Cake, Johnny.—Beat three whole eggs till light, then add to them one pint of milk (or buttermilk if at hand) and one pint of maize meal, beating them all well in. Dissolve a teacupful of bicarbonate of soda in two table-spoonfuls of boiling water, and add this to the above mixture with a teacupful of salt and two table-spoonfuls of liquefied butter. When thoroughly mixed pour it all into a well buttered shallow baking dish, and bake for thirty minutes in a quick oven.

Cake, Lemon.—Take three-quarters of a pound of dried and sifted flour, mix with a teacupful of baking-powder, a pinch of salt. Work a quarter of a pound of butter to a cream (or two ounces of butter and two ounces of clarified dripping), with the same quantity of caster sugar, and one egg. Grate the rind of one lemon, and add the flour; gradually sift in the dry ingredients with the butter, etc., and beat till all properly mixed. If the cake mixture is a little dry, squeeze into it some of the lemon juice, beat again, pour into a greased tin and bake.

Cake, Loaf.—One and a half cupfuls of sweet milk, one cupful of yeast. Stir together at night, adding flour to make a thick batter. In the morning add one cupful of shortening—half butter and half lard—one cupful of sugar, one egg, and half a lemon; nutmeg, mace, citron, raisins, and a table-spoonful of water. This makes two loaves.

Cake, Milk.—Two pounds of flour, one ounce of caster sugar, three ounces of butter, one ounce of yeast, a teacupful of milk, two eggs, half a teacupful of salt. Mix the sugar and flour together, then rub in the butter, add the salt, dissolve the yeast in the warm milk. Beat up two eggs and add to the yeast. Work this into the flour till the sides of the pan are clean; shake a little flour over, and leave it to rise in a warm place for about an hour and a half. Flour the pastry board, work the dough well together on it, take off small portions, and form them into flat cakes, place on a tin, leave the rolls to rise again for an hour near the fire, bake for twenty minutes in a quick oven, brush over with a raw egg, split lengthways, place a piece of butter in each cake, and serve hot.

Cake, Plain.—One pound of flour, six ounces of butter, six ounces of sugar, six ounces of currants, one teacupful of ginger, one ounce of baking-powder, two eggs, and a little lemon peel. Mix with milk, and bake in a quick oven.

Cake, Pound.—Eight eggs, beaten separately; not quite a pound of butter, one pound of powdered sugar, not quite one pound of prepared flour, or flour with two heaping teacupfuls of baking-powder. Beat the yolks, sugar, and butter together, then add the beaten whites and flour by degrees, alternately, until both are stirred in; flavour with lemon.

Cake, Plum (small).—Rub three ounces of butter into a pound of flour, then beat up the yolks of two eggs, and the white of one; warm a little milk, and mix the flour and butter with them; wash, pick, and dry a pound of currants, and stir them well in, then form into small cakes. Bake on a tin in a moderate oven.

Cake, Queens.—Take the weight of two eggs in sugar, flour, and butter. Beat the sugar and butter to a cream, then work in the yolks of two eggs, sift in the flour, add one ounce of currants; and, at the last, the stiffly whipped whites of the two eggs. Bake in buttered tins for ten minutes.

Cake, Rice.—One pound of flour, half a pound of rice flour, half a pound of sugar, half a pound of butter, four eggs, two teacupfuls of baking-powder, one teacupful essence of vanilla, salt, and milk. Beat the butter to a cream, add the yolks of the eggs, and the sugar; beat very lightly. Then add the flour, after being well dried before the fire or in the oven, baking-powder, pinch of salt, vanilla, and sufficient milk to make a nice thick batter. Beat up the whites of the eggs to a stiff froth, and add them last. Mix all very lightly, and bake for two hours in a moderate oven.

Cake, Seed.—A quarter of dough, half a pound of butter, three-quarters of a pound of sugar, one ounce of caraway seeds, and three eggs. Cream the butter, and knead it in with the dough, and the sugar,

caraway seeds, and the well-beaten eggs; knead them well together, and leave it to rise near the fire for about an hour in the cake tin; bake for two hours.

Cake, Soda.—Add together one pound of flour, half pound of butter, two teaspoonfuls of carbonate of soda, one teaspoonful of baking-powder, half a pound of sugar, half a pound of currants, a quarter of a pound of lemon peel, a little nutmeg and salt. Bake two eggs, well-beaten, and one gill of milk. Also about two hours in hot oven.

Cake, Sponge.—Five eggs, the weight of four eggs in caster sugar, and the weight of three eggs in flour, the juice and grated peel of half a lemon. Mix the eggs with the sugar and peel, add the lemon juice, whisk for three-quarters of an hour, then stir in the flour by degrees, whisking all the time, and pour into tins which have been previously buttered and sugared, and put at once into a moderately hot oven.

Cake, Sultana.—Pass three-quarters of a pound of dry flour through a sieve, with a heaped teaspoonful of baking powder, and a pinch of salt. Beat together five ounces of butter with five ounces of caster sugar, a tablespoonful of brandy, in which some mixed spice has been stirred. Into the flour put half a pound of sultanas, and two ounces of chopped peel. Work in three eggs to the butter and sugar, and then the dry ingredients very slowly. Beat the whole for five minutes. Put into a tin, and bake steadily.

Cake, Tea.—One pound of flour, half a pound of butter, a teaspoonful of salt, and a saltspoonful of baking powder. With a little milk or water mix these ingredients to a paste, roll it out, cut it into rounds the size of the cakes required (small ones are best), and bake them over the fire or on a flat tin in the oven. When rising the cakes should be turned, and allowed to bake to a golden brown. Serve buttered in a covered dish.

CHEESE.

Cheese Creams.—Roll out puff paste very thinly, and cut into rounds. Stew two ounces of cream, and the same quantity of grated Parmesan cheese, adding a little salt and cayenne, and place the mixture in little piles on each round of pastry, moisten the edges, put a round on each, making tiny turnovers of them. Egg these over, roll in breadcrumbs, and fry in boiling fat.

Cheese Pâté.—Put two ounces of grated Parmesan cheese into a basin with one ounce of butter, yolks of two eggs, the white of one, and a little salt and cayenne. Fill patty-pans, lined with paste, with the mixture and bake. Sprinkle a little grated cheese over them, and serve hot.

Cheese Rarebit.—Take half a pound of cheese, one ounce of butter, a tablespoonful of ale, a little salt and mustard, some buttered toast. Put the butter in a pan, and when it has melted put in the cheese, sliced, the seasonings, and the ale, and when all are incorporated into a thick cream, pour it over and serve hot.

Cheese Rarebit without Ale.—Put into a saucepan a tablespoonful of tomato ketchup, a teaspoonful of relish or bottled sauce, and one pound of chopped soft American cheese, and half a gill of water. Stand this over the fire, stir and beat rapidly until smooth. Pour on to toasted bread, and serve.

Cheese Rashers.—Fry some nice rashers of bacon in thin slices. Take out when cooked, and fry some thin slices of onions in the fat. When done, take out of the pan, and keep hot with the rashers, then fry some slices of good old cheese. Add all together, and serve hot.

Cheese Spaghetti.—Break half a pound of spaghetti in a pan of salted boiling water, boil till tender, and strain thoroughly. Melt one ounce of butter in a saucepan; stir into it a teaspoonful of flour and one tablespoonful of mustard. Add the spaghetti with a tablespoonful of milk; when hot mix in a quarter of a pound of cheese to taste; boil up, turn into a buttered pie-dish, sprinkle breadcrumbs on top, with a few pieces of butter here and there; brown on the surface, and serve with dry toast.

Cheese Straws.—Take two ounces of Vienna flour, mix in a little pepper and salt, and the merest

pinch of cayenne. Rub in two ounces of butter, then add two ounces of grated Parmesan or some grated cheese of a strong, dry kind. Mix this into a smooth paste with the yolk of an egg and a few drops of lemon juice. Knead the paste and roll it out thin and square. Cut into strips, and bake on a greased tin.

Cheese, Tomatoes and.—Put an ounce of butter into a small stewpan, with a tablespoonful of minced onion, and fry it. Before the onion colours, throw in half-a-dozen large tomatoes cut in small pieces, and allow them to cook thoroughly. Butter a fireproof dish, pour in the contents of the stewpan, and cover with a layer of Parmesan or any similar cheese. Bake for ten minutes, and serve very hot.

CHILDREN, COOKERY FOR.

Children, Dumplings for.—Chop finely two-pennyworth of fresh beef suet and mix it with half-a-pound of flour, a large pinch of salt, and sufficient water to make a large stiff paste. Next chop finely together the following ingredients—two ounces of any meat—beef, mutton, or veal, which may have been left from the previous day's dinner, a Spanish or large English onion, a good-sized sprig of parsley, a pinch of sweet herbs, salt to taste, and a very little pepper; bind with the yolk of an egg. Next work this mixture thoroughly into the suet paste, and form into small dumplings. Boil in the stockpot, which should always be placed at the side of the stove as soon as the fire has "drawn up." Serve with a little plain, very hot gravy, which should have been saved for the purpose.

Children, Eggs for.—Take two eggs and break them, beat them up well. Have ready a slice of buttered toast. Put a small teaspoonful of milk to warm with a little salt in it, in an enamelled saucepan. When quite hot, mix the eggs and milk, and keep stirring it until it begins to curdle, take up with a spoon, and place in heaps on the toast. Two eggs will be enough for three little children.

Children, Gingersnaps for.—One cupful of thick treacle, one half-cupful of fresh butter, one teaspoonful of ginger, one half-teaspoonful of powdered cinnamon, one-fourth of a teaspoonful of salt, one small teaspoonful of baking soda. Flour enough to roll. Work the butter and treacle well together, add soda, and beat again to a foam; stir in salt and spices, then the flour, sifted. Turn out on the bread-board, and roll out one-fourth of an inch thick; sprinkle the top with granulated sugar, then grated fresh coconut (two tablespoons of each is all that is required) cut out with a round cutter, and bake in a quick oven.

Children, Milk for.—Should be given boiled, and with or without water, to children, both for tea and breakfast. Coffee and tea, even if weak, are unsuitable for the little ones, and the longer they will take milk alone the better it will be for them. Milk should not, however, be given at dinner, as it is too heavy to be taken as a drink with substantial food.

Children, Porridge for.—Porridge should be freely eaten by children. Oatmeal contains lime, which is necessary for hardening children's bones. It should be thoroughly boiled, or it is indigestible.

CHRISTMAS COOKERY.

Christmas Cake.—One pound of butter, one pound of caster sugar, one pound of mixed peel, one pound and a half of flour, one pound of dried cherries, eight ounces of almonds, half a pint of brandy, ten eggs, one teaspoonful of salt, and one pound of sultanas. Cream the butter, add the sugar and salt, then the eggs one at a time, beating well for four or five minutes with the hand after adding each egg. Mix in the chopped cherries, almonds, picked sultanas, and brandy, and last, stir in the flour. Put the mixture in a cake-tin lined with three folds of buttered paper, and bake from three to four hours in a moderate oven.

Christmas, Mince Pies for.—Mix one pound each of raisins, currants, minced peel, suet, apples, and add the juice of three lemons, sugar to taste, a little nutmeg, and a little marmalade. All the ingredients should be minced or chopped together.

Christmas Plum Pudding.—A pound and a

half of raisins, a pound and a half of currants, a pound and a half of moist sugar, a pound and a half of suet, one pound of breadcrumbs, one pound of flour, six ounces of candied peel, one nutmeg, one ounce of mixed spice, the rind of a lemon, two wineglassfuls of brandy, ten eggs, and a quarter of a pint of good old ale. Chop the suet, stone the raisins, wash and dry the currants, cut the candied peel into thin slices, then mix all the dry ingredients together. Beat the eggs (whites and yolks together) and strain them into the pudding; stir in the brandy and ale. Grease one large, or three or four small pudding-basins, and fill with the mixture; cover with a stout greased and floured pudding cloth, and boil for from six to seven hours.

Christmas Pudding, another way.—One pound of raisins stoned and cut, one pound of currants, one pound of sultanas, one pound of foot sugar, one pound of suet, three-quarters of a pound of mixed peel (chopped finely), one pound of breadcrumbs, quarter pound of sweet almonds (chopped), half pound of golden syrup (soften with a cup of warm milk or more if needed), two lemons (rind and juice), eight eggs (beat well), one canister (scruped) two wineglassfuls of rum (can be omitted if not approved). Be sure fruit is well dried after washing. Teaspoonful each of salt, nutmeg, and spice, about breakfastful of flour. Mix thoroughly together, and boil twelve hours. This will make three convenient sized puddings.

COLD MEAT COOKERY.

Cold Chicken, To use up.—Steep the remains of cold boiled chicken in oil, pepper and salt. Flavour half a pint of milk with a little carrot, turnip, onion, blade of mace, few peppercorns, mixed herbs, and half an ounce of isinglass or gelatine. Boil well, and then strain away the vegetables, etc. Add butter and thicken, let it boil for five minutes, add a gill of cream, and boil again, stirring well; season with pepper and salt. Pour this sauce on the meat, leave to cool and ornament with beetroot on the top, surround with salad and cucumber, and serve.

Cold Meat, Curried.—Cut thin slices of cold roast meat into rather small pieces; slice thinly, and fry an onion in about two tablespoonfuls of butter until nicely brown; then pour in as much good broth as required for the gravy; add a little salt and a tablespoonful of curry powder; let it boil up, and add the beef; stir constantly for ten minutes; make a wall of boiled rice round side, and pour the curried meat in the middle.

Cold Meat, Rolls made from.—Take any little pieces of cooked meat, two or three different sorts if you happen to have them, and mince them; season them with pepper and salt, and either herbs or parsley alone, or curry powder, according to taste; make a crust with cold boiled potatoes, a little milk, and flour; place little pieces of the seasoned meat inside the crust, which must be cut according to the size you wish; moisten the meat with gravy, water, or milk, roll up in the crust, and bake for half an hour.

Cold Meat, Stewed.—Take about two pounds of cold meat, beef preferably, and cut it into small square slices. Fry four onions brown, put them in with the meat, add one and a half pints of stock, together with cut up carrot, a teaspoonful of mixed herbs, pepper and salt to taste. Let all gently boil for one and a half hours with the lid on. Colour a rich brown and thicken with flour, boil up and serve with toast and small potatoes.

Cold Meat, Using up.—Cut slices from a cold joint of beef or mutton not more than half an inch thick; break one whole egg on a plate and mix white and yolk together; season with pepper, salt, finely-chopped onion, and a tablespoonful of grated cheese. Mix these, dip in each slice of meat, and put at once in frying pan of boiling dripping. Fry for two minutes on each side, and dish them on a mound of mashed potatoes. Serve hot.

CONFECTIONERY.

Candy, Lemon.—Take three pounds of preserving sugar, set it over a slow fire with a half-pint of water, and let it boil about thirty minutes; then

dissolve one teaspoonful of gum and add it with a teaspoonful of vinegar to the sugar. Boil all together till it is brittle, remove from the fire, and flavour to taste, with lemon juice or essence of lemon. Rub the hands with butter, and pull the mixture till it is nearly white, then stretch it into a long stick and twist it.

Confection, A Nice.—Take two pounds of granulated white sugar and put it in a clean pan, with water sufficient to melt it, on a clear fire, and stir. Have ready one pound of good raisins or currants, dry and clean picked. When the sugar is melted put the fruit in, put on lid, and steam for five or ten minutes, taking care that it does not burn. Then add gradually one to three ounces of fresh butter if you want it to be very rich. After five minutes take off the fire, and stir the contents of the pan with a stick till it turns thick, then pour out into a buttered tin. Leave to cool a little, and season with lemon to taste. Turn out before it gets too hard, cut into slices, and keep in a tight canister or glass bottle.

Toffee, To Make.—One pound of brown sugar, two ounces of butter, and a saltspoonful of cream of tartar, boiled for about two or three minutes, or until a piece will crack if placed in cold water. It must not be stirred during cooking.

Toffee, Almond, To Make.—Boil together one pound of Demerara sugar, two ounces of butter, three tablespoonfuls of milk, and a saltspoonful of cream of tartar, for about twenty minutes. Then drop a small quantity into cold water; if it hardens at once, so that the toffee will snap, it is done. Have ready two ounces of almonds, blanched and cut in shreds, scatter them on greased tin, and pour the hot toffee over.

Toffee, Everton.—Take one pound and a half of brown sugar, nine ounces of butter, a tea-cupful of water, and one lemon. Boil the sugar, water, butter, and half the rind of the lemon together for about ten minutes. Drop a little into cold water, and if it is done enough it will turn hard at once. Draw this off the fire, and stir into it the lemon juice. Then pour it on a buttered plate to cool.

Turkish Delight.—A pound of loaf sugar, half an ounce of gelatine, juice of one lemon, and six drops of cochineal; one tea-cupful of water. Soak the gelatine in half a tea-cupful of water for three hours. Boil the sugar for five minutes with the remainder. Pour over gelatine, and cochineal, and lemon juice, and stir well. Pour into wetted pie-dish, and cut when cold. Roll in icing sugar.

CROQUETTES.

Croquettes, Fish.—Almost any fish, fresh or dried, is suitable. Mix a proportion of one quarter of fish to bread crumbled. Mix with well-beaten eggs, and season with pepper, salt, chopped parsley, and a very small quantity of dried sweet herbs. For salmon croquettes a good way is to make a tea-cupful of thick melted butter sauce, grate a little nutmeg into it, a tea-spoonful of chopped parsley, and a cupful of shredded remains of salmon. Stir it well in the saucepan and put over the fire, when hot take it off and whisk into it the yolk of an egg beaten up with the juice of half a lemon. Spread it on a plate to get cold. When quite cold divide it into tablespoonfuls, dip each lightly in flour, then brush over with a beaten egg, and cover with breadcrumbs. Fry brown in boiling fat.

Croquettes, Lentil.—Wash a pint of lentils, boil them in three pints of water till the lentils are soft. Strain, and run through a sieve; add a minced onion, pepper and salt, a lump of butter, and a well-beaten egg. Form into balls, egg and breadcrumb them, fry in hot fat. Drain and serve with curry sauce.

Curry, Indian.—Rub smoothly together half an ounce of coriander seeds, three chopped onions, a drachm of cayenne pepper, a drachm of ground ginger, and four cloves. Put a good lump of salt butter in a stewpan, and after rubbing a chicken inside and out with the seasoning, put it in the melted butter, and fry it until nicely browned. Turn constantly and squeeze lemon juice over. Serve at once with plainly-boiled rice in a separate dish, and sprinkled with chopped red capsaucins.

CUSTARDS.

Custard, Aunt Maria's.—Put half a pint of milk into a saucepan with a little lemon rind, and let it simmer gently till flavoured. Sweeten to taste, and let it cool, taking out the lemon. Whisk three eggs lightly, and add to the milk. Line a pie-dish with a good short crust, pour in the custard, grate a little nutmeg over the top, and bake in a slow oven.

Custard, Beef Tea. (See Invalids, Cookery for.)

Custard Cheese.—Butter custard-cups thoroughly, and cut thin slices of bread and butter into small dice, arranging them in a pattern on the sides of the cups. Scatter grated cheese—Parmesan, if possible—over all. Make a good custard with the yolks of two eggs and three-quarters of a pint of milk. At the last minute, before cooking, add the whites, beaten to a froth. Season with salt, pepper, and cheese. Fill up the moulds, and steam very slowly till set. Turn out and garnish with chopped parsley.

Custard, Chocolate.—Heat three ounces of grated chocolate till it dissolves in a little milk. Add more milk, making about a quart in all, and let it boil up. Let all this steep together at the side of the fire for about ten minutes, then sweeten to taste, and add slowly four well-beaten eggs. Stir while the custard simmers till thick enough. Add vanilla flavouring, and, when cold, pile a little whipped cream on top.

Custard Lemon.—Put half a pint of water in a saucepan, add to it the grated rind and juice of two lemons; sweeten with lump sugar. When the sugar has melted pour it on three eggs that have been well beaten, stirring all the time. Return to the saucepan, and stir over the fire until it thickens, taking care not to let it boil. Serve in glasses with whipped cream.

EGGS. (See also Omelettes.)

Eggs, Boiling.—Eggs are far more nourishing if, instead of boiling over the fire, they are placed in a basin with boiling water over them, and allowed to stand for five minutes.

Eggs, Boiling Hard.—An egg may be boiled hard in five minutes. But it is a curious fact that if an egg be boiled steadily for an hour it becomes mealy, and in this state is much pleasanter to eat than one boiled for a shorter time.

Eggs, Buttered (with Mushrooms).—Put two ounces of fresh butter into a stewpan, break over it four very fresh eggs, and three tablespoonfuls of chopped mushrooms, half a teaspoonful of salt, one tablespoonful of ground white pepper. Stir this mixture over a clear fire with a wooden spoon until it is of a thickish consistency, and serve very hot, poured over hot well-buttered toast.

Eggs, Curried.—Slice thinly an onion, fry brown in two tablespoonfuls of butter, add a tablespoonful of curry powder, one pint of good broth, and a little salt; let it cook until the onions are tender; thicken one-fourth pint of cream with a little cornflour, and stir into the other ingredients; let it simmer a few minutes, then add twelve hard-boiled eggs cut into halves, warm through, and arrange the eggs upon a platter with the gravy poured over them.

Eggs, Poached.—A pint of water, one tablespoonful of vinegar, a tablespoonful of salt, as many eggs as are wanted. Put the vinegar and salt into the water, let it boil, then break the eggs very carefully into it, and boil gently for three minutes until they are set; when cooked take them out with a slice, let them drain, and serve on buttered toast.

Eggs, Poached on Anchovy Toast.—Poach the eggs very carefully, and when cooked and neatly trimmed round the edges, place each one upon a hot buttered toast, previously spread with a thin layer of prepared anchovies. Butter, sprinkle the surface very lightly with minced parsley, and serve immediately.

Eggs, Poached, with Tomato Sauce.—Place a pound of sliced tomatoes in a stewpan, add a slice of onion, a bay leaf, and some whole pepper. Cover, simmer gently for five minutes, strain, and pass all the pulp through a sieve. Return the pulp to the stewpan, add two ounces of butter rubbed into a tablespoonful of flour. Stir all together till thickened,

adding a little white stock or water if necessary; season carefully, and stand aside. Poach as many eggs as you wish to serve, and turn them out on rounds of buttered toast cut the size of the eggs. Pour the tomato sauce round each egg, scatter chopped parsley over the eggs, and serve.

Eggs, Scrambled.—Four eggs, two ounces of fresh butter, half a teaspoonful of salt. Have ready slices of hot buttered toast to put the eggs on when done. Lay the toast on a dish in front of the fire. Place the butter and salt in a white enamelled saucepan, break the eggs quickly on the butter, place on the fire, and stir one way with a spoon until a change is seen in the mixture. Take it from the fire, still stirring, and spread upon the toast in four portions; pepper and serve very hot.

Eggs, Snow.—Separate the whites from the yolks of six eggs, and whisk the latter to a stiff froth with a tablespoonful of castor sugar. Put a quart of milk into a saucepan, sweeten it to taste, bring nearly to the boil; then take two dessert spoons, and shape the white of egg, dropping it one by one into the milk; when set on one side, turn over; then take out and drain on a sieve. Strain the milk into another saucepan, and let it get cold, mix with the yolks of the eggs and simmer gently over the fire to make a custard; flavour with vanilla, pour into a glass dish, when cold lay the snow eggs on the top.

FISH.

Cod Fish Balls.—Pick the fish, when washed, into one cupful of fine shreds. Peel some potatoes and cut into small pieces. Boil the fish and potatoes together until the potatoes are tender. Then strain through a colander. Mash these, and add butter, pepper and salt, and a beaten egg. When these ingredients are thoroughly mixed, shape into balls, and fry in boiling fat.

Cod's Roe, Fried.—Boil the roe for about eight minutes in water with a little salt and vinegar, divide the roe into neat pieces, egg and breadcrumb it, and fry a light brown in deep fat. Serve with anchovy sauce.

Cod Steaks, Stewed.—Fry one chopped onion in a little butter, add to it a teaspoonful of fish stock, a piece of lemon rind, pepper and salt. Boil for a few minutes. Put in two cod steaks about an inch thick, put on the lid, and stew gently until done. Dish up the cod, and thicken the liquor, adding butter and chopped parsley. Pour on the fish, and serve.

Eels, Stewed.—One and a half pounds of eels, one onion stuck with cloves, lemon peel, half a pint of stock, half an ounce of flour, lemon juice. Wash and skin the eels, cut into pieces about three inches long, sprinkle pepper and salt over them, and lay them in a stewpan; pour in the stock, add the onion, lemon peel, etc., and stew for about half an hour, lift out the fish, thicken the sauce with the flour, add cayenne and a squeeze of lemon, boil it up, pour round the fish, and serve hot.

Fish and Tomato.—Take about a breakfast-cupful of cooked fish, remove all the skin and bone, and break up finely. Pass the pulp of four tomatoes through a sieve to remove the seeds, and blend it with the fish. Season and add a beaten egg and one ounce of melted butter, stir well, and press into small buttered cups, cover each with a buttered paper, and steam for half an hour. Turn out on to fried bread, and garnish with plainly-boiled rice (prepared as for curry).

Fish, Baked.—Wash and dry any fish, weighing four or five pounds, dredge with salt and pepper, and place in a buttered pan. Pour over it a quart of chopped tomatoes, a large onion chopped fine, and a large spoonful of chopped parsley. Add a little cayenne pepper and salt. Pour over all one half-cupful of fine oil or melted butter, and then bake slowly until well done.

Fish Balls.—Shred cold boiled flaky fish very fine, and add a sauce made with one ounce of butter, one tablespoonful of flour, and half a cupful of milk, put all in a saucepan; the sauce should be very thick. When all is hot, add two beaten eggs, pepper and salt. Then drop the mixture, which should be like

batter, from a spoon into very hot fat. It will puff, and be very light.

Fish Cakes.—Take equal weights of fish and potato which has been previously boiled. Break up the fish, free from skin and bone into flakes, and rub the potatoes through a fine sieve. Mix potatoes and fish together and season with salt and cayenne, adding a few drops of anchovy and a squeeze of lemon juice; put all into a basin, and make into a paste with a little milk, melted butter, and a lightly-beaten egg. Make the paste into small round cakes, roll first in a beaten-up egg, and then in breadcrumbs. Fry the cakes until they are golden brown, then serve hot.

Fish Patties.—Poor boiling water over a dried haddock, let it stand until cool, remove the skin and the bones, break it in pieces, and put it into a basin with two potatoes mashed smoothly. Make, and cut out some rounds of paste with a tumbler, two for each patty. Mix up the fish and potato with one whole egg, a little parsley, and pepper; put a piece of the mixture on one round of the paste, just wet the extreme edge of the paste, cover with a second round, press them well down at the edge, put them on a baking tin, and bake for twenty minutes in a moderately hot oven.

Fish Fudding.—Shred a pound of any cold boiled fish, add one ounce of butter, and let it stand over a slow fire till the fish is warmed through. Soak bread in milk until soft, then beat it up finely with two eggs, a teaspoonful of anchovy essence, one of ketchup, salt and cayenne. Mix, put in a greased basin, and steam for one hour, or bake in the oven for thirty minutes.

Haddock Finnie.—Rinse a deep pie-dish with very hot water, then lay the fish in the dish, pour boiling water over it, cover the dish closely with a plate, and let the fish remain in this boiling water some eight or ten minutes, or less, according to size. When heated through remove the haddock from the dish, lay it on another hot one, pepper nicely, rub over with butter, and serve.

Haddock, Stewed.—Hold a dried haddock before the fire, when the skin will come off easily. Then cut it up in square pieces, lay it in a pan, pour boiling water over it, stew ten minutes. Pour off the water, and add sufficient milk to cover. Add butter, pepper, and salt. Stew ten minutes longer, then thicken the milk with flour. Take out the fish, and pour the sauce over it.

Hake, Baked.—Slice the hake into pieces one inch thick, dip each slice into vinegar, and then in the following dry ingredients well mixed together, six tablespoonfuls of breadcrumbs, one tablespoonful of grated cheese, the same of parsley, onion, and flour, pepper and salt one saltspoonful each. Thickly butter a baking tin, lay the slices in after they are well coated, put a piece more butter on each slice, and bake for thirty minutes.

Halibut Cutlets.—Before cutting the fish into slices put it into a dish with some salt over it, and three parts fill the dish with water, but it must not touch the salt. After an hour take it out, dry it, and cut it into a batter and fry in boiling lard. When brown turn, and fry the other side. Drain, and serve with shrimp sauce.

Herrings, Baked.—Remove the heads from half a dozen fresh herrings, and clean the fish thoroughly. Put them in a deep pie-dish with salt, allspice, cloves and peppercorns, a blade of mace, and a teaspoonful of grated horseradish. Add a gill of cold water and the same quantity of vinegar. Bake in a slow oven for thirty-five minutes. Serve cold.

Herrings, Devil'd Salt.—Fillet the herrings, and soak in two tablespoonfuls of olive-oil mixed with one tablespoonful of tarragon vinegar for an hour, then wipe dry. Grill for five minutes. Spread toasted bread rather thickly with cheese kneaded into a paste, with a high seasoning of mustard and some hot sauce. Place a grilled fillet of herring on each piece of toast, and serve on lettuce leaves.

Lobster, Baked in the Shell.—Divide two small lobsters, chop the meat into small pieces. Dissolve an ounce of butter in a saucepan, stir in a tablespoonful of flour, a chopped onion, and by degrees half a pint of milk. Stir till all boils, add a beaten egg, and season with salt and cayenne. Put the chopped lobster

back into the half shells, pour dressing over it. Scatter breadcrumbs over, and bake fifteen minutes. Serve hot.

Mackerel, Filleted.—Well wash, cut off the head, and cut the fish from the bone on both sides. Cut each half in two, well season with pepper and salt. Beat up an egg until white and yolk are well mixed; dip each piece of mackerel in flour, then in beaten egg, and again into finely grated breadcrumbs. Have ready a frying pan half full of boiling dripping, put in the fish, and fry for ten minutes. Serve with parsley sauce and mashed potatoes.

Mackerel.—Cleanse, and lay it flat in a deep frying pan, the bottom of which has been rubbed with butter or beef dripping, and just cover it with milk. Put two onions sliced, and a sprig of parsley and lemon thyme into the milk, and a sprinkling of pepper and salt; cover the fish with a plate or dish, and boil it for twenty minutes. Turn on to a hot dish when ready.

Oysters, Broiled.—Beard two dozen large oysters, and lay them, for a few minutes in a clean dry cloth. Brush each over with a little warm butter, and sprinkle with pepper and salt. Brush the bars of the gridiron with a little of the butter. Cook over a brisk fire for about three minutes. Serve hot on buttered toast.

Oysters, Creamed.—Heat the oysters in their own liquor till plumped out. Stir in a lump of butter, and add pepper and salt. Heat some cream in a double boiler. Before placing each oyster into a puff paste case, put them into the hot cream, heating on the top.

Plaice, Boiled.—Wash the fish, and place in boiling water, with a tablespoonful of salt. Simmer gently for twenty minutes. Garnish with sliced lemon and parsley, and serve with white sauce.

Prawns and Mayonnaise.—Cut strips of bread about two inches long and an inch wide; fry a light brown and let them get cold. Lay some thin slices of tomato on the fried bread, cover thinly with mayonnaise sauce, then put a small strip of cucumber next, and on top of this a prawn dipped in mayonnaise.

Salmon, Boiled.—Place about two and a half pounds of fresh salmon in a fish-kettle, and cover with boiling water; add one heaping tablespoonful of salt, one onion cut into quarters, one small carrot, six whole peppers, a bouquet and half gill of white vinegar, boil up, and then let it simmer for ten minutes. Remove the fish carefully and serve.

Salmon Cutlets, Boiled.—Take a slice of salmon of a good thickness, and put in a stewpan with a small onion, a spoonful of chopped parsley, a few small mushrooms, pepper and salt, and half a pint of stock and red wine in equal quantities. Boil the fish till done; take it out, roll a bit of butter in two spoons full of flour, thin it with some of the liquor of the fish, let it boil up, and pour it over the salmon. This fish should be eaten directly the sauce is poured over it.

Sardines and Cheese.—Warm some sardines in the oil from the tin, add pepper, salt and juice of lemon. When hot, lay the sardines on a hot dish, sprinkle grated cheese over them; thicken the sauce with a little flour and the yolk of an egg, and mask the sardines with it; garnish the dish with fried crotons.

Shrimps with Eggs.—Shell about three dozen shrimps, dust them lightly with cayenne pepper, and put in the oven with melted butter to get warmed through. Meanwhile, put one ounce of butter in a stewpan, break into it three eggs, and season to taste with salt and pepper. Stir for two minutes, then add the warmed shrimps, and stir all together until it begins to set; then draw the pan to the side of the fire, so that it may not cook too quickly. When the eggs have thickened lay the mixture on squares of hot buttered toast, and serve.

Soles, Baked.—Fillet a large sole; cut each fillet into long strips about an inch thick and tie into a knot, put them in a buttered tin with a piece of buttered paper over them, bake in moderate oven for so minutes, place on dish, and pour tarragon vinegar over.

Foremost Balls for Hare.—Cleanse and boil the liver of the hare. Mince and mix with about six tablespoonfuls of white breadcrumbs, two table-

spoonfuls of ham or bacon, four tablespoonfuls of suet, one tablespoonful of parsley, and half the rind of a lemon, all chopped finely. Season with cayenne and salt, and mix all together, moistening with two eggs well beaten. Form into small balls. Flour well, and fry in boiling fat.

Force meat, Chestnut, for Boiled Poultry.—Peel half a pound of chestnuts and boil. Then remove the skins, and cook in a little stock. Pound them with an equal quantity of white bread crumbs and butter, and season with grated nutmeg, pepper and salt. Bind with the yolk of an egg.

Force meat (Dry) for Fish.—Add six tablespoonfuls of fine white bread crumbs two tablespoonfuls of chopped parsley, one teaspoonful of mixed herbs, half a teaspoonful of grated lemon rind, and a seasoning of salt and pepper. Mix thoroughly, and lay, dry as it is, between the fish, boned and cleansed, and bake on a greased baking sheet.

Force meat for Game.—Take about half a pound of raw veal, quarter of a pound of bacon, quarter of a pound of calf's or lamb's liver, and the livers of the game to be used. Fry these, adding seasoning of salt, pepper, and the yolk of one egg. A small quantity of mushroom purée is sometimes used.

Force meat for Turkey, Fowl, Veal, etc.—Mix together half a pound of white bread crumbs, quarter of a pound of finely-chopped suet, a teaspoonful of salt, half that quantity of pepper, a tablespoonful of chopped parsley, a teaspoonful of mixed herbs, a saltspoonful of grated lemon rind, and a little grated nutmeg. Moisten with two eggs well beaten, and a small quantity of milk.

Force meat, Oyster.—Half a pint of oysters, five ounces of bread crumbs, one ounce of butter, the peel of half a lemon, a sprig of parsley, salt, nutmeg, a very little cayenne, and one egg. Beat half a pint of oysters, mince very fine, and mix with them the lemon peel chopped small, the chopped parsley, salt, nutmeg, cayenne, and about one ounce of butter in small pieces. Stir in five ounces of bread crumbs, and bind with the yolk of an egg, and part of the oyster liquor.

FITTERS.

Fritters, Apple.—Peel, core, and slice the apples. Mix a batter of four ounces of flour, a pinch of salt, add two beaten eggs. Dip the rings of apple into the batter, and fry in boiling fat to a nice golden brown. Serve hot, and sprinkle with fine castor sugar.

Fritters, Cheese.—Cut some long, thin strips of cheese, about two inches long and an inch wide. Lay them for half an hour in a little oil, vinegar and pepper. Next make some batter by putting two ounces of flour into a basin with a few grains of salt; make a hole in the middle, and mix slowly into it three tablespoonfuls of tepid water, to which half a tablespoonful of melted fat has been added. Beat all well together, then whisk stiffly the white of one egg and stir it in lightly. Have a pan of fat so hot that a lamb smoke rises from it. Dip the slices of cheese into the batter with a skewer, then drop them into the fat, and fry a golden brown.

Fritters, Custard.—Half a pint of milk, five eggs, half a cup of sugar, one gill of cream. Beat milk, cream, sugar and eggs together, strain, put into a small bowl, set in a saucpan, with boiling water to reach half-way up the sides of the bowl. Steam gently until set, allow to cool. Cut into pieces about one and a half inches long by one square; dip in batter and fry till brown.

Fritters, Fish.—Pound the remains of any cold fish, mix it well into some batter. Drop the mixture by spoonfuls into a pan of seething fat, and serve immediately. An excellent breakfast dish, or good as a garnish to serve with a dish of fish.

Fritters, Savoury.—Five ounces of onion, one teaspoonful of powdered sage, four eggs, and four ounces of stale bread. Soften the bread thoroughly in a dish with a little boiling water, covering it over, and letting it soak for an hour; mash it with a fork, picking out the hard pieces; boil the onion in two or three waters till quite soft, chop small, add the powdered sage, pepper and salt, and the eggs well beaten; mix

the whole intimately with the bread, and fry in fritters about half an inch thick and three inches broad.

FRUIT COOKERY.

Almonds, Salted.—Put the shelled nuts into a bowl, and pour boiling water over them. Cover them and let them stand for about ten minutes. Then strain and skin them. When blanched thus throw them into cold salted water. Dry them, and sprinkle with olive oil, stirring well. Sprinkle with salt, and bake in shallow dish.

Ambrosia.—Peel six oranges and cut into pieces. Slice up one lemon with the rind on it; cover all with castor sugar. Allow to stand for two or three hours before serving.

Apple Chutney.—One and a quarter pounds of apples stewed in one and a half pints of vinegar to a pulp. When cold add quarter of a pound of brown sugar, three ounces of salt, quarter pound onions, chopped fine, two ounces ground ginger, three ounces mustard, quarter ounce of cayenne pepper, quarter pound raisins, chopped fine. Put in a jar and keep, the longer the better.

Apples, Coddled.—Choose some large, sharp apples of even size. Remove the cores, then peel them. Place them in a stewpan, sprinkle thickly with sugar, and put a clove in the middle of each. Put on the lid, and steam them on the back part of the stove till soft, but not broken. Dish carefully.

Apples, Compote of.—Peel six ripe apples, halve and core them, and rub each with a slice of lemon. Put half a pound of lump sugar and half a pint of water together in a luted saucpan, and boil until it forms a syrup—about ten minutes. Put in the apples, the thinly pared rind of the lemon, and the juice. Simmer until tender, then take up carefully so as not to break the fruit. Strain, and reduce the syrup by boiling very quickly. Arrange the fruit, when cold, on a glass dish, colour the syrup, pour it over the fruit, and garnish with little strips of citron.

Bananas, Baked.—In South America bananas are baked and eaten as a substitute for meat. They are slit and buttered, then baked, like the homely potato "in their jackets" for half an hour.

Bananas, Scalloped.—Cover a buttered pudding dish with a thick layer of sliced bananas; over this put two tablespoonfuls of sugar, and moisten with lemon juice, and then sprinkle a layer of bread crumbs, repeating this process till the dish is filled; pour a little melted butter over the top, and bake till the top is slightly browned.

Chestnuts, Devilled.—Boil half a pound or chestnuts in their shells till tender, peel and skin them, and soak in a good strong bottled sauce for half an hour or more, melt half an ounce of butter in a saucpan, put the nuts in. Stir about till heated through and serve very hot.

Gooseberry Cream.—Cook a quart of green gooseberries till soft with three ounces of white sugar, and pulp through a hair sieve. Beat up the yolks of four eggs, add half a teaspoonful of milk or cream to them, and stir in. Sweeten and stir till it thickens, but do not let it boil. Add the whites of the eggs whipped to a stiff froth to half a teaspoonful of cream, also whipped, and pile lightly on the top of the glasses to cool.

Nuts.—Even the common hazel nut will make an excellent dessert dish arranged on their own leaves, while few winter dessert dainties are nicer than a plate of freshly-roasted chestnuts. It may not be generally known that Brazil nuts can also be shelled and roasted like chestnuts. Dried and salted almonds are also an excellent addition to dessert. Spanish nuts may be dried in the same way. They should be rubbed in salt and placed in the oven till they get crisp, and of a light brown colour.

Olives, Stuffed.—Stone the required number of olives, stuff quite full with pounded anchovies and butter, and cook for five minutes in olive oil, drain and serve.

Peaches and Rice.—Boil some rice in milk slowly for an hour, and when it becomes quite firm add sugar to taste, and some essence of vanilla, two yolks of eggs; stir the fire till the eggs are set, then fill a mould. Stew some peaches for a tin for a few

minutes. Turn out the rice, dish up the peaches on it, and decorate with strips of blanched almonds.

Pears, Ginger.—Peel and core ripe pears, and cut into thin slices. Weigh the pears, and allow for four pounds of them the juice of two lemons, a gill of water, three pounds of sugar, and one pound of ginger root "cut into very thin slices. Put all, except the lemon-juice and fruit, over the fire, and heat until the sugar is dissolved, next lay in the pears, add the lemon-juice, and cook uncovered for an hour.

Pears, Small.—Boil a pint and a half of water with three pounds of loaf sugar to a syrup, peel the pears, and stew gently in the syrup until tender. Flavour with cloves, and place in jars with barely enough syrup to cover them, cover with bladder, and keep in a dry place for use.

Pears, with Rice.—Put four large pears, cut in half, in a stewpan with a pint of water and eight ounces of sugar; simmer gently until tender. Take out the pears, and let the syrup boil down to half, flavour with vanilla. Spread a teaspoonful of rice, nicely boiled in milk and sweetened on a dish, lay the pears on it, pour the syrup over, and serve.

Plum Charlotte.—Heat the plums, made sweet, very slowly. Cut four slices of light stale bread, and soak them in the juice. Cover the bottom of a mould with the fruit, and lay a slice of prepared bread on top, then another layer of plums, and so on, alternating until the receptacle is full, finally pouring the remainder of the juice over all. Cool, and serve with cream.

Prunes and Tapioca.—Soak half a pound of prunes in cold water, and next day remove the stones, add two ounces of sugar to the prunes, and boil them in the same water for half an hour. Stir in three tablespoonfuls of tapioca, and continue the boiling for another half hour. Turn the mixture into a pie-dish, and pour on it a custard made by mixing two eggs, one ounce of sugar, and half a pint of milk. Grate a little nutmeg on top of the custard, and cool for serving.

Rhubarb Fool.—Cut the rhubarb into inch lengths, cover the bottom of a saucepan with water; when it boils, put in the rhubarb, with the rind of a lemon cut thin and a little cinnamon. With plenty of brown sugar, let the rhubarb cook until soft, then strain. When cold, whip half a pint of cream, and stir lightly the pressed rhubarb. Serve with rice pudding.

Gingerbread.—Half a pound of flour, a quarter of a pound of raisins, two ounces of butter or dripping, two ounces of sugar, one tablespoonful of treacle, half a teaspoonful of buttermilk, one egg, one teaspoonful of ginger, one teaspoonful of spice. Rub the butter into the flour, add the dry things, and the raisins nicely prepared. Mix the treacle and the buttermilk together and stir them in, then the egg well-beaten; mix all together with a spoon, pour in a greased and floured cake-tin, and bake till ready.

Ginger Loaf.—To four pounds of dough add one pound of raw sugar, half a pound of butter, one ounce and a half of caraway seed, one ounce and a half of ground ginger. Bake in the usual way.

Girdle Cakes.—Half a pound of fine oatmeal, a teaspoonful each of sugar and baking powder, a pinch of salt, milk or buttermilk. Mix the dry ingredients, add enough milk to make a light batter, and bake in spoonfuls either in the oven, on a baking tin, or on a girdle.

Gravy.—Keep all scrapings of gravy from beef-steaks, all that is found under the dripping from a roast joint, etc. If you have nothing of this kind, you can always make some by taking some bones of cooked meat, breaking them small, covering with cold water, and stewing them slowly for two days. When cold, remove the fat, and you will have a nice gravy, as a foundation for hash or any made dish.

Gravy, a good Beef.—Cut up half a pound of beef into small pieces, and put it, with a pint of cold water, in a stewpan. Add chopped onion, half a teaspoonful of salt, pepper, a tablespoonful of sauce, and simmer gently for three hours. It must not boil quickly. Fifteen minutes before taking it up add half a teaspoonful of arrowroot, previously wetted with cold water, stirring all together. Boil and strain just before serving.

Gravy, Browning.—Into a pan, kept specially for the purpose (as the sugar will discolour it), put four ounces of granulated sugar, over a hot fire, stirring with a stick till very dark and almost at burning point. Then add quickly, still stirring, a cup of cold water. This is boiled up very slowly, and allowed to continue boiling for four or five minutes. Bottle and cork for use in browning gravy, sauce, or soup. It will keep good for a long time.

Gruel, to Make.—One tablespoonful of oatmeal, one pint of boiling water, two tablespoonfuls of cold water and sugar or salt. Mix the oatmeal smoothly with the two tablespoonfuls of cold water, then pour on the boiling water gradually, stirring all the time; put it into a small saucepan, bring it to a boil, and let it simmer for half an hour, stirring it very often to prevent its burning, and to make it smooth. Serve it with sugar or salt. If the oatmeal is very coarse, the gruel should be strained.

Haggis, Scotch.—Wash well the stomach of a sheep, turn it inside out, scald it, and put into salted water until wanted. Boil the liver, lights, and heart; mince them, and add half a pound of chopped suet, four minced onions, and half a pound of toasted oatmeal cakes pounded into powder. Season with pepper and salt, and stuff the "bag" with the various ingredients. Add a teaspoonful of good broth or gravy, and sew up. Put this into a saucepan (pricking the "bag" to keep it from bursting), with sufficient water to cover, and a plate under to keep it from sticking to the bottom. Boil for four and a half hours, keeping covered with boiling water.

HAM.

Ham and Eggs, Baked.—Cut some ham into small slices, partially cook, then drain the pieces carefully from the fat, and arrange them in the bottom of a well buttered dish. Cover the surface entirely with skilfully broken fresh eggs, sprinkle a little salt and pepper over the top, and bake in a moderate oven until the eggs are lightly set, then serve as hot as possible.

Ham Balls.—Take half an ounce of breadcrumbs, and mix with three-quarters of a pound of lean ham chopped fine. Beat two eggs, add to the ham, and form into balls with the help of a little flour. Fry in deep fat, and dry on paper.

Ham, Boiled.—Ham requires longer to boil than beef or mutton, and if long cured, it must be well soaked before boiling. Put the ham into a good-sized pot, and let it come slowly to the boil. Then allow it to boil quickly, and when done, draw off the skin, rub with sugar, and place before the fire to brown.

Ham Cakes.—Mince cold boiled ham very finely after removing all gristle, skin, and fat. Add a little cayenne pepper, and pound in a mortar with butter, when quite smooth, form into small cakes a quarter of an inch thick; cover with mashed potatoes, and fry in boiling fat. Soaked breadcrumbs may be mixed with the ham if preferred.

Ham, Potted.—Mince cold ham, and mix it with a dash of cayenne, grated nutmeg, and mace. Press into a buttered pie-dish, put greased paper over the top, and bake in the oven for twenty-five minutes. Then put into jars, with a sufficient layer of clarified butter, and put away to cool before use.

Hare, Jugged.—When the hare is skinned, allow all the blood from the upper part of the body to run into a basin along with the liver and heart. Divide the hare into joints. Put these in a stewpot with water, and one onion stuck with cloves, a tiny bunch of herbs, a bay leaf, and a lemon rind. Stew gently for about three hours, and in the meantime mix the blood two tablespoonfuls of flour and a little vinegar. Boil this and strain. Parboil the liver and heart, pound them, and mix with some forcemeat, make into balls, and fry in boiling fat. Use these balls as a garnish. Add a glass of port wine to the jugged hare, and serve with red currant jelly.

Ham, a Cold.—Lady Chancery, writing in 1780, gave this quaint recipe:—"Take a turkey and let him be cold, then mince the white of him small, with

anchovy and oysters, so draw it out in the dish in flowers and lay it round with all sorts of pickles, and it is proper for the middle of the table."

Hash, a Savoury.—Dissolve two ounces of butter in a stewpan with a spoonful of red currant jelly. Place slices of cold mutton in this, turn and heat slowly, not letting it get crisp. Place some hot, finely-chopped spinach on a hot dish, and arrange the meat on it. Add a tablespoonful of vinegar mixed with a little dry mustard, lemon juice, and some gravy. Stir, thicken with cornflour, season well, and pour around the mutton and spinach.

INVALIDS, COOKERY FOR

Invalid Beef Tea.—Mince lean gravy beef. Put it into a jar, cover it with water, add a little salt, and stir it with a spoon. Cover and put the jar into a saucepan with the water reaching to the middle of the pot, and steam for four hours and a half. See that the water does not dry up in the vessel. Strain carefully before serving to the patient.

Invalid Custard.—Where eggs may be given the following forms a nice change for the invalid from ordinary beefsteak, and is usually much appreciated. Beat up two yolks and one white of new laid eggs, a pinch of salt, and a small cupful of beef-tea made either from fresh beef or any good essence, put into a small basin, and steam it over a saucepan much smaller than the basin, so that the latter will not touch the bottom of the saucepan. The water should only simmer. The custard may be baked by putting it in a small dish, and placing in the oven till set.

Invalid Blancmange.—Boil an ounce of the best isinglass, with a stick of cinnamon, in half a pint of water. In half an hour the isinglass will have dissolved and become a very thick jelly-like substance; then mix to it a pint of new milk, and loaf sugar to taste. Let it boil up once, and then strain into a basin. When nearly cold, pour it into a mould. It should turn out a beautiful white jelly, like marble.

Invalids, Eggs for.—Bring the water to the boil, then take the saucepan off the fire, and place the egg in it for five minutes. This will cook the egg perfectly without hardening the white.

Invalids' Pudding for Christmas.—Five ounces of bread crumbs, three ounces of caster sugar, three ounces of suet, half a pint of milk, three ounces of candied peel, one ounce of lump sugar, and of one lemon grated, yolks only of two eggs. Mix bread crumbs, peel, rind, suet, and caster sugar. Place loaf sugar and a teaspoonful of water in saucepan over fire, stir until dark colour, add milk, and let boiled sugar dissolve in it. When cold pour this gradually to yolks of eggs, straining all then; add a little sherry or extra milk, steam for one and a half hours, and serve with a white sauce. This being devoid of suet will allow invalids to partake of Christmas pudding without injury.

Invalids' Pudding, Handy.—One egg, a third of a pint of milk, one-eighth of an ounce of gelatine, and an ounce of lump sugar. Beat up the yolk and the white of the egg separately, and soak the gelatine in enough milk to cover it until it is swollen. Then add the egg yolk and sugar. Boil the rest of the milk and pour it over the gelatine and sugar as soon as they are ready. Stir well, and let the mixture come to the boil, then pour on to the previously well-whipped white of egg. Mix thoroughly, and pour it into a mould. Do not disturb until cold, when it will be ready to serve.

JAMS.

Jam, Blackberry (Spiced).—Make a syrup of two pounds of light brown sugar, one pint of best cider vinegar, and one teaspoonful each of ground cloves and cinnamon. When boiling, put in six pounds of blackberries, and let simmer very gently for fifteen minutes. Seal, boiling hot, in pint jars.

Jam, Cherry.—Take good sound cherries, and remove the stones; put the cracked stones in a small pan and boil them for half an hour, and strain; then take one pound of sugar to one pound of fruit and half a teaspoonful of the water the cherries were boiled in; if necessary, make up the water with a little red currant juice; boil the sugar and water for ten minutes, then

put in the cherries, and boil for about forty minutes till it jellies.

Jam, Cranberry and Apple.—Cranberries one quart, one and a half quarts of sweet apples, two-thirds of a quart of cold water, two and a half pounds of sugar. Put sugar, water, and cranberries on together; boil until the cranberries begin to crack; add the apple and boil slowly until soft. Bottle for use.

Jam, Damson.—Allow a pound of sugar to each pound of fruit. Wash the damsons and dry them well in a towel. Put a large cupful of water and the same of sugar into the preserving pan, and when melted put in a third of the damsons and a third of the sugar. When that melts, put in half of what remains; let that melt before adding the rest. Let it simmer slowly for half an hour, then boil quickly for a quarter of an hour, pour into jars, and leave them undisturbed for two days before tying down.

JELLIES.

Jelly, Apple.—Pare, core, and slice the apples. Boil the slices in a little water till they are pulpy; strain them through a hair-sieve; that which runs through is to be used. Take one pound of lump sugar for each pint of juice, and boil for twenty minutes. The juice of a lemon with a bit of sugar may be boiled along with it. Pour into jars, and cover tightly when cold.

Jelly, Calves' Foot.—Put two prepared calves' feet into a pan with two quarts of water, and let it boil steadily but gently till the liquid is reduced to half. Then strain and leave till stiff, remove all fat by pouring a cupful of boiling water over it, and placing a sheet of clean blotting paper on the top after skimming. Take one and a half pints of this stock, free from any fat or sediment. Put it into a pan with the strained juice and thinly-peeled rinds of two lemons, a glass of sherry, three ounces of pounded loaf sugar, and the whites and crushed shells of two eggs. Whisk all these ingredients over a gentle heat till the liquid boils up to the top of the pan, let it sink and reboil twice, then draw the pan to the side of the fire, and let it stand for ten minutes. Wring out a jelly bag in hot water, let the jelly run through, and pour into shape to mould.

Jelly, Coffee.—One teaspoonful of very strong coffee and an ounce of gelatine are required. Dissolve the gelatine in the coffee. Put into a saucepan one pint of milk and eight ounces of lump sugar. When nearly boiling pour in the coffee and gelatine. Boil together for ten minutes and pour into a wetted mould; set it in a cool place till stiff.

Jelly, Crab Apple.—Cut the apples in sections, well pared and cored, and put in a jar. Place the jar in a saucepan of boiling water, and let it simmer until the juice is well drawn from the fruit, then strain. Measure the juice and allow to each pint a pound of loaf sugar; put these in a preserving pan, set it over the fire, and keep stirring for about half an hour removing the scum as it rises. When a little jelly put on a plate, cools firm, it is done. Pour into pots cover with oiled paper. Store in a dry place.

Jelly, Cranberry.—Allow a cupful of water to a quart of berries. Boil until soft. Turn into a cheesecloth bag to drain. Allow sugar in equal measure to the juice. Boil fifteen minutes, removing the scum when it thickens on the spoon turn (hot) into the glasses.

Jelly, Currant.—Pick stalks from fine, large red currants, put them in a preserving pan over a moderate fire, and crush with wooden spoon till juice is extracted. Strain through a jelly-bag, and to every cupful of juice add half a pound of sugar. Put juice and sugar back in the pan and gradually boil. Let it boil for about ten minutes, and then, when a little cool, turn into glasses or moulds. Turn out when cold.

Jelly, Strengthening.—Put one ounce each of sago, ground rice, pearl barley, eryngo-root, and gelatine, previously soaked in cold water; boil gently till reduced one-half. Strain and set aside. A few spoonfuls may be dissolved in broth, tea or milk.

Kedgeree.—Pick cold cooked fish from the bones, chop it, add two hard-boiled eggs, and mix well

together. Now take a teaspoonful of well-boiled rice, seasoned with white pepper, a dash of cayenne and salt. Put all into a saucepan, with two or three ounces of fresh butter cut in lumps. Stir it all over the fire, and serve hot.

Ketchup, Cranberry.—Take five pounds of cranberries, one pint of vinegar, two and a-half pounds of sugar, three dessertspoonfuls of cinnamon, two of allspice, one of cloves, one of salt, and a little cayenne. Boil slowly one hour and bottle.

Ketchup, Elderberry.—Pour a gallon of water over a gallon of ripe elderberries (with stalks already picked) in a large jar. Place it at the back of the range to remain all night. Then drain off the vinegar, add three ounces of shallots, one ounce of root ginger, one tablespoonful of cloves, two blades of mace, and one tablespoonful of pepper. Boil for twenty minutes, stand for twenty-four hours. Strain and bottle.

Ketchup, Mushroom.—Large flap mushrooms arranged in layers sprinkled with salt in a earthenware pan, and dried in several consecutive days, should be stewed in close jars for two hours with allspice and seasoning, the liquor passed through a hair sieve, and then boiled gently for half an hour, cooled, bottled and sealed, storing therefor in a cool place.

Ketchup, Tomato.—Quarter ripe tomatoes, lay on a dish and sprinkle with salt. Next day drain away the juice, strain it, and boil for half an hour with capsicums and shallots; pulp the tomatoes, pass through a fine sieve, boil with the juice for a further half hour, and bottle off hot, sealing tightly.

Kidney, with Haricot Beans.—Wash one pound of haricot beans, and leave them soaking for twelve hours. Place them in a deep earthenware pan with a quart of water and some salt, in a good oven. When half the water is absorbed cut the kidney into pieces about one and a half inches square, and add it to the beans. Add also three carrots, three ounces of butter, herbs, celery, pepper, and a pinch of mustard. Cover the dish and replace it in the oven, to simmer for an hour and a-half. Remove the herbs before serving.

Kidney, with Tomato Sauce.—Cover the halved kidney with flour, and fry in butter, with a finely-shredded shallot. Simmer this in a saucepan for one hour, with half a pint of tomato sauce, a sprinkling of mixed herbs and pepper and salt. Thicken with butter and flour, add a little gravy colouring and the juice of half a lemon. Serve hot.

LAMB.

Lamb and Cucumbers.—Peel three cucumbers and remove the seeds. Put them into a quart of water with salt and vinegar; let them stand for three hours, then drain off the liquid. Work a quarter of a pound of butter into a tablespoonful of flour, add a pinch of cayenne and a teaspoonful of sugar, then shake swiftly over a fire until it is of a pale yellow colour. Add the cucumber, and cook gently for twenty minutes, shaking the pan at intervals. Then put in one gill of white stock and cook for ten minutes more. Add the juice of one small lemon, and serve over well-seasoned lamb cutlets.

Lamb, Braised Breast of.—Remove the skin from the breast of lamb and put the meat into boiling water for a few minutes. Take the meat out and let it cool, then put into a pan with about half a pint of stock, some thin slices of lemon peel, and a few slices of bacon. Add pepper and salt, two chopped onions, a bay leaf, and a few carrots. Parsley, thyme, mint, or any savoury herbs you like may be added to give it a flavour. Simmer gently until tender.

Lamb, Roast Breast of.—Put a nice breast of lamb into a saucepan with hot salted water, and bring to the boil. Boil for ten minutes, take the meat out, well dry in a cloth, put in a Dutch oven, and roast before a clear fire until nicely browned all over. Serve on a hot dish with new potatoes, with mint sauce.

Lamb, Roast Neck of.—Roast a neck of lamb. Melt in a stewpan one ounce of butter, put in a score of small onions, two carrots cut into thin slices, two turnips similarly treated, a teaspoonful of brown sugar,

pepper and salt; in when the butter is all absorbed, add half a pint of good brown gravy and a little parsley. Stew gently till the vegetables are tender; dish with the roast lamb, and some baked potatoes on top.

Liver, to Fry.—Cut it into slices a third of an inch thick. Put them into a pan of boiling water, and let them stand for five minutes. Then dry in a clean cloth, dredge thickly with flour, pepper and salt, and fry until brown in dripping or butter. Parboil and finely chop some onions, and when the liver is partly done put in the onions, which should have been drained dry, and fry brown. When cooked through set it on a hot dish, make a good gravy, and pour over all.

Macaroni and Cheese.—Throw some macaroni into boiling water, add some salt, and let it cook thoroughly. Well butter a pie-dish, arrange the cooked macaroni neatly therein. Dust with pepper, pour round it a large cupful of well-made white sauce, into which has been mixed three ounces of grated cheese. Set the run well arranged the macaroni, and shake over all a liberal coating of grated cheese. Heat it in the oven, and brown the surface by passing a red-hot iron about half an inch above it; serve immediately.

MADE DISHES. (See also Moulds.)

Brawn.—Wash a pig's head and feet, then place in boiling water along with a shin of beef weighing about one and a half pounds. Boil for two and a half hours, lift from the water, remove all bones and chop fine. Mix a tablespoonful of salt, a teaspoonful of white pepper, a dash of cayenne and a spoonful of mixed spices. Add to the brawn and mix all thoroughly. Run a mould with cold water, press in the brawn and place a weight on top. Turn out when solid.

Brawn, Ox-cheek.—Clean, removing all small bones, soak in salted water for two or three hours, wash again and put to boil. Then add two or three carrots, turnips and onions, thyme and parsley, peppercorns, two teaspoonfuls of salt, and mix all thoroughly. Gently boil until the meat will leave the bones, about four or five hours. Then remove the bones, and when cold cut the meat into small pieces. Well wet a basin, put some pieces of hard-boiled egg on the top, fill in with the cheek about half-way up. Dissolve an ounce of gelatine in some of the liquor, let it boil season, strain and fill up the basin or mould.

Marmalade, Orange.—Boil the oranges in water until the rind can be pierced with the head of a pin. When cold cut the fruit in quarters, and with a spoon take out the pulp and juice, carefully removing all pips and white skin. Cut the peel in thin strips and add double the weight in sugar, thoroughly clarified, adding three-quarters of a pint of water to each pound of sweetening. Boil all up for thirty-five minutes, and place into sealed jars for use.

Mayonnaise, Cucumber.—Take half a pint of salad oil, the yolk of a raw egg, and a little salt, pepper, and vinegar or lemon juice. Set the bowl in which the mayonnaise is to be mixed in a basin of ice, to make the ingredients blend perfectly; put in the egg yolk, half a teaspoonful of salt, a little pepper, a dash of cayenne, and a half teaspoonful of vinegar; mix to a smooth cream, then begin to stir in the salad oil until a thick paste is formed, stir in vinegar slowly until the sauce is creamy, then stir in more oil gradually until it is thick again. Proceed in this way until the oil is all used, taking care that the sauce is not too thin. When done add two or three tablespoonfuls of grated cucumber.

Mayonnaise of Vegetables.—Take new potatoes, green peas, artichoke bottoms, cut small and cooked, pile tastefully on a dish and cover with mayonnaise sauce, arrange little bunches of chopped lettuce, celery, tomatoes, beetroot, &c., sprinkle a little tarragon, chervil, and young onions around the border.

Meringue of Rhubarb.—Weigh a pound of young rhubarb stems after they have been carefully pared and cut in lengths; mix eight ounces of pounded sugar with them and stew gently until they form a

smooth pulp, then quicken the boiling; stir often until stiff, then turn from the pan, and stand until quite cold. Whisk the whites of four fresh eggs to a solid froth. No drop of liquid must remain at the bottom of the basin. After this mix gently with it four tablespoonfuls of dry sifted sugar, stir gently together, and lay lightly over the meringue in a rather deep tart-dish. Place the meringue in a moderate oven, and bake for about half an hour.

Mincéd Beef and Tomatoes.—Cut four good-sized onions into rings, slice half a pound of tomatoes, and fry in beef dripping seasoned. Mince one pound of beef, put it into a saucepan with the onions and tomatoes. Let it come to the boil, then remove the pan to the side of the fire, and simmer for half an hour. Thicken and make a wall of mashed potatoes, put the mince in the middle, and serve.

Mincéd Mutton.—Finely mince the meat, free from fat and skin, season well with salt, pepper, and a little piece of clarified butter. Put into some nicely flavoured stock, with the yolk of an egg well-beaten. Turn into a stewpan, and gradually warm without boiling. Stir constantly. Boil and mash some potatoes, season, and place round the dish that the mince is to be served on. Pour the mince in the centre, scatter over all some finely-minced parsley, and take hot to table.

Mincement for "Faggots."—A savoury "Faggot" may be made of a mincemeat of liver, and fresh fat pork. Finely chop one and a half pounds of fresh pork. Season the mince with onion, sage, salt, thyme, and pepper. Steam it over boiling water, and throw off all fat. When cold add a large cupful of breadcrumbs and three well-beaten eggs. Mix all together thoroughly, flavour, make into round balls, and bake in a greased dish with a little good gravy.

Mincement, Vegetarian.—One pound of currants, half a pound of stoned and chopped raisins, half a pound of sugar, four ounces of brown breadcrumbs, three oranges and three lemons, a pound of apples a little spice, a quarter of a pound of mixed peel, half a pound of marmalade, salt, and half a pound of any kind of nuts. Cut off thinly the rind of the oranges and lemons, boil them in sufficient water to cover, and when quite soft, chop and mix them with the other ingredients, all prepared and mixed previously, moistening with a little of the water in which the rinds were boiled.

Mould, Fish.—Take away all bones and skin from any cold cooked fish, and chop into small pieces, mixing in pepper, salt, and finely-chopped parsley. Butter some small moulds, and sprinkle with finely-chopped parsley. Put the fish lightly into moulds; make a stiff sauce with two or three eggs well beaten and a very little milk, and pour slowly in to fill up the cups. Cover each with buttered white paper. Stand the cups in a pan of boiling water three fourths up their sides, and steam until set. Serve hot after carefully turning out, with suitable sauce.

Mould, Lemon.—Boil a pint of water in half a pound of sugar, and the finely-grated rind of two lemons. Beat together the yolks of two eggs and the white of one, and stir in gradually two ounces of corn-flour and one tablespoonful of butter. Boil all together for five minutes. Place in a well-scrubbed mould, and let it stand for four hours. Turn out, and before serving whip up the whites of the other egg, and pile lightly on the top.

Mould, made from an old Fowl.—A good way to cook it is to boil it gently till the flesh slips from the bones. Place the pieces of meat into a flat mould, and lard with hard-boiled eggs. Scum the fat from the broth, add half an ounce of gelatine powder, a little tarragon vinegar, mace, pepper, and salt. Strain this over the fowl whilst still warm. Put on ice, and serve cold, whole or cut in slices.

Mould, Ox-Foot.—Boil an ox-foot in three pints of water, with a blade of mace, two bay-leaves, twelve peppercorns, four cloves, an onion, and a slice each of carrot and turnip. Boil until the foot separates. Mince two pounds of cooked beef, and cut a pound of cooked ham into dice, season well, and lay in a mould that has been ornamented with hard-boiled yolk of

egg. Strain the liquor from the ox-foot, and pour it into the mould. Turn out carefully when cold.

Muffins.—To every pound of flour mix one egg, one ounce of butter, and two tablespoonfuls of yeast. Melt the butter in half a pint of milk. Beat the mixture thoroughly, and set it to rise for two hours. Form into cakes and bake on a griddle. When the bottoms are brown, turn and bake on the other side.

MUTTON.

Mutton Chops, Sauté.—Slice thinly one small onion and one small carrot. Put these in a pan where butter is already melting. Add water, and boil for about three-quarters of an hour. Remove the onion and carrot and season with pepper and salt. Put in the chops and cook gently for fifteen minutes, stirring the sauté well all the time.

Mutton, Curried.—Put four ounces of butter into a stewpan with four minced onions, then add an ounce of curry powder, a teaspoonful of salt, a dessert-spoonful of flour, and half a pint of cream, stirring it until smooth. Gently fry two pounds of mutton, cut in small neat pieces, to a light brown colour. Lay the meat in a stewpan and pour the sauce over it, and simmer it very gently until the meat is quite tender.

Mutton Cutlets, with Chilies.—Work together two teaspoonfuls of chopped green or red chillies, two teaspoonfuls of butter on a plate with a knife. Add half a teaspoonful of made mustard, grated horseradish, and a teaspoonful of walnut ketchup. Spread some of this mixture over each cutlet. Have some nicely-mashed potatoes in the centre of a hot dish, and place the cutlets around, with slices of lemon.

Mutton, Devilled.—Slice the meat neatly to equal sized pieces, and marinate them for an hour or so in a mixture of two tablespoonfuls of oil, a teaspoonful of vinegar, a sprig of parsley, two or three peppercorns, and a medium-sized shallot, sliced; now drain, and roll the slices in breadcrumbs mixed with cayenne pepper, broil these slices over a clear fire, and serve with sharp sauce.

Mutton, Fillet of (Boiled).—Remove the bones from the thick end of a leg of mutton, and fill the cavity with some nicely-seasoned veal stuffing. Roll out some light sweet crust, season the joint all over with salt, pepper, and chopped onion, and put the meat in the sweet crust, wetting the edges with cold water to prevent the juices of the meat escaping. Wrap all this in a damp and floured cloth, and drop into fast boiling water. Cook until the meat is tender, allowing twenty minutes for each pound of meat, and a quarter of an hour extra for every four pounds. Turn the meat out of the cloth, sprinkle with brown breadcrumbs mixed with chopped parsley and serve. Nice rich gravy will pour out when the crust is cut.

Mutton, Fillet of (Stewed). Have ready a half leg of mutton, and take the fillet end. Cut two slices off it about half an inch thick, rub butter and pepper on it, and put in a stewpan with just enough water to cover the two fillets as they lie flat. Add a little onion and chopped carrot, and simmer gently for thirty minutes or a little longer. Take up the fillets and brown them before a brisk fire. Strain the gravy and thicken it.

Mutton, Leg of, with Capar Sauce.—Wipe the leg with a damp towel, put into a kettle, cover with boiling water, and simmer gently for fifteen minutes to every pound. Add a teaspoonful of salt. When done, take up, lay the joint on a heated dish, garnish with parsley, and serve with capar sauce.

Mutton, Roulades of.—Cut some underdone or raw mutton into pieces about three inches long by one and a-half inches broad without fat. Season and put a few capers on each piece, which then roll up and run on a skewer. Place in the oven on a baking-dish with just enough water to cover them, and bake for about half an hour. Slip the roulades off the skewer, and serve with capar sauce, made thick, and mashed potatoes.

Mutton, Saddle of.—Remove any superfluous fat from the saddle, lightly sprinkle the meat with a mixture of two ounces of salt, half an ounce of pepper,

and a quarter of an ounce each of ground cloves, mace, and nutmeg. After twenty-four hours wash off the spices, dry the meat thoroughly, and roast in the usual way, basting constantly with one and a-half pints of stock. Serve with red currant jelly, potatoes, and nicely boiled vegetables.

Mutton, Braised.—Season two cupfuls of chopped-up mutton, add two tablespoonfuls of gravy and half an ounce of butter. Put all into a small saucepan. When the meat is hot, add three slightly-beaten eggs; stir, and when the eggs stiffen, place on slices of buttered toast and serve very hot.

Mutton, Shoulder of (Boiled).—Hang a shoulder of mutton, until tender, and salt it for two days; turn it and sprinkle it with pepper and mace. Lay some of a dozen and a-half of oysters inside the joint, roll it up tightly, and tie together. Then put it in a stewpan with enough water to cover it, put on the lid of the pan and fasten firmly. Stew the remaining oysters in the gravy, which must be thickened with a little flour and butter. When the meat is cooked remove the tape and pour the gravy over it.

Mutton, Shoulder of (Stuffed and Braised).—From a small shoulder extract all the bones. Make the stuffing by mixing together three tablespoonfuls of bread crumbs, three ounces of bacon, some mushrooms, one small onion and parsley chopped fine, a teaspoonful of powdered herbs, and seasoning. Add one beaten egg to bind the ingredients together. Stuff the spaces caused by the removal of the bones with this, and roll up tightly. Cut up in large pieces a carrot, onion, and turnip, and place these in a stewpan with some parsley and herbs and the bones taken from the shoulder and about two quarts of stock. Simmer for about two hours. Take out the meat, and, when cold, brush over with melted glaze, and garnish with pieces of the cooked vegetables.

Mutton, Steamed.—Put a small piece of mutton into a pudding basin, dust with pepper and salt, and put the basin into a saucepan with boiling water to come half-way up the basin. Put on the lid, and keep the water boiling, adding to it as it boils. Allow half an hour to each pound of meat. Add any bottled sauce preferred to the gravy found in the basin, or the gravy alone may be thickened with flour.

Mutton, Stewed.—Buy the lean end or scrag of a neck of mutton, and have it well cracked but not divided. Put into the stewpan with cold water to cover it, sufficient salt and two onions cut in halves. When on point of boiling add a cupful of tapioca soaked overnight. Let them simmer together till cooked. Put the meat into a dish, pour the liquor with the tapioca around.

OMULETTES.

Omelet, Asparagus.—Boil and chop the tender part, and beat up with four eggs. Put three ounces of butter into a perfectly clean omelet or frying pan. When it is hot, add salt and pepper, beat up well, pour into the pan, and fry quickly, turn over, and send to table as soon as possible.

Omelet Cheese.—Beat together thoroughly two eggs, a pinch of salt, pepper, half a teaspoonful of finely chopped parsley, and double that quantity of grated cheese. Dissolve butter the size of an egg in a frying pan and fry quickly and carefully.

Omelet, King's.—Mix two tablespoonfuls of flour, three ounces of sugar, yolks of two eggs, one breakfast-cupful of milk in a pan, and stir until it thickens over a slow fire. When cold, whip the whites of the eggs to a froth, mix all together lightly, and fry like pancakes. Put apricot jam between.

Omelet, Savoury.—Beat up three eggs with a little salt and a teaspoonful of finely minced parsley. Have ready a clean pan (only used for omelets), and melt in this some butter allowing half an ounce for each egg, and when quite still and beginning to colour, add in the egg mixture, let it stand for a minute or so on the fire, then carefully tilt the pan a little, slip a broad bladed knife underneath, and let the uncooked egg run under, repeating this till there is no more liquid, slip the knife under, and turn it on to a hot plate, serving at once.

Omelet, Tapioca.—Soak two ounces of tapioca for an hour, boil gently for thirty minutes, adding salt;

stir in one pound of breadcrumbs, two ounces of boiled and finely chopped onions and thyme. Beat all together and bake.

Omelet, Tomato.—Cut three or four ripe tomatoes into pieces, and cut an onion into the thinnest slices possible. Melt a teaspoonful of butter in a pan, and cook the onion and tomato for ten minutes. Keep the mixture hot and pour it over the surface of an ordinary omelet just as you are turning it out of the pan. The omelet will roll over of its own accord, enveloping the tomatoes as it passes into the dish.

Pancake, Beef.—Make a thin pancake, spread it out, cut into pieces two inches wide and three inches long, and upon the surface of each place a very thin slice of bacon slightly smaller than the cake. Over the bacon put a tablespoonful of minced beef worked into a cold sauce to give it moisture and cohesion. Roll up your pancakes, put them on a buttered tin, brush them with a whipped egg, breadcrumb them, and bake brown in the oven.

Pancakes, French.—Half a pint of milk, one egg, two tablespoonfuls of flour, half a teaspoonful of sugar. Beat up the sugar and egg. Add the flour and milk. Butter two saucers and divide the mixture, and bake in a moderate oven for twenty minutes. Remove from the saucers and put jam between them.

PASTRY.

Cheesecakes, Apple.—Peel, core, and skin one pound of apples, and cook in a little water until soft enough to crush. Add six ounces of butter and four ounces of castor sugar. Stir one way until the butter is melted. Pour into a basin, add the grated rind and juice of two lemons and four well beaten eggs, and stir with a wooden spoon until well mixed. Line small tins with pastry before putting the mixture in. Bake for a little over a quarter of an hour in a hot oven.

Cheesecakes, Curd.—Warm a pint and a half of new milk, and curdle with a dessertspoonful of rennet. Drain the whey away through muslin. Add to the curd one beaten egg, a dessertspoonful of brandy, sugar, chopped peel, and currants to taste. Line patty pans with good paste, put some of the mixture in each, and bake till a golden brown.

Pastry Making, Flaky.—Into a basin put a pound of flour, rub into it a quarter of a pound of butter, mix cold water into it until an elastic paste is formed; roll out, and put a quarter of a pound of lard on it in little balls; fold in three, let it lie in a cool place for ten minutes, roll it out again, and put on in the same way a quarter of a pound more lard. Fold it and put away again for fifteen minutes or more; it is then rolled out and ready for use.

Pastry, Making Puff.—Mix one pound of flour to a smooth paste with not quite half a pint of water, then roll out three times, the first time covering with four ounces of butter, the second with four ounces of lard, and third with four ounces of butter. Bake in a quick oven.

Pastry, to Glaze.—To glaze pastry for raised pies, break an egg, separate the yolk from the white, and beat the former for a short time. Then, when the pastry is nearly baked, take it out of the oven, brush over with the beaten yolk of egg, and put back in the oven to set the glaze.

Pastry, to Prevent Burning.—(See "Kitchen Notes," Introductory.)

Roll, Swiss.—This requires four eggs, one cup of sugar, one cup of flour, and one teaspoonful of baking powder. Beat the eggs well, then add the sugar and flour, with which the baking powder has been sifted, and a little milk. When baked, spread with jam, and roll.

Art, Apple.—Peel, core, and slice some good cooking apples. Line a pie-dish with light, short paste, and cover the bottom with the apples as thickly as possible. Sprinkle with sugar, a little ground cinnamon, and the grated rind of a lemon. Cover thickly with sponge-cake crumbs, and bake until the apples are tender.

Tartlets, Macaroon.—Place in patty pans lined with thin paste a teaspoonful of raspberry or

strawberry jam. On the jam place a mixture made by forming into a firm paste two ounces of ground almonds, one egg, and four ounces of caster sugar. Over this arrange crossed strips of pastry. Bake in a good oven, and serve cold.

PICKLES.

Beetroot.—Take freshly dug beetroots, and after gently washing off the soil so as not to break the skin nor any of the tendrils, boil tender; peel, cut in slices, and put into jars. Boil enough vinegar to cover the beetroots, allowing to every quart half an ounce each of bruised ginger, peppercorns, mace, salt, and cloves; when flavoured, strain, cool, and pour into jars, which should be tightly covered.

Chow-Chow.—One half peck of green tomatoes, one large cabbage, and seven onions. Chop, mix well with salt, stand overnight with one ounce of celery seed, a quarter of a pound of white mustard seed, a quarter of a teaspoonful of ground pepper, a quarter of a teaspoonful of cinnamon, and one gill of grated horse-radish. Roll three quarts of vinegar and two pounds of brown sugar, and when boiling hot pour over the mixture.

Onions.—Peel the onions, and stand in salted water for a couple of days. Strain the onions, and bottle them. Boil vinegar, in which is placed peppercorns, ginger, and allspice. When cooled a little, pour over the onions in the bottles. These will be ready in about a fortnight.

Piccalilli.—Add one ounce and a half of white scraped ginger to two quarts of vinegar, one ounce each of pepper and turmeric, one and a half ounces of salt, two ounces of peeled shallots, the same of peeled garlic, and a dessertspoonful of dry mustard. Infuse these in a stone jar, closely covered, for a week in a warm place. Then prepare the cauliflowers by picking off the green leaves, plunging in strong boiling brine for seven or eight minutes, then dip in cold water, drain and dry. Boil up the pickle and cool. Trim the cauliflowers into neat pieces, fill jars with these, and pour over the cooled pickle.

Red Cabbage.—Remove the outer leaves, and cut the hearts crosswise in very fine slices, the finer the better; spread these out on a large shallow dish, sprinkle freely with salt, and leave in a cool place for twenty-four hours, after which drain away all the liquid, place the cabbage in jars, cover with cold vinegar, which has been boiled gently for about ten minutes with ginger and peppercorns in the proportions already given for onions, and tie down securely.

Shallots.—To each quart of vinegar add two teaspoonfuls of allspice and two teaspoonfuls of whole pepper. Take off the fine outside skin, when the bulbs will look quite clear. As fast as peeled put in dry bottles or jars. Pour over sufficient cold vinegar to cover, with pepper and allspice. Tie down, and in a fortnight they will be fit for use.

PIES.

Pie, Apple (Banbury).—Butter a pie-dish, peel and core some juicy apples; put a layer of apples in the dish, with a thick layer of chopped mixed candied peel, nicely-cleaned currants, a little ground cinnamon, and ground ginger. Pour over this a little warm butter, then fill up the pie-dish with further layers of apples, candied peel, currants, and flavoured. Add a teaspoonful of boiling water, and a teaspoonful of sugar; cover the pie with a nice short paste, bake in a hot oven for three-quarters of an hour. Brush the paste with milk, sprinkle freely with sugar, and set the pie in the oven for a few minutes to glaze.

Pie, Calf's Head.—Boil a calf's head until tender, then cut the meat in thin slices. Make stock from the bones, skimming carefully, and flavouring with vegetables, herbs, &c. Next day have some slices of hard-boiled egg, and lay them in the bottom of a greased dish. On these put alternate layers of meat and jelly till the dish is full. Cover with some good puff paste, and bake till the pastry is done. When cold, cut off the pastry and turn the contents of the pie upside down carefully on to a cold dish.

Pie, Game.—Cut one partridge, one pheasant, one

grouse, and a portion of hare into neat joints, and season liberally, adding parsley and a shallot. Line a deep pie-dish with thin and well-seasoned slices of veal and ham, then lay in the game, some quarters of hard-boiled egg, and some forcemeat balls. Pour some good stock over, cover with crust and bake.

Pie, GIBLET.—Put two or three sets of giblets into a stewpan and boil. Skim, and salt, and simmer gently for two hours. Cut the giblets when tender into uniform pieces, and dip each into flour seasoned with pepper and salt. Then lay in a pie-dish with half a pound of steak cut into pieces and rolled in the seasoned flour. Pour in sufficient stock to cover. Top with sliced hard-boiled eggs and chopped parsley, then add a good crust and bake.

Pie, Lemon (American).—Line a pie-dish with short crust. Put a tablespoonful of cornflour into a basin, moisten it with cold water, pour a cupful of boiling water on it, and stir till slightly thickened; add the rind and juice of a lemon, one ounce of butter, two ounces of sugar, and one beaten egg; pour into a pie-dish and bake in a moderate oven. Serve cold, with sifted sugar over.

Pie, Mutton.—Remove all skin and fat from scraps of mutton. Parboil half a pound of potatoes, and chop an onion and a little parsley. Grease patty pans, and line them with nice puff paste. Fill with equal quantities of meat and potatoes well seasoned. Cover with pastry and bake for a few minutes in a hot oven, then stand on a cooler shelf that the meat may stew nicely.

Pie, Rabbit.—Lay in a pie-dish a rabbit, cut into neat pieces, and rolled in flour, add small slices of bacon, chopped onion, grated nutmeg and seasoning to taste. Top with a layer of sliced potatoes, pour in half a pint of water, cover with a good crust, and bake.

Pie, Steak and Kidney.—Cut the steak and kidney into neat pieces, add water to cover, boil, then simmer gently for an hour. Thicken with flour, add pepper, salt, a little nutmeg, and a little good bottled sauce. Put all this in a pie-dish, and cover with good paste. Brush over with yolk of egg, and bake until the paste is done.

Pie, Veal and Ham.—Cut veal into small pieces, put a layer at the bottom of a pie-dish, and sprinkle over the meat a little pepper and salt, grated lemon-rind, powdered mace, and mixed herbs. Lay over these two slices of lean ham or streaky bacon and some slices of hard-boiled egg. Repeat alternately till the dish is full. Pour in a little meat stock; line the edge of the dish with pastry, cover with the same, and bake the pie in a hot oven till done.

Pie, Vegetable.—Take equal quantities of carrots and turnips, one head of celery, two onions, and two ounces of dripping. Cut the vegetables in pieces about one inch long, place them in a saucepan with the dripping and a small quantity of water. Season with pepper and salt to taste. Stew gently over a slow fire, and when tender pour into a pie-dish. After cooling cover with paste and bake. This should be eaten hot.

PORK.

Pork Chops, Baked.—To each chop allow a small onion and a small apple. Skin the onions, slice thinly and spread over a baking-tin. Arrange the pork chops on the onions, with pepper and salt. Peel and core the apples, slice, and put over the chops. Place a few small pieces of butter on the sliced apples, and bake in a brisk oven for half an hour.

Pork, Boiled.—Boil a piece of salt pork, allowing half an hour to one pound and half an hour over. Make melted butter sauce, sprinkle in powdered thyme, pour over the pork, and serve.

Pork, Leg of (Boned).—Have the bone removed from the leg, and fill up the space with forcemeat, composed of breadcrumbs, sage, allspice, pepper and salt, and a little onion chopped finely. Roll it up tightly, roast gently, basting it with butter and flour shortly before serving with apple sauce.

Pork, Loin of, Baked.—Soak a fresh loin of pork for a week in red wine flavoured with garlic. Then hang it up in a moderately warm place to dry. When required for cooking, return it first to the wind-pickle for a few hours, dry it, sprinkle with chopped

sweet herbs, wrap in bay leaves, and bake with the strained pickle, and the juice of two Seville oranges.

Porridge, Wheatmeal.—Put one quart of water in a clean pan. Add to it a level teaspoonful of salt. Bring it to the boil. Shake in gradually half a pound of wheatmeal. Boil gently about ten minutes. Stir frequently. Serve hot, with cream, sugar or syrup.

POULTRY.

Chicken, Braised.—Put two gammon rashers at the bottom of a braising pan, lay a jointed chicken on top with a few mixed herbs, slice and place on the meat a pound of tomatoes, pour over all half a pint of milk, season with pepper, salt, and an onion, chopped finely, place the pan and contents, with the lid on, in a moderate oven for two hours. Take out, put the chicken and ham on a dish, and keep hot; pass the tomatoes, etc., through a sieve, put in a saucepan, and boil up, thicken with flour and milk, and stir in a piece of butter the size of a walnut, pour over the chicken, and serve.

Chicken Pie.—Put a few slices of lean ham or bacon at the bottom of a pie-dish, and on this lay the chicken cut into neat joints; season with pepper, salt, chopped mushrooms, parsley, and a little shallot finely minced. Cover with another layer of ham, fill the dish with white stock, and put in the hard-boiled yolks of six eggs. Cover with puff paste, and bake for three-quarters of an hour.

Chicken, Roast.—Truss and roast the chicken (or fowl) for three-quarters of an hour or more, according to size, having first covered the breast with buttered paper. Ten minutes before serving up dredge with fine flour and baste well. Send to table with good brown gravy. Bread, oyster, egg, or mushroom sauce go equally well with roast fowl.

Chicken Sauté.—Put cut-up joints of chicken into a saucepan with an ounce of butter, lay the lid on, and let it fry, tossing the saucepan frequently to prevent burning. When brown add two onions that have been sliced and fried, four tablespoonfuls of tomato sauce, half a pint of brown gravy, some small button mushrooms cut in halves, chopped parsley, mixed herbs, and seasoning. Keep the lid on the saucepan, and let the whole gently simmer for about an hour. Serve hot.

Duck, Roast.—Stuff with sage and onion seasoning, and baste well before a brisk fire, dredge with flour a little before the roasting is done, to make them plump; send to the table the moment the steam draws towards the fire, with brown gravy round the dish, but not over the birds. Green peas are appropriately served with roast duck. If a pair are roasted together, the stuffing may be omitted from one of the birds as some people dislike it.

Goose, Roast.—Put into the bird stuff and secure sage and onions, and baste before a brisk fire for about an hour and a half, according to size. Serve before the breast falls, with a tureen of gravy made from the giblets, very little being placed in the dish. Nice apple sauce should be sent to table with goose. Geese are a good cold eaten at Christmas, but the birds are best at Michaelmas.

Turkey, Boiled.—Put one pint of milk in a stewpan with the same of water, boil up, then place in a small turkey with two blades of mace, one onion peeled, and cloves; put the lid securely on and gently boil, allowing half an hour to each pound of turkey if the bird be young, and longer if at all old. Lift the bird out, thicken the liquor with roux, strain and pour over the turkey.

Turkey, Boned.—Cut down to the backbone, and with a sharp thin knife work all the flesh and skin carefully away from the bones, and remove the latter. Next, bone legs and wings in the same way, taking away as many sinews as possible. Have ready about two or three pounds of sausage meat, according to the size of the turkey; season it and spread over the inside of the bird. Take some slices of lean ham or tongue, and lay them lengthwise, and a little veal stuffing. Roll up the bird with sausage-meat, etc., folded well inside; tie up tightly in a pudding-cloth.

Simmer gently for about two hours according to size. Untie and press; trim the ends, and brush over with glaze.

Turkey, Roast.—Fasten buttered paper over the breast of the bird, previously prepared for cooking, place it before a good roasting fire, some distance away at first, gradually drawing nearer, basting carefully all through the cooking, which should occupy two hours for a ten-pound turkey, and less for one smaller. Dredge lightly with flour a quarter of an hour before the roasting is complete, basting with fresh butter at the finish. May be stuffed with sausage or chestnut forcemeat, and served garnished with forcemeat balls. Good browned pork or beef sausages may be laid round the dish, and brown gravy and bread sauce sent to table with it in tureens. The stuffing of the bird should be carefully done, and the forcemeat well fastened in to secure fine flavour and a good appearance on serving.

PRESERVES.

(See also **Jam and Marmalade.**)

Preserved Cranberries.—Dissolve three-quarters of a pound of sugar in half a pint of water. Add, on bringing to the boil, a pound of cranberries, which should not be over two inches deep in the preserving pan. Boil until the skins break. Remove them with a straining spoon to a deep dish. The syrup should boil a few minutes longer, and then be poured over the berries.

Preserved Damsons.—Put the damsons into clean, dry, wide-necked bottles, sprinkle a little white granulated sugar in each bottle, and stand them in a saucepan, with clean cooking cloths between to keep them from jolting against each other. Pour in each bottle cold water to come half-way up, boil for twenty minutes, leave them in the water until quite cold, then tie air-tight cover over the top of each.

PUDDINGS, SAVOURY.

Pudding, Oyster.—Stew a score of oysters very gradually, strain and halve them, and put into a bowl where are already mixed breadcrumbs, salt, pepper, and a little cayenne. Add a little cream and two eggs. Steam in a basin for an hour, serve with white sauce.

Pudding, Savoury.—Half a pound of rice, quarter of a pound of brown breadcrumbs, two ounces of butter, two tablespoonfuls of minced parsley, one teaspoonful of dried herbs, grated nutmeg, pepper and salt, half a pint of melted butter and capers. Boil the rice until tender, drain and dry it, then mix with the melted butter, parsley, herbs, seasoning, and breadcrumbs, before it has become quite cold. Form into rolls about twice the thickness of an ordinary sausage, tie them in floured cloths, and place in boiling water. After boiling half an hour, take out of the cloths on to a hot dish, pouring over all a sauce made of one ounce of butter, half an ounce of flour, and half a pint of milk boiled together. Capers may be added to taste.

Pudding, Steak and Kidney.—Line a basin with suet and flour crust. Cut up the steak and the kidney, and place a layer at the bottom of the basin, and season this, continuing these layers of steak and kidney, until seasoning until the basin is full. Pour in a little water, and then cover the top with crust, pressing the crusts together to prevent the gravy escaping. Tie in a cloth and boil for two hours to four hours, according to the size of the pudding. Pour in boiling water when too much boils away.

PUDDINGS, SWEET.

Almond Pudding.—Six eggs, eight ounces of caster sugar, eight ounces of ground almonds (one better and the rest sweet), and a few drops of orange-flower water. Beat whites and yolks separately, then whisk them together, and stir in gradually the sugar and ground almonds. Beat for twenty minutes, then pour the mixture into shallow greased pie-dishes, and bake in moderate oven.

Apple Pudding.—Put two pounds of cut apples into a stewpan with cloves, the thin rind of half a

lemon and quarter pound of loaf sugar. Add a little water and pulp over gentle heat. Line a pie-dish with thin slices of stale sponge cake, and a thick layer of the apple mixture, first removing cloves and peel, and continue these layers until the dish is full. Put a teaspoonful of arrowroot into a basin. Mix it to a thin paste with milk. Put the remainder of a pint to boil, and pour it upon the arrowroot. Return the mixture to the saucepan, with lemon peel and six lumps of loaf sugar. Stir continually until it has boiled for three minutes. Then strain the mixture upon the yolks of two well-beaten eggs, and pour the custard upon the pudding. Leave until cold. Beat the whites of the eggs with sifted white sugar, pile it upon the pudding and bake brown.

Apple Pudding, Baked.—Put a layer of bread-crumbs in a buttered pie-dish. Then some sliced apples with two or three cloves, and most sugar. Then place more layers of each kind, leaving bread-crumbs for the top layer. Add a few lumps of butter, and bake in a moderate oven for about an hour and a quarter.

Bath Pudding.—Put six ounces of bread-crumbs in a basin with three ounces of butter, and one ounce of chopped suet; boil a pint of milk, and pour it on the bread, butter, and suet, mix well and let it stand till cold, then add two well-beaten eggs, sugar, nutmeg, and a wineglassful of brandy. Place in a buttered pie-dish and bake for twenty minutes; to boil, put in a basin, tie down, and keep steadily cooking for two hours.

Bread Pudding.—Put in a pudding basin alternate layers of jam and bread, pour over the whole a custard, flavour and sweeten, tie it down carefully, and boil for about half an hour.

Bread and Butter Pudding.—Butter a pie-dish and fill it with milk. Cut three slices about a quarter of an inch thick from a stale loaf, discard the crust, butter it on both sides, and put it in the cold milk in the pie-dish. Soak for three-quarters of an hour, then beat two eggs in a basin with a tablespoonful of sugar, a little grated nutmeg or cinnamon. Stir the eggs well into the milk, sprinkle a few sultanas or currants over the bread. Bake in a quick oven for half an hour.

Cardinal Pudding.—Place a chocolate cake in a glass dish, and with a two-inch cutter take a circle out of the middle. Pour a wineglassful of brandy over the cake. Grate six ounces of chocolate, and put it in a stewpan with a pint of boiled cream, six ounces of sugar, and the yolks of eight eggs. Stir the cream over the fire until thick, add two ounces of dissolved gelatine, stir, pour over the cake, and place to set. Ornament the top and sides with candied fruit.

Cocoanut Pudding.—Mix a quarter of a pound of desiccated cocoanut with twelve ounces of bread-crumbs and two ounces of butter; add three ounces of sugar and grated lemon rind, stir in a large cupful of milk, and steam in a bowl from two to three hours. An egg can be added if desired.

College Pudding.—Butter six cups. Boil up about the third of a pint of milk and pour it over half a pound of fine crumbs; add an ounce of butter, three ounces of currants, one ounce of candied peel, two ounces of brown sugar, a little grated nutmeg, and three well-beaten eggs. Put into cups, and bake in a moderate oven.

Cornflour Pudding.—Two tablespoonfuls of cornflour, one and a half pints of milk, one tablespoonful of caster sugar, one egg. Mix the cornflour into a smooth paste with a little cold milk; boil the rest of the milk, and pour it boiling on the paste; stir in the sugar and egg, and pour into a pie-dish, bake for a little over a quarter of an hour.

Currant Dumplings.—Put half a pound of flour on the pasteboard with three ounces of dripping. Chop the dripping well with the flour, put it in a dry basin, and mix in a tea-cupful of cleaned currants, two tablespoonfuls of sugar, and a little grated cinnamon. Pour enough cold water into the mixture to make it into a compact mass. Tie the pudding, made up into a round ball with well-floured hands, tightly into a cloth, put at once into a saucepan half full of boiling water, and boil steadily for ninety minutes.

Custard Pudding, Baked.—Break three eggs

into a basin, beat them well, add a heaped teaspoonful of sugar, the grated rind of a lemon, and stir in a breakfastcupful and a half of milk. Butter the pudding-basin, pour in the mixture, tie a pudding-cloth on and boil three-quarters of an hour.

Fig Pudding.—Mix together half a pound of bread-crumbs, a quarter of a pound of chopped suet, same quantity of brown sugar, half a pound of chopped figs, two eggs and a cupful of milk. Steam in a buttered basin for three hours.

Gooseberry and Rice Pudding.—Put a shallow layer of green gooseberries into a buttered pie-dish. Scatter sugar and a little grated lemon peel over it, then a thick layer of boiled rice, and then further layers. Sift bread-crumbs over the top, with a little butter on them and bake in a moderate oven, until the fruit is done.

Gooseberry Pudding, Baked.—Place a quart of gooseberries in a saucepan with half a pound of moist sugar. Boil until the berries form a soft pulp. Then beat into them three eggs, one tablespoonful of butter, one breakfastcupful of bread-crumbs. Put into a buttered pie-dish, and bake for thirty minutes.

Marmalade Pudding.—Half a pound of flour, quarter pound of suet, two eggs well beaten, three tablespoonfuls of marmalade, and a little sugar. Mix well, and boil three hours in a buttered basin.

Marmalade Pudding, Baked.—Line the sides of a pie dish with paste, and cover the bottom of the dish with marmalade. Beat up two eggs with half a pint of milk, add a cupful of bread-crumbs, and grated lemon peel. Pour this over the marmalade, and bake for three-quarters of an hour. Serve hot.

Norfolk Dumplings.—Take one pound of flour, two or three teaspoons of baking powder, a quarter of a pound of butter or dripping, and plenty of currants. Rub the butter into the flour, mix with a little water until dough, then work with the hands into dumplings, and boil twenty minutes.

Plain Plum Pudding.—Pour half a pint of milk over one pound of fine bread-crumbs, and let them lie half an hour; then beat in a quarter of a pound of brown sugar, quarter of a pound of suet, half a pound of raisins, stoned and chopped, half a teaspoonful of grated lemon peel, beat it up well with three eggs, put in a buttered basin, and boil over four hours.

Plum Pudding.—Mix together a pound each of stoned raisins, currants, sultanas, mixed peel, bread-crumbs, and chopped suet. Add a quarter of a pound of flour, a dessertspoonful of mixed spice, two ounces of chopped almonds, four eggs, and sufficient milk to moisten. Stir all well together, and put into buttered basins. Tie down with pudding-cloth, and boil for six to eight hours.

Sago Pudding.—Wash a tea-cupful and a half of small sago; put it in a dish with a pint and a half of milk, a tablespoonful of sugar and a pinch of salt. Let it stand for half an hour, then place in a moderate oven for an hour and a half without moving or stirring it.

Rabbit Brawn.—Take the meat from a cold boiled rabbit and half a pound of cooked bacon. Cut it into tiny squares. Butter a brawn glass or tin, put in the meat with two chopped hard-boiled eggs, with seasoning of salt and pepper. Take sufficient stock to fill the mould, dissolve in it enough gelatine, according to the size of the mould, to make the stock a thick jelly when cold. Pour the stock over the rabbit, and put in a cold place until set.

Rabbit, Curried.—Slice two or three onions and fry brown in butter, then fry the joints of the rabbit, take them out and add a good curry sauce to half a pint of stock, and stew the rabbit till tender. Serve with boiled rice.

Rice, Fried Egg and.—Parboil some nicely washed rice, simmer till cooked in good stock or gravy, with half a teaspoonful of curry powder, cayenne, salt, and a squeeze of lemon juice. Set on a hot dish with fried eggs on the top.

Rice Pudding.—See also **Puddings, Sweet.**—Put a tea-cupful of Java rice with a quart of milk into a pie-dish with four lumps of sugar. Bake in a very slow oven for an hour.

Rice Pudding with Currants.—Wash half a

pond of rice, tie in a cloth, allowing room for swelling, and put into a saucpan of cold water, let it boil one hour, then take up, untie, stir in half a pound of currants and tie up again rather tight, and boil for another hour.

Rice, Savoury.—Parboil rice, drain, put into a sauté-pan with a tablespoonful of salad oil, and fry a light brown. Add a large tablespoonful of tomato sauce, season with salt and grated cheese. Cut savoury sausages into slices, fry a little of the rice on each slice, and serve with thin dry biscuits.

Rissoles, Beef.—To each pound of cold roast beef, allow three-quarters of a pound of breadcrumbs, salt and pepper to taste, a few chopped herbs, half a teaspoon of minced lemon peel, one or two eggs, according to the quantity of meat. Mince the beef, and mix the breadcrumbs, herbs, seasoning, and lemon peel. Make all into a thick paste with one or two eggs, divide into balls, and fry a nice brown.

Rissoles, Fish.—To any quantity of cold cooked fish, after removing the skin and bones, add a third part of grated breadcrumbs and finely minced onion, some cold melted butter, and the yolks of two eggs; season with pepper and salt. Make puff paste, roll it thin, and cut into squares of two inches. Place about a teaspoonful of the mince on each square, and fold over with paste. Wet the edges of the paste before closing them, that they may adhere, and fry in boiling fat, first covering the rissoles with egg and crumbs. Serve dry.

Rissoles, Kidney.—Cut three-quarters of a pound of ox kidney into slices, and fry gently in butter; when cool, mince finely, also mince half a pound of cooked ham, mix with the kidney, adding two tablespoonfuls of breadcrumbs, one of chopped parsley, one of chopped mushrooms, and a finely chopped shallot, pepper and salt. Mix with a little brown sauce, and spread on plate to cool. Shape into balls, brush over with egg, roll in fine breadcrumbs, and fry brown.

Roux, White.—Roux is the foundation of many sauces, and can be kept for a few days, especially in winter. Melt four or five ounces of butter in a pan, and then add in by degrees as it melts an equal quantity of flour, allow these to cook together for twelve to fifteen minutes without colouring, then place in a clean jar, and cover with a sheet of white paper twisted over.

Roux, Brown.—This is made exactly like white roux, save that it is allowed to colour gently till it is a fawn colour, it must be cooked very slowly for at least thirty minutes, sprinkle salt, and keep it in a jar.

SALADS.

Salad, Banana.—Slice some ripe bananas into a glass dish, then put a layer of oranges cut in the same way, then another layer of bananas, and oranges again. Sprinkle with sugar, and over all squeeze the juice of a lemon. This is much liked by children.

Salad, Chicken.—Trim some cold chicken into joints. Wash and dry a lettuce, slice and put it in a glass dish, with the pieces of chicken on the top, slice some cucumber and a beetroot round it, pour over all some salad dressing, dredge chopped egg and green onion on top, and serve.

Salad, Corned Beef.—Cut corned beef into nice pieces, and grate horseradish, and a small shallot finely chopped, over it. Cover with dressing, and garnish with watercress.

Salad, Dressing.—Yolks of two eggs, one tablespoonful of butter, one teaspoonful of mustard, a little sugar, salt, cayenne, half a teaspoonful of vinegar. Mix the butter in a saucpan, mix in a teaspoon of the mustard, vinegar, salt, and cayenne, beat up the yolks of the eggs, add mixture, stirring all the time, add butter, stir until it thickens like custard, leave to cool, and thin down with milk.

Salad, Fish.—Mix two cupfuls of cold flaked boiled fish with one of chopped white celery, well seasoned, and turn over all two tablespoonfuls of oil, one of vinegar, and one of lemon juice. In an earthen pan put a quart of peeled and sliced tomatoes, ten drops of onion juice, salt, cloves, and a blade of mace. Cook until the tomatoes are soft enough to press through

a sieve. Add one-third of a box of gelatine that has been soaked in one-third of a cup of cold water until dissolved. Add one and a half tablespoonfuls of vinegar, mixing thoroughly.

Salad, Potato.—Take ten or twelve cold boiled potatoes, four tablespoonfuls of vinegar, six of salad oil, pepper, salt to taste, and a little minced parsley. Cut the potatoes up into half-inch thickness, put into salad bowl with oil and vinegar, season with pepper and salt, mix in parsley, and mix thoroughly.

Salad, Winter.—The white, tender part of celery may be chopped and served with French dressing, or with mayonnaise, in winter salads. Hard, white cabbage, if shaved into thin strips and soaked in cold water, also makes a good salad, or celery and cabbage.

Sandwiches, Afternoon Tea.—Finely minced crisp radishes form the basis of these sandwiches. They should be washed and peeled, and be as young as possible. Wafer-thin slices of brown bread must be spread with whipped cream and some grated Parmesan, and the radishes added in a thick layer between them.

Sandwiches, Cheese.—Cut some thin slices of stale bread, stamp out into circles, and fry in boiling fat. Put on each circle a little grated Parmesan, mix with a little mustard and pepper. Set in a brisk oven till the cheese dissolves, and serve hot.

Sandwiches, Chocolate.—Grate some best chocolate finely, and make it into a stiff paste with whipped cream, add a few drops of vanilla. Spread on thin bread-and-butter, and cut into fancy shapes.

Sandwiches, Hard-boiled Egg.—Hard-boiled egg sandwiches are much improved by the addition of a little watercress, lettuce, or endive. Beetroot, watercress, celery, tomatoes, and mustard and cress make good sandwiches with egg.

SAUCES.

Sauce, Bordelaise.—Bordelaise Sauce has Sauce Espagnole for a basis. To a gill of the latter is added two gills of Sauterne, a tablespoonful of chopped parsley, a tablespoonful of chopped shallot, and mignonette pepper. This sauce should be carefully skimmed.

Sauce, Celery.—Rub the celery, when boiled tender, through a sieve. Melt a lump of butter in a saucpan, and stir into it a tablespoonful of flour. Add gradually some of the water in which the celery was boiled, and a tablespoonful of cream, and serve hot.

Sauce, Cranberry.—Boil a quart of cranberries, without stirring, for ten minutes. Add one pound of sugar, and boil till clear, which will be another twenty minutes.

Sauce, Egg.—To make egg sauce, grate two or three hard-boiled eggs, and add to these a little over half a pint of melted butter.

Sauce for Stewed Fruit.—Simmer half an ounce of very fine sago in a pint of milk, till the grain almost disappears. Sweeten and flavour.

Sauce, Hollandaise.—Put the yolks of four eggs in a small saucpan, mix them with an eighth of a teaspoonful of salt, the same of grated nutmeg; set the saucpan in a vessel of hot water on the table; add by degrees four ounces of butter in small pieces, stirring constantly. Then place the saucpan for a few minutes over the fire and stir till the sauce is smooth and thick. Add half a tablespoonful of lemon juice and half a gill of whipped cream.

Sauce, Horseradish.—Mix together two tablespoonfuls of grated horseradish, a teaspoonful each of made mustard, sifted sugar, and salt, a tablespoonful of vinegar, or rather more if preferred sharp, and three tablespoonfuls of cream. Serve cold in a boat sauce.

Mixed Butter.—Melt two ounces of butter in a clean pan, then sprinkle in from one to two ounces of flour, according to the richness desired, and stir this over the fire till the butter is quite melted, and the flour has been absorbed, so that a smooth paste is formed which can be lifted clean from the pan, then add gradually half pint of water, stirring this steadily the whole time; when the water is all added let it boil for ten to twelve minutes, stirring it occasionally to ensure the flour being perfectly cooked, and use. For special

occasions half ounce more butter may be added with a squeeze of lemon juice, just as the sauce is being poured into the tureen.

Sauce, Mustard.—To one cupful each of grated horse-radish and dry mustard, add a bunch of sweet herb chopped fine, or a large onion grated, a table-spoonful of salt, and enough cold vinegar to reduce the sauce to the consistency of ketchup.

Sauce, Tomato.—Six pounds of tomatoes, one and a half pints of vinegar, one large teaspoonful of salt, one and a half ounces of ginger, four cloves of garlic, one teaspoonful of pepper-corns, two blades of mace, a good dust of cayenne. Put the tomatoes into a saucepan with half a pint of water, and cook them until they are soft, then rub them through a hair sieve. Next put them back into the pan with all the other ingredients. The ginger (after bruising it), pepper-corns and mace should be tied together in a piece of muslin. Let all boil with the lid off the pan till the sauce is as thick as good cream.

White Sauce.—This is made exactly like melted butter, save that milk is substituted for the water.

Sausages, Beef.—To two pounds of steak from the shoulder add four ounces of suet, half a pound of breadcrumbs, salt, pepper, and allspice.

Sausages, Mutton.—To one pound of mutton fillet add six ounces of beef suet, a quarter of a pound of breadcrumbs, one shallot finely minced, a teaspoonful of salt, and a sprinkling of pepper, nutmeg, and mace. Also two eggs well beaten.

Sausages, Oxford.—Add one and a half pounds of pork, same quantity of veal, three-quarters of a pound of beef suet, half a pound of bread steeped in water, and season with about thirty sage leaves finely chopped with pepper, salt, and nutmeg.

Sausages, Pork.—Add two pounds of fresh pork to half a pound of bread, a teaspoonful of salt, a quarter of a teaspoonful of powdered nutmeg, and twenty finely-chopped sage leaves. Sprinkle with pepper. When the meat is minced, add it to the bread scalded and squeezed dry, or form a paste by the addition of two well-beaten eggs.

Sausages, To Cook.—To fry sausages, some little skill is required, or the skin will burst. All sausages should have the skin pricked in several places with a fork to allow for the expansion of the contents when heated, but the chief point is to apply the heat slowly. Sausages are sometimes first rolled in flour or fine oatmeal, so that they are thickly coated before they are fried. Fried sausages may be served on a mound of stewed red cabbage, stewed savoy, mashed potatoes, or fried onions.

SAVOURIES.

Beef Toast.—Mince cold roast beef finely, add pepper and salt, and put into a stewpan with a little good gravy. Thicken it with a small piece of butter rolled in flour. Fry the bread, and spread the mince nicely and evenly over it.

Egg Toast.—Toast a piece of bread on one side only, and butter it while hot on the side that is not toasted. Over this spread a well-beaten egg, flavoured delicately with pepper and salt. Heat this gently before the fire.

Fish, Savoury.—Free the remains of cold boiled fish from skin and bones, and stir the flakes into oyster sauce, or melted butter. Season with pepper and salt, add a squeeze of lemon, and make quite hot. On a hot dish pile up some mashed potato, and leave a space in the centre. Fill up with the fish mixture, sprinkle over finely-chopped parsley, and serve hot.

Mock Oysters.—Boil a calf's sweetbread in salted water. Wash some oyster shells in water, and on each lay a little finely-minced herring. Cut the sweetbread into small pieces, and dip them in seasoned bread-crumbs. Lay each piece in a shell. Sprinkle crumbs and a little herring over them. Put a little butter on each, and brown before the fire.

Savoury Toast.—These can be made of the remains of any cold roast game or fish, which should be carefully freed from the bones, and pounded with a little butter to a stiff paste. The skin and bones should be made into a good gravy, which mixed with the

pounded meat makes a thick purée. Make this very hot, and spread it on rounds of fried toast. Sprinkle with pepper and chopped parsley, and serve.

Sheep's Head and Trotters.—Take out the brains and rub the head and feet with them, and leave them overnight. Next morning put the head into a saucepan with cold water to cover it. Let it come to a boil, draw away from the fire and leave it for about half an hour. Next scrape it and wash it again. Put it on in cold water, boil, skim well and cook gently for two hours. Scrape two carrots, peel a turnip, cut them in quarters, add them and boil gently for another hour. Put the head and trotters in a large dish with the vegetables round and a little of the liquor, and serve.

Scotch Scones.—Rub one pound of flour into two ounces of good butter till smooth, and then mix into it two ounces of caster sugar, and half an ounce of cream of tartar; dissolve a quarter of an ounce of baking powder in half a pint of milk, and mix it into a light dough, roll it out about an inch thick on a floured board, and cut it up into shapes, put them on a floured tin and bake in a moderate oven for a quarter of an hour.

Scotch Scones (Girdle).—Mix half a pound of well-sifted flour with half a teaspoonful each of carbonate of soda, cream of tartar, a pinch of salt, and a teaspoonful of sugar. Stir all together and rub in an ounce of butter, make a soft dough with buttermilk, roll out the dough, cut into small rounds with a sharp cutter, heat the girdle, sprinkle with flour, and place the scones on, taking care they do not touch. When well risen, and done on one side, turn once, and finish baking.

Scotch Shortbread.—Lay a half pound of flour a quarter pound of granulated sugar, and a quarter pound of salt butter separately on a baking paper. Pour a dessert-spoonful of water over the sugar and work the butter into that. Then add the flour and work into a firm dough. Cut into halves. Make two square cakes about half an inch thick. Press the edges with finger and thumb, and the centre with a fork, and bake on a fat tin till a delicate brown shade.

Soufflé, Veal.—Put a table-spoonful of butter in a saucepan, and when melted stir in a table-spoonful of flour. Season with cayenne pepper, nutmeg, anchovy sauce, and salt. Pour in half a pint of boiling milk, in which an onion has been cooked. Stir till smooth; add to it half a pint of chopped cooked veal, and heat all together. Draw the pan aside, and add the beaten yolks of two eggs. When the mixture is cooled sufficiently add the beaten whites of the eggs. Set in a greased baking dish, place mushrooms on it, and bake in a hot oven for twenty minutes.

SOUPS.

Soup, A very Cheap.—Take six large mealy potatoes, two leeks, three ounces of crushed tapioca, one ounce of butter or dripping, a quarter of an ounce of sugar, one pint of milk, and one quart of boiling water. Slice the potatoes and leeks into boiling water, boil to a pulp, then rub through a sieve and put back into the stock. Shake in gently the tapioca. Boil ten minutes, add milk and dripping, boil up and serve.

Soup, Clear.—A clear soup looks better when a few green peas or a few pieces of celery are added, as they increase the brilliancy of the soup, and a thick soup is greatly improved by the addition of a few small croutons, and so on. The toast looks more inviting when cut into strips or triangles, or with the corners neatly cut off if served in whole slices.

Soup, Green Pea.—Soak one pound of dried green peas in cold water for twenty-four hours. Place them in a saucepan with two quarts of cold water, one large or two small onions, one head of celery and an ounce of dripping. Boil all together until the peas are quite tender. Pass the soup through a wire sieve. Return it to the saucepan, add a gill of milk, pepper and salt to taste. Boil and serve.

Soup, Hare.—Pick from the remains of a jugged hare the nicest pieces of meat, and cut into dice to

add to the soup later. Put the bones left into a stewpan, with one large onion stuck with cloves, one carrot cut into slices, and two or three leaves of celery cut into inch lengths, and also a slice of stale white bread without crust. Pour over about three pints of stock and allow to simmer gently until the vegetables are quite tender. Strain, and rub as much of the vegetables through the sieve as possible, then return the soup to the stewpan and boil up. Thicken with browned flour, adding a wineglassful of port wine, a tablespoonful of red currant jelly, and a squeeze of lemon-juice.

Soup, Haricot.—Put a pint of small haricot beans to soak in cold water overnight, drain them and put them in a saucepan with a large Spanish onion roughly chopped, two ounces of fresh butter, salt and pepper, and two quarts of cold water, and boil gently until the beans are quite soft, after which pass the whole through a fine wire sieve, rubbing the pulp through patiently with the back of a wooden spoon, and moistening it frequently with a little of the liquid; then return the purée to the saucepan, add about a pint and a half of hot milk, and a large, tablespoonful of chopped parsley, bring to the boil again, and serve.

Soup, Lentil.—Boil up three pints of white stock, add a quarter of a pound of lentils, a head of celery, three onions, carrot and turnip, cut up, a little mace, thyme, parsley, and two bay leaves. Boil and strain. Add a half pint of milk, with an ounce of flour. Stir in the yolks of two eggs, a piece of butter, and serve hot.

Soup, Mock Turtle.—Mock turtle soup should be flavoured with a bouquet of sweet herbs, onions, carrots, peppercorns, and salt.

Soup, Mulligatawny.—Chop and fry in butter a quarter of a pound of lean ham, three ounces each of carrot, onion, and apple. Add three tablespoonfuls of curry powder and the same quantity of flour, and fry a little longer. Then put them in a stewpan with two quarts of bone stock, and simmer all together for an hour and a half. Strain, return to the stewpan, and make thoroughly hot again, adding lemon-juice and salt. Cut some meat from a cooked fowl, or pieces of cooked white fish will do as well, lay these in a tureen and pour the hot soup over.

Soup, Mushroom.—Cut one and a half pounds of mushrooms into square-shaped pieces, put them into a saucepan with a pint of good stock, and boil for a few minutes, or until tender. Add a seasoning of salt and pepper, pour in a pint of milk, stir in a piece of butter the size of a walnut, thicken with arrowroot, and serve as hot as possible.

Soup, Ox-tail.—Put into a stewpan with an onion, a carrot, and a savoury herb, an ox-tail cut into joints, add to it a quart of water and simmer very gently for four or five hours. Then strain off the liquor, skum, and season, keeping it hot. Mix a tablespoonful of flour with a little cold water in the stewpan, pour the strained liquor to this, add meat and vegetables, let it all boil up once, then pour into tureen.

Soup, Oyster.—Take a quart of oysters, two ounces of butter, one quart of milk, half a pint of water, pepper, salt. When near boiling, pour in the milk, stirring all the time. Season and let the soup get just to boiling point. Put in the oysters and let them stew five minutes. Then put in the butter and stir melted.

Soup, Pea.—Stew a quart of split peas, soaked overnight, in four quarts of good beef broth, for an hour. Pass through a sieve, season to taste, and heat again. A little celery and other suitable vegetables will flavour and improve the soup, and bacon or veal may be cooked with it. Powdered dry mint should be sprinkled in before serving.

Soup, Tomato.—Two pounds of tomatoes, two ounces of bacon, one ounce of dripping, one ounce of sage, one carrot, one onion, one stick of celery, one quart of stock, a bunch of parsley and herbs, salt and pepper. Cut the bacon into small bits, and fry it in the dripping for a few minutes. Wash and prepare the vegetables and cut them up into small dice; fry them in the dripping for about ten minutes; next slice and add the tomatoes, add also the stock and herbs. Put the lid on the pan, and cook the contents till they are tender, then rub them all through a sieve; put the

soup back into the pan, bring it to the boil, then sprinkle in the sage. Let the soup boil till the sage is quite clear. Season the soup nicely with salt, pepper, and a dust of caster sugar.

Soup, Vegetable.—Peel, wash and cut up six potatoes, three turnips, two carrots, two onions, and one small head of celery. Stew all gently for two and a half hours; strain, add pepper and salt, and a little sauce or ketchup if preferred.

STEWES.

Stew, Beef Kidney.—Slice one pound of kidney, season and flour. When these are fried sufficiently, take out, and make a gravy in the pan with butter, flour, pepper, salt, mixed herbs, and water. A little mushroom ketchup is a nice addition.

Stew, Hot-Pot.—Cut one pound of buttock steak into pieces about three inches long and wide; sprinkle these well with pepper and salt. Butter a pudding basin and put in a layer of raw potato peeled and cut in slices, one onion sliced, a tablespoonful of finely-chopped parsley, then a layer of seasoned steak, then potato, onion, parsley, and steak until the basin is full. Pour over a breakfastful of boiling water, cover the top with an extra thick layer of sliced potato, put a plate that will stand the heat of the oven on top, and bake in a hot oven for an hour and a half.

Stew, Irish.—Two pounds of sirloin end of neck of mutton, ten potatoes, four small onions, and nearly a pint and a half of water, pepper and salt. Take the mutton and divide it into portions, put it into the stewpan with alternate layers of sliced potatoes and onions, add the water (cold) and season with salt and pepper. Cover the stewpan closely, and let it stew gently until the greater part of the gravy is absorbed.

Stew, Rabbit.—Cut a young rabbit that has been soaked for half an hour into joints, and stew for an hour in milk, with a little butter, three or four chopped onions, and a blade of mace. Thicken with flour and season.

Stew, Scotch Hotch-Potch.—Prepare one quart of mixed vegetables in equal quantities, carrots, turnips, celery, onions, sprigs of cauliflower, and a gill of dried peas, and add three quarts of water in which mutton has been boiled. When boiled tender, add a few mutton chops freed from fat, pepper, salt to taste, and a lump of sugar. The peas will require to be soaked over night.

Stewed Steak.—A pound and a half of beef-steak, two onions, stuck with cloves, a glass of wine, pepper and salt. Cut the steak into slices, roll them and arrange them in a stone jar. Add onions and cloves, a glass of wine, with pepper and salt. Cover tightly, place in pan or boiling water, and cook gently.

Stuffing for Poultry and Pork.—Peel and cut six onions into quarters, boil until half-cooked. Drain and chop finely, adding a piece of butter and an equal quantity of bread-crumbs, one good sized teaspoonful of powdered sage, a small quantity of chopped parsley, salt and pepper to taste, and a little sugar. Mix thoroughly.

Stuffing (Mushroom) for Vegetables.—Add a small cupful of chopped mushrooms to a similar quantity of fine bread-crumbs, one tablespoonful of finely chopped parsley, a dust of powdered thyme, a pinch of lemon-rind, and the smallest portion of onion. Mix all thoroughly, then fry in boiling fat, and use as a stuffing for marrow, tomatoes, or large onions.

Sweetbreads, Dainty.—Fry about three Spanish onions in butter with some small squares of bacon. Add half a pint of stock and thicken with flour. Squeeze in a little lemon juice, and add two sweetbreads, previously soaked in salted water, blanched, skinned, and sliced. Let all this simmer for an hour, stirring occasionally. Serve hot on toast.

SWEETS.

Apple Snow.—Stew a few nice apples, peeled and cored, with a few cloves. Sweeten, and add a little lemon juice and grated rind. Beat the whites of

two eggs into a stiff froth, and lay on the top of the apple pulp. A little coloured jelly may be spread around the sides.

Chocolate Caramels.—Put one cup each of brown sugar, treacle, and milk, and one tablespoonful of glycerine into a kettle and boil fast. When nearly done add one cup of grated chocolate, and test by dropping a little into cold water. When done pour into buttered pans and cut into squares.

Chocolate Wafers.—One teacup of brown sugar, same quantity of granulated sugar, same of butter, one egg, one cup of grated chocolate, vanilla essence, and a cup and a half of flour. Mix all to a dough with the milk and egg beaten well; roll out very thin on a floured board, cut into rounds, and bake quickly.

Devonshire Junket.—Heat one pint of fresh milk to the temperature of new milk. Add one teaspoonful of essence of rennet, a wineglassful of brandy, a tablespoonful of castor sugar, and a teaspoonful of ground cinnamon. Leave in a cool place to set. Spread with clotted cream.

Gooseberry Charlotte.—Butter a plain mould well; then line it closely with sponge fingers cut in even lengths and fitted closely into the mould. Have ready some gooseberry pulp made as for gooseberry cream and half an ounce of gelatine dissolved in a little hot milk; pour all into the mould, keep in a cool place till set, then turn into a glass dish.

Gooseberry Fool.—Put a quart of green gooseberries into a saucepan with a little water and about half a pound of sugar; let it boil until the fruit is quite tender and a pulp, beat it through a coarse sieve. Then add gradually one pint of cream, put it on a piece of ice, and stir it every now and then until cool.

Lemon Cheese.— $\frac{1}{2}$ lb. of butter, $\frac{1}{2}$ lb. of loaf sugar, the rind and juice of three lemons. Put all in a stewpan, after grating the peel and straining juice. Keep stirring over heat until sugar dissolved, and it begins to thicken; when of the consistency of honey it is done.

Tripe, A Nice Way to Cook.—Wash two pounds of tripe carefully in cold water, and dry in a cloth. Put it into a stew-pan, cover with equal parts of milk and water, add two onions and a bunch of parsley, and simmer for an hour. Rub one ounce of butter smoothly with a little flour, moisten with a quarter of a pint of cream, and stir it into the sauce. Add the thin rind of half a lemon, a little pepper and salt, then simmer for another hour, and serve.

Veal Chops.—Cut some neck chops, saw away the chine bone and cut off all gristle and skin; trim them very neatly. Have ready a little fat bacon, parsley, shallot, and a few mushrooms, all finely minced. Well butter some sheets of white notepaper, allowing one for each chop, sprinkle the paper well with the bacon, etc., and fold it neatly round the chops; grill over a clear fire for about a quarter of an hour, turning them once or twice.

Veal Cutlets.—Cut about a pound of veal into neat, oval-fattened pieces, dip each in flour, and brush over with some beaten egg and roll in breadcrumbs, which have been seasoned. Fry these in very hot dripping till nicely browned. Stir four ounces of cooked spaghetti into some white sauce, and sprinkle over one and a half ounces of grated cheese.

Veal Fillet of.—Remove the bone and fill the space with forcemeat, skewer and tie with string. When it begins to roast throw a little salt over it, baste it, and dredge with flour. For stuffing, chop half a pound of suet, put in a basin with one pound of breadcrumbs, a teaspoonful of salt, a little pepper, thyme, parsley, and three eggs, and mix well.

VEGETABLE COOKERY.

Beans Haricot.—These must be allowed to boil gently till they are tender, and this will take about two hours; pour off the water and stand the saucepan by the fire, shaking it every now and then to help drying. A small piece of butter, and a sprinkling of pepper and salt should be put with the beans before serving.

Brussels Sprouts.—Trim and throw the sprouts into cold water; let them remain in for half an hour, take them out, thoroughly rinse and put them again into tepid water. In a few minutes drain and throw them into boiling water, slightly salted. Boil without the lid of the saucepan until the sprouts are tender, strain them through a colander, put them into a stewpan with a little butter and a pinch of pepper and salt, shake over the fire for four or five minutes, and serve.

Cabbage, An Idea for Cooking.—Put about the size of an egg of breadcrumbs tied in a fine cloth in with the cabbages when cooking. Cabbages cooked like this can be used in any possible way; the bread having absorbed all bitter juices they cannot harm, while they are digested quite easily. Another advantage of this style of cooking is that the breadcrumbs absorb almost all the smell which usually accompanies the cooking of cabbages.

Cabbages, Boiled.—Nothing is so unsatisfactory as a badly boiled cabbage, much more so than one well done. Get a nice tender green cabbage of a good size and about all fresh; quarter it, and wash it well; lay it in cold water till required. Put on a nice large pot with plenty of water, and some salt. When it boils add your cabbage, getting it all under water; boil from 20 to 30 minutes; strain, and press all the water from it. Dish neatly and score across with a knife; while hot, add about two ounces of butter and let it melt in, sprinkle with pepper and salt.

Cauliflower, Baked.—Cut off the leaves and stalk of one or two nicely boiled cauliflowers, and arrange a few of the pieces in a pie-dish. Blend an ounce of butter with half a pint of milk and water (in equal quantities), add one ounce of butter, and season with salt and pepper. Boil the sauce for a few minutes over the fire, then stir into it one ounce of grated cheese—Parmesan is the best. Pour the sauce over the layer of cauliflower, put on the remaining pieces of the vegetable, then pour on the rest of the sauce. Cover the top with grated breadcrumbs and a teaspoonful of grated cheese, place a tiny bit of butter here and there, and bake in a hot oven.

Cauliflower, Boiled.—Cut off the end of the stalk of the cauliflower and give it a good rinsing under the cold water-tap, but do not leave it in water, it makes it taste rank. Have ready a saucepan of boiling water, with plenty of salt in it; put in the cauliflower and boil gently until it can be easily pierced with a fork. Take out carefully with a spoon, on a hot dish; pour a nicely made parsley and butter sauce over.

Potatoes, Baked.—The most wholesome way of cooking a potato is to bake it. A small piece of the skin should be cut from the ends before baking.

Potatoes, Steamed.—Let the potatoes be well washed, but not pared, and put them into a steamer when the water boils in the saucepan beneath. They will take about three-quarters of an hour to cook, and should be taken up as soon as done, or they become watery.

Seakale, To Cook.—Seakale must be allowed to stand in salted water for at least an hour before cooking it. Well cleanse it, and tie it up neatly in small bundles. Plunge it into boiling water containing salt and the juice of a lemon. Boil quickly for twenty minutes.

Tomatoes, Baked.—Scald and peel a sufficient quantity of smooth, round tomatoes; put into a deep earthenware dish and sprinkle plentifully with salt and pepper; have a teacupful or more, according to the quantity of tomatoes, of fine cracker crumbs and spread over the top. Bake in a quick oven from thirty to forty minutes. Drop a few lumps of butter on to the tomatoes, and serve.

Tomatoes, Fried.—Cut round solid green tomatoes in rather thick slices without peeling, also some tart, firm apples. Have some pork dripping or olive oil hot in a good-sized frying pan, roll the slices in batter or flour seasoned with salt and pepper, and fry a golden brown on either side.

Vol-au-Vent. (See "Culinary Terms" in "Cookery Hints.")

PEARS'
DICTIONARY
of HEALTH.



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Pears' . Dictionary of Health

INTRODUCTION.

By ANDREW WILSON, Ph.D., M.B., F.R.S.E., F.L.S.

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This "Dictionary of Hygiene" should serve a useful purpose, in that it presents, in a handy and popular form, a large amount of information regarding the preservation of health and the prevention of disease. A certain amount of medical information has likewise been included, so as to familiarise the reader with the meaning of medical terms, and to assist him in the comprehension of the principles of treatment. Such knowledge is the more likely to induce people to send for a medical man at once in cases in which professional assistance is required. The various subjects have been revised and brought up to date as efficiently as possible. Specially useful should be found the many references to drugs and medicines, and to the treatment of accidents and emergencies. All literature of this kind should be commended, because its diffusion must aid in the better appreciation of the laws of health, and in the advance of that opinion which teaches that only by observance of these laws is happiness to be secured.

As health is the first necessity of humankind, without which life's pleasures and successes are unattainable, it is of extreme importance that people should know the main features and functions of their physical construction, and at the same time be informed regarding the causes of disease, and also possess such a practical acquaintance with every-day remedies as will serve to keep them in the way of health. Many a doctor's bill has been saved by a little knowledge of how to handle common ailments and prevent them from developing into more serious troubles. In the same way, it is advantageous to know something of the nature and treatment of diseases generally, so that in the preliminary stages of illness such measures may be taken as will be helpful to the surgeon or the physician, when he has to be called in. Thousands of lives are sacrificed every year for the lack of this little knowledge. The scientific study of medicine is of course beyond the attainment of all but those who devote themselves to it as a profession, but it is within the power of almost anyone to gain sufficient knowledge of the subject for ordinary purposes. This Dictionary of Health aims at supplying such information, and it is presented in alphabetical form as the easiest for reference. Incidentally, all medical terms usually employed in the denomination and treatment of ordinary ailments are briefly explained.

Abdominal Injuries may proceed from internal injuries, occasioning collapse and dangerous hæmorrhage. Put the patient to bed and apply ice, emptying the bladder, and administering brandy to combat immediate collapse, pending the arrival of medical assistance.

Aberration, or "mind wandering," is a term applied in cases of partial insanity. [child.]

Abiotation. Want of milk; the weaning of a child.

Abluent, that which cleanses.

Ablutio, the act of cleansing, as by washing.

Abnormal, that which deviates from the ordinary condition; irregular, malformed.

Abortion, premature expulsion of the fœtus, or unborn child, accidental or procured by interference.

Abrasion. Removal of skin, external or internal, by friction or violence, as by falling or being struck or grazed by a rough or hard substance or missile. Curative treatment consists in cleansing by antiseptics, the most effectual for the purpose being diluted carbolic acid (of the strength of 1 to 20).

Abscess. A collection of purulent matter in the tissues of the body, occasioning swelling, external or internal. Should pus or "matter" be formed,

swelling and severe pain will follow; but if the abscess be charged with non-purulent fluid only, inconvenience will be the extent of the trouble. In either case it is desirable that the fluid should be got rid of, and this may be accomplished by lancing and pressure, by fomentation, or by the application of hot poultices and antiseptic treatment. Abscesses are frequently the result of a blow or other violence, frequently also they follow weakening illness, the most common cause being infection by certain germs.

Abcission. Cutting out of the soft parts of the body, as the elimination of fleshy tissue, to prevent the extension of disease; distinguished from amputation, a term which comprehends division and removal of bone also.

Absorbents. Vessels which absorb, such as the lacteals and lymphatics (absorbents); a term also applied in pharmacy to antacids and other chemical bodies which take up fluid.

Astergent. Equivalent to detergent, something calculated to remove offensive matter from the body.

Acarus. A genus of mites, including those which burrow between the cuticle and true skin, occasioning that troublesome malady known as the itch. The

treatment aims at the destruction of the mischief-maker and its eggs, by rubbing in an ointment compounded from storax, an aromatic resin, night and morning, afterwards washing with warm water and carbolic soap. Sulphur ointment is also used for the cure of itch. All apparel worn during the continuance of the complaint should be thoroughly disinfected, or the itch may be thereby communicated.

Acantharia. Means general impurity of the blood, bringing about ulceration or other disorders.

Acerbity. Sour taste to the palate, "roughness" of flavour.

Acetabulum. The hollow in the haunch bone into which the head of the thigh bone fits.

Acetate. A salt formed by the amalgamation of acetic acid with a base. Acetic acid forms the basis of vinegar.

Achilles Tendon. The large ligament or tendon of the calf muscle inserted into the heel bone.

Achor. A scaly eruption of the head, commonly met with in neglected children, and usually known as "scald head" [which see].

Acidity. Sourness, as of the palate or stomach.

Alkalis. The several acids most commonly employed in Pharmacy are referred to under their English names in this dictionary. They exert a solvent action on many of the nutrients, and are otherwise useful, as will be specified.

Alcinia. Implying loss of motion.

Acme. The crisis in disease.

Acne. An unsightly eruption of the face, chest, back and shoulders, usually the effect of impaired digestion, and most commonly troublesome between the ages of fifteen and twenty-one years. It is characterised frequently by disagreeable pimples rising over the glands of the skin whose proper function is the secretion of oily matter, or by "blackheads" sluggishly retained in the glands. These can be removed by pressure or squeezing, when the expressed fatty matter has the appearance of a white maggot. Acne may be overcome by the promotion of healthy digestion, and by frequent use of a reliable antiseptic soap and plenty of water; or it may be remedied by the persistent application of a lotion prepared from glycerine, flowers of sulphur, spirits of wine, and elder-flower water applied nightly before retiring. Acne, simply means a pimple, acne rosacea, one of a rosy colour, acne punctata, a maggot-like pimple.

Acnite.—A deadly poison, the extract of the common Monk's hood or Wolf's bane, the root of which is very like that of the horseradish in appearance. Useful, in carefully calculated doses, in the treatment of fever, neuralgia, sore throat, etc.

Alcalitin.—An alkaloid, the active principle of Acnite.

Acor. Acidity of the stomach.

Acoria. Morbidity of appetite for drink or food.

Acosmia. Loss of colour in the blood.

Acoustic. Impaired hearing.

Acoustic Nerve. The auditory nerve.

Acromania. A form of insanity.

Acropathy. Disease of the extremities.

Acroty. Defective power in articulating sounds.

Actma Racemosa. The Black Snake Root, medicinally used as a sedative tincture in the treatment of muscular rheumatism and lumbago.

Acupressure. Is the endeavour to arrest bleeding by compressing arteries with needles.

Addison's Disease. Wasting disease of the suprarenal bodies situated above the kidneys, usually indicated by unhealthy bronzing of the complexion and by anæmia, a pearly condition of the whites of the eyes, sickness, and loss of appetite. Generally combated by the administration of iron tonics, arsenic, etc.

Adenoid. Glandiform, like a gland; also applied to growths in the nose.

Adhesive Inflammation. Is the process resulting in the union of severed soft parts without the formation of "matter."

Adipose, Fatty. The interstices between the muscles are generally filled, especially in young persons, with cells containing adipose matter, giving plumpness to the parts.

Aëration. The action of atmospheric oxygen

upon the venous blood, converting it, on the lungs, into arterial blood. Any pulmonary ailment interferes with this essential natural process.

Agglutination. Adhesion of the eyelids, induced by the exudation of glutinous matter. Cured by application of a little boracic ointment.

Ague. Is accompanied in most cases by enlargement of the spleen. In the cold stage give thin warm drinks frequently, and apply hot water bottles to the feet, placing the patient between blankets. Sponging the body with tepid water and the administration of cooling drinks should be the staple of treatment in the hot dry stage, and when sweating succeeds, rest and lukewarm draughts to assuage thirst are necessary. Quinine is one of the best preventative and curative agents in relation to ague.

Air. It is essential that the air we breathe continually should be fresh and pure, that is uncontaminated by impurities. Impure air is deprived of some of its life-sustaining oxygen, and increased in the proportion of carbonic acid it carries. Therefore let every apartment be efficiently ventilated. "Let the blessed sunshine in;" open wide the windows to admit "the wind of God," that it may blow away impurities.

Albinism. An abnormal whiteness of the skin, accompanied by light or flaxen hair, and sometimes by pink coloration of the eyes.

Albugo. A disease of the cornea, or horny lens in front of the eye, manifesting itself in "white speck."

Albumen. A chief constituent of all animal bodies, presented in nearly a pure form in the white of egg. Therefrom the chicken during development derives nourishment, and from the albumen in the human blood the tissues are chiefly sustained.

Albuminuria. A disease of the urinary organs, denoted by the presence of free albumen, can be easily detected by carefully boiling a small portion of the voided fluid, or by the addition of nitric acid, either of which will occasion coagulation, as the white of an egg solidifies in cooking. Albuminuria may arise from weak heart action or ailment of the kidneys.

Alcohol. A colourless or highly rectified spirit of wine, a colourless and faintly odorous fluid of hot, pungent taste, constituting the characteristic compound in fermented liquors, and communicating to them their intoxicating properties. Alcohol possesses a stimulating effect upon the human frame, which may be hurtful or otherwise, according to circumstances, but is not necessary to a healthy subject.

Alimentary Canal. The passage from the mouth to the anus, comprising these as the terminals, and the œsophagus or gullet, stomach, and intestines in between. The liver and sweetbread form parts of this system.

Alkali. A term chiefly applied to potash, soda, and ammonia, but besides these, magnesia, lime, strontia, lithia, and barya all possessing alkali properties. Alkaloids are bodies partially resembling alkalies, such as quinine, strychnine, and morphia.

Alopecia. Partial baldness, the falling off of the hair of the head in patches, commonly due to disease or to a description of nervous debility affecting the nutrition of the hair bulbs. It may be allayed by the restoration of nervous tone, and cured by appropriate local remedies.

Aloes furnish an extensively used purgative, acting powerfully upon the colon or large bowel. Generally employed in combination with some carminative or anti-spasmodic agent to prevent griping.

Alteratives. Medicines which act on the blood, changing its character, without inducing disturbances in the intestinal or urinary excretions.

Alum. A compound salt of potash and alumina in combination with sulphuric acid. A cheap and powerful astringent, controlling hæmorrhage and catarrhal discharges, and very valuable in solution as a gargle in cases of sore throat.

Alveolar Process. The bony plates forming borders to the jaws and supports to the gums. These are connected by transverse plates, dividing the space into tooth sockets, each called an alveolus.

Alvine. Pertaining to the intestines, as alvine excretions or discharges, or alvine concretions.

Amaurosis. An affection of the optic nervo

inducing a species of paralysis, which renders the recognition of external objects impossible, and occasions dilation of the pupil. This partial blindness may be brought on by overworking the eye in strong light, by gout, or by excesses of any kind, and requires to be dealt with medicinally without delay.

Amenia, or Amenorrhoea. Absence or irregularity of the menstrual discharge.

Ammonia. A volatile alkali, the basis of smelling salts. Formerly known as hart's horn, from its being produced by burning horny and other animal matter; but now chiefly obtained from gas-tar liquor. It is very valuable medicinally as an antacid and stimulant, also as an expectorant. Frequently applied externally when there is inflammation of an internal organ or tissue, also extensively used internally in cases of bronchitis, congestion of the lungs, fainting, etc.

Ammoniacum. A gum of service as an antispasmodic and expectorant in chronic bronchitis, and as a stimulant in other malades.

Amyl Nitrite. A very powerful antispasmodic, inhaled or administered in angina pectoris, or contraction of the chest.

Anacardiac. A medicine causing vomiting.

Anæmia is a term which expresses the condition of the blood when impoverished. It is caused by defective or insufficient food, bad atmospheric conditions, and constipation, and is more common in females than in males. The symptoms are a pale complexion, colourless lips and gums, and general exhaustion, accompanied by palpitation, headache, and pains in the back and left side. The patient should be given plenty of fresh air and a fair amount of exercise.

A plain and nourishing diet should be adopted, including a moderate proportion of animal food. Regular action of the bowels should also be induced, and with these precautions, steel drops, or iron pills may be administered with advantage.

Anæsthesia. Insensibility to pain, induced by the administration of chloroform, ether, or some other agent, or may be brought on by cold.

Anus. Appertaining to the anus, or terminal aperture of the digestive system.

Anasarca. A kind of dropsy, indicated by the effusion of serous fluid in the membranes, inducing a condition in which pitting is possible, that is, when the flesh will retain the impression of the finger. Usually attributable to disease of the heart or kidneys.

Anchilops. An abscess in the internal angle of the eye.

Anchylosis, or Ankylosis. A contraction or stiffening of the joints.

Anchyloglossum. A contraction of the ligaments of the tongue, bringing about the condition known as "tongue-tied," which requires surgical attention.

Aneurism. A dilated artery, a tumour caused through weakness and distension of an artery by the enclosed blood. May be occasioned by injury or disease. The most frequent seat of an aneurism is the popliteal artery, behind the knee joint, and by far the most dangerous, the aorta, the main artery coming from the heart. Aneurism requires medical treatment.

Angina. Applied usually to a spasmodic malady affecting the heart, often of an agonising nature. Angina membranacea is the scientific denomination of croup, and other angina diseases relating to the tonsils, the uvula, and the throat in various ways.

The most dreaded angina is that of the heart, which is manifested in spasm, occasioning a terrible struggle for breath coincident with acute pain in the region of the heart. In attacks of angina pectoris the sufferer usually exhibits all the symptoms of impending death from suffocation, and the direct cause of the seizure is usually digestive disturbance in the case of a person subject to some one or other of the numerous forms of heart affection. Nitrite of amyl is usually administered to afford relief, either by inhalation, or as a dose in combination with minute proportions of nitro-glycerine, and the effect of these powerful medicines is sometimes little less than marvellous. They reduce the tension of the blood-vessels, and thus relieve the heart's work. Mustard poultices applied to the chest at the seat of pain are often helpful whilst the spasms are being combated. Persons prone to heart

ailment of any character should be particularly attentive to digestive regularity, as a gastric upset is generally the forerunner of angina pectoris.

Asimilation, suspended. That condition in which life is threatened through impeded respiration, the principle causes being drowning, strangulation, or the inhalation of noxious gas. (See Drowning, Gas, Asphyxia.)

Ankle. The strong ligamentous bands controlling the connection with the foot with the leg at the ankle-joint sometimes become sprained or over-stretched by a false step, or slight rupture may occasionally occur from a similar accident. This gives the painful condition usually spoken of as sprained ankle, the proper treatment of which is the application of a soothing yet stimulating liniment, with bannel bandaging to restrain movement and afford support to the part.

Anodyne. A remedy which assuages pain, such as the narcotics and opiates, menthol, cocaine, and belladonna are among the anodynes which act locally.

Antacids. Remedies for acidity of the stomach, such as potash, soda, lime, and their carbonates.

Anthrax. An inflammatory tumour or carbuncle. A dreadful form of anthrax may be contracted in man by contact with diseased animals or their hides, through the germ known as the anthrax bacillus entering the skin by an abrasion or wound occasioning malignant pustule or external anthrax. This affection is known as "Woolsorter's disease," germs gaining admission to the lungs of workers from hair and wool derived from anthrax-infected animals. If this should have reached the severe stage before discovery cure is rare.

Antibillious. Medicines for bilious ailments.

Anticathartic. Remedies for poor blood.

Antidotes should be at hand for use in cases of poisoning, and it is important to remember that alkalies act as such against acids, and acids against alkalies. In every instance where a poison other than an acid has been introduced to the stomach, vomiting should be expeditiously induced by the administration of a strong emetic such as mustard and water or even hot water, and tickling the throat and the back of the palate with the fingers or a feather. The whites of raw eggs swallowed, sweet oil, olive oil, or milk should be given in acid or corrosive poisoning to protect the throat and stomach from the burning effects. In ether, chloroform, or chloral poisoning, no chemical antidote is of avail, but ice may be introduced advantageously to the rectum, and cold water be dashed over the head and chest of the sufferer, and artificial respiration promoted. Where opium or morphia poisoning is evident, say, through overdoses of soothing syrup or powder, pargoric or laudanum hot baths are of great value, with copious draughts of strong coffee, and the utmost endeavour should be made to overcome drowsiness by forcing the patient to keep moving or walking about. On the contrary, absolute quiet is essential in nuxvomica and strychnine poisoning, and mustard and water emetic or sulphate of zinc (20 grains in water) administered. Gelatinous drinks, with alternate doses of soap-suds, are often serviceable in copperas and cobalt poisoning, and strong liquid mucilage with flour and water accompanied may be administered where carbolic acid is the cause of mischief. Milk and white of egg, with gelatinous draughts, are beneficial in poisoning induced by mercury or its salts; ammonia should be given in water as a first attempt to cope with prussic acid poisoning; lime-juice, magnesia and soap-suds may be tried where the baneful agent is known to have been aqua-fortis, vitriol, or oxalic acid; and strong salt and water should be forced down the throats of sufferers from nitrate of silver swallowing. Rat-poison or arsenic having been taken, flour and water, milk, sweet-oil, and lime-water may prove corrective; while strong alkalies such as potash infusion, ammonia, hartshorn, and cleansing lyes are best counteracted by vinegar or lemon-juice. No form of oil should be given in phosphorus poisoning. Astringent infusions, with very strong tea as a handy form thereof, together with starch-water, are often helpful in antimony or tartar emetic poisoning, or when iodine has been taken. For corrosive sublimate, lead poisoning, or where any of the usual insect-destroying powders have found their way into the stomach, large and frequent draughts of

milk or the whites of eggs may be given, and this treatment will often afford relief in sugar of lead poisoning cases. No delay should be made in securing competent medical assistance where poisoning symptoms are apparent.

Antimony. A mineral medicine formerly most extensively employed in fever cases, and still of value in the treatment of pleurisy, pneumonia, and chest complaints generally. It produces a powerful effect upon the heart's action and has been a great deal resorted to in criminal poisoning cases.

Antipyresis. Remedies which lower the temperature in fever.

Antipyria. A drug in considerable demand for the relief of neuralgia and other ailments. An overdose may induce depression of the heart's action.

Antiseptic. Opposing or preventing putrefaction. The term in pharmacy comprises all those agents which have a deterrent or destructive effect upon the micro-organisms that give rise to many diseases. Antiseptic dressings are invaluable in the treatment of every description of wound. Iodoform is much used in hospital treatment, and other antiseptics in common medical employment are carbolic acid, permanganate of potash, oil of eucalyptus, perchloride of mercury, boric acid, chlorine, thymol, and aristol.

Anus. The lower orifice of the intestines, controlled by a powerful sphincter muscle. The anus is not infrequently the seat of troublesome and dangerous disease, including fissure, and prolapsus of the mucous membrane of the bowel, also of piles.

Aorta. The great artery rising from the left ventricle of the heart, and distributing the pure blood to the various arteries of the body.

Aperient. Medicine of a laxative character. Some of the chief are castor oil, rhubarb, croton oil, jalap, senna, colocynth, and Epsom salts.

Aphasia. Speechlessness from brain disease.

Aphonia. Dullness of voice due to paralysis of the vocal cords, or inflammation of the larynx.

Apnoea. Loss of breath, suspended respiration. It may result from external causes, or be produced by lung or heart disease, and very frequently immediately precedes death.

Apoplexy. A person seized with this distressing and dangerous disease should be removed to a cool and efficiently ventilated apartment, and have the clothing loosened or removed and the head kept elevated. Cold applications should be made to the head immediately, and quick-acting purgatives administered, with the addition of emetics should the stomach be known to be overloaded. The scalp may be blistered for relief, and bleeding be resorted to in case of extreme turgidity of countenance; this, however, ought to be left to the surgeon. Apoplexy manifests itself by the person seized falling down after experiencing severe pains in the head, and becoming insensible. The face is more or less flushed, sometimes to purpleness; there is a full pulse, but usually slow. These symptoms are succeeded by vomiting, and partial or complete paralysis; and there is cold perspiration and heavy stertorous breathing. This always alarming malady is generally due to congestion or rupture of some blood vessel in the brain. No stimulants must be given. Absolute rest is essential. Apoplexy may be cerebral, pulmonary or sanguineous.

Appendicitis. Inflammation of the curious vermiform appendix or blind sac at the junction of the larger and smaller intestine, frequently caused by the lodgment of irritant indigestible substances taken with the food into the alimentary system when it is irregular in action through abnormal conditions. When appendicitis becomes acute it is now usually made the subject of surgical operation, even to the excision of the appendix, which performs no known useful function.

Aptha. The thrush, a disease indicated by small white spots in the mouth, and on the throat and tongue, caused by an acid condition of the alimentary canal, common in infants, and not infrequently a precursor of death in persons of mature years. Thrush is a mould growth. Borax is a useful local application; and the condition of the stomach should be rectified.

Areus Sanilis. A pearly opacity encompassing

the cornea of the eye in aged persons, sometimes spoken of as "glazing."

Arcetia. Opening the pores, descriptive of medicine designed to promote perspiration. Arcetia is the term applied to the interstices of the cellular tissues, as also to the "halo" or dark circle surrounding the nipples of the female breast in pregnancy.

Aristol. A very useful antiseptic, resembling in its effects iodoform whilst being free from the powerful odour of the latter. It should be kept away from the light to preserve its beneficent qualities.

Aristol. The Leopard's Ban, a plant the leaves and root of which afford medication for bruises, and may be advantageously employed internally in the treatment of typhoid.

Arsenic. Arsenious acid, or white oxide of this metal, a very deadly poison, is, when judiciously employed, most valuable in pharmacy. It is used in the treatment of skin diseases, neuralgia, and ague. Arsenic is a very volatile metal, and may produce injurious effects through the exhalation of its fumes.

Artery. A vessel conveying pure blood from the heart to the capillaries, from whence it is returned to heart and lungs by the veins. Arterial blood, very bright red in colour, flows in pulsations or waves, differing from venous blood by having undergone on the lungs the oxidising action of the air. From any injured artery the blood escapes in spurts corresponding to the beats of the heart, and compression between the heart and the wound must be made until surgical assistance has been secured. It is highly important that arterial hemorrhage should be stauncher as quickly as possible, for if the artery severed be large there is great danger of bleeding to death. In the case of injury of this character occurring in the limbs a bandage should be at once twisted as tightly as possible between the wound and the heart.

Arthritis. Gout, or analogous ailments of the joints, sometimes characterised by chalky concretions, and always occasioning acute pain, spasmodic or continuous. (See Gout.)

Ascaris. A species of intestinal worm, known as a round worm.

Ascites. Abdominal dropsy, usually the effect of exhausting organic disease, either of the heart, kidneys, or liver; generally relieved by surgical "tapping."

Asphyxia. When breathing has been suppressed by the inhalation of poisonous gases, by hanging or by other methods of strangulation, by apoplexy, or by syncope, artificial respiration should be promptly resorted to. The procedure is indicated under the head of drowning, as necessary in that form of misadventure; generally it is similar in all asphyxia cases, save that the preliminary of expelling water from the lungs is of course only requisite after immersion. False teeth should be removed, and the whole body rubbed briskly, pressure being applied and withdrawn alternately both on the back and at front below the lungs. Rotate the body gently on the right side. Then let the legs and arms be bent and straightened; all the while the patient lying on the floor or a couch with the head slightly raised. The object of every endeavour is to restore circulation and breathing by assisting the inanimate body to do what it has lost the power itself to accomplish. Never relinquish these humane efforts until the spark of life has unmistakably fled or success has been achieved.

Asthma. A spasmodic affection of the bronchial tubes, is productive of extreme difficulty in breathing. Persons subject to asthma often find themselves freed from suffering in one neighbourhood than another. They require careful dieting and constant attention to the regular action of the digestive organs. When the spasms are particularly troublesome, relief may often be obtained from inhalation of the fumes of burning blotting paper previously saturated with a solution of nitre, or a few drops of chloroform upon a handkerchief may be placed to the nostrils. A compound liniment of belladonna, camphor, soap and oil, applied by friction to the chest, is comforting.

Astringent. Literally means "that which binds," and the term is applied to those substances which occasion contraction of the tissues when applied locally. The most commonly employed vegetable astringents

are those containing tannin, such as oak-galls and bark, catechu and kino. Mineral astringents include alum, salts of iron, sulphates of copper, and zinc, nitrate of silver, acetates of lead, and sulphuric and other acids.

Ataxy. Irregularity in the functions of the body, arising from disease or disturbance, as of the pulse, when it becomes paroxysmal, or the gait, when it is unsteady through paralysis or from some other cause, which gives the painful condition called "Locomotor ataxy." Ataxy literally signifies "want of order."

Athletic Training. Athletic exercise, indulged in with moderation, is good generally, more especially to the young of both sexes, as its tendency is to increase the powers of endurance by improving the muscular system. Regular habits and attention to dietary in connection with athletics constitute the "training" which produces "form." The best food to take is plain and unfattening.

Atrophy. Wasting away, general or local. General, as in consumption or incurable cancer; local in serious bowel or nerve trouble.

Auditory Canal. A continuance inwards of the trumpet of which the ear may be considered the mouth. It ends internally in the tympanum.

Auricle. The external ear. The term is applied also to the two upper cavities of the heart, leading to the ventricles.

Auscultation. Judging of the progress or existence of disease in the lungs or thorax by listening to the breathing or by the use of the stethoscope.

Axis. The second vertebra of the neck.

Bacillus. A rod-like, microscopic organism, representing a family of germs with power of multiplication to an enormous extent within the human form, thereby propagating disease.

Bacteria. These are micro-organisms which, upon introduction to the circulation, may produce certain specific effects. They are chiefly fungoid, but can be readily cultivated in pure and other substances in the laboratory, and are distinguishable from each other. Bacteria are often useful in removing decaying matter, as in the bacterial treatment of sewage.

Baldness. Generally arises from some constitutional cause or hereditary tendency, and is immediately due to a weakening of the follicles of the hair. Its progress may sometimes be retarded by stimulating lotions.

Balneaatio. The act of bathing; the treatment of disease by baths of various descriptions.

Bandages. For any part of the body requiring support, need careful folding and adjustment. They may be made from old linen, in strips from sheets or table cloth, flannel, gauze, calico, or elastic web, as is best suited for the immediate purpose.

Barfotee. The practice of allowing children to wear sandals upon unstockinged feet has found increasing favour in the summer time with many heads of families, both when at the seaside and in town. It is a commendable one. There is less danger of cold-taking if the blood flows freely in the uncramped extremities than when prisoned by boots.

Bathing is very necessary in health and, when possible, in sickness also; for without cleanliness the functions of the body cannot be properly fulfilled, and were washing more frequent than it is, and more thorough, there would certainly be less disease to deal with. There are hot, tepid, and cold baths, both simple and medicated; the latter for specific curative or preventative purposes, and these can be used in different ways, as the plunge, spray, shower, or sponge bath. Vapour and mineral baths are more complicated, but they are nowadays when necessary within the reach of most people. Open-air bathing is beneficial to all who do not receive therefrom too much shock, and sea baths are very pleasant in warm weather, as well as healthful. Turkish baths are usually of value to sufferers from rheumatism, but should not be adventured upon by persons subject to heart affection, except under medical advice.

Bed. For the young and healthy a firm mattress forms the best bed; for the feeble and aged, who have more difficulty in maintaining a comfortable and sufficient temperature, a softer bed is preferable.

Bedrooms ought to be efficiently ventilated night

and day to secure healthy sleep. Do not stuff up the chimney, which is a capital safety valve, and secure the admission of fresh air through the window sashes constantly by an arrangement which excludes draught. The less of furniture or other impediments there be in a bedroom the better.

Bed-sores should be guarded against in lingering illness; the provision of a "water-bed," or pneumatic cushions, which compel equal pressure, being capital preventatives. When a bed-sore threatens to form, there should be frequent and gentle washing of the part with warm water, and careful drying with a soft towel, afterwards dabbing with eau-de-cologne or good whiskey.

Beef. Good ox-beef is the most strengthening of all animal food, wholesome, nourishing, and easily digested by healthy and vigorous persons.

Bee Stings should be extracted as quickly as possible, and the injured part treated by an alkali, such as bicarbonate of soda.

Belladonna. The "deadly nightshade," a plant producing a powerful and poisonous narcotic, which has numerous uses medicinally as a soothing agent.

Benzole Acid. Used medicinally and in perfumes, and present at times in the saliva and excretions of the bladder. Obtained for pharmaceutical purposes from guai benzole.

Biceps. A muscle having two distinct heads or origins, as the biceps of the thigh or the biceps of the arm.

Bile. The secretion of the liver which aids in the assimilation of the fatty portions of the food. If there be defective action of the liver, then will follow a tendency to allow the biliary products to accumulate in the system, commonly called the overflow of bile, or "a bilious attack." Constipation is a frequent cause of biliousness, contributing to fecal absorption in the lower bowel from the retained matter contaminating the blood, and giving rise to the sallow complexion of the bilious subject. Free purgation should be secured in such cases; and a sluggish liver should be stimulated by calomel, taraxacum, podophyllin, or some similar medicine. Careful dietary, little flesh food, with sufficient open-air exercise, should keep healthy persons free from bile trouble.

Bismuth. Is a metal a good deal used in cosmetics and medicinally, especially as an alleviate of dyspepsia. It is very useful as a powdered carbonate or subnitrate in heart-burn, water-brash, and may be obtained at the chemist's in lozenge form.

Bite of Dog, or other Animal. Cleanse the wound as well as possible, ligaturing tightly between the injured part and the rest of the body if possible, and cauterising should virus be suspected. This should be done with lunar caustic or any clean iron or steel article at hand rendered white hot. The wound should first be well sucked if the attacking animal's bite be venomous in any way, and the surrounding flesh ought to be promptly cut away with a sharp knife in a case of known great danger before the cautery. A spirituous stimulant may also be given to the injured person in sufficient quantity to induce mild intoxication. This applies to snake-bite also.

Bitters. Various kinds of bitters, infused in spirit, are made use of by many persons for the purpose of stimulating the appetite. Most of these are of vegetable extraction, derived from the gentian, orange etc., and though of some little value when applied medicinally in a judicious manner, as appetisers, their habitual use is to be deprecated.

Bladder. A membranous bag containing fluid in animal bodies such as the urinary and gall-bladder. The former is subject to many affections, arising chiefly from cold or neglect. If over-distension be permitted, there may be rupture. Irritability of the mucous membrane of the bladder may arise from cold or a disordered condition of its fluid contents. Stone in the bladder is a frequent cause of excruciating pain in the organ, and usually requires a crushing or cutting operation for its removal. The presence of this malady is often indicated by the passing of blood after exercise, or by retention caused by the accumulated "gravel" obstructing the water passage. A hot sitz bath will frequently afford relief; but stone in the bladder is an

allment calling for surgical attention. Weakness of the organ, indicated by inability to retain its contents, frequently occurs in the young and the aged, and may be amended by the employment of suitable tonics. See also "Gall Bladder."

Bleeding. Bleeding from any wound in spurts indicates severance of artery, and should be at once arrested by tight bandaging between the injured place and the heart, if this be possible, with the application of ice or other cold substances; the aid of a surgeon to tie up the artery being obtained immediately. Should external ligaturing be rendered difficult by the location of the wound a compress should be made above as well as over it. Bleeding from a vein proceeds in a continuous stream, and hemorrhage of this description is sufficiently dangerous when permitted to proceed for any considerable time profusely. In the case of a varicose vein bandage both above and below the wound. Alum, tannin, and all astringents are good styptics or blood staunchers. Tannin, or alum, or cotton wool stuffed up the nostrils will often stop troublesome nasal bleeding.

Blister. A watery swelling under the skin; also a plaster to produce the same of set purpose, generally for the relief of internal inflammation. The best counter-irritant for this purpose is cantharides.

Blood is a highly important medium of human and animal life. It consists of arterial blood, which has been oxygenated on the lungs; and venous blood, loaded with carbonic acid gas, and not having received aeration. Blood corpuscles or globules are white and red, the latter giving to the blood its brilliant colouring and containing iron. The red corpuscles carry oxygen to the capillaries from the lungs and bring back carbonic acid gas from the system to the lungs for expulsion. The white corpuscles wage constant war against malignant bacilli, bacteria, and disease-promoting microbes generally. The colourless fluid in which these corpuscles float is called the serum or liquor sanguinis. Over three-fourths of the composition of blood is water.

Bloody-flux. A painful form of dysentery, in which blood discharges accompany the feces.

Blue Disease. Cyanosis, a dangerous form of heart trouble, in which the whole surface of the body assumes a bluish tinge.

Blue Pill. The common name of a remedy much employed for liver disorders, in connection with a less powerful purgative. It contains mercury.

Boil. A painful affection of the skin, usually incident to a low state of the general health. It is produced by a minute organism which locates itself in the hair follicle for the propagation of its species, occasioning suppuration in the immediate environment and a more or less extensive superficial pustule through which the purulence is discharged. An unduly irritated boil may develop into carbuncle. Boils are best left alone to run their course, attention being turned to the improvement of the impaired condition of body they indicate; but during their continuance the eating of oranges will be found to have beneficial effect.

Bones. The bones of human form are composed of animal and earthy matter, the latter, in maturity, much predominant, and composed mainly of phosphate of lime. Bone affords the necessary strength and solidity. The animal portion, gelatinous, yields vitality and prevents brittleness. In infancy and childhood the bones are soft, developing towards the perfect condition gradually.

Borax. The borate of soda, used as a cooling medicine, frequently in conjunction with honey or glycerine, for the mouths of children in thrush and for sore throat.

Brain. A tumour at the back of the eye.

Brain. The brain is the great nerve mass enclosed within the skull, serving as the headquarters from which the spinal marrow and all the nerves which permeate the body take their start and governance. It is a complete and delicate organisation, and though well fortified within the cranium, liable to sustain injury from accidental violence or by overwork. Concussion of the brain is a condition resultant from a severe blow occasioning unconsciousness without apparent organic mischief within the brain.

Breath. Breathing through the nostrils is the natural and desirable method of respiration, and perfect repose is only secured when the mouth is closed. All crooked or restrained positions render respiration difficult. Irregular breathing denotes either an unnatural position of the body, or some impairment of the respiratory organs. The exhalation of offensive odour from the breath may arise from gum ulceration or decaying teeth, from disease of the mucous membrane of the air passages, from disordered digestion, or from impurity of the blood.

Bright's Disease. Denotes an inflammatory affection of the kidneys indicated by the presence of albumen more or less excessively in the urine. The disease may be very serious, and its treatment calls for the exercise promptly of medical skill.

Bromine is an elementary substance, similar to chlorine and iodine, and can be obtained 1.0m bitter, the liquid residue secured after evaporating sea-water, but is now generally manufactured from the bromides obtained from crude carnalite. It forms brown fumes and bromates.

Bronchi. The branches of the windpipe, or ramifications of the air tubes of the lungs.

Bronchitis is an inflamed condition of the bronchial membranes. It is usually induced by cold, but may occur as a complication in the course of acute febrile attacks, such as typhoid. In the commencing stage the mucous membrane of the bronchial tubes is often so inflamed as to occasion great difficulty of breathing and painful spasm. When this subsides and the secretion of mucus is resumed, it becomes sometimes so excessive as to set up more or less continuous coughing. Should the inflammatory condition spread downwards through the capillary branches of the bronchi and to the lungs, serious symptoms will speedily supervene. Relief may be obtained in many cases by the application of linseed or mustard poultices to the chest and back, these being permitted to remain on half an hour at a time and renewed as necessary, the patient being kept warm in bed. Expectoration may be rendered less painful by the administration of speaccharia, or antimonial wine, quills or pargoric.

Bronchocele, or Goitre, is an enlargement of the thyroid gland, often called "Derbyshire neck." It is commonest in districts situated on mountain limestone, and is caused by drinking over-hard water. The cysts or swellings sometimes reach large dimensions, and occasion very considerable inconvenience, though they are rarely accompanied by actual danger to life. The accumulated fluid may be drawn away from the cyst to afford local relief, and iodide of iron syrup often proves beneficial.

Bronchos is a term signifying suppression of the voice, as the result of cold or catarrh.

Bronchotomy means incision of the larynx or trachea, made for the obtention of suffocation in quinsy, cancer, or other continuously obstructive condition of the passages. It is only resorted to as the last hope of saving life.

Broom. A species of genista, is a common plant, the young shoots of which yield, upon boiling, an infusion useful in the treatment of dropsy, being powerful stimulants to the functions of the kidneys.

Bruises may be rendered less painful by the application of diluted ammonia, or by bathing with spirits and water, also by the use of ice. Belladonna, aconite, and opium liniments painted upon the injured part will usually afford relief, but must not be employed when the skin is broken.

Bruit signifies the sounds in the chest detected by the stethoscope, indicative of the presence of disease.

Bubo, a swelling or enlargement of certain glands arising from an internal sore, and usually tending to suppurate. May be treated as an ordinary abscess, or, if there be no suppurating, painting with iodine will often afford relief.

Bulla. A large vesicle or piece of cuticle charged with serum or watery fluid, raised by blistering or burning.

Bunions are painful swellings over the joints of the toes, and particularly with regard to the great toe. They are due to inflammation of the joint capsule. Hot fomentation will afford relief, but this

removal of the cause is necessary to prevent recurrence.

Euphthalmia. Dropsy of the eye.

Burns. Cover with powdered soda, and lay over, or bind tightly with a wet linen cloth, to "take the fire out." Next dress with white of egg or olive oil and secure the injured part against friction. Lime water and permanganate of potash also make soothing dressings. Carron oil used for burns consists of equal parts of linseed oil and lime water.

Gastrostomy. A deranged and vitiated condition of the system, indicating extensive disease.

Cacoecia. An ulcer of an incurable character.

Cæcum. That portion of the lower bowel where the ileum ends, a wide pouch-like vessel, generally about two and a half inches long with the appendix given off from it.

Calculus. A stone or hard concretion in the bladder, kidney or urethra.

Caligo. A term applied to various diseases of the eye. *Caligo lentis* signifies cataract; *caligo humorum*, blindness from defect in the humours of the eye; *caligo corneæ*, opacity of the cornea; *caligo palpebrarum*, blindness from affection of the eyelids; *caligo pupillæ*, obstructed pupil.

Calisthenics, as distinguished from the more strenuous gymnastics or athletic exercises, may be considered to constitute an admirable method of promoting and maintaining bodily health and vigour.

Calomel. The sub-chloride of mercury, employed in medicine for salivation and other purposes.

Caloria. The heat generated by the active functions of the body, dependent upon the changes due to the digestion, assimilation, respiration and the circulation of the blood.

Camphor. A solidified essential oil, much used medically as a stimulant, obtained commercially from the *Camphora officinarum*.

Cancer. A scirrhous tumour, sometimes ulcerating and enlarging to an enormous size, and assuming a malignant character. Cancer is considered in many cases to be of hereditary origination. It occurs in various parts of the human body, and is much more frequent in females than males, rarely making its appearance before the age of thirty. It is only in its first stages that true cancer can be eradicated, if at all, and that for the most part by surgical excision. Medical scientists are devoting much attention to the study of this terrible scourge of humanity.

Canker. Small ulcers occurring in the lips, mouth, gums, and cheeks of ill-nourished persons, chiefly children. These sores are of a gangrenous and offensive character, and require drastic surgical and antiseptic treatment locally, in conjunction with stimulative and nutrient dietary.

Canthus. The junction or cavity at the extremity of the eyelids.

Capillaries. The minute blood vessels forming the connecting links between the arterial and venous systems. Capillary literally means "hair-like." These blood vessels are sometimes only one five-thousandth part of an inch in diameter, and differ from the smallest arteries in having only one coat, as against the three exhibited in the arterial system. The capillary may be observed in the whites of the eyes when blood-shot, having become gorged with red globules.

Carbide. A combination of carbon with any other elementary body; thus steel is carbide of iron.

Carbolio Acid. A colourless oily fluid, prepared from coal-tar, and invaluable as a deodoriser and disinfectant. It has the effect of masking all disagreeable odours and of arresting putrefaction.

Carbolised Oil. An invaluable lotion for burns and scalds, prepared by the addition of one part of carbolic acid to about sixteen to twenty of olive oil.

Carbon. Pure charcoal, only existing as such in the diamond naturally, is a chief constituent of all animal and vegetable bodies, from which it is separable by heat, sulphuric acid, etc. It is a powerful deodoriser and absorbent of noxious gases, and may be taken advantageously in powdered form or in biscuits by sufferers from flatulence or indigestion.

Carbonic Acid, or Carbon Dioxide is a gas produced by the amalgamation of two equivalents of

oxygen with one of carbon. Found in underground workings and deep wells, as "choke damp"; other names: "mephitic gas," "fixed air," "aerial acid," "heavy air." A deadly poison in inhalation, but a valuable stimulant administered in the stomach in discreet doses.

Carbuncle. An inflammatory tumour or boil. A virulent superficial affection, which may develop from a simple pustule, or boil, but is invariably a sign of low general condition. This results in impaired vitality in portions of the skin, which become indurated and gangrenous. Incision and cleansing of the vitiated tissue is necessary, together with improvement of the bodily health by tonic treatment.

Cardiac. Implies something pertaining to the heart, and pharmaceutically signifies a stimulant exciting action of the stomach and consequently of the circulatory system by the heart.

Cardialgia, or Heartburn, an ailment of the stomach, causing temporary interference with the action of the heart indicated by a burning and acrid sensation both in the stomach and at the top of the gullet. (See *Heartburn*.)

Carditis. An inflammatory affection of the heart tissue. Cardiac inflammation is generally confined to the outer covering of the heart, or the lining membrane which it beats, when it is styled pericarditis. The living membrane of the heart itself may also become inflamed from various causes, which gives the condition called endocarditis. Both are usually the outcome of rheumatic disease, and frequently follow rheumatic fever.

Caries. Ulceration or mortification of bony tissue, or of the teeth, usually followed by decay of the substance affected. Muricite of calcium, administered perseveringly, coincidently with a generous nutritive dietary, will often be found remedial in caries; but surgical attention is usually requisite.

Carminative. Anti-spasmodic, expelling wind from the system, a remedy for colic or flatulence. Hot water, ginger, peppermint, and pennyroyal are amongst the simplest of carminatives.

Carotid. The two large arteries of the neck, conveying blood from the heart, and situated on either side of the windpipe.

Carpologia. A very low state of the system in disease, indicating all but complete exhaustion of the physical and mental powers.

Carpus. The wrist bones, eight in number.

Cartilage. Gristle, an elastic substance attached to the bone, pearly-looking and affording gelatine on boiling. The cartilages cushion the bones at the joints, and move over each other without friction through the action of synovial fluid secreted in their immediate vicinity.

Cascara and Cascarella. The bark of an American species of cinchona, used as a tonic either in tincture or infusion; also as a laxative.

Caster Oil. A valuable purgative obtained by pressing the seeds of the Ricinus communis, one of the Spurge. It usually acts upon the bowels very quickly and thoroughly, and may be administered with good effect in infancy and old age.

Catalepsy is an alarming condition of suddenly suppressed consciousness, an accompaniment occasionally of hysteria in females. It may be of considerable duration, when it is usually called "trance." The condition of amnesia to the nostrils, the injection of ether or brandy under the skin, the friction of the body, or an electric shock, have all been tried successfully in catalepsy.

Catamenia. The menstrual flow, irregularities in which should be immediately noted, and if not ascribable to natural causes, receive medical attention.

Cataract. An opacity of the crystalline lens of the eye, occasioning blindness. Should the ailment arise from disease of the lens itself, it is called true cataract; an external growth in front of the lens constitutes what is known as false cataract. Usually an accompaniment of old age, and very often amenable to operative treatment in the early stage.

Catarrh. Increased secretion of mucus from the membranes of nose, ear, bronchia, stomach, alimentary canal, or urinary passages. Most catarrhal ailments

are occasioned by exposure to cold, and the term means simply "a running down." The "common cold" in the nose or chest is the most frequent of catarrhs, whilst the catarrh of a marked and epidemic character is generally characterised as influenza. Catarrh of the air passages may be remedied, when not of serious extent, by inhalation of eucalyptus or methyl-impregnated steam.

Cathartics. Medicines which promote purgation, such as castor oil, cascara, Epsom salts, aloes, &c.

Catheter. A slender tubular bougie, introduced through the urethra into the bladder to relieve that organ when natural efforts fail; sometimes made of india-rubber or gum elastic, sometimes of silver. This instrument should always be cleansed by antiseptic applications before use, and employed with great care, lest injury be inflicted upon the delicate urinary canal.

Cautery. Burning, or otherwise acting upon a morbid part by heat, caustic, etc. A white-hot iron may be applied in emergency to a dangerous bite or poisoned wound. Lunar caustic, the fused nitrate of silver, is perhaps the best and most commonly known agent of this character; other caustics are nitric acid, chloride of zinc, acetic acid, caustic potash or soda, and caustic lime. Salicylic acid and chromic acids are often employed for the purpose of eradicating corns and warts.

Cellular. Signifies consisting of microscopic cells. Most animal and vegetable structures are cellular in form, hence we have the term "cellular tissue," indicating the membranous network filling up the interstices between the various organs of the human body, composed of numberless cells, crossing each other, and containing communicating intercellular spaces, kept soft and moist by a watery vapour exhaled from the minute arteries.

Cerebrum. The upper brain, the organ upon which depends the manifestations of will, intelligence, and memory, and which governs the processes of the nervous system, these in turn directing all muscular action. Singularly enough, the cerebrum, or centre of the whole nervous structure, possesses itself no power of sensation, and may be injured, and even divided, without sense of pain being experienced, though functional derangement of will, of course, quickly ensue. Diseases of, or injuries to, any part of the cerebral structure demand the most skillful and instant attention.

Cerumen. the yellow waxy secretion of the external ear. In aural catarrh, the cerumen sometimes accumulates and hardens to an extent occasioning temporary deafness. The introduction of a little warm glycerine or oil followed by syringing with tepid water, in which a little antiseptic soap has been dissolved, will usually remove the trouble.

Cervical Vertebrae. the seven upper vertebrae of the spine, situated at the base of the skull and immediately below, in the neck to the shoulders. Cervical muscles and vessels generally are those of the neck.

Chalkstone. a calcareous concretion deposited in the joints, particularly of the hands and feet, of sufferers from gout, composed chiefly of urate of soda. Those of a gouty tendency should eschew soda therefore; lithia or potash being suitable antacids for their assimilation.

Chancre. a syphilitic ulcer.

Chapped Hands are generally the result of careless drying in cold and windy weather, or may be occasioned by the use of soaps containing an excess of alkali. Some skins are particularly susceptible to chapping, and lanoline is generally a very useful application in such cases. The selection of a reliable emollient soap, such as Pears', for washing purposes, will usually be found effectual in the prevention of painful chapping, even during severe frost.

Charcoal is a splendid deodoriser and disinfectant, and a capital air and water filter. It absorbs many impurities in a most remarkable degree, and in poisoning from morphia, opium, and strychnine, if administered powdered in water, it will take up the noxious agent rapidly and render it inactive.

Chest or Thorax. the cavity containing the lungs, heart, and large blood vessels, the gullet and

windpipe also passing through it. Its upper portion is bounded by the neck, and it is separated from the abdomen by the diaphragm, a large muscle of breathing. The chest is the seat of many ailments referred to separately or in connection with the organs affected. Water in the chest, technically termed hydrothorax, is a resultant of pleurisy, effusion into the cavity having occurred. Chest development, especially in the young, may be healthily promoted by athletic and gymnastic exercises, judiciously pursued.

Chicken Pox. A mild zymotic disease, common to children, and usually occurring only once in a lifetime. Usually preceded by a feverish condition, the eruption consists of white-headed pimples on the breast, shoulders, face, scalp, and body generally, affecting also at times the tonsils and the palate. On the third or fourth day the white vesicle dries up, leaving a scaly crust which soon falls away. If the pimples are not irritated they leave no mark behind; but if scratched or rubbed by the patient, they will sometimes ulcerate and result in slight pitting. Carbolic acid applied to the parts which itch most painfully will allay the irritation.

Chilblains. These are really slight frost-bites, the effect of them being a painful itching of the part affected, with more or less inflammation. Persons rheumatically disposed and such as are of a weak physique or "below par" in general health are more liable to chilblains than others. Tincture of iodine is sometimes applied successfully to affected feet or hands, but the best lotion is that prepared from carbolic acid, one part carbolic acid to sixteen of ointment.

Chloral. Is a useful soporific when taken under medical advice in specific cases; but used indiscriminately or to excess it is most mischievous. It has a very depressing action on the heart.

Chloralamide. Is employed occasionally as a sleep-inducer in insomnia; its moderate employment for hypnotic purposes is not usually productive of injurious after-effects.

Chlorate. A salt formed with chloric acid and some base, as chlorate of potash.

Chloride. A combination of chlorine with a base; thus chloride of sodium is common salt.

Chlorine. An elementary body of great bleaching power. United with lime it forms the chloride of lime employed as a disinfectant and whitening agent in laundry work and many manufactures.

Chloroform. A fluid obtained by distilling chloride of lime with alcohol or methylated spirits, largely employed to produce insensibility to pain during an operation. Carefully administered it may be safely used even with young children, and is very valuable in arresting infantile convulsions, but of course it should never be given save by a medical man.

Chlorosis. Or "green-sickness," a distressing form of anaemia, generally the resultant of prolonged constipation in young females. Its principal characteristic is a greenish hue of the skin, which accompanies extreme weakness and suppression of natural menstruation. There is heart palpitation and disturbed repose, with a vitiated condition of the blood. The restoration of regularity in the action of the bowels, plenty of fresh air, exercise, and the administration of iron by way of tonic, constitute the essential treatment of chlorosis.

Cholera is a disease, in its worst or Asiatic form, of a dreadful character. Choleric, the English variety, is a milder but sufficiently distressing malady; cholera morbus has produced epidemics of much fatality. Sanitary science has latterly, however, materially lessened the prevalence of this Oriental scourge, which is due to the presence of a malignant micro-organism within the human body. This germ is called the comma bacillus, because of its shape. Locating itself in the alimentary canal, it quickly produces violent symptoms, which develop with amazing rapidity. British cholera generally arises from the eating of unripe or unsound fruit, and should be combated by clearing out the bowels with aperients suited to the strength of the patient.

Chorea. A disease causing irregular and uncontrollable motion of the muscles and limbs, incidents

chiefly to children of rheumatic tendency. Generally called St. Vitus's dance, which see.

Chromic Acid. An acid formed by the union of the metal chromium with oxygen. Its salt, the bichromate of potash, is extensively employed in medicine; and the effects of the acid when applied to warts on the hand and face are very marked. Great care should be taken in applying the acid not to touch the healthy skin in the neighbourhood of the objectionable growth, or the effect will be most painful.

Chyle. A milky-looking fluid produced during the digestion of food, absorbed by the lacteals, and added to the blood. It is elaborated from the chyme after it has passed into the stomach and been acted upon by the bile and pancreatic fluid in the duodenum and become emulsified.

Chyme. The condition of food after it has undergone the solvent action of the gastric juice of the stomach, immediately precedent to its conversion into chyle.

Cicatrix. The scar or mark left by a healed wound, or, more properly speaking, the substance replacing destroyed skin, either external or of the mucous membrane. It does not possess the vitality or the appearance of the original skin, and is more susceptible to injury, and sometimes contracts and produces deformity.

Cilia. The hairs on the edges of the eyelids, also the eyelashes.

Gilosis. An involuntary spasmodic agitation of the eyelids.

Circulation. The passage of the blood from and to the heart throughout the body, by means of the arteries and veins.

Cirrhosis. A disease of the liver, causing deformity and general change of physical structure.

Citrate. A salt of citric acid. The citrate of iron and quinine is very much employed as a tonic.

Clavicle. The collar-bone, frequently the seat of fracture, and at times presenting very considerable difficulty in setting and retaining in position.

Clergyman's Sore Throat. A peculiar condition of throat and larynx in public speakers and singers, brought about by prolonged and continuous straining of the vocal chords. There is hoarseness or loss of tone in the voice, partial or complete, and catarrh of the mucous membrane; and the ailment occurs most frequently in persons of rheumatic tendency. Rest is imperative, combined with inhalations of eucalyptus, creosote, etc., and coincident with tonic treatment of the system generally.

Climacteric. Literally a progression, but generally applied to a supposed critical period or change of life.

Club Foot. A deformity due to contraction of one or more of the tendons connected with the muscles governing the motion of the foot. Usually in early life this disfiguring condition can be remedied by a simple surgical operation.

Clyster. An injection into the anus for promoting evacuation in obstinate costiveness; occasionally used as a partial means of affording nourishment.

Coagulation. The change from a fluid to a solid state. The term is usually applied to the clotting of blood which has flowed from a wound and come into contact with a foreign substance. In such circumstances the globulin and liquor sanguinis of the blood so act upon each other as to produce fibrin, which is the composition of coagulium, or blood clot.

Cocaine. A crystalline substance prepared from the coca leaf, and productive of local anesthesia. Useful in the treatment of piles, toothache, and diseases of the eye; and has been largely employed in optical surgery and operative dentistry.

Cod Liver Oil. A very valuable heat-producer and nutrient; remedial in consumption, rheumatism, and scrofulous disorders. Combined with malt, it is less nauseous than when crude, and more easily assimilated.

Colicolum. The meadow-saffron, a specific for the gout, and otherwise medicinally employed. It should be cautiously used as it exerts a depressing effect upon the heart. In connection with the bowels it acts as a laxative, though only slightly so. It is prepared in the form of tincture, extract, and wine.

Cold. Deprivation or absence of heat. The extraction of heat from the human body by excessive or sudden cold is answerable for many illnesses, by impairing vitality and rendering persons susceptible to disease generally. Chill induces or contributes to pneumonia, catarrh, congestion, rheumatism, and many other maladies of a serious character, that is to say, the germs of disease are enabled to obtain a hold, because the powers of resistance of the organs attacked are reduced by exposure. So that the simple cold should be sedulously guarded against because of the ills it may bring in its train. Cold in the head is due to congestion of the mucous membrane, and springs frequently from standing or sitting in a draught. This and all other colds should be combated at their inception, to avoid complications. (See also *Catarrh*.)

Cold Baths are invigorating to the robust when not taken at a time of over-fatigue; the test being the occurrence of the "after glow" upon drying.

Cold Feet ought never to be warmed before a fire. The best corrective is momentary immersion in cold water, with vigorous chafing after drying on a rough towel. This should be continued until brisk circulation has been induced in the extremities. Never retire to bed with cold feet, or your rest will be disagreeably interfered with.

Cold, Keeping out. Good hot beef tea or beef extract of any reputable kind is the best thing for "keeping out the cold" during exposure to severe weather; next strong tea or coffee. Spirituous stimulants temporarily hasten the circulation and deaden the sensibility to chill, but the reaction is speedy and perilous when the exposure continues.

Cold, When overcome by. The patient becomes giddy, dazed, weak, and stiff in the joints, respiration feeble, pulse falling, intense drowsiness, culminating in coma. Vigorous friction should be employed to the whole surface of the body; but the sufferer should not be taken at once into a heated apartment or placed in front of a fire. A stimulating enema may be administered and attempts made to get warm milk, coffee, brandy, beef extract, or other stimulating or restorative drink into the stomach gradually.

Colic. A spasmodic and very painful affection of the bowels, more especially of the colon. There are various forms of colic—nervous, hysterical, bilious, hepatic, etc. Painters' colic is the result of the action of lead upon the system. A considerable accumulation of wind, neglected constipation, the action of powerful purgatives or poison, or exposure to cold, are all causes of colic. The paroxysmal pain is frequently relieved by pressure over the part, usually in the region of the navel. When flatulence is accountable for colic it is often capable of relief by hot water injections, or hot abdominal fomentations, with sprinklings of laudanum, may do good. An internal anodyne compounded of ginger essence, chloric ether, nupenthe, and tincture of cardamoms, is also recommended. Lead colic is an aggravated form of this malady denoted by a blue line where the gums meet the teeth and often by wrist paralysis.

Colocynth, or "**Bitter Apple**," or "**Bitter Gourd**," a species of cucumber obtained principally from the shores of the Mediterranean, and used with aloes or some soothing medium as a purgative.

Colonitis and Colitis. Inflammation of the colon, or largest division of the intestinal canal.

Coma. Is a state of insensibility resultant from some pernicious influence acting directly upon the brain. May arise from exposure to cold, apoplexy, epilepsy, inflammation of the brain, blood poisoning, opium taking, intoxication, or direct violence. The stupor of coma, with its accompanying insensibility, presents various symptoms peculiar to the exciting cause of the attack, symptoms which, to the skilled observer, suggest the course of treatment likely to be of avail. In coma, however induced, the doctor's aid should be obtained as speedily as possible.

Complexus. A muscle at the back of the neck, which in its action carries the head backwards on the atlas, and restores it to an erect position after having been bent forward.

Compound Fracture signifies a broken bone, accompanied by injury to the adjacent soft parts.

Concussion. Violent shock, usually understood in relation to a severe blow sustained on the head or spine. The immediate consequences of concussion of the brain are very alarming; but, unless the concussion injury be extensive they are generally of transient duration. There is collapse, vomiting, and loss of muscular control and power. Cold applications should be made to the head, and face, ammonia held to the nostrils, and stimulants administered. A strong purgative ought to be given unless recovery is speedy, and the bladder emptied; while warmth should be applied to the extremities, and mustard and hot water over the stomach. Meanwhile medical aid should have been summoned.

Condiments. Such as are in general table use are all, when moderately taken, of very great service as assistants to digestion and agreeable savours, but their excessive employment is a dangerous abuse.

Congestion. A deprivation of circulatory power, or an accumulation of blood therefrom resultant. Any collection of fluid matter becoming hardened is also in a congested condition. Congestion is synonymous with inflammation; and is denoted by local swelling, pain, and heat sensations. The temperature of the body generally needs reduction when extensive congestion is present anywhere, with local applications of a counteracting character, such as suitable poultices or fomentation, blistering, or, even in cases, cold treatment to the point of freezing.

Conjunctiva. A membrane in the front of the eyeball with the inner side of the eyelid covering the former and coating the latter. It is very susceptible to inflammation, which is termed conjunctivitis and may be conveyed by contagion or result from cold. Relief may be obtained by bathing in strong tea to which a few drops of laudanum have been added; while quinine can be taken internally as a tonic.

Constipation should be prevented rather than cured. It is an unnatural condition. Sedentary employment, especially when carried on continuously indoors is a sure provocation of costiveness; muscular exercise is essential to the proper performance of the intestinal functions. Therefore those who must sit for hours at a desk for a livelihood should make it a rule to have their morning and evening walks regularly, when constipation would trouble them but little. It is a potent evil. Retention of faecal matter in the bowels is certain to occasion absorption of contaminating fluid in the blood to a greater or less degree. Then will follow interference with the orderly action of the digestive and excretory organs and the increased susceptibility to infectious disease which comes with an unhealthy state.

Consumption. "Decline," or wasting away, is a disease of civilisation; and tuberculosis, its commonest form, a scourge particularly of densely populated, low-lying, and predominantly damp districts. Consumption, as we understand the term, is due to the presence and development within the bodily tissues of the person affected of the tubercle bacillus. It is not now considered to be a hereditary disease, that is, the germs are not transmitted from generation to generation. The masters of the healing art are making high endeavour to circumvent and stamp out the malignant micro-organisms whose ravages are held responsible for something like one-fifth of our death-rate. The open-air treatment cures many cases if taken in time. A long voyage in temperate seas may prove restorative should the disease have not secured too strong a hold; in either case the remedial migration ought to have the accompaniment of a nutritive dietary, generous and digestible. Food and medicine must be permitted conjoint upbuilding action. Constitutional strength should be sought through the absorption of such agents as cod-liver oil, hyperphosphate syrups, crocotes, and the calcium nitrate.

Contagion, or infection by "touch," as the term literally implies, has come to mean infection by immediate transmission in the case of zymotic disease generally. Thus, though there may be no direct contact of sufferer and visitor, the infection may be conveyed through the wearing of clothes that have been worn previously by one smitten with a disseminable ailment, by breathing air contaminated by his exhalations, or

by eating or drinking from vessels or handling utensils employed by him. "Catching" complaints include smallpox, scarlet fever, measles, mumps, whooping cough, influenza, typhoid fever, typhus, and consumption. All these and others are of an ascertained infectious character, and many virulent maladies besides those specified are strongly suspected of being contagious. For his own sake and that of the community at large, therefore, he behaves every person to exercise the greatest possible precaution in avoiding contagion.

Contraction. A shrinking or drawing together of parts, as from a wound.

Contusion is the technical term for an injury arising from bruising, and is generally succeeded by rapid swelling in the region of the blow. This arises from the rupture of minute blood vessels and the exudation of blood and lymph into adjacent tissue. Cold applications will check effusion and occasion slight closing at the orifices of the ruptured parts, thus expediting a resumption of the natural circulation. A compress of cloths frequently wrung out of the coolest obtainable water will usually be found helpful.

Convalescence is the period between the conclusion of the course of any disease and the complete restoration of the patient to health. Its duration depends of course upon the nature of the illness suffered, and frequently commences with a spell of very great prostration, the result of exhausting disease, which is gradually reduced as strength is regained. Generally a complete change of air is the best thing in convalescence, with a well-regulated and particularly nutritive dietary; while very great care is essential to avoid the inflammatory affections which the emaciated are so liable to incur. Cold must be guarded against, over-fatigue prevented, and much attention devoted to functional regularity.

Convulsions are involuntary muscular contractions, frequently accompanied by unconsciousness, and arising from some internal interference with the proper condition of the nervous system. Hysteria, epilepsy, lock-jaw and brain congestion occasion convulsive trouble in adults; in children they belong to the period of teething or are indicative of constipation or the presence of intestinal worms. When once convulsions have occurred in children, especially at the teething time, great care should be taken to keep the bowels in regular activity, and to maintain an equable bodily temperature by the use of comfortable clothing.

Cornea. The transparent membrane which forms the front of the eye-ball or pupil. It is the medium of the passage of light to the retina. Its opacity results in cataract, while variations in the convexity cause what is called long and short sight.

Coronary Arteries. Those nourishing the heart. **Corrosive Sublimate.** Bi-chloride of mercury, a very powerful antiseptic, administered in medicated form internally in certain diseases, but always requiring to be given with great caution and under medical oversight.

Coryza. A catarrh, especially that of the head, when attended with inflammation of the nostrils.

Coughing. The operation of removing the opaque portion of the lens of the eye in cataract.

Cough. A more or less violent effort at expectoration, expelling air and mucus from the air passages. It is more a symptom and indication of disease than an ailment itself, and is induced by the passages of cold air over an irritated part. When due to an affection of the larynx, a cough generally has a tickling kind of sensation at the top of the windpipe, and is spasmodic and accompanied by comparatively little expectoration. This is one of the sorts of dry cough, and is very irritating. But when the bronchial tubes or lungs are the seat of trouble, the cough ends in a discharge of mucus which may be purulent or sanguineous in character, according to the nature and extent of the disease present. Again, cough may arise from atonachic derangement, in children from the irritation set up by intestinal worms, or in females from uterine disorder. Always the cough is the outward and audible sign of some inward ailment of greater or less gravity, and whenever it becomes distressing, and its

nature is not understood, recourse should be had to medical skill.

Counter-irritation in medicine means the application superficially or some irritant with the object of relieving a deep-seated inflammatory condition.

Coup de soleil. The technical term for sun-stroke, heat-stroke, or heat apoplexy. The symptoms of this seizure are throbbing of the head, faintness, nausea, vomiting, and alarming interference with or failure of the heart's action. The best treatment to be resorted to, pending the arrival of medical assistance, is the cold douche, and the application of ice, if obtainable, to the head with wet packing to the body in severe cases. Large doses of antipyrin will, if necessary, be administered by the doctor (hypodermically, if the patient cannot be got to swallow, ammonia being injected). No alcoholic stimulant should be administered.

Cowpox is the disease with which human beings are inoculated under the vaccination system, to render the individual innocuous to any after-attack of the more virulent and loathsome human malady, small-pox.

Cramp is a spasmodic contraction of the muscles, generally attended with much pain; it arises frequently from prolonged or undue exposure to cold on land or in water, or it may be attributable to temporary exhaustion of physical power. When cramp in the bowels occurs it is usually owing to the presence of some indigestible food. It occurs in the limbs in cholera as the result of reflex irritation conveyed from the stomach or intestines. Over-lengthy immersion is a frequent cause of dangerous cramp, often fatal to bathers when assistance is not at hand. Friction is the best remedy for cramp, the brisk rubbing of the affected part.

Cranium. The skull, embracing the bones which enclose the head and brain, twenty-two in number. Cranio-malacia signifies softening of the bones of the skull.

Cream of Tartar. A popular laxative remedial agent, generally employed in conjunction with sulphur. It is also a useful diuretic in solution with water and lemon juice. Cream of Tartar is the bi-tartrate of potash.

Crepote. Resembles carbolic acid in odour and antiseptic properties. It is procured by the fractional distillation of coal tar. It has a sedative as well as antiseptic action on the skin, and so forms an invaluable ingredient of healing ointments. It will often allay toothache on application to decaying teeth, and makes a good pill for staying stomachic nausea.

Croton Oil. A violent purgative, obtained from the seeds of an Indian shrub. One drop will produce copious evacuation. It makes also a valuable counter-irritating liniment in bronchial and other inflammatory internal diseases. The liniment must be kept clear of the eyes, face, and any very tender part.

Croup (True). A dangerous inflammatory disease of the trachea, incident chiefly to children. It is of a spasmodic nature and aided, in its worst symptoms, to diphtheria. Croup, either, true or spurious, always gives rise to considerable alarm, especially if not relieved in the early stages. It is considered to be at first due to reflex irritation produced by constipation or indigestion in complication with cold. A good dose of castor oil administered with promptitude will not infrequently relieve the bowels and promote vomiting, the immediate result being the staying of the distressing spasm by the removal of its main cause. A dose of ipecacuanha wine will occasionally be useful in obtaining vomiting, and this expectoration also helps to expedite the flow of mucus in the windpipe and bronchial tubes. The chest of the child should be well rubbed with a compound liniment, back and front, of camphor, belladonna, and soap and opium, this being done every two or three hours until the symptoms exhibit marked abatement. Croup, taken in time, and submitted to this treatment, is generally overcome in a day or two; neglected, it may, in a very little while, develop into membranous or true croup, and get beyond the reach of medical skill, ending in the suffocation of the patient in a last prolonged spasm. The characteristic choking is one of the most distressing features of croup. "False" croup is a spasmodic affection, rarely of serious nature.

Cuticle. The external layer of the skin.

Cutting the Teeth. The removal of impeding tissue by absorption, usually called "cutting the teeth," commences in children at about six months old, the central incisors usually appearing first. The lateral incisors follow, from the seventh to the tenth month, and the canines from the fourteenth month onward, the first molars being "cut" concurrently. The second double teeth do not generally come into sight until the twentieth month, and may be delayed until the end of the third year. The back molars do not make their appearance with the first set, or baby teeth, but are cut at about six years old; and from then to seventeen years of age, or later, the renewal or change to permanent teeth is gradually taking place, final cutting being of the posterior molars or "wisdom teeth."

Cyanosis. Commonly called the "blue disease," in which the whole surface of the body becomes of a blue colour, through the venous blood circulating in the arteries. It is an incurable affection, due to congenital valvular malformation of the heart.

Cynanche. A genus of diseases, embracing affections of the throat attended with difficulty of breathing and swallowing, inclusive of quinsy, croup, clergyman's sore throat, &c.

Cyst. A bag, sack, or tunic, containing matter, which may be either semi-fluid or solid. The bladder is a natural cyst; morbid cysts are produced by disease. Frequently these are found under the scalp, containing a porridge-like substance, and are readily removable. Other cysts present at times in the body are usually amenable to operative treatment.

Dacryoma. A diseased condition of the lachrymal duct, in which the free flow of the watery humour of the eye to the nose is obstructed, occasioning the appearance of continual weeping.

Dactylitis. Inflammation of the fingers.

Damp Feet give rise to many ailments, checking healthful perspiration and causing inequality of blood circulation. Dry stockings and shoes should immediately be put on after there has been exposure to wet, whereupon injury to the health will usually be obviated. The chief peril lies in keeping damp covering over the feet when moving about ceases.

Dandelion, the taraxacum of pharmacy, is a common medicine of very considerable efficacy in ailments of the kidneys and the liver, either as a decoction of the root or taken in pill form.

Dandruff. A scurfy affection of the scalp, consisting in exfoliation of the scales of the outer skin, of frequent occurrence in infants and young children. It is inadvisable to use hard brushes and small tooth combs when dandruff is troublesome; frequent washing with borax solution is very beneficial.

Deadly Nightshade. The *Atropa belladonna*, a very powerful narcotic, having a toxic effect upon the involuntary muscular system, much employed in the treatment of disorders of the eye; also in constipation and bladder troubles.

Deafness may be temporary or permanent, complete or partial, curable or incurable. When resultant from catarrh or obstruction of the aural passages, it may frequently be relieved by syringing with lukewarm water or antiseptic fluid, but should success not result from careful treatment, competent medical examination ought to be secured. See *Ear*.

Death. Tests of. Hold hand-mirror over mouth, if life remains moisture will gather on the glass. Push a needle gently into the flesh, the puncture will close in a living body, and remain open in case of death having already occurred. The fingers, held in front of a powerful light, look dark almost to blackness after death, but of reddish hue so long as there is life in them.

Debility. Weakness and relaxation of the muscular fibres and general depreciation of vitality, resultant from continuous illness or exhaustive activity, mental as well as physical. Healthy regularity is the best preventive of debility.

Decoction. A product obtained by steeping or boiling in water any substance employed medically.

Delirium. A condition in which the sufferer has confused ideas of the past and present circumstances.

It is a frequent accompaniment of fever or disease of any exhausting description, and may be due to some inflammatory or other ailment of the brain; or it may result from excessive use of alcohol. The inducement of sleep and repose ought to be aimed at as an important remedial measure.

Deltoid.—The large muscle on top of the arm or shoulder.

Demulcent.—Mollifying, softening; a term applied to medicines such as marsh-mallow, mucilage, etc.

Dangue.—A form of malarial fever or epidemic rheumatism, sometimes styled "Dandy fever." It is liable to recurrence, and is most frequent in hot, damp countries, being characterised by painful swelling of the joints accompanied by eruption. Epidemic influenza has considerable affinity to the dengue of the India.

Depilatory.—Having the power to remove hair temporarily. A term applied to lime and other substances employed for the purpose.

Depression.—Lowness of spirits, a condition generally due to debility or interference with the nervous or bodily health, indicating the necessity of tonic treatment.

Dermia.—The true skin, hence dermatic, pertaining to the skin, and dermatoid, resembling the skin, and dermatitis, an inflammatory condition of the skin.

Desquamation.—A separation or falling off of the skin in small scales, a process which frequently occurs after diseases which have occasioned acute inflammation of the surface of the body, such as fever, measles, erysipelas, etc. In such cases the discarded scales are often charged with the germs of the malady which occasioned their removal, and should be regarded as highly dangerous.

Diabetes.—An excessive and morbid discharge of urine, with other distressing symptoms, are present in this painful malady; and the discharges may either be insipid or abundantly impregnated with sugary matter. Diabetes is a condition calling for medical assistance of a skilful character, as the dietary always requires very careful regulation. Abstinence from all foods containing sugar or starchy substances is usually enjoined, and the medicines chiefly employed are opium, morphia, and salicylate of soda. The disease is less fatal to people well on in life than those of younger years.

Diachylon Plaster is employed in strips for drawing the raw surfaces of wounds together, or for exerting pressure upon boils and ulcers in order to facilitate healing.

Diagnosis. The art and act of distinguishing diseases by their symptoms, and so determining the necessary remedial treatment.

Diaphoresis, Sweating, hence diaphoretic, that which will produce perspiration, and diaphoretics, sweat-promoting medicines. These are employed in fever, to excite the sweat glands of the skin to action, phenacetin being one of the most potent and safe. Antipyrin is also a good deal used, but requires very cautious administration. Milder diaphoretics are ipecacuanha, acetate of ammonia, opium, and antimony, and diaphoresis may be induced by hot baths, vapour or water.

Diaphragm, or Midriff, the thin muscular partition between the chest and abdomen, attached to the spine, the lower ribs and the sternum, or breast bone. Its contraction and expansion are the principal agents in the action of respiration; and it is traversed by the œsophagus, or food-pipe, the great aorta, and other important tubes. Diaphragmatitis signifies inflammation of the diaphragm or its peritoneal coats.

Diarrhoea is usually due to the presence of irritating matter in the intestinal canal, and is commoner in hot weather than at other periods. Its proper treatment is the clearance of the canal by means of castor oil and laudanum, or some other effective aperient, such as a mixture of rhubarb, ginger, and soda. In infantile diarrhoea chalk mixture is usually administered after each loose purgation, but the removal of the cause is of much more moment than the stopping of the flow in most cases.

Diet should be varied within healthful limits, but always in accordance with the principles of supplying nutrition of a proper character in sufficiency, if

should be wholesome, simple, and be partaken of temperately and with regularity—due regard being given to the requirements and condition of the individual. Prudence in dietary will have its reward, recklessness its revenge.

Digestion implies the conversion of food into chyme and chyle, and the consequent formation of blood and nutrition of the body. The food, on its reception in the stomach is subjected to muscular movement and the action of gastric juices, in due course being changed into the butter-milk-like chyme. Passing in this condition into the first part of the intestinal canal, two new liquids are poured upon it, the bile from the liver, and from the pancreas the pancreatic juice. It is now converted into chyle, which resembles milk in appearance, and passes along the thoracic duct to the upper part of the chest, whence it reaches the right side of the heart, and is then forced into the lungs for aëration. The oxygenation of the chyle supplies the needed nutrition of the entire system. The initial stage of digestion is accomplished in mastication, which it is highly important should be thorough, in order that the salivary secretions may be properly mixed with the food. Saliva converts the starch we eat into sugar. When the lacteal vessels have done their duty, the unassimilated portions of food pass into the colon or large intestine, where they become acidulated and amalgamated with feculent excretions, and must in due regular course be evacuated, or the blood will thereby receive contamination, with certain prejudicial effects upon the nervous system. In perfectly healthy functional conditions all these processes go on uninterruptedly; the failure of any part of them spells indigestion, derangement, disease, and pain. (See **Indigestion.**)

Digitalis. The common Foxglove furnishes a powerful tonic, acting upon the heart in a wonderful way, stimulating circulation throughout the body, and having a particular effect upon the secretory functions of the kidneys. The drug should never be administered except under the doctor's immediate direction; it is far too potent to come within the category of domestic medicines, valuable as are its properties when skilfully applied.

Dilatation. The process of enlargement or expansion, as of the chest in respiration or the heart in effecting the circulation of the blood.

Dill. Asplant not unlike the fennel, from which is prepared the dill-water so frequently administered with beneficial effect to infants suffering from pain induced by flatulency.

Diphtheria is a dreadful disease, due generally to insidious conditions. It is caused by a distinct germ conveyed in drinking water, food, or by the saliva, from a vitiated atmosphere. Lassitude and weak pulsation are amongst the first indications of an attack. Small yellowish ulcers appear upon the tonsils, spreading rapidly over the throat, larynx, and pharynx if not arrested by anti-epietic treatment. Carbolic acid or some other suitable germicide should be called into requisition and frequent and persistent gargling performed; whilst every endeavour must be made to improve the general health by the employment of tonics and nutritious and stimulative dietary.

Dysomania is a form of insanity in which the will-power to resist alcohol is impaired, with most distressing consequences to its subject and his or her connections. It requires the most patient specialistic treatment, and frequently proves incurable, bringing misery in its train, and ending in a dreadful death.

Disinfectant. An agent which attacks putrescent or miasmatic substances or matter, and transforms them into harmless products either by uniting with them or breaking them up. The chief natural disinfectants are sunshine and fresh air, soil or fresh earth, water, heat, frost and light; while the principal artificial or prepared disinfectants are charcoal, coaltar, and its products, carbolic acid, quick-lime, nitrous acid, chlorine, ozone, permanganate of potash, sulphate of lime, sulphurous acid, and fresh-roasted and ground coffee. A supply of disinfectants should be ready to hand for use in emergency in every well-regulated household.

Dislocation, as generally understood, means the displacement of bones by accident or direct violence. Their reduction, or replacement, usually requires the exercise of surgical skill; but in most cases the mischief may be remedied by prompt lay assistance. One of the most frequent dislocations is that of the shoulder-joint, and this is also one of the most readily reducible. The injured person should be placed upon a chair, with another by his side. Then let the operator plant his foot firmly upon this second chair, introducing his knee under the armpit of the sufferer, raising the arm and pulling strongly outwards and downwards over the knee-fulcrum, the patient's elbow being the lever employed to get the joint into its old position. Let all be done with confident deliberation. Wrist, elbow, ankle, knee and thigh dislocations are usually reduced by drawing the limb powerfully forward in its long axis, and when the fullest possible extension has been obtained, exerting lateral pressure to force the displaced bone into the socket. Repose is requisite after the reduction of dislocations to enable the tissues which have undergone violent strain to receive natural consolidation; and, after injury of this character has been sustained, no time should be lost in seeking the remedy, for dislocations are always harder to set right by the lapse of time.

Dispersions. The removal of inflammation from any part of the body.

Diuretics are those medicines which increase the urinary flow by acting upon the secreting power of the kidneys. Digitalis, broom, dandelion, squills, salts of potash, and various malt liquors are amongst the agents medicinally employed in this direction; whilst the copious administration of all kinds of fluids is resorted to when it is desirable to dilute the urine and flush the kidneys because of the irritating nature of the discharges in various diseases.

Dorsal. Pertaining to the back. *Tabes dorsalis* is the scientific denomination of wasting of the spinal marrow.

Dover's Powder. A drug compounded of opium, sulphate of potash, and ipecacuanha. Useful alone or associated with other medicines in the treatment of numerous ailments, and obtainable at any pharmacy.

Dracughts are always dangerous, especially when they convey moisture into contact with the person, and should be sedulously avoided.

Dressing is an important appanage of surgery, and the remedial treatment of wounds and injuries generally. The object chiefly aimed at is the procuration of rapid healing by the decomposition of fluid exudations. Wounds are therefore dusted with some suitable antiseptic powder after careful cleansing, and then neatly bound with blue gauze, or some other medicated textile, at times impregnated with an anæsthetic such as cocaine, according to the requirement.

Drink. The proper guidance to drink is to drink only when one is thirsty. To drink just before or even during a meal is not good. A sip or two of suitable fluid during any meal is natural, the "long drink" should be delayed until the close. Less liquid is really necessary for the maintenance of health in winter than in summer.

Dropsy is a morbid collection of water in any part of the body, when the natural cavities become distended with that fluid. Dropsy of the abdomen is called *ascites*, dropsy in the chest *hydrothorax*, in the scrotum *hydrocele*, in the head *hydrocephalus*, dropsy generally *anasarca*. These various forms of the malady will be found dealt with under their specific denominations.

Drop Wrist, due to paralysis of the muscles which extend the hand, is a characteristic of lead-poisoning. Massage and the application of electricity locally are resorted to for the removal of this alarming condition, concurrently with the endeavour to get the poisonous cause of the trouble out of the system. Should there be accompanying constipation, as is usually the case, prompt measures should be taken to get rid of it.

Drowning. In cases of apparent death by drowning, resuscitation may often be effected by

assiduous attention after the recovery of the body from the water, and should always be attempted unless it is absolutely certain that hope is past; hours of persistent effort have often been rewarded by success in seemingly desperate cases. The Schafer method of resuscitation is now generally employed and is recommended by the Royal Life Saving Society, by whom the following instructions are issued: After a person has been lifted out of the water, and no sign of life can be observed, immediately turn him face downwards. Kneel on the side of the patient and place your hands flat in the small of his back with thumbs nearly touching and the fingers spread out on each side of the body over the lowest ribs. Then promote artificial breathing by leaning forward over the patient and, without violence, produce a firm, steady, downward pressure. Next release all pressure by swinging your body backward without lifting your hands from the patient. Repeat this pressure and relaxation of pressure without any marked pause between the movements, about fifteen times a minute until natural breathing is established, after which turn the patient face upward and proceed to promote circulation and warmth. Then rub the limbs upwards, with firm pressure, using handkerchiefs, flannels, &c. Dry the hands and feet, and as soon as dry clothing can be procured strip the patient and re-clothe or cover with blankets, &c. Continue friction over dry clothing or under the blanket. After respiration has been restored carry the patient to a house. Continue to promote warmth by the application of hot flannels to the pit of the stomach, and bottles of hot water, heated bricks, &c., to the armpits, thighs, and to soles of the feet. If the power of swallowing has returned, small quantities of warm water, warm brandy and water, or coffee may occasionally be administered; the patient kept in bed and sleep encouraged. In all cases send for a medical man as soon as possible.

Drum of the Ear. The tympanum or membrane separating the external from the internal ear, and receiving from without sound impressions for their conveyance by the ossicles or internal bones to the auditory nerve and eventually to the brain.

Duct. A canal or tube of small size, conveying fluids in the body from a secreting organ. Thus the lacrymal duct, for the conduct of tears; the gall duct, carrying the bile to the bowel; the salivary duct, conveying the saliva from the glands to the mouth, &c.

Duodenum. The first portion of the intestine, commencing at the pylorus, by which it communicates with the stomach, and terminating at the jejunum. Into the duodenum—so called from being usually about twelve inches in length—comes the chyle from the stomach to be mixed with the biliary and pancreatic secretions in the digestive process.

Dura Mater. The exterior of the three membranes enveloping the brain, the others being the pia mater and the arachnoid membrane. The dura mater is otherwise named the *dermatoid membrane*.

Dysentery. A disease in which there is a great difficulty in passing the feces, which consist chiefly of mucus and blood. It is usually accompanied by fever, and followed by useless straining for evacuation. The seat of the mischief is mainly in the large intestine and the mucous membrane, both of which become greatly inflamed. It commences with shivering and feverishness alternately and diarrhoea. Unless relief is obtainable, collapse usually occurs in a short period; and when recovery has been effected there is always danger of relapse upon dietary indiscretion or exposure to damp and cold. Ipecacuanha is the great remedy for dysentery in the East, and this and opiates after aperient treatment with castor oil and laudanum often prove useful in overcoming the disease.

Dysmenia. Difficult or painful menstruation. (Called also *Dysmenorrhœa*.)

Dyspepsia. This is a form of indigestion, which, if neglected, will reduce a person to a miserable condition. It usually arises from indiscretions of diet, with neglect of proper exercise, or from habitual neglect of the "calls of Nature." Proper mastication is antagonistic to the dyspeptic condition, and where this important preliminary of digestion is rendered

imperfect by bad teeth, dental attention is very urgently necessary. Those whose digestive organs are not vigorous will be well advised to abstain from fermenting foods such as oatmeal, soups, stews, and boiled meats; and they should attend very carefully to the condition of their bowels. Other foods for dyspeptic subjects to abjure are shell-fish, pastry, salt foods, pickles, pork, potatoes, uncooked vegetables, and strong tea that has stood long in the pot. Pepsin is a useful medicament for sufferers from this malady, so is bismuth and soda. But above all take plenty of time over the meals, and eat regularly and never to excess, with nothing at all solid or heavy after the mid-day repast.

Dysphagia. Difficulty in swallowing, which may arise either from constriction of the gullet or oesophagus, or from nervousness.

Dyspnoea. Shortness or difficulty of breathing, associated with syncope, and disease of the heart, lungs, larynx, or windpipe. Frequently a consequence of indigestion and a distended state of the intestines or stomach.

Ear. This complicated organ is divided into three parts, commonly called the external, the middle, and the internal ear. The external ear, or auricle, and the auditory canal which leads to the drum-head or sound-receiver, the drum-head itself, and certain portions of the tympanum or drum cavity, are visible or accessible from without; the internal ear, consisting of many minute sub-divisions, including the delicate nerve of hearing, is deeply hidden in the petrous bone, the hardest bone in the human frame. It is essential that the internal ear should be free to constant communication with the atmosphere, to obviate undue pressure from the membranous drum. This communication is carried on through the Eustachian tube, which runs in the mouth just behind the tonsils. Should this tube become congested, as it does during catarrhal affection of the mucous membrane of the throat and nose, deafness results from rarefaction of the air within the internal ear, a condition usually styled throat deafness. Hearing also may become impaired by undue secretion and partial congelation of wax in the external ear, which can generally be set right by the employment of the aural syringe. Should this fail to afford relief, the application of mustard plasters behind the ear will frequently produce a good effect. Small abscesses occasionally form in the outer aural passages, giving rise to earache and disagreeable noises in the ear, but these usually soon break and discharge, leaving no mischief behind. Abscesses in the inner ear are dangerous, because of their proximity to the brain, and call for skilled attention. Inflammatory aural ailments may be treated by poulticing and fomentation with injections of laudanum; but always under medical advice.

Echymosis. Extravasation of blood, as in the cases of bruising blows; the "black eye" is the most conspicuous kind of echymosis. The impact of contusion ruptures small blood vessels under the skin, their contents escape into adjacent cells, swelling and discoloration ensue until Nature has righted things. Prompt application of cold substances will generally expedite matters.

Eczema. Heat eruption, occurring in small confluent vesicles. It arises from an ailment of the outer skin, hindering its proper development during the renewals which should always be in progress, and permitting the exudation of watery constituents of the blood. Eczema may be present in any part of the skin, but is most frequent at the flexure of the joints, behind the ears, and on hands, arms, and legs. A favourite remedial application externally is the oxide of zinc, which may be dusted over an olive oil dressing. The only soaps employed for cleansing purposes in any kind of eczema should be those free from all irritating detergent properties and properly impregnated with either carbolic acid or juniper tar. Dietary is of great importance in this disease. Salt meats, acids, fruits, pastry, and soups should be avoided, and malt and spirituous liquors.

Effusion.—May signify the natural secretion of the fluids of the body, as it also denotes their escape from

the natural position as a result of inflammation. In pleuritic effusion there is interference with lung action through the undue accumulation of fluid in the pleural cavity; effusion into the cavity of the skull gives the hydrocephalic or "water in the head" condition, inflammation of the peritoneum or abdominal lining membrane, and may bring about dropsy; effusion into the pericardium, resultant on inflammatory action there, may dangerously affect the heart; hydrocele is effusion into the scrotum; other abnormal effusions into tissues and joints are associated with various diseases, and directly consequential thereto.

Electuary. A medicated conserve.

Elephantiasis. An abnormal enlargement or expansion of the legs and feet or other parts of the body, arising from a preternaturally thickened condition of the skin and the tissues beneath it. Operative treatment is necessary for the removal of this unhealthy condition, which at times assumes gigantic proportions.

Emaciation. A gradual wasting of flesh and fat, indicative of disease. Emaciation occurs in many exhausting diseases which terminate fatally, and sometimes also in ailments of a much simpler and less dangerous character, as in dyspepsia, when the proper assimilation of food is suspended. In malignant disease of the liver and in pneumonia emaciation is a constant symptom. Restoration of the glandular system is essential to the removal of emaciation, and this must be sought through medicament suited to the case, in combination with judicious dietetic measures. The chloride of calcium is a very valuable remedial agent in curable emaciation.

Embrocation. An external stimulating or soothing application, called also a liniment.

Emetics. Should be administered intelligently, as with all things regard to the treatment, never in a speculative way. Their object is to induce vomiting and thus quickly relieve the stomach or digestive system of undesirable contents. Emetics may be introduced to the stomach directly, or administered by injection. Amorphine, for instance, is always given subcutaneously, and ejection of the contents of the stomach is immediately consequent. Great care should be exercised in the use of emetics in the case of particularly stout persons, or where there is pregnancy or rupture; and it should always be remembered that antimonial wine, a potent emetic, is a depressant of the heart's action; the dose of it is one or two drachms at most in water for a strong adult, followed by copious draughts of warm fluid. Safe emetics are ipecacuanha wine (half ounce to one ounce) mustard and water, or sulphate of zinc (20 grains in water); all to be followed by plenty of tepid water. Any of these may be administered with advantage in spasmodic affections, such as croup, asthma, colic etc., and, in carefully regulated strength, to children where there is a great accumulation of mucus in the chest. The stomach pump is better than any emetic for effectually and completely emptying the organ.

Emulsion. A medicine of a milk-like character, prepared by the amalgamation of some alkali or sugar with oil and water. This new milk furnishes a natural emulsion, uniting in its composition cream and milk. An admixture of the yolk of egg or gelatin with soap, milk, gruel or water will afford an emulsion for medical purposes; and powdered sweet almonds in water are frequently employed as a vehicle for medicines which tend to precipitate in simple fluids.

Encephalitis. Inflammation of the brain.

Endemic Diseases. Those arising from local conditions, as ague, in swamps and fenny neighbourhoods, or belonging to a particular period of the year.

Enema. An injection into the bowel, employed often with beneficent effect in constipation. Salt and water, or soap and water, are commonly used in this manner for the relief of a loaded lower bowel when its condition has given rise to pain and trouble; and the enema is very valuable in dysentery, diarrhoea, and where worms are working intestine mischief. Anti-sepsis as well as anodyne ingredients can readily be combined in an enema, which may be administered by various forms of syringe obtainable at the pharmacies.

Enteralgia. Nervous pain in the bowels, commonly called stomach-ache.

Enteritis is typhoid, or gastric fever, due to the absorption in the alimentary canal of specific disease germs. Its presence is generally attributable to defective sanitary conditions, and the use of unwholesome drinking water is perhaps the most prolific incentive to enteritis. The great dangers of this condition are hemorrhage and blood-poisoning. The characteristic initiatory symptoms of enteritis are great bodily prostration, copious diarrhoea of a peculiar peasy appearance, high pulse, and furred tongue. Purplish eruptive spots are seen on the abdomen and sometimes on the chest; the temperature rises at night and goes down towards morning. Deficient secretion, except in the bowels, follows, and disturbance of the urinary system occasions uræmic poisoning and coma in the concluding stage. To prevent the partial functional paralysis which brings about this grave condition, the medical treatment aims at controlling the exhaustive diarrhoea and keeping down the temperature of the patient as much as possible. Phenacetin is employed as an antipyretic, and if by its aid perspiration can be induced, and restlessness gives place to refreshing sleep, the case at once becomes hopeful. Skillful and unremitting nursing attention is quite as important in enteritis as medical treatment. No solid food must be given till the patient has completely recovered.

Enteritis. Inflammation of the external coat of the intestines, due generally to catarrh, and indicated by excessive discharges of mucus. Dysentery is one form of inflammation of the bowels, affecting, as it does, part of the colon; but the catarrhal inflammation may affect the whole of the mucous membrane of the alimentary canal to a distressing extent. Small doses of arsenic, administered in tar, will often be found remedial in enteritis, after eating; and the dietary must be most carefully regulated, nothing difficult of digestion being permitted.

Entozoa. Several species of troublesome parasitic worms or low animal organisms, chiefly such as infect the intestines, and exert an irritating influence. (See *Worms*.)

Epidermis. The outer or scarf skin, not composed of fibres, but of separate rounded cells. These are piled upon each other in layers to a variant extent, the cuticle in places, such as the soles of the feet, attaining considerable thickness; in other parts, as on the face, being smooth and thin. The epidermis is always, however, formed in two layers, the outer flat and resistant to injury; the inner soft and tender, and developing to take its place in due course externally. From the inner the outer skin of the epidermis is renewed when there has been blistering, scalding, eczema, or scaling after eruptive disorders.

Epigastric Region. The upper part of the abdomen.

Epiglottis. A cartilage of the larynx, which protects the glottis, or wind-pipe, when food is being partaken of. It is a heart-shaped gland of gristle, and participates in the movements of the tongue.

Epilepsy. A kind of fit, consisting in the concurrent loss of consciousness with convulsive movements of the limbs of a more or less violent character. Generally the sufferer subsides to the ground with lividity and distortion of countenance, staring and fixed eyes, frothing mouth, laboured or seemingly suspended breathing, and tumultuous beating of the heart. The tongue protrudes, and is sometimes badly bitten by the teeth during convulsive action of the jaws, while there may also be involuntary evacuation. The full fit, even in a bad case, seldom continues longer than a few minutes, and is succeeded by drowsiness and a dull, stupid appearance, with troubled sleep of considerable duration, during which the fit may or may not recur. A great many fits may occur, and that daily in persons subject to epilepsy or "falling sickness," as the malady is sometimes called, and the seizures may take place without warning at all, or follow presymptomatic ones. One of these is a peculiar sensation known as "epileptic aura." This is an indescribable feeling, as of a vapour, originating in the extremities and passing up toward the head. Epileptic fits may be distinguished from

those consequent at times upon hysteria by the absence of laughing or crying, and from apoplexy by the dilated condition of the pupils and the loss of the peculiar smothering and paralysis which usually are the accompaniment of an apoplectic seizure being wanting. Epilepsy is sometimes "shammed," but the impostor is careful to avoid hurt in falling. Constipation, digestive derangement generally, intemperance, teething, worms, excessive passion, menstrual irregularity, great mental worry, and other exciting causes may bring on epilepsy, which is liable to continue during convulsional disturbance, but is rarely fatal, save from injury sustained in the fall or from suffocation arising from constriction of the muscles of the throat and chest during the convulsive paroxysms. The treatment of a preventative character consists in improving the general health and removing as far as possible all contributory causality. During the seizure protect the sufferer from self-injury, loosen the attire round the neck and waist, lift on to a couch or bed, raising the head and shoulders, and sprinkle the face with cold water. Do not disturb the sleep which succeeds the fit, or mental mischief may ensue. A piece of wood may be placed between the teeth whilst the convulsive movement of the jaws continues, to prevent the biting of the tongue, and artificial teeth should be removed; while the careful administration of chloroform, it should be remembered, will often cut short an epileptic attack. An epileptic must not be left alone after a fit in case another attack comes on. Those subject thereto ought to be most attentive to their dietary, and sedulously shun excitement.

Epiphysis. One part of bone growing into another, from which it had previously been separated by cartilage.

Epistaxis. Bleeding from the lining membrane of the nostrils which secrete the nasal mucus. It can often be stayed by the application of cold to the spine, or by holding the hands above the head. In persistent hæmorrhage of this character the nostril may be plugged with cotton-wool saturated in some stringent solution or dipped in powdered alum. Those liable to frequent epistaxis may advantageously take iron or some other blood tonic.

Epuila. A swelling of the gums.

Erethication. Erection of wind from the stomach through the mouth. It arises from indigestion and the consequent escape of gas generated in the stomach. Charcoal powder is recommended as a palliative, but the obvious preventative is attention to the digestion.

Eruption. Excretion producing small pustules on the skin, as in scarlatina, measles, small-pox, etc., and indicating a diseased condition of the blood or a vitiated state of the cuticle.

Erysipelas. An inflammatory affection of the skin, attended with the formation of vesicles and by feverishness. Sometimes this painful ailment, which is known also as "St. Anthony's fire," and as "Rose," extends to sub-cutaneous tissue, and assumes serious dimensions, giving rise to delirium and even coma. It is due to the presence of a specific disease germ, which may be transmitted. Erysipelas occurs occasionally with no apparent outward cause, or it develops in a wound or from an injury in which the germ has found lodgment and proceeded to produce its progeny. It is always accompanied with considerable pain and hardness of the affected part. There is a tingling and burning sensation under a shiny red surface with swelling which pits and whitens on pressure. Meanwhile there is a generally febrile condition of the body, following shivering attacks. Then the inflamed patches subside, to reappear on some other portion of the body, not necessarily adjacent; the parts first affected scabbing and scaling, or forming large blisters charged with yellowish fluid. In bad cases the swellings suppurate extensively or form abscesses, and may occasionally gangrene. If erysipelas should make its appearance in the face without being resultant upon injury, there is always peril of its spreading to the covering membrane of the brain, with fatal effect. Glycerine and a solution of ichthyol are applied to the sores with frequent success. This is a much better practice than the old plan of dusting over the inflamed surface with flour, even upon a dressing of carbolic oil. Tincture of the murate of iron may

also be administered advantageously, and saline purgatives are good, while the diet should be light and nutritious. The tendency of the sores to wander over the body may sometimes be checked by painting with undiluted tincture of perchloride of iron.

Erythema. A morbid redness of the skin, and superficial congestion somewhat resembling erysipelas, though unattended by the dangerous symptoms of that malady, usually attendant upon gastric disorder. Its severity is sometimes sufficient to occasion the formation of vesicles. Medical treatment should embrace the endeavour to amend disordered digestion and to keep the bowels in regular order. Erythema nodosum is a form of this disease to which rheumatic and syphilitic persons are occasionally subject. The swellings appear upon the forehead or over the bones of the shins, and require blistering, with the administration of iodide of potassium.

Ethers. A product of the distillation of alcohols with acids, as nitric, sulphuric and other ethers.

Eucalyptus. The Blue Gum Tree of Australia, yielding an oil of very valuable antiseptic virtue. The tree itself is wonderfully destructive of the miasm of ague; and the essence of its foliage is largely employed for inhalation in influenza, catarrh, diphtheria and other ailments of the air passages.

Eucalyptin. A resinous preparation of considerable service in bilious disorders, usually administered in combination with sassa extract.

Eustachian Tube. The normal communication between the ear-drum and the throat, permitting the passage of air into the tympanum. It opens into the upper and back part of the throat, in the region of the pharynx, just above the floor of the nostrils. The access of catarrh into this important tube, partially or completely closing the channel, causes the condition called "throat deafness."

Exacerbation. Increase in the severity of a disease.

Exalgia. A substance produced by the decomposition of coal-tar, and sometimes recommended as an anodyne in neuralgic affections.

Exercise. Signifies the employment of the voluntary muscles. The circulation of the blood and the formation of its elements within the body, as well as their destruction when done with, are all powerfully and favourably influenced by this exercise; so that it is obvious that without it there will be a sacrifice of health. A systematic and well-regulated diurnal course of out-door exercise should be undertaken, of an agreeable and not over-fatiguing nature and extent; and of all exercises walking is the best; though this may be advantageously varied by participation in some interesting pastime. Riding is good, so are cycling, tennis, cricket, croquet, golf, skipping, fishing, shooting, and many other sports and games.

Exhalation, or the emission of vapour, occurs in the human body, from the lungs and the pores of the skin. Disorders of the kidneys and the cuticle interfere with this process, to the discomfiture of the individual in the degree of their magnitude.

Exhaustion. Exhausts the over-prolonged expenditure of energy, muscular, nervous or mental; but "training" or gradual habituation to endurance, will enable individuals to withstand fatigue to a surprising extent.

Exomphalus. A rupture of the navel.

Expectorants. Medicines which assist the discharge of phlegm or mucus from the mouth. Amongst the most frequently employed expectorants of the removal of surplus secretions of the mucous membrane are ammonia, antimony, paregoric, terebene, and ipecacuanha.

Expectoration. Provides, in the sputa, a valuable guide very often to the internal condition. Thus, if the mucus or matter expectorated be frothy in character, bronchitis or catarrh of the air passages may be indicated. Should the sputa be viscid and rusty-coloured, pneumonia or lung inflammation may be suspected. If it be purulent consolidated, and blood-tinged, consumptive disease of the lung-structure is pointed to. The patient is "spitting his lung away." Thus the trained eye can divine from what is cast out of the system what is going on within. In suspected

consumption the expectoration is examined by the microscope to detect the germs of the disease.

Extravasation. Escape of the fluids of the body from their natural canals, and consequent diffusion in adjacent tissue. Most bruises produce extravasation.

Eye. The organ of vision, a most beautiful piece of natural mechanism, perfect in every particular. The eye may be conveniently considered in two divisions, the globe or eyeball, and the appendages which control its functions. It is placed in a bony case, which protects it as effectually as possible from internal injury, the socket in which it revolves, and moves so easily. It is further guarded from harm by the eyelids, which automatically close at the approach of danger. The membranous external covering of the eyeball is reflected upon the lid, and is called the conjunctiva or white of the eye. In the centre of the globe is the pupil-opening, closed by the iris muscle; the pupil and its contiguous coloured substance together constitute the cornea. The entire eyeball of an adult is barely an inch in diameter, and measures rather more from back to front. It is enveloped by the sclerotic, a firm membranous structure, which at the posterior surface opens to admit the optic nerve. Within the sclerotic membrane is the darkish brown choroid coat, and within this again the retina, an expansion of the optic nerve forming the sensitive substance upon which are projected objects whose impressions are conveyed to the brain. The globe of the eye is filled with two transparent fluids, contained in chambers, between which is situated the lens. The anterior chamber is charged with aqueous humour, the posterior with vitreous humour. Rays of light emanating from the objects presented to the vision pass first through the cornea, next through the aqueous humour, the lens, and the vitreous humour in turn. In their passage the rays undergo refraction, which bring them into their proper focus on the retina. The choroid coat absorbs all the superfluous rays, which would otherwise confuse the vision. The eye is subject to many diseases. Ophthalmia, or conjunctivitis, is an inflammatory condition of the external part, and produces a red discoloration. Scleritis, usually of rheumatic origin, presents a more vivid appearance. Inflammation contracted in the cornea may induce opacity interfering with the transmission of rays of light. The lens may be affected and become opaque, when cataract is the resultant. The retina, the humours of the eye, and the choroid coat, are all also liable to ailments of a more or less serious nature; and every affection of any part of the visual system requires the most skilled and specialistic remedial treatment.

Eyebrows are formed of muscle and thick skin, covered with stiff hairs, and resting upon a bony ridge above the edge of the orbit. They are drawn down instantly when dangerously dazzling light is encountered by the eye, and they intercept and shed the perspiration trickling down the forehead. Perfect eyebrows are found in no animals other than mankind.

Eyes, Test or Grip In. Roll up a piece of soft white blotting-paper like a pipe-stem, and moisten the end to remove the irritating foreign body, meanwhile rubbing the other eye.

Fainting. Fainting, or swooning, may occur from shock or from loss of blood, or other depressing cause, mental or bodily, such as affection of the heart or excessive diarrhoea. The patient becomes pale and loses consciousness. The eyes dilate, the skin is clammy, the limbs are loose, the muscles relaxed, the sufferer falls to the ground as one dead. Remove the sufferer, in the lying-down position, to the open air or a well-ventilated apartment, letting the head rest lower than the body. Loosen the clothing, sprinkle the face with cold water, apply strong smelling salts to the nostrils. Should the patient be capable of swallowing a little sal volatile, or brandy and water, it may be administered. If nitrate of amyl be procurable, the inhalation from a handkerchief sprinkled with a few drops will often have powerful restorative effect. Chaffing the hands and friction to the limbs generally is helpful, and it may be necessary to apply a mustard poultice over the region of the heart.

False Ribs. The five lowermost ribs, so styled

because the 11th and 12th pairs are loose at one end, and the cartilages of the rest run into that of the 7th ribs, instead of being prolonged separately to the breast bone, as in the case of the upper seven or true ribs.

Fauces. The cavity between the mouth and throat, bounded by the tongue, tonsils, uvula, and the larynx, leading to the pharynx.

Febriacula. Slight feverish attacks, principally affecting children, arising from disordered digestion, and readily corrected by removing the cause.

Febrifuge. That which dispels or mitigates fever. An old medical term not so much used nowadays as formerly. Quinine used to be the most frequently employed of all febrifuges, and it is still in vogue as such, though phenacetin, antipyrin, and other potent drugs have supplanted it in modern medical practice to a very considerable extent.

Femur. The Os Femoris, or thigh bone, extending between the haunch and knee. It is the longest bone in the body, and is frequently the subject of fracture, which requires most skilful attention for reduction. The placing of the broken parts in apposition and their retention until proper re-union has taken place often presents considerable difficulty.

Fever. A disease characterised by heightened bodily temperature, increased and rapid respiration and pulsation, thirst, loss of strength and general functional disturbance. It may arise from chill, blood poisoning or direct infection; but the actual active principle of all fevers is morbid material in the shape of the poisons produced by germs circulating within the blood. Fever is classed as remittent, when it abates at intervals; it is intermittent when it ceases totally for a while only to recur. There are many forms of fever, including scarlet, typhoid, typhus, hectic, miliary, symptomatic, rheumatic, yellow, and malarial fevers. See separate references.

Fibrin. An essential element of vegetable and animal organisms, represented in the blood and other tissues.

Fibroid. An unhealthy growth of a fibrous character, as fibroid tumour.

Fibula. A slender bone of the leg, situated on the outer side of the shin bone. Its lower end forms the outer part of the ankle.

Fingers. Four of the five digits of each human hand, the fifth being the thumb or pollex. The first is the index-finger, generally employed in pointing out an object or enforcing an argument. Then we have the middle finger, the ring finger, and lastly, the little finger. All are opened and closed by powerful tendons and muscles proceeding from the wrist, over the palm, and along their own under-surfaces.

Fire. In case of being surprised by fire in a house, when the room is filled with smoke and flame, get as close to the floor as possible, where the air is almost always clearest. Crawl out as quickly as you can; and, in entering a burning apartment for rescue or other purposes, also crawl along the floor, enveloping the head in a thick, wet cloth, cutting holes for the eyes.

Fire, when clothing is ignited. Wrap in or roll on a thick rug or blanket, and on no account run out into the air or downstairs. Keep the head down to prevent the inhalation of smoke or flame as much as possible.

Fistula. A deep, callous, and narrow ulcer, generally following an abscess, in certain parts of the body, and forming an abnormal passage between some internal organ and the skin. The term is chiefly applied to a pipe unnaturally created between the bowel and the surface of the body by disease, which has worked its way down through the flesh into the intestine. Fistula is always an indication of poor general health, and largely attacks persons of sedentary habits. The matter is always one for prompt operative attention, in association with the endeavour to improve the patient's general condition.

Flaccid. Wanting in tone, soft and yielding to the touch, as relaxed and unhealthy muscular tissue.

Flatulence. "Wind" generally in the stomach and intestines through imperfect digestion and various other causes often productive of serious inconvenience and severe pain. There is generally fermentation as

the result of decomposing food-stuffs of an unwholesome or improperly blended character at the bottom of the mischief. Some foods are particularly conducive to the flatulent condition, starches particularly, and these should be avoided by all those whose stomachic equipment is not particularly strong. Stews and soups, and over-infused tea are all "windy" things. Flatulence is better prevented than cured; but its painful effects may be alleviated by charcoal, which absorbs the troublesome gas whilst staving the decomposing and fermentary generative processes.

Flatus. The wind, or gas, in the intestine in flatulence.

Flexora. Such muscles as assist in the bending of any limb or part of the body.

Fluoric Acid. An acid obtained from fluor spar, usually now known as hydrofluoric acid.

Flux. A running, flow, or discharge; an extraordinary evacuation from any part of the body. The term is one very seldom employed nowadays.

Foliolate. A small gland or bag, as at the roots of hairs.

Fomentation. A simple yet often efficacious method of applying moisture to the body for the alleviation of pain. Hot fomentations are of good service in the relief of inflammatory and spasmodic internal affections, especially of the abdomen and chest. The most approved way of procedure in fomentation is to fold about half a dozen piles of flannel of suitable dimensions upon a towel laid over a hand-bath; the flannel is then saturated in heated water, medicated or otherwise as may be advisable, and enclosed in the towel. Two persons are then employed in expeditiously wringing out the superfluous moisture. The flannel should then be spread out, and if the pain be very considerable, a few drops of laudanum may be sprinkled upon it before applying it, as hot as the patient can bear, to the affected part, covering with several layers of dry flannel to retain the heat. An indiarubber hot-water bag full filled is a better covering for the saturated flannel if it be desirable to maintain the heat for a considerable time without interrupting or changing the fomentation. Turpentine, poppy-heads, and other anodynes are useful in fomentation as well as laudanum, and the sponge and cotton-wool are sometimes substituted for flannel as the medium. Cramp and colic, erysipelas and filling abscesses are usually greatly relieved by fomenting; so are bad sprains and bruises.

Food as ordinarily partaken of in varied forms by civilised human beings, may be classed under two principal heads, that which is nitrogenous in character and that which is non-nitrogenous. The former is flesh-producing, and comprises the most valuable constituents of meat and bread; non-nitrogenous, respiratory, and heat-giving food is mainly supplied in the shape of starch, sugar, fats, and oils. For digestive and assimilative purposes, mixed foods are best adapted to our wants, and the first natural aliment, the maternal milk, contains nitrogenous and non-nitrogenous elements combined in sufficient strength for the period of life. Fresh animal food is much more nutritious than vegetable food, and more easily digested, yet is retained longer in the stomach. Vegetable food passes quickly out of that organ into the small bowel, where its digestion is completed. Vegetables are particularly important in dietary, as they contain and supply certain salts and other inorganic substances which are essential to the development of bone and furnish to the blood materials of a disease-preventing character. Water is also an important article of food and enters largely into its composition. Sugar and starch consist of carbon, hydrogen, and oxygen, and are the principal of the respiratory and heat-producing foods. Butter and oily substances not only greatly aid in keeping the fire of life a-going, but build up the fatty tissues necessary to health; and also aid in the digestive processes. The nitrogenous foods are mainly made up of fibrin, legumin, gum, casein, and albumen. Salt is necessary to the blood as an element of preservation and nourishment.

Forearm. That part of the arm between the wrist and elbow, composed of two bones, the radius and ulna, and their accompanying fleshy tissue. The

wrist is articulated by the radius with the forearm, which enables the hand to rotate.

Fracture. The breakage or rupture of a bone. This not uncommon, but always painful, accident may be of simple comminution, as when the bone is cleanly divided without splintering or external wounding; or compound, if the bone be broken or "smashed" in its integuments. In compound fractures the skin and soft tissues are torn, and there may be a portion of splintered bone forced through the flesh. A comminuted fracture consists of the bone being broken or crushed into several pieces. A compound comminuted fracture not only has the bone so broken, but flesh wounds of a more or less extensive character in connection with the breakage. That a bone is broken may usually be readily seen by the distortion or deformity produced, or heard by the crepitus or peculiar grating sound occasioned on the fractured ends moving upon each other. Both these conditions, with loss of power over the limb or part in which the bone is situated, together with unnatural mobility being present, fracture is certain; and a surgeon should be summoned to set the bone, the sufferer being laid in the most restful position possible to await the doctor's arrival. It is necessary to exercise very great care in moving the patient, or a simple fracture may be converted into a compound one, and a compound fracture which was not comminuted become so. A shutter or wide board should be placed under the injured limb for its support, however short a distance it be requisite to convey the injured person. There is usually considerable swelling in connection with a fractured bone, particularly if the damage done to the soft tissues by crushing or tearing be extensive, and a broken rib may occasion swelling all over the body if a fragment of the bone should have penetrated the lung, permitting air to escape from that organ into the cellular tissue. The clothing of the injury pending the doctor's coming, with cloths wrung out in a solution of carbolic acid or some other antiseptic, may prevent suppurative later on.

Frænum, a membranous fold connecting an organ with other parts of the body, as of the tongue.

Friction and Massage of the skin is very often conducive to health, in accelerating sluggish circulation or promoting bodily heat, and it forms an important part of curative massage. Rubbing is also beneficial in stiffness of the joints or muscles. Friction may be applied to the body by the hand, with flannel or rough woollen gloves, or with the flesh brush.

Fruit is very valuable in a dietary. Many fruits are gently laxative, many others contain salts and acids possessing properties beneficial to the blood. The most wholesome fruits are apples, pears, gooseberries, currants (red and white), grapes, apricots, peaches, strawberries, and oranges; all, of course, when quite ripe, the softer, mellowed and fresher the better. Plums, cherries, melons, and all kinds of nuts, though nutritive in different degrees, are difficult of digestion, generally speaking, and black currants, when raw, have a disagreeable effect often upon the bowels. Some fruits, otherwise objectionable, may by cooking undergo conversion into excellent foods, as baked culinary apples, and unripe or dried berries of various kinds.

Galaetia, a morbid production, or overflow of milk.

Gall, the bile, a bitter, yellowish-green fluid secreted by the liver.

Gall Bladder, a membranous pear-shaped bag, attached to the under side of the right lobe of the liver, large enough to contain one to two ounces of the gall liquid. It acts as a reservoir to receive the surplus bile from the liver during the intervals of the active digestive process.

Gallie Acid is useful in the spitting or vomiting of blood. In the latter case it may be taken in ten grain doses in milk or water, and in the former along with fifteen drops of dilute aromatic sulphuric acid in water alone.

Gall Stones, or biliary calculi, are congealed masses of bile substance incapable of passing along the duct as they would do in their naturally fluid state, and have to be forced through by the severe spasmodic

contractions of the canal, which occasion such acute pain to the subject. The gall bladder becomes distended, and much of the bile is absorbed by the blood, giving to the sufferer, a jaundiced appearance. Large or repeated doses of olive oil have been administered very successfully for the relief of this distressing ailment.

Galvanism, that form of electrical excitement by chemical action, generally called voltaic electricity.

Ganglion. A knot-like process formed by a mass of nerve-cells; or a hard encysted tumour, situated in the course of an extensor tendon. Anatomically the term applies to the minute centres abounding throughout the body; and surgically to elastic swellings which appear at times on the top of the foot and on the wrist, reaching the size of a hazel nut, and yielding to pressure.

Gangrene. Incipient mortification, a term applied to the death of the tissues, following disease of the part, which becomes black and void of sensation. Amputation beyond the seat of the mischief is nearly always essential.

Gargle. A wash for the throat, astringent, antiseptic and soothing. In early stages of inflammatory affections astringent gargles, with antiseptic combination, are very useful as alleviative treatment, removing mucus. Hot water, with bicarbonate of soda in solution, is frequently employed; and chlorate of potash in solution, and associated with borax, will allay ulceration. Alum, dissolved in water, and diluted glycerine of tannin, form valuable astringent gargles; and an efficacious admixture for general gargling purposes is a wineglassful of warm water with twenty-five to thirty drops of sulphurous acid. It may be employed frequently without fear of harmful effect.

Gas. A vapour retaining elasticity permanently at ordinary temperatures, and distinguishable from non-gaseous vapours which become aeriform only under the action of heat. The gases most frequently encountered in considerations of health are oxygen, hydrogen, nitrogen, carbonic acid, chlorine, and ammonia, to all of which reference is made elsewhere in this dictionary.

Gas, Suffocation from. Suffocation from the inhalation of escaped gas should be combated by removal to the fresh air as speedily as possible. The sufferer must be kept warm, and made to lie down, frequent draughts of ammonia, twenty drops to a tumblerful of water, being administered until relief is obtained. Tincture of nux vomica, two to four drops an hour at first and less often later, may also be given in obstinate cases of suffocation from this cause, but a doctor should be called in unless improvement be manifest.

Gastric. Appertaining to the stomach, as gastric arteries, gastric juice, gastric fever, etc.

Gastric Fever. Another name for **Typhoid Fever**, which see.

Gastric Juice. A fluid containing pepsin and hydrochloric acid, secreted in the interior of the stomach, and forming a principal agent in the digestive process, during which it is distinctly acid, though it possesses neither acid nor alkaline reaction on removal, but has a saline taste. The juice is transparent and slightly viscid. It converts nitrogenous foods into substances called peptones.

Gastric Ulcer. Frequently occurs in young females, the symptoms being stomachic pain accompanied by vomiting of matter of coffee-ground like appearance, a condition due to the presence of blood. Ice will check the nausea and vomiting; and small doses of morphia and bismuth may be administered with good effect; while milk is the best food, for no solids should be taken until the ulcerous trouble has been overcome.

Gastritis. Chronic inflammation of the stomach, frequently occasioned by continuous alcoholic indulgence, though it may arise from gout or other disease, or be produced by strong purgative medicines or indigestible food generally. Excessive thirst, restlessness, and local pain are symptomatic of gastritis, while dilute hydrocyanic acid, administered in soda-water, is remedial.

Gastrocele. A hernial tumour occasioned by the protrusion of the stomach through the abdominal wall.

Gastrocnemii. Muscles forming the greater portion of the calf.

Gastrography. The sewing up of abdominal wounds.

Gastrohæmorrhagia. Gastric hæmorrhage.

Gastrotomy. Surgical dissection or cutting open of the stomach.

Gathering. Suppuration. (See *Whitlow*.)

Genioglossi. Muscles controlling the projection of the tongue.

Gentian. An Alpine root yielding tonic infusions and tinctures, very useful in pharmacy. As a stomachic, two to four grain doses of the extract, taken three or four times daily, are often administered with advantage.

Germs of Disease. The germ theory has received in recent years an immense amount of scientific study, with very great advantage to the suffering race. The result of research points to the conclusion that every disease is due to the presence in the system of some specific microscopic organism. Some of these microbes obtain access to the body through the respiratory organs or enter the circulation through abrasions of the cuticle, but the majority come into the system uninvited by the front door, so to speak, that is, at the mouth, and are swallowed in the saliva, or when eating or drinking. A vigorous and healthy frame furnishes the minute intruders with comparatively little opportunity for harm-doing; a debilitated condition of their unwilling host, organically or generally, gives the microbes their chance of development and multiplication. That is the germ theory of disease in epitome.

Gerontoxon. An ulcer of the cornea, of frequent occurrence in old age.

Giddiness, or Vertigo, a feeling of lightness in the head, accompanied by a tendency to reeling and falling. Objects appear to swim round, and the sensation is frequently experienced in looking down from a great height, or it is a marked premonitory symptom of many disorders or diseases. It may result from blood plethora or fulness or from blood deficiency, impaired or interrupted circulation, sudden change of posture, or be an accompaniment of indigestion. A rush of blood to the brain will occasion giddiness; an abnormal slowing of the supply is an even more frequent cause. In the first instance, the necessity of abstinence or the use of purgatives is indicated; where giddiness arises from weakness, tonic treatment is essential.

Ginger possesses stomachic and carminative properties, and exerts a slightly stimulative effect upon the biliary secretion. It enters into the composition of "Gregory's Powder" and other medicinal mixtures. In flatulence it is remedial, and in combination with opiate combats colic.

Glabella. The space between the eyebrows, so named from its smoothness and usual freedom from hair.

Glanders. A malignant disease of the horse, communicable to mankind through erosions of the skin. The germs may also be inhaled from the diseased nose-secretions of the horse. Always fatal in the case of the animal, which must be destroyed upon its appearance to prevent the spread of the malady. A case of glanders should be approached with great caution.

Glands. Soft bodies diffused over the system, and generally secreting some fluid. Lymphatic glands are found in the neck, the armpit, and groin, and these are liable to inflammation and suppuration. Some glands, as those of the spleen, seem to act only as blood reservoirs; others, as of the kidneys, pancreas and liver, are provided with ducts for the conveyance of the fluids they secrete to their ultimate destination; while the glands of the intestines take up the digested food properties into the circulation. When the mesenteric glands are the seat of inflammatory disorder their condition is usually due to tubercular deposit, a remark which also applies to affections of the neck glands. Muricite of calcium taken after food is a valuable medicine in almost every glandular ailment.

Glauber's Salt. A variety of Chicken-pox.

Glauber's Salts. Sulphate of soda, employed as a purgative, though not now so frequently as was formerly the case.

Glaucoma. A disease of the eye, in which the crystalline humours assume a greenish hue.

Globus Hystericus. The "ball in the throat" in hysteria, due often to fainting.

Glossitis. Inflammation of the tongue.

Glottis. The narrow opening at the top of the trachea, or windpipe.

Gluten. The nitrogenous proximate element of wheat and bread, constituting its most nutrient property. It is found in oats and barley and other cereals, but in wheat in the greater proportion. In its composition it has close alliance to the flesh of animals. Glycerine. A sweet fluid, obtained from fatty matters, and much employed in pharmacy. It has an emollient effect upon the skin, and forms a very useful adjunct to cod liver oil as a medicated food in pulmonary consumption. Upon the bowels it exerts a slightly laxative effect, and is administered beneficially for catarrh of the alimentary and bronchial canals. In thrush it goes well with borax as a mouth application, and combined with tannin is good for relaxed sore throat. Glycerine is also useful as an injection in obstinate constipation, and forms a convenient solvent of carbolic and other acids.

Glyster. An enema.

Godfrey's Cordial is a preparation, the active ingredient of which is laudanum, and its indiscriminate use as a remedy for pain in children has frequently wrought mischief. Opium in any form is a dangerous drug to administer where its strength is unascertained, and particularly where knowledge as to its applicability to a particular case is lacking.

Gout. (See *Bronchocele*.)

Gomphiasis. A disease in which the teeth fall from the sockets.

Gomphosis. Immovable articulation of the bones.

Gonitis. Inflammation of the knee.

Goulard's Water. Solution of acetate of lead, a valuable soothing lotion.

Gout, Arthritis, or Podagra, a painful inflammatory disease of the smaller joints, especially of the foot, sometimes extending also to the stomach, periodically and intermittent, and generally of hereditary origin. Its foundation is in the digestive system, and the natural outlet of the poison of gout is the kidneys, which fail to eliminate uric acid when it exists in undue proportion in the blood. Consequently it deposits itself in the joints or elsewhere, and sets up the inflammation technically termed the "explosion of gout." Severe throbbing pain in some joint, generally at the back of the great toe, is accompanied by feverishness, irritability, depression, thirst, a rapid pulse, and much suffering of a paroxysmal character; and this condition becomes in many cases chronic. A white concretion will frequently establish itself in the finger joints, rendering them stiff and unwholly. The heart and brain may become affected, and partial nervous paralysis supervene. A specially light and careful dietary is essential to gouty subjects, and menthol, chloroform, and belladonna liniment will often relieve the most painfully affected parts. Lithia benzoate, with colchicum tincture after meals is beneficial, and opiate may be administered carefully when the disease is most troublesome.

Granulations. Grain-like fleshy bodies which form upon ulcers, filling up and promoting the healing of the sores. When the granulation proceeds too rapidly what is called "proud flesh" is formed, arresting the healing, whereupon cauterisation has to be resorted to.

Gravel. A term popularly descriptive of disease of the bladder attended with the formation of calculus, or stones. The urine is highly acid, and crystals of uric acid or particles of lime, ammonia, and urate of soda become suspended within the fluid, aggregating into masses of considerable size, and creating irritation, inflammation, obstruction, and often occasioning excruciating pain. Gravel frequently follows dyspepsia, or is an accompaniment of rheumatism, and often, in its pronounced stages, calls for surgical interference. Bi-carbonate of potash or lithia is a valuable palliative; and hot baths may afford relief in the paroxysms of pain, opium also being administered under advice.

Green Sickness. A distressing form of anæmia.

in young females subject to chronic constipation. (See *Chlorosis*.)

Gregory's Powder. A combined purgative and stomachic, acting also with tonic and antacid effect upon the alimentary canal. It is formed of one part-ginger, four parts calcined magnesia and two parts of starch. It is a most useful medicine, and its disagreeable flavour may be greatly modified by the addition of a few drops of brandy or eau de cologne.

Gray Powder. The Hydrargyrum-cum-Creta of Pharmacy, is an admirable aperient or alternative medicine for children, either alone or in combination with rhubarb, jalap, or other purgative drugs; while for adults it is a serviceable medicine in disorders of the liver, skin disease, or inflammation generally. It is prepared by rubbing together in a mortar two ounces of chalk and one of mercury until all the globules of the latter are thoroughly pounded and amalgamated with the former.

Griffith's Mixture. Compound iron mixture is one of the best medical preparations of iron; this mixture is compounded of sulphate of iron, carbonate of potash, spirit of nutmeg, myrrh, sugar and rose water. It lies lightly on the stomach, and does not induce subsequent constipation. In debility it is very beneficial, and is specially recommended for chlorosis, or green sickness.

Grippe. The French appellation of Influenza, employed often in Britain and America in denominating the epidemic phase of that malady.

Gumboils, so called, are really abscesses relating to decaying teeth or disorders of the alveolar process, and occasion very severe pain because of the tension they produce. Lancing will afford relief, but they are very apt to recur unless the tooth whose decay gave rise to them be extracted.

Hæmaturia. A passage of blood with the urine, which may proceed from the bladder or kidneys, if from the latter organ, the water is smoky-looking.

Hæmatæmesis. Bleeding from or into the stomach, the vomiting of blood, distinguished from hæmoptysis, the spitting of blood from the lungs. It is a peculiar circumstance that the stomach will not long retain fresh blood; consequently alarm is often occasioned by what appears to be blood vomiting when what is brought up is really the result of bleeding from the gums or the back of the nostrils, the stomach rejecting the swallowed blood. Blood from the stomach is dark coloured and clotted. At times the ensanguined vomit resembles coffee grounds through having undergone partial digestion, which is of course an indication of its having been in the stomach.

Hæmoptysis. Bleeding from the lungs, generally an indication of consumption or ulceration of the blood vessels of the lungs, and always a condition of considerable gravity. The blood is frothy and of light colour.

Hæmorrhoids. Piles, with effusion of blood. These tender and painful swellings and protrusions of the extremity of the bowels occasion very considerable inconvenience and irritation in walking and other bodily movements. They commonly arise from, and are, an accompaniment of constipation, and evacuator action increases their soreness and causes them to bleed profusely, the blood generally being bright red. In all cases of external piles considerable benefit may be derived from the application of ointment of galls or some soothing non-irritant lotion; and the employment of simple aperients, such as castor oil or lenitive electuary, for the diminution of fulness in the vessels of the lower bowel will generally have a comforting effect. Cold water enemata are recommended, with light and careful dietary, and thorough antiseptic lavation of the parts.

Hæmostatica. Stagnation of the blood; hence hæmostatica styptica, or medicines employed to stop hæmorrhage.

Hare Lip. A longitudinal fissure of the upper-lip, similar to that of the hare, sometimes styled "cleft lip," and often an accompaniment of cleft palate, deformities due to the arrest of development before birth. It is amenable to surgical treatment, which should be resorted to without delay.

Hæmatoma. The popular appellation of ammonia, which has so many uses in pharmacy.

Hay Fever. Called also "hay asthma," a catarrhal complaint, characterised by all the symptoms of a severe cold in the head, which affect the respiratory organs in a distressing manner. Some persons are particularly susceptible to this trouble, which is most frequently met with in the hay season, and is supposed to be consequent upon the presence of irritating pollen-particles in the air derived from plants. Fog will produce very similar effects at times. There is suffusion from the eyes, sneezing, cough, and more or less constant headache. Quinine is a good tonic in this affection, with inhalations of ammonia, or the vapour of carbolic acid.

Hæmorrhage. A distillation from the fresh twigs of the witch hazel forms a powerful astringent, having a very beneficial effect upon enlarged veins, such as bring about hæmorrhoids and varicosity in the leg veins.

Headache. Arises from many causes, the chief of which are indigestion or biliousness, nervousness, neuralgia, debility, rheumatism, or a disturbing blow. Bilious headache is relieved by aperient treatment or an emetic, by the application of cold to the head (or hot salt will in some cases be successful), a warm bath, or perfect quiet, with a draught of strong tea or coffee, a brisk walk being taken when the headache has subsided. Sal volatile is useful for nervous headaches. Headaches arising from debility following excessive brain-work call for complete rest and tonic treatment. Neuritic headaches, accompanied by throbbing or shooting pain over the eyebrows, may be relieved frequently by taking bromide of potassium quinine. Rheumatic headaches generally affect one side of the head only and are paroxysmal in character, with tenderness upon pressure at the seat of pain. General treatment for rheumatism is necessary for their cure.

Heart. The vital muscular ball—about the size of a closed fist—lying in the pericardium bag, almost surrounded by the lungs, and a little inclined to the left side of the chest, is the great pump which forces the blood through the arteries, capillaries, and veins, through the lungs, and back to itself. It is divided into four cavities, the upper pair called the auricles, and the lower the ventricles; each of which is capable of containing from four to six ounces of blood. The heart contracts and expands in health over a hundred thousand times daily, and its action goes on uninterrupted during sleep as well as when the individual is awake. The heart cavities communicate with each other by orifices, whose valves maintain the circulation of the blood only in one direction. This most important of all the vital organs is subject to many diseases. Fatty degeneration is usually accompanied by a similar condition of the kidneys and liver, and produces a tendency to syncope, which may be sometimes averted by sal volatile. Valvular disease will often result from rheumatic fever; and pericarditis, or inflammation of the investing serous membrane of the heart, is always liable to occur in this malady, bringing about great difficulty of breathing and oppressive pain. Endocarditis, inflammation of the under-lining heart membrane, is particularly dangerous. Enlargement of the heart arises from frequent participation in protracted or violent exercise. Angina pectoris, or heart spasm, generally associated with dilatation, i.e. fatty degeneration, is due to impediment in the circulation of the blood-vessels which nourish the heart. It is a very grave malady. Palpitation of the heart, a common ailment, is often attributable to flatulence, or digestive disturbance, and may be prevented by attention to the cause.

Heartburn. An acrid, burning sensation at the pit of the stomach and top of the gullet, technically called cardialgia, is a symptom of dyspepsia or indigestion. It occasions considerable uneasiness, and often brings about eructation, with "water-brash." In pregnancy it is of frequent occurrence. Temporary relief may be obtained from carbonate of soda, potash, or other correctives of an acid condition of the stomach, but careful dietary is requisite, avoiding acids and sweet foods, wherever heartburn—which has nothing to do with the heart—occurs.

Hectic Fever. Is a remittent and exacerbating febrile condition, attended with chilliness, heat,

perspiration, and clamminess in alternation. Consumptive patients are often hectic, as the bright red spot on their wasting cheeks painfully indicates, affording presage of impending death. Hectic pyra is the scientific term for hectic fever, which is not so much a disease as a symptom of an unmistakable character.

Helleborine. An alkaloid, employed in pharmacy, and obtained from the root of the Christmas Rose.

Hemeralopia. Loss of sight at night.

Hemicrania. Neuralgic pain on only one side of the head. May be frequently relieved by galvanism, phenacetin, quinine, or other anti-neuralgic treatment, but, as it usually arises from a generally low condition, it should be regarded as symptomatic, and combated accordingly. (Also called *Migraine*, see *Headache*.)

Hemiplopia. Partial vision, in which the whole of any object cannot be seen at one time.

Hepatic. Pertaining to the liver; hepatitis, inflammation of the liver; hepatocoele, a hernial affection in which a part of the liver descends through the abdominal walls, not unfrequently found in new-born children.

Hernia. By this term is distinguished that condition of the abdomen in which the bowel protrudes through the parietes or walls, commonly called "rupture." Hernia, of course, appears most frequently where the parts are weakest, and where important vessels pass outwards in the groin region. It is usually the resultant of strain in lifting, jumping, or the jolting of riding, and is first observable as a soft compressible tumour, unattended with pain unless strangulated. This tumour goes back in the abdomen during rest in the recumbent position, returning on resumption of activity. It may be kept from causing inconvenience in this reducible state by wearing a properly-fitted truss.

Herpes. The Tetters, an eruption of the skin, as in ringworm erysipelas, and arising from an inflammatory ailment of the extremities of certain nerves. The eruptions commence by filling with clear fluid, which becomes opaque and hardens later—coming away as a crust. Herpes frequently appear on the lips and cheek, when it is termed scientifically herpes labialis; shingles is herpes zona or zostor, and appears upon the trunk when its vitality is low.

Hiccough, or Hiccup. Is due to a contraction of the diaphragm or muscular floor of the chest. Drinking water will often stay it when it is a temporary inconvenience arising from indigestion. Its occurrence at the crisis of acute disease is usually a very grave matter, indicative of approaching collapse.

Hip Joint Disease. A very painful affection to which children of low vitality and tuberculous habit are liable. It arises from tuberculous disease either in the joint or its immediate vicinity, resulting in the formation of pus, which may find an outlet at some considerable distance from the seat of the mischief. The ailment frequently first manifests itself in occasional stiffness and pain in the joint, the foot evidencing a tendency to drag or turn outwards. As the disease makes progress pain increases and extends, and is frequently excruciating in the knee, even at times being felt more acutely whilst no considerable inconvenience is perceptible in the hip itself. Examination will show the injured leg to be slightly longer than the other, and a sharp tap to the sole or on the top of the hip-bone will greatly increase pain in the knee and hip joints. Later the leg is drawn up shorter, and abscesses form about the thigh, sometimes extensively, and of a very weakening character. There is frequently prostration and hectic fever; and unless the malady be arrested, death will often ensue. Recovery is only in many cases attained at the expense of permanent stiffness of the joint. Treatment consists of securing complete rest to the diseased part, with nourishing dietary and tonics, such as cod liver oil, steel, &c. The patient has to be kept lying down, with the injured leg extended and supported by sand-bags or splints, the inflamed surfaces being held as far as possible out of contact by a hanging weight carried over pulleys at the bed foot attached to the extremity of the affected limb.

Hippus. An affection of the iris, of a spasmodic character, occasioning repeated dilation and contraction.

Hives, The Group, The "Rashes." A term also applied occasionally to *Chloasma-pem*.

Hoarseness may result from overstraining the voice in singing or speaking, as well as from common catarrh or cold. Rest and inhalations of hot water (at a temperature of 120 degrees) with confinement to a warm room for a day or two will generally correct this condition, especially if combined with the internal administration of judicious doses of chlorate of potash.

Homoeopathy is a medical theory aiming at producing in a patient affections similar in their nature to those from which he is suffering on the principle of "like curing like." Homoeopathy relies on drugs in small doses. Hahnemann, of Leipsic, working on the observations of Hippocrates, was the founder of modern Homoeopathy, which has had considerable influence upon medical practice. Thus quinine, which will, in the healthy, occasion febrile symptoms resembling ague, has been largely resorted to for the relief of ague.

Whooping Cough, or "Whooping Cough." is an infectious ailment commencing with what is usually called a "common cold," and developing in a few days, after the subsidence of febrile symptoms, into a cough of a spasmodic and often violently paroxysmal description, with the characteristic "whooping" inspiration at the close of each coughing fit. The malady reaches its height in ten to twelve days, when it gradually abates, but seldom leaves the patient for some weeks, and is liable to recurrence.

Hordeolum. A sty or tumour on the eyelid resembling a barley corn in shape.

Housemaid's Knee arises from swelling over the knee cap, due to inflammation of the bursa, or pad over the knee cap, consequent upon frequent kneeling upon hard surfaces. Blistering will generally afford relief, but rest of the part is essential to cure.

Humerus. The long bone of the arm reaching from the shoulder to the elbow, hence "humeral," belonging to the shoulder. The humerus is frequently the subject of accidental fracture, and the setting of the injured bone usually presents but little difficulty to the skilled surgeon.

Humour. Fluids of the body. A term usually employed to indicate such fluids in a vitiated condition.

Hydatid. A transparent bladder or vessel on the body, filled with water, as in dropsy. Also a stage in the development of tape-worms. These are introduced in eating or drinking, and undergo their first stage of development in the stomach. Penetrating the coats of the stomach or intestines they find their way into the circulation and locate themselves in the tissues of the muscles, eye, brain, liver, or some other organ, where they become encysted, and sometimes cause much mischief and even fatality. The hydatid cysts in animal tissue, taken in that condition as food, are liberated in the stomach in their final state as tape-worms, and then produce intestinal disturbance.

Hydroaerugia. Purgative medicine acting powerfully upon the mucous membrane of the bowels, and the portal veins. Cream of tartar is a familiar example of this class of drug.

Hydrocele. A dropsical condition of the scrotum, due to inflammation of the serous lining membrane, which usually calls for surgical attention.

Hydrochloric Acid. Also called "spirits of salt" and muretic acid, it is composed of one equivalent each of chlorine and hydrogen, obtained by distilling common salt with sulphuric acid. Used in medicine in a diluted state.

Hydrocyanic Acid. The technical name of the deadly poisonous prussic acid, a very valuable ingredient of some medicines, in small and careful doses. It acts as a stomachic sedative properly applied, and is one of the components of chlorodyne. Hydrocyanic acid is a compound of hydrogen and cyanogen.

Hydrogen Gas. The lightest known substance, has neither taste, smell, nor colour in a pure state; it forms the ninth part in weight of water, and enters largely into the composition of all animal and vegetable

bedies. It burns with a pale yellow flame, and in its combining unites with oxygen, forming water. Combined with sulphur, it forms sulphuretted hydrogen gas, soluble in water, but deadly on inhalation.

Hydrozephrosis. Dropsy of the kidneys.

Hydrotherapy. That method of treatment in medicine in which the external application of water, by bandages, compresses, douches, the body and trunk, pack and baths, hot and cold, is relied on; the administration of hot and cold water, medicated or otherwise, internally, being supplementary. It is a valuable hygienic system, especially where judiciously employed in alliance with skilful general therapeutic practice.

Hydrophobia. Disease caused by the bite of animals, dogs, wolves, and cats, in a rabid state, and specially characterised by the dread of water, whence its name. It is only conveyed by inoculation direct from the fangs of the affected animals to the human blood, and may appear in a bitten person long after the superficial healing of the wound. An uneasy, tingling sensation appears in the neighbourhood of the injury, followed by constitutional disturbance, depression, a choking feeling about the throat and neck, and great difficulty in swallowing fluids. Then spasms of the throat, the dreadful horror of water, and exhaustion supervene, ending in agonising death. The poison appears to act upon the spinal cord, and so to affect the whole system. Caustic treatment, and that immediately, of wounds from the fangs of a rabid animal, is eminently desirable, pure carbolic acid furnishing the most effective cautery. The Pasteur system of injecting attenuated poison sub-cutaneously to persons bitten has succeeded in overcoming the potency of the poison from the bite. Of course all mad dogs should be destroyed as speedily as possible.

Hycosyamin. An alkaloid extensively employed in pharmacy, and obtained from henbane.

Hypochondrium. The sides of the abdomen, under the cartilages of the false ribs, covering the region containing the liver and stomach.

Hypochondriasis. A disease characterised by melancholy, debility, and dyspepsia, usually associated with sluggish action of the liver. Treatment of the "hipped" consists in the restoration of the digestive machinery to its normal condition.

Hypodermic. Underneath the skin, the term used to denote the administration of the various medicines cutaneously, by means of a perforating needle and injecting syringe. It is an efficacious and speedy method of introducing into the system certain curative agents such as morphia, atropine, cocaine, strychnine, etc.; and antiseptics are frequently hypodermically injected with advantage. A qualified practitioner only should use the hypodermic syringe.

Hypopygium. A purulent affection of the eye.

Hysteria. A morbid condition indicated by fatality and the feeling of a lump or ball in the throat causing a sense of choking or suffocation. Involuntary laughing and crying precede the hysterical fit, in which the patient tosses about violently, and is liable to self-injury. A fit of hysteria very often ends in the sufferer going off into stupor or coma, and sometimes this state is reached without preliminary signs. Hysteria is a curious ailment to deal with, being a nervous affection which feeds upon itself, and simulates many diseases. It is always best to exhibit no sympathy with the patient, who is generally a female, but to throw cold water upon her face, apply ammonia to her nostrils, and administer anti-spasmodics.

Ichor. A thin watery humour discharged from an ulcer, acid and irritating. Unless cleansed away or absorbed by an antiseptic it will retard healing and spread the sore from which it proceeds. The raw surface of the wound which excretes ichor should be gently washed or dabbed with dilute carbolic acid, iodoform, or, preferably, aristol being thereafter applied.

Ichthyopsia. A disease of the skin which develops scaly surfaces not unlike the skin of a fish. This disagreeable disorder is often hereditary, and it is more frequent in certain districts than elsewhere. It is very intractable to treatment. Sufferers therefrom should

regulate their dietary so as to keep the blood as pure as possible, and indulge but little in very salt or highly seasoned food.

Iliae Passion. A distressing ailment in which, owing to the obstruction of the bowels, the food returns to the stomach, and is afterwards vomited. There are gripping pains and abdominal spasms. Warm baths and hot fomentation may afford temporary relief, but these cases require prompt and skilful medical treatment, as iliae is more a symptom than a disease.

Ilium. The last portion of the small intestines, hence also iliac region.

Imperial Drink. Is the name by which a mild laxative with an excellent effect upon sluggish kidneys is known. It is made by pouring a pint of boiling water over a sliced lemon and half an ounce of cream of tartar. After cooling, strain the fluid, which is always useful as a refreshing drink in slight feverishness and in cases where the urinary secretion is at all deficient.

Impetigo. Is a cutaneous eruption, attended by itching pustules of a yellow colour, which become crusted and scaly. It has affinity with eczema, and arises from a vitiated condition of the blood requiring medical treatment. Local relief may be obtained from the use of an ointment containing nitrate of mercury, quinine, and chrysarobin.

Incisors. The cutting or front teeth.

Incontinence of Urine. Is frequently met with in young children, and during debilitation from old age or disease. It may be the result of neglect and undisciplined habits, but is more frequently due to weakness or spasm of the muscular sphincter of the bladder. In that case graduated doses of perchloride of iron will be found strengthening and corrective. Worms and constipation are often contributory causes of incontinence of this disagreeable character, so that the condition of the bowels should always be regulated where it occurs.

Indigestion. Indigestion is answerable for a preponderating proportion of the ills of the flesh, and it is almost entirely a preventable condition. If individuals would systematically conform to a well-considered dietetic regimen, based upon adaptability to their constitution, and the circumstances of their avocation and environment, and would, moreover, give full attention to a daily and complete clearance from their bodies of the waste products of food, indigestion would cease to trouble and dyspepsia vanish. Treat the stomach well, and it will serve you efficiently unless organic disease be existent, when there must be specific medication in accordance with the particular requirement.

Infantile Fever. A remittent febrile complaint, common at teething time with babies, and usually called "Worm Fever." Worms may accompany the ailment or any other functional disorder of childhood, but this particular description of low fever is due not to the intestinal marauders, but to the constitutional disturbance attendant upon difficult dentition. Get the bowels gently and thoroughly cleared as quickly as you can, give a slight dose of flannel, and warm baths, combat the fever with nitre and ipecac, and quench the thirst with ice-water. If there be convulsion complications, get the doctor to prescribe specially, and follow his prescriptions. For the rest, nursing care must be relied on.

Infants. Warmth is very necessary to the young infant, therefore let it be comfortably clad from birth onwards, frequent changes of warm and warm as possible, being supplied. Let the washing of the child be carefully and systematically attended to, all the fastenings of its dress being easy, and see to its wholesome and regular feeding, with breast milk as the staple, if at all possible, for as long as that supplies sufficient nutriment; and thereafter, rationally selected and digestible dietary. Let it be dressed in a warm apartment out of all draughts, in a crib of its own. Keep its bowels in regular action. Give it as much out-door exercise in the sunshine as the weather will permit. Do not wake it from sleep for exhibition purposes. If it become cross and cry, find out the reason and remove it. The fault is usually yours, not

the child's. Be regular in all your attentions to baby, and baby will grow up to good habits. Do not try to get it on its feet prematurely, but let it lie on its back on a rug or mattress and kick and crawl to its heart's content, afterwards giving it freedom to creep and crawl properly clad. Do not try to "harden" it by exposure. Do everything you do in its behalf with deliberation and thought for the years to come.

Infection is contradistinct from contagion, in that the latter term implies the actual touching of the person suffering from communicable disease. Infection may come through the medium of air, water, or clothing, etc., but is chiefly the result of the inhalation or swallowing of germs. This may be rendered the less likely by cautious approach to an infected subject, and keeping the mouth closed is consequently advisable when one knows danger to be existent. Breathe through the nostrils only, and do not swallow the saliva, making use of suitable disinfectants in a suitable way. Thus an infectious case may be visited by a person in robust health without disastrous results. There is always the risk that the ubiquitous microbe may find its way into your system, but the more care you exercise, the less likely will it be to make harmful incursion. (See **Contagion**.)

Inflammation. A redness and swelling in any part of the body, and usually attended by considerable heat, pain, and fever, with more or less engorgement of the blood vessels. It may arise from the direct introduction of some poisonous matter, or be occasioned by the absorption of septic material from without. It is a very frequent cause of both structural and functional maladies, and should be medically attacked at its inception to prevent complications later. In external inflammation the redness varies considerably in intensity as in extent. A line of demarcation between the inflamed and healthy surface is mostly wanting, the redness shading gradually off into the adjacent, the normally coloured skin. In erysipelas the inflamed tract may be very large. Increased heat in the affected part is apparent to the touch, or demonstrable by the clinical thermometer; and, curiously, inflammation usually produces a higher temperature at the extremities, situated at the greatest possible distance from the centre of the circulation, than elsewhere. Swelling will be variant from the hardly raised surface of erysipelas to the more obstructed elevation of the abscess or carbuncle. In soft surfaces there is relatively large puffing in inflammation, as the boil on the lip; while when it occurs under hard fibre, as in the whitlow of the finger, there is pain with little to show for it until the purulent matter makes its escape by the side of the finger nails. Deep-seated inflammation is most difficult to combat, of course, and most productive of painful disturbance. In the tissues below the true skin there is throbbing and intermittent heat with the pain; superficial inflammation induces itching and tingling, sometimes, as in ophthalmia and erysipelas, to an almost intolerable degree. If the seat of inflammation be a soft part, as what is styled the root of a tooth, embedded in firm tissue, the pain is very severe, and eye inflammations within the tough sclerotic coat are often agonising. In a depending part, as the foot, the pain of inflammation is more intense than where the blood flows freely; hence posture is very important in palliative treatment. Internal inflammation is denoted by local pain and tenderness over its region, with increased heat and functional disturbance, thirst, accelerated pulse, shivering and sense of chill within, and dry feverishness without, accompanied by failure of appetite. Inflammation may be acute or chronic. It ends either in subsidence or a suppurating swelling, discharging pus to its own relief. This may burst of its own initiative, or require poulticing or the lancet to empty it of its contents. The boil or abscess may be healthy, and quickly accomplish its scavenging work, or it may be sluggish and continue long, according to the nature of the mischief which induced the inflammation. Or the inflammation may proceed to ulceration of a more or less extensive character, each ulceration speedily coming to an end or yielding to treatment, also assuming an "indolent" and lingering form, and in cases occasioning fistula. Should there be no proper healing, gangrene and mortification will in due course supervene,

so that it is plain with what importance inflammation ought to be regarded. In modern views inflammation is regarded as the effort on the part of the body to throw off the poisonous or septic principles which have produced a diseased state.

Influenza, in its epidemic form, exhibits all the symptoms, at the commencement, of common catarrh. There is running at the eyes, nasal catarrh, frontal headache, feverishness, sneezing, and cough. There is more or less impeded respiration. But speedily there comes in influenza very great prostration, which may continue for some period after the abatement of the commencing features of the ailment. The disease is of very frequent occurrence in Northern Europe, hence it has come to be called Russian influenza. Quinine has been very much employed as a remedial agent, in combination with the usual palliatives of bronchial and catarrhal troubles; but the system requires a good deal of tonic treatment and upbuilding by generous dietary after a bad influenza bout; and change of air is very beneficial in the convalescent stage.

Infusion. The extraction of the active principle of substances by the agency of liquid without actual boiling, the latter process being termed decoction. Infusions employed in medicine include senna, cinchona, calumba, calomel, gentian, quassia, hop, broom, buchu, uva, ursa, and senega. Tea is a dietetic and stimulant infusion, and should never be left to "draw" for more than four minutes at the outside, or gummy matter and tannin will enter excessively into the infusion and prove injurious.

Inguinal. Pertaining to the groin, as inguinal glands, etc.

Inhalation of medicated vapour is very useful in ailments of the respiratory organs. An ordinary jug or the bruchitis kettle will serve for the generation of the soothing steam, or there are various forms of inhaler obtainable at the pharmacies. Camphor, eucalyptus, menthol, terebene, pumline, chloride of ammonia, sulphurous (not sulphuric) acid, and other volatile vapours are all serviceable in this form of treatment; and oxygen is sometimes administered by inhalation in grave cases with immediate good effect. Inhalation is also the chief method of producing anaesthesia prior to surgical operations.

Injection. Throwing or forcing a fluid into the body, as by a syringe. Used in injections into bowel.

Inoculation is the introduction of a foreign substance into the system by means of a wound, as the communication of the attenuated virus of cow-pox or "calf lymph" in vaccination. The inoculative principle has had enormously extended application in the healing art of recent years, for since compulsory vaccination was adopted as a State safeguard against the spread of small-pox, the researches of Pasteur and other scientists have led to the subcutaneous injection into healthy bodies of modified poison of diphtheria, tetanus, anthrax, pleuro-pneumonia, hydrophobia, and other diseases of man and animals, for the purpose of rendering their systems impervious to subsequent attacks of the malady thus in a mild form introduced. The inoculation idea met at first with very considerable antagonism, but it has made immense headway.

Inoculation. The union of two vessels of the animal body at the extremity, by contact or perforation of their sides.

Insects. (See **Stings of Insects**.)

Insensibility, Torpor, or Coma; that is, suspension of all external signs of animation.

Insomnia. Complete loss of sleep is one of the most troublesome ailments with which the doctor has to deal. Sedative drugs are dangerous. Change of air, scene, and occupation are usually the best correctives of prolonged sleeplessness. Regular hours, a well-ventilated sleeping apartment, proper dietary, and sufficient exercise will usually prevent insomnia. Where it has established itself, seek the advice of the physician, and follow it, or you will "wear out" through want of sleep. A mattress or a pillow is better than one of feathers in insomnia. Ward it off as much as you can, for it is often a sign of incipient insanity, which "tired Nature's sweet restorer," if wooed back again, frightens away.

Inspiration. The act or drawing air into the lungs. Sixteen to eighteen a minute should be the regular number of inspirations in a healthy adult, and this is about what is requisite for the proper oxydation of the blood. When the lung tissue is inspired, the number of inspirations are increased in order to enable them to accomplish their work. When breathing is more rapid than normal, and the circumstance is not due to a temporarily exciting cause such as strenuous exertion, then lung disease, or mischief in some of the contributory respiratory organs, may be suspected.

Intemperance is usually taken to express over-indulgence in intoxicating liquor, but the term in its wider sense embraces absence of control over the appetite, passions, and behaviour generally. Excess in eating, in language, or in action, are all intemperance, just as drinking beyond the bounds of moderation may become inebriety. The mischief of all such intemperance is too often demonstrated; the difficulty in a great many cases is to get people to abandon evil indulgence.

Intermittent. Ceasing at intervals, as an intermittent fever, paroxysm of fever, etc. Neuralgia and ague come into the category of intermittent ailments. Their paroxysms cease, leaving the patient in an apparently improving condition, only to return and disappoint his hopes. An intermittent pulse implies the missing of a beat occasionally, which may indicate nervous disorder consequent upon stomachic disturbance, or it may be due to heart disease. The matter is one calling for inquiry and rectification if possible. Over-indulgence in stimulants and tobacco will both contribute to interference with regular pulsation.

Intertrigo. A species of erythema, or morbid skin redness, induced by friction or chafing. Seen in infants often between thighs and buttocks.

Intestine. The digestive canal, extending from the stomach to the anus. In the intestine digestion is completed. The extreme length is twenty-six feet. The intestine is primarily divided into large and small, and the latter into the duodenum, jejunum, and ileum. The large intestine ending at the anus is again divided in scientific terminology into the cæcum, cecum, and rectum. Attached to the cæcum is the vermiform appendix, four to six inches long, about the thickness of a goose quill, tubular, and forming a cul-de-sac. There does not appear to be any use for this appendage; but it is frequently the seat of dangerous inflammatory disease, as are also the tissues surrounding it.

This gives the condition of appendicitis and allied maladies, sometimes requiring operative treatment. Numerous diseases affect the intestines proper, as catarrh, ulceration, rupture, stricture, inflammation, impaired muscular action, or atony with hæmorrhage, such as is frequent in typhoid. The rectum is liable to cancer, stricture, piles, and fistula; while the anus may be the seat of fissure and pruritis, a most irritating ailment characterised by itching. The individual diseases of the intestines, of their causes, as well as treatment, are dealt with elsewhere.

Intussusception. An abnormal or unnatural passing of one portion of an intestine into another, like the finger of a glove pushed in on itself; or, an anterior process of the assimilation of food.

Inunction. This is the process of rubbing in an ointment upon the skin, to obtain its absorption through the membrane. Ointments thus made use of are usually of an anodyne or narcotic character, such as cocaine, morphia, or atropine; or they may be mercurial, or mainly composed of iodine or some form of sulphur.

Iris. The coloured circle surrounding the pupil of the eye, opening and shutting according to the amount of light necessary to be admitted to the retina. (See *Eye*).

Itch. Inflammation of the iris.

Itch. A very disagreeable and irritating cutaneous disease, sometimes colloquially called "scaly tetter," but scientifically styled pruritis. It is an eruption of pimples in red patches, whitish-scaled, caused by the Acarus scabiei, a mite which burrows under the skin and there deposits its eggs. These take fourteen days to hatch, and upon emerging the female itch insects

immediately commence egg-laying on their own account, the process setting up a tortuous irritation upon the skin of the involuntary host. The softer and tenderer parts of the cuticle are selected by the Acarus for its incubatory enterprise, as the abdomen, the forearm, the back, and between the fingers. The ailment is highly contagious, but once contracted may be got rid of by a thorough-going remedial course. This consists of well rubbing the body, and especially the affected parts, with soft soap, plunging into a hot bath, soaking and washing and then rubbing briskly till dry. This opens the pores, and softens the skin. Now apply strong sulphur ointment or a lotion made of sub-carbonate of potash, one part, and sulphur, two parts, in lard. Rub this in freely and patiently where the itch troubles. Let it remain on all night. Take a warm bath next morning. Go through the whole process for three consecutive nights and mornings, and Mrs. A. Carus and her brood will bother you no more. Disinfect any clothing which has been near your itching skin by fumigation or otherwise.

James's Powder. A preparation of antimony much in vogue at one time in the treatment of febrile ailments, as an alterative and diaphoretic. Two parts of phosphate of lime to one of antimonial oxide enter into its composition, and it is usually given in three to twelve grain doses for an adult. Its action is not always certain, and other preparations have supplanted it to a great extent.

Jaundice. A complaint of a bilious character, producing a yellowness of the external parts of the body, and being a secondary result of disease in the gall-bladder, gall-duct or liver, or a form of blood-poisoning from an accumulation of bile within the circulation. It is almost invariably an accompaniment of gall stones. When jaundice is due to organic liver disease, and the symptoms are most pronounced, it is usually a sign of approaching death; but when it arises from cold or gall-stone obstruction, the complaint subsides upon the correction of its cause.

Jaw. In addition to dislocation, fractures and other ailments, to which the jaws, upper and lower, are liable, like the rest of the human frame, they are occasionally the point of manifestation of the dreaded and little understood tetanus, really a disease of the entire spinal system brought about in an obscure manner by nerve injury. (See *Lockjaw*.)

Jejunum. The second or central portion of the small intestine, between the duodenum and the ileum. It is about eight feet long, and receives its distinctive name from the circumstance of its generally being found empty after death. Its sole function is the absorption of nutritive matter.

Joints. or articulations, are the unions or junctions of any two adjacent parts of the body; but generally the term is taken to signify the connection established between contiguous bones. Joints, knitting the bones together to form the skeleton of the frame, may be either movable, immovable, or mixed.

Jugal Bone. The cheek bone.

Jugular Veins. Those that run on the sides of the neck below the ear, and by union with the sub-clavian, form the superior vena cava. They convey the blood from the head and face back to the heart; injury to these large veins is always serious, not alone because of the hæmorrhage which may be occasioned, but on account of the liability of the admission of air to the heart by the exhausting action of the right auricle. These vessels are frequently wounded in attempted murder or suicide by throat cutting, and in the old days a continual venesection bleeding was sometimes surgically practised from one of the jugular veins.

Keeping out Cold. (See *Cold*.)

Kidneys. These organs lie in the lumbar region, on either side of the spine, just below the liver, their upper end being in contact with the lower side of the diaphragm. They are about four inches long and a half inches wide, and are chiefly composed of fine tubes enclosed in a firm, dark red, fibrous capsule. Above each kidney is an organ called the suprarenal gland, affected in "Addison's Disease." The function of the kidneys is the secretion of the urine from the blood. The kidneys are supplied with blood vessels

which proceed directly from the aorta or main blood-vessel of the body. The glandular structure is so arranged that the ducts lead into a cup-like cavity called the pelvis or base of the kidney, which is continuous with the ureter, the tube leading to the bladder at the bottom of the abdominal cavity. The kidneys are subject to many important diseases.

King's Evil. An old name for scrofula, arising from the once prevalent superstition that the touch of a royal finger would cure the malady. Its distinguishing characteristics are enlargement and suppuration of the neck glands, often occasioning unsightly and indolent ulceration of the eyes and eyelids, with intolerance of light and copious tear-flow (a condition termed strumous ophthalmia) and wasting disease of the bony tissues and cartilage, particularly in the neighbourhood of joints, often giving rise to deformity.

Labia. The lips of the mouth; the red part is called the prolabium, and the cuticle epithelium.

Labyrinth. That portion of the internal ear consisting of the cochlea, or "snail shell."

Laceration. The act of tearing asunder, hence wounds in which the tissues have been torn are termed lacerated. Such wounds should be cleansed as thoroughly as possible immediately after they have been sustained and dressed with some anti-septic such as carbolic acid in solution. A dusting of aristol, iodoform, or boracic acid may then be applied and the wound bound up.

Lachrymal Gland. Tears are secreted by the lachrymal gland, seated above the eyeball on the side nearest the temple. A continuous or imperceptible tear-flow goes on night and day from the glands, through the ducts, over the surface of the pupil and eyeball, into the canals in the inner corner of the eye, and away into the nasal duct. This constant lachrymal flow gives the eye its limpid brightness and keeps it clear for its visual work.

Lactation is the secretion of milk in the mammary glands or the act of giving milk to the child. Should there be an absence or deficiency of the fluid, or the mammary glands remain inactive after parturition, sometimes the application of a poultice of castor oil leaves will promote lactation, and prevent fever or other trouble arising from "milk flying about the system." A deficiency of milk, however, is generally very difficult of remedy.

Lacteals. The lacteals open on the inner side of the intestines, and suck up the chyle, the milk-like fluid from which the blood is formed, conveying it to the thoracic duct. They rescue the nutritious properties of the food from the innutritious at the proper moment, and receive it for the replenishing of the system.

Lagophthalmia, commonly called "hare's eye," a disease in which the eye cannot be shut.

Laryngitis. Inflammatory affection of the larynx or organ of voice, generally resultant upon exposure to cold; but it may arise from erysipelas, tubercular ulceration, diphtheria, or intemperate habits. The symptoms of acute laryngitis are hoarseness, or complete loss of voice, a peculiar barking kind of cough, a choking feeling in the throat, pain and difficulty in swallowing, noisy and impeded breathing, scanty expectoration, and general feverishness. Unless these symptoms subside or are relieved the lips will become livid, the nostrils expand, and suffocation threaten. Delirium and coma will follow and collapse bring about death after oedema, or swelling of the glottis has occurred. Chronic laryngitis is not so violent in its symptoms, and the acute form may, after reaching a certain stage, become chronic. Acute laryngitis requires watchful medical care, the chronic variety may often be greatly relieved by the inhalations of soothing vapours, as that of pine, turpentine, or creosote. Tonics, especially muriatic acid, and suitable preparations of iron, may also do great good. Sometimes the affected parts are sponged by means of a probang, with bi-chloride of mercury, or dilute silver nitrate, a delicate operation that may afford in cases immediate relief.

Laryngotomy. (See *Bronchotomy*.)

Larynx. The upper part of the trachea or wind-pipe, the organ of voice containing the vocal cords. It

is a cartilaginous cavity, its upper opening being styled the glottis. Through the larynx or vestibule of the windpipe must pass the whole of the air drawn into the lungs by inspiration, and subsequently exhaled therefrom. It consists of the thyroid cartilage, the cricoides, the epiglottis, the arytenoides and the vocal bands, and altogether forms a beautiful and complex piece of machinery.

Lens. The crystalline lens of the eye lies behind the pupil. The shape of this transparent body and its position have the most important bearing upon the faculty of vision, and opacity produces cataract. Its use is to accommodate the eye to vision at different distances.

Leontiasis. An affection analogous to elephantiasis, but occurring in the face, and supposed to resemble the visage of a lion.

Leprosy. Is a very hideous disease, commencing with ulceration and thickening of the skin surfaces, attended by a febrile condition, and developing into incurable sores which gradually eat the flesh away and reduce the sufferer to a loathsome and inexpressibly wretched state. It occurs mainly under insalubrious conditions and in unhealthy climates, and it is a disease of hereditary character, by some reckoned contagious. Happily it is much less frequent than was formerly the case. It is scaly in the early stages of the eruption, and productive of intolerable itching.

Leucoe. A cutaneous disease of white patches on the skin, common in hot climates.

Leucoma, or albugo, a white opacity of the cornea of the eye.

Leucorrhoea. The "fluor albus" discharge in females, commonly called "the whites."

Leukemia, also Leucocytomia. A morbid condition of the blood characterised by a large increase of the white corpuscles, and a corresponding decrease of the red ones. It is consequent upon debility, and generous dietary, good sea air, and iron medicinally are requisite for its correction; the name of the disease is sufficiently descriptive. It signifies "white blood."

Ligaments. Dense white fibrous bands, resembling tendons, which hold the bones together at the joints. They are of various breadths, and sometimes so interwoven as to form a wide layer entirely surrounding the joint like a bag. Then they are called capsular ligaments and serve to prevent the escape of the synovial lubricating fluid.

Lightning. A person struck by lightning should have cold water dashed over him immediately after experiencing the shock. Sal volatile or brandy may be administered as a stimulant, and artificial respiration employed if necessary, as in drowning, or suffocation cases. Keep away from trees or the sides of a tall building in a thunderstorm; the open is safer.

Lignum Vitæ. The resin of this wood is used medicinally with some benefit in "cold" chronic rheumatism.

Lip. The colour of the lips arises from their being covered by an extremely vascular mucous membrane. In anemia they are pale; when the blood is insufficiently oxygenated, as in pneumonia, the lips become livid. They are liable to herpes or watery eruption, to fissure or cracking, and also to cancer, which see.

Lipoma. A soft fatty tumour.

Lithiasis. Stone or gravel in the kidneys or bladder.

Lithotomy. Cutting into the bladder for the extraction of calculi.

Lithotripsy. The operation of crushing stone in the bladder.

Liver. This is the largest of the glandular structures of the body and attains an average weight of between three and four pounds in the adult. It is easily thrown out of order by constipation or when anything interferes with the heart action. Alcoholic excesses work very great mischief in the liver, which is besides subject to many ailments such as enlargement, congestion, cirrhosis (or nutmeg liver), inflammation (of the substance or connective tissues), abscess, and atrophy, all of which require very careful medical treatment. Sluggishness of the liver, always a cause of trouble, may be indicated by a paucity of bile in the

faces and an excess thereof in the urine. When hæmorrhage occurs in acute atrophy, or wasting of the liver, death generally follows quickly.

Lochia. The discharge following parturition or childbirth.

Lockjaw. The popular name of tetanus, the severe spasm of which affects not the jaw alone, but all the muscular system more or less. It is due to the introduction through a wounded surface of a specific germ which acts violently upon the nervous organisation. Chloroform vapour and chloral are employed remedially, but this dreadful disease always requires the most prompt and careful medical treatment. The symptoms are almost identical with those of strychnine poisoning, and include crampy pain about the neck, jaw, and throat, twitching of the facial muscles, culminating in stiffening or cramping of all the body. Acute cases are usually beyond the reach of curative skill.

Loina. The lumbar region, that portion of the backbone between the upper edge of the haunch bone and sacrum, and the last dorsal or back vertebra. Lumbago attacks the muscles of this part.

Lumbago. A specific kind of muscular rheumatism attacking the lumbar or loins region. The excruciating pain of this often intractable malady often comes on quite suddenly. Local treatment will afford relief. Warm baths, and vigorous daily embrocation with camphor liniment, turpentine, and olive oil, or soap liniment in combination with opium are all palliative. Morphia injected subcutaneously will frequently overcome obstinate lumbago attacks.

Lumbar Region. The seat of lumbago, and in delicate children often of abscess. Abnormal sensations of pain in this part may often be symptomatic of fever, small-pox, influenza, or other inflammatory ailments.

Lumbrical. A muscle of the fingers and toes, worm-like in form, increasing the flexibility of the long flexors.

Lumbricous, better named the **Ascaris** or "**Round Worm.**" An intestinal worm, in some respects resembling the common earthworm in size, which may be removed by the administration of santonin in two to six grain doses in milk, preceded and followed by castor oil purgation.

Lunar Caustic. Nitrate of silver, a ready and popular cauterising agent, employed as a lotion in certain forms of ophthalmia, when it has antiseptic as well as caustic action. It is employed when what is known as "proud flesh" appears in the granulations of a wound, and in the destruction of corns and warts. It is prepared in little pencils or sticks by dissolving refined sugar in diluted nitric acid under gentle heat, the clear fluid being allowed to evaporate, leaving the crystallised nitrate behind. In epilepsy and St. Vitus's dance, it is sometimes administered internally, but must only be so employed under medical supervision.

Lungs. The organs of respiration, located in the thorax or chest. The left lung is slightly smaller than the right, and both may be described as bags or pockets of air cells. The bronchi, or divisions of the windpipe, branch from the foot of the windpipe into the lungs, which have the heart lying slightly obliquely between them. The spongy lung texture is lighter than water, and the two lungs together of an average healthy adult weigh about forty ounces. The air cells vary from a seventieth to a two-hundredth of an inch in diameter. The pulmonary artery carries the blood from the right side of the heart to be oxygenated, dividing into branches on entering the lungs, accompanying the bronchial tubes, and terminating in a network around the air cells. Here the pulmonary veins begin, which receive the purified blood and return it to the left side of the heart for circulation through the system. The diseases which chiefly affect the lungs are pneumonia, congestion, catarrh, pleurisy, bronchitis, asthma, and consumption, while gangrene and cancer in the organ are of less frequent occurrence. All these are dealt with elsewhere.

Lupus. A tubercular disease of the face and nose, very destructive to the tissues. It appears in red patches, which are slightly raised above the skin surface and give off an offensive odour. Without actually ulcerating, these patches often present points of great

irritation, but in very bad cases the tubercles both ulcerate and scar deeply. The X-rays and Finzen light rays are now used as a cure. Lupus is generally an inveterate disease so long as lowness of the system continues.

Lymph. A fluid of the body consisting of the fluid part of the blood, and carried within the lymphatic or absorbent vessels.

Malarial Fever. The febrile complaints so classed consist of intermittent fever or ague, remittent fever, and yellow fever. There are three forms of the former, the quotidian, the tertian, and the quartan, so distinguished according to the length of the intervals between the paroxysms. Remittent fever has many names, arising from the localities from which it originates or in which it is prevalent. Yellow fever is a peculiarly dangerous and markedly characteristic description of malarious disease, most met with in the islands of the West Indies, South America, and the African coast.

Malnutrition. Malnutrition is the condition in which the body is ill nourished and supplied with improper food and impure air. It is a condition often caused by or contributed to by criminal carelessness, but much oftener one of the "evils which are wrought by want of thought as well as want of heart," as Hood puts it. Children are the chief sufferers herein; happily, hygiene and the law are working together strenuously to stay the slaughter of the innocents and to circumvent the fell doings of the twin murder monsters, ignorance and avarice.

Maramus. Atrophy, wasting away from various causes.

Mastication. The chewing of the food, a very important preliminary to digestion, and very often insufficiently performed, to the detriment of the delinquent. If mastication be incomplete, more work than its share is thrust upon the stomach, and there is danger of indigestion and disorder. Mastication mutes the saliva of the mouth with the food, after the teeth have done their cutting and chewing or "champing" duty, and gives the food a good start on its digestive journey.

Mastitis. Inflammation of the mammae, or female breasts.

Maw-worm, a species of thread-worm lodging usually within a few inches of the end of the bowel. Repeated injections of salt and water will generally remove the pests. They are more troublesome to children than adults, and to girls than boys.

Maxilla. The jaw; the lower jaw is termed maxilla inferior, the upper maxilla superior; hence maxillary, pertaining to the jaw.

Measles. An eruptive fever, contagious, chiefly affecting children, and rarely occurring to any person more than once in a lifetime. The eruption appears on the fourth day and ceases on the third subsequent day by desquamation. Measles require fourteen days from the inoculation to attain maximum intensity; that is eleven days will elapse after contact with the poison germ before the characteristic "spots" appear. The first symptoms are catarrhal, sneezing and running of the nose, watering of the eyes, with a short hard kind of cough. Febrile conditions follow, a quickening pulse, accompanying increased temperature, and perhaps alternate shivering, headache and loss of appetite. On the third or fourth day after the illness has been marked, the mottled rash shows on the face, wrists, ankles, neck, chest and body generally. It consists of distinct reddish-purple "spots" slightly raised above the skin surface, the eruptions in groups, often with a crescentic or horse-shoe kind of arrangement. The eruption subsides in three days or so, and has generally all gone by the end of a week leaving the skin slightly rough. As the cuticle peels the patient should be bathed in suitable disinfectant solution daily. Nursing, warmth and low diet, with particular attention to the bowels, constitute the essential treatment of measles.

Megrim or Migraine. "The Megrims" is a neuralgic pain in the side of the head, of a peculiar character, periodical, and induced by stomachic disorder. It is generally confined to one side of the head, and chiefly affects the temporal nerve, being

accompanied by giddiness. Constipation, causing sluggish liver, with the general health low, are the conditions usually antecedent to megrim. Two grains of caffeine combined with eight of phenacetin, will generally, if repeated at intervals of four hours, relieve this painful affection better than quinine.

Melobion's Glands.—Small glands between the conjunctiva of the eye and the cartilage of the eyelid.

Melanosis. A malignant disease, characterised by the production of black or brown matter on various external parts of the body. Melas, a variety of this malady is endemic mostly in Arabia.

Membrane. A thin flexible substance investing many internal portions of the body; also occurring externally as on the eye and ear. The mucous membrane lines the alimentary and air passages, the serous membrane spreads over the joints and abdominal and thoracic cavities, and so on; while the epidermis or cuticle is the membrane forming the outer layer of the skin.

Meningitis. Inflammation of the covering membranes of the brain and spinal cord. It may be caused by injury to the skull, blood-poisoning or sunstroke, and is frequently fatal.

Menstrual. Pertaining to the menses, or monthly female flow during the periods of puberty.

Menthol. A volatile gum which remains after the distillation of the essential oil of peppermint. It is possessed of anæsthetic properties, and has the power of producing temporary nervous paralysis on application and is thus beneficially employed in the palliation of neuralgic pain.

Mephitis. Vapours, gases and exhalations, which are not merely offensive but often noxious and destructive. Frequently they are the outcome and evidence of decomposition. Carbonic acid gas, the fatal "choke-damp" of ill-ventilated mines, is a characteristic exhalation of this poisonous character, and has been appropriately termed "mephitic gas."

Mercury. The metal quicksilver, very largely used in medication. Mercurials, as blue pill, calomel, etc., largely does increase the secretions, especially that of bile, and favour the absorption of morbid products, or promote their elimination from the body. They are valuable, skilfully applied, in inflammations, congestions, rheumatism, and dropsies.

Mesentery. The broad fold of peritoneum, or lining membrane of the cavity of the stomach, attached to the vertebrae of the loins, enclosing and sustaining the smaller bowel. It contains many important blood vessels and numerous glands. The mesentery is subject to disease a great deal in childhood. Children "out of sorts" with furry tongue, unpleasant breath, and disordered bowels, will sometimes lose flesh rapidly and unaccountably, the appetite remaining unimpaired. The abdomen will enlarge, though the arms and legs waste and the features sink. This is a strumous condition brought about by mesenteric trouble and will, unless overcome, very likely develop dangerous diarrhoea and convulsions, and end in exhaustion. The glands of the intestines must be restored to a healthy state by constitutional treatment before any marked improvement can occur.

Metacarpus. The portion of the hand extending from the wrist to the fingers.

Metastasis. The shifting of a disease from one part of the person to another. In mumps the disease often shifts from the mouth to the female breasts or male testicles.

Metatarsus. The middle of the foot, between the toes and the ankle.

Miasma. The unhealthy effluvia or exhalation which occurs in hot and swampy countries, and strikes down with ague or other dangerous disease those unacclimated.

Microbe. A term analogous in meaning to that of "germ," an organism infinitesimally small, but instinct with life and the power of multiplication in the human system. Germ, bacteria, bacillus, microbe, micro-organism, are all practically synonymous. (See Germ.)

Micturition. The passing of water from the bladder.

Middle Ear. The middle ear is an ear cavity between the external and internal ear or labyrinth, and comprises the Eustachian tube, which connects it with the upper part of the throat, and the mastoid portion of the temporal bone. It is the seat of most of the diseases of the organ of hearing, the complicated drum cavity being particularly liable to become disordered.

Milk. The mammary secretion of female mammals, naturally designed as the first food of their young. It suffices for all the alimentary requirements of infancy, and is capable of sustaining adult life for an indefinite period to an extent exceeding that compensable by any other known food substance. The milk of the cow can scarcely be over-rated as a nutritious article of dietary, its digestiveness being also a great recommendation. This is increased by the addition of a proper proportion of water, by judicious culinary preparation, and by the introduction of a little salt. A feverish patient to whom solid food would be most harmful will obtain sustenance from the iced milk with which his thirst is assuaged, enabling him to tide over the crisis.

Milk Fever. This very troublesome affection, which occurs only at a period a little subsequent to childbirth, has more to do with a febrile condition induced by absorption of fed matter into the blood than it has with any lacticiferous disturbance, though it may of course occasion the latter. It should be regarded as a light form of puerperal fever, and treated accordingly. Simultaneously every endeavour should be made to establish the secretion and flow of the milk, emptying the breasts as frequently and thoroughly as possible. With the subsidence of febrile symptoms the painfully distended mammary glands will regain normality. Iced lemonade sparingly given will have salutary effect when the thirst of the patient is intense.

Miscarriage occurs sometimes without warning, though it is commonly preceded by slight pains in the back and abdomen, with an unexpected discharge, and considerable hemorrhage, continuing for several days. Rest is requisite, and very careful medical treatment, or the foundation of much future mischief may be laid.

Mole. A permanent coloured spot, or a small polypus, on the skin. The first is occasioned by pigmentary deposition, and either may be more or less unsightly, if it occur upon the face or neck. It is not always safe to have a mole removed, as cancerous disease may develop upon its site. They may be ligatured away without danger in cases, or eradicated by painting with iodine.

Monkhood. The common plant from which the poisonous drug aconite, much employed in the treatment of neuralgia, rheumatism, and dropsy, is obtained.

Morphia. A very powerful and exceedingly useful alkaloid anodyne, obtained from opium. For certain particularly painful ailments it is given by the mouth in doses of one-eighth to a quarter of a grain; it is administered by the bowel in the form of a suppository in quarter to half grain doses; and it is hypodermically injected in doses commencing with the sixth of a grain strength, and increased to a quarter of a grain when pain is persistently severe.

Mortification is a term usually employed to signify that death has taken place in some one part of the body only. The appearance of mortification in any member is blackening of the dead part, which is separated from the still vital tissue by a bright red line of demarcation. An offensive odour is exhaled from the dead tissue. When mortification is present there is great prostration, and the case calls for prompt surgical interference.

Mucous Glands. These are minute bags formed by a delicate and peculiar membrane, opened by microscopic ducts, through which they discharge their lubricating contents over the tongue, windpipe, stomach, intestines, nose, bladder, etc.

Mucous Membrane. A smooth and tender covering of the internal organs generally, secreting the glutinous mucus which forms its protection. When the mucus is excessive, we have the catarrhal condition. The mucous membrane is soft and velvet like,

pale pink in health, and deep red on inflammation. It never forms adhesions, but may be the subject of extensive hæmorrhage.

Mucus. The viscid secretion thrown out over the mucous membrane. It is composed of numerous globular cells floating in fluid, and increasing in quantity upon irritation up to a point, but becoming paralyzed upon extensive disturbance. Thereupon the flow of mucus ceases, and the membranes are parched and painful. Excess of mucus, caused by cold or otherwise, creates phlegm, and coughing is set up to get rid of the accumulated matter.

Mulberry Calculus. A urinary concretion of oxalate of lime, fancifully considered to resemble the mulberry in form.

Mumps. A kind of quinsy caused by swelling of the parotid and other salivary glands of the neck, and accompanied by feverishness and pain, especially on the opening of the mouth and in swallowing. The malady is usually confined to one side of the face, but may attack both sides simultaneously, and occasion much inconvenience and temporary deformity. Mumps are highly contagious, and frequently epidemic amongst school children. Hot fomentations will afford relief, and in severe cases the application of leeches may be desirable.

Muscles. Such parts of the fleshy portion of the body as cause motion, bend, relax, contract, and otherwise affect activity. They correspond to what we term the "lean" of meat. Voluntary muscles are those subject to the will, as of the face and limbs; involuntary those whose action is continuous, and not necessarily subject to volition, as of the heart, stomach, etc. The controllable muscles are stimulated into activity by the spinal nerves, acting at the instance of the brain.

Myolampus. Throbbing of the muscles.

Myopia. Short sight, the eye being half shut and continually winking.

Myriæa. A disorder of the eye, attended with contraction or too-small perforation of the pupil.

Mole. The Latin name for "Mole" (which see), a vascular skin discoloration or tumour, found on a child at birth, and frequently styled "Mother's mark," because of the popular idea that it is due to some maternal impression during the period of gestation. Sometimes it is slight and superficial, but occasionally large and prominent. It is composed of a network of enlarged blood-vessels of the skin or subcutaneous cellular tissue, and may include arteries as well as veins. It has frequently a strawberry-like appearance, and should it occur upon the face and head is apt to be very unsightly. If it assume the importance of an aneurism it will be difficult to remove.

Nails of the fingers and toes are really hardened and thickened prolongations of the outer layer of the skin, or cuticle, and are composed of flattened cells compressed into horny matter. They rest upon the nail beds as the scarf skin lies on the true skin or derma, and resemble the hair as to composition and in the matter of growth.

Naphtha. A distillate of coal and wood-tar occasionally employed medicinally as an external application, for its stimulating effects.

Narcosis. The condition induced by the administration of any anodyne or sleep-promoting agent.

Narcotics. Certain medicines, variant in their mode of action; which have a common tendency either to produce sleep or allay pain. The latter are classed as anodynes, the former as soporifics. They should be taken always with caution and never without sufficient cause, lest their use become habitual and harmful.

Nares. The nostrils.

Nasitis. Inflammation of the nostrils or nares.

Natrum, or Natron. Soda, an alkali, the oxide of sodium, analogous to potash, and obtained from common salt or from certain marine plants and sea-weeds. The salts of natrum are very much used medicinally, carbonate of soda being familiar to all. "Glauber's Salts" is the sulphate of natrum, while natrum nitricum or chloride of sodium, is the common salt of the dinner-table, an absolute essential of healthy life.

Nausea. The feeling of sickness or disposition to vomit, without being able to obtain the relief of its accomplishment. This disagreeable sensation is an indication of disturbance of the nervous or digestive system, or both, and frequently a presage of approaching illness, or an accompaniment of disease. Nausea needs treatment in accordance with its cause.

Navicular. A term applied to the bones of the wrist and ankle, because of their supposed resemblance to the shape of a ship.

Neck. That part of the body connecting the trunk with the head. It is the channel of communication between the nervous system generally and its headquarters the brain; the carotid arteries, supplying the brain with blood, run through it, and the important veins conveying the blood back from the head to the heart traverse it. Within the neck also are the wind-pipe, the œsophagus, and the thyroid gland; also the parotid and submaxillary glands, which secrete the saliva. All these important organs and vessels are subject to ailments which are severally dealt with elsewhere.

Necrosis. Inflammation of, or injury to bony matter, ending in decay and "decay" of the bone. This serious condition is usually found in the bones of the thigh and leg; but sometimes occurs in the jaws of workers in match factories, as the result of inhaling phosphorus fumes. The dead or necrosed portion is frequently encompassed by a case of new bone, which has to be penetrated before the decayed part can be removed. There is swelling of the bone in necrosis, and the appearance of peculiar little apertures called *cloacæ* communicating with the diseased bone and discharging purulent matter. The only thing to do with a necrosed bone is to excise it surgically.

Nerves are the delicate organs which represent the telegraph wires of the body. They convey the will of the brain to all the muscles, and convey to the brain every sensation from the body. They are, as it were, the telegraph wires conveying messages to and fro between the brain and spinal cord and every part of the body, and present the appearance of flattened cords of variant size, uniting at times to form a network or "plexus." The great masses of nerve cells and nerve fibres are divided into the brain or cerebrum, and the ganglia of the special senses, all situate within the skull; the spinal cord or marrow in continuation of the medulla oblongata; the cerebrospinal nerves, which are distributed to the muscles, the skin, and all the organs of sense; and the sympathetic nerves which proceed from the ganglia, or nerve centres, to the blood vessels and viscera, and are called the nerves of organic life. The sensitive nerves are called afferent, because they carry impressions to the nerve centres and thence to the brain; while the motor nerves are known as efferent on account of their office of conveying impressions from the brain, exciting or suspending muscular action, or influencing secretion and nutrition.

Nerves, Names of the. Cerebral nerves are those arising from the brain: nine pairs in all. The olfactory nerves expand upon the membrane of the nose; the optic nerves terminate in the retina; the motor oculorum are distributed to the muscles of the eye; the pathetic, or trochlear, to the superior oblique eye muscle; the trifacial, or trigeminal, from the grand sensitive nerve of the head and face; the abducentes are distributed to the external rectus muscle of the eye; the portio mollis and portio dura are the auditory and facial (or nerve of motion and expression) nerves respectively; the grand respiratory nerves comprise the glosso-pharyngeal and vagus, as well as the spinal accessory; and the last pair are the lingual nerves of the tongue, called also the gustatory nerves. Thirty-one pairs of spinal nerves radiate from the spinal cord and supply the body at large. From all these, other nerves, too numerous to particularise, extend.

Nervous Ailments. This term, or its corollary "nervous affections," comprehends a host of complaints of a nondescript character, though there are many important diseases in which the disorder plays a prominent part, such as neuralgia, paralysis, insanity, hydrophobia, and lockjaw, to all of which attention is

paid in their proper order in this section of the Cyclopaedia.

Nervous Disease, properly so-called, is always associated with some local mischief which impoverishes the nervous system by draining away its force, either by constant irritation or pain. Females, whose special organs are supplied with a sensitive and complicated nervous apparatus, are more liable to nervous disease than males; hence hysteria is preponderant in the softer sex. The proper method of dealing with nervous disorder of any kind is to search for, and, if possible, remove the cause.

"Nettle Rash" is a very irritating affection of the skin, characterised by the appearance of a number of solid little "bumps" or wheals, pale in the centre and reddish towards the margin. They tingle painfully and bear considerable resemblance to the eruption consequent upon contact with stinging nettles. The rash is generally a symptom of indigestion, and may be caused by partaking freely of shellfish or nuts. In that case the administration of an emetic, followed by a purgative, will probably soon set things right, though special care must be exercised as to dietary for some time. Goulard water or some other cooling lotion may be applied to the troublesome eruption, after taking a warm bath with soda dissolved in it, with immediate advantage. Dilute carbolic acid combined with eau de cologne will also be found of soothing influence if applied to the affected part.

Neuralgia, wherever occurring, is an exceedingly painful affection, recurring paroxysmally. It is of most frequent occurrence in the nerves of the face and receives the name of "tic" or "tic-doloureux"; and the sciatic nerve of the leg is often also the seat of neuralgia. It is, when in connection with the nerves of the face, very frequently caused by a decayed tooth or some other local irritation. If there be a faulty tooth, that must be removed before the neuralgia can be got rid of, and it should never be inferred that the tooth is sound because decay is not discernible.

Neurine. The substance of the nerves; neurotic signifies relating to the nerves; neurotony, dissection of a nerve; neuroma, a tumour found on a nerve trunk or ganglion; neuron, a nerve cell.

Neuritis. Inflammation of the nerves; neuro-linitis is the technical name for inflammation of the sheath of the nerves, or neurilemma.

Nictation. Winking; the condition of involuntary winking is technically termed "nystagmus."

Nightmare. Nightmare, sometimes called "Incubus," is a very distressing accompaniment of disturbed sleep, consequent upon constipation or indigestion. Generally the disagreeable experience can be directly traced to digestive derangement in the shape of a heavy supper of unwholesome food, and in bad cases the horrible dreams it brings may be aggravated into somnambulism. Let the bowels be kept in order and the dietary be regulated as to constituents and meal-times, and there will be little nightmare.

Nipple. The protuberance of the breast, whence is drawn the maternal milk. It is a conical eminence, rose-tinted and in virgins surrounded by an areola or circle of a pink colour, which becomes brownish in those who have suckled.

Nitrates used in medicine include saltpetre, the nitrate of potash, nitrate of silver or lunar caustic, and the subnitrate of bismuth.

Nitre. A very valuable medicine, in the form of the purified and sweetened spirit, as a cooler of the blood. In feverish cold it is safe and beneficial, and it makes an alleviative lotion for inflamed rheumatic joints.

Nitric Acid. An acid composed of five equivalents of oxygen to one of nitrogen, forming nitrates, some of which are employed medicinally, while the acid itself is of very considerable tonic value. Employed in the arts as aquafortis it is one of the most powerful acids known and will dissolve nearly all metals.

Nitro-Glycerine. An oily liquid, heavier than and almost insoluble in water, obtained by treating glycerine with nitric and sulphuric acids, the nitrate of the oxide of glycol finds a limited employment in medicine.

Nitro-Hydrochloric Acid. This is utilised as a tonic internally in liver complaints, besides being frequently sprinkled over hot fomentations applied to the region of the liver externally when there is sluggish action of that organ.

Node. A hard circumscribed tumour, proceeding from inflammatory swelling of the periosteum of the bone, frequently the result of rheumatism. The bones of the skull and the shin are the most common seats of nodes, but any bone may be affected. Absolute rest should be enjoined when the disease is at its acute and painful stage, and fomentations or poultices may be employed remedially, or leeches applied. Iodide of potassium may be administered internally, or mercury tried, but medical attention will be necessary.

Nodosity. Any concretion, but especially calcareous, as present in the fingers in gout.

Noises in the Ear are very frequently due to diseases of the organ, or may arise from aggregations of wax in the passages, or from the use of certain medicines, such as salicine and quinine. (See Ear.)

Noli me tangere. A species of lupus or herpes, attacking the cartilage and skin of the nose.

Noma. An ulcer attacking the cheek, or other parts in young females, sometimes called "water canker."

Normal. According to rule, the natural condition.

Nose. The organ of smell, so placed above the mouth that the odour of whatever is placed therein must be immediately perceived, is lined by a vascular mucous membrane, largely provided with cilia or minute hairs, which filter the air on its passage to the lungs. It is frequently the seat of catarrh, or cold in the head, when the mucous membrane secretes mucous abnormally, causing difficulty in breathing, and other inconvenience.

Nostrils. The external openings or apertures of the nose, formed by two thin cartilaginous plates curved in such a manner as to form the inner and outer walls of each opening. The cartilages are expansive, and offer a wide extent of covering membrane upon which the nerves of smell are distributed to the action of air bearing odoriferous particles.

Nubecula. A disease of the eye producing a sensation of misty surroundings.

Nucleus. A point around which "matter" or some substance gathers in disease. The particle in the inside of a living cell.

Numbness may proceed from temporary suspension of nervous action, occasioned by long-continued pressure in one direction, from standing in water or on a damp spot, or from exposure to cold or draught. Warmth, friction, or the hot bath are palliative or corrective, and friction with the hand often suffices to restore circulation; but when more enervating measures are called for, turpentine or oil, with or without mustard, will usually answer the purpose. Numbness accompanied by loss of the power of motion points to paralysis.

Nux Vomica. The nut of the East Indian Kocchia-tree, from which is obtained the poisonous strychnia and the alkaloid brucine, both useful medicinally. Nux vomica, in tincture and extract, is employed advantageously in atonic conditions of the stomach, intestines, and general system; and strychnine may sometimes be injected subcutaneously with success in minute proportions when there is heart failure. In nux vomica poisoning, chloroform inhalation will often afford relief, and annuus chorcal acts as an antidote.

Nyctalopia. Day blindness, the faculty of seeing best at dusk or dark, attended by defect of vision during daylight.

Obstruction. A term used by doctors to describe a condition in which there is some impediment to the free passage of an excretion or secretion. Thus gall-stones, preventing the passage of the bile, in its usual course, are obstructions, as are calculi lodged in the ureter, bladder, or urethra, and stopping the urinary flow. Swallowed plum or cherry stones may obstruct the bowels, as may hardened faeces, and inflammation sometimes also occasions obstruction, as in enteritis. Twisting of the gut, or invagination, may set up the condition, or the pressure of tumours, or we have

embolic, or blood clot in the brain or important arteries.

Occiput. The occipital bone, forming the back part and base of the skull, containing an oval aperture through which passes the spinal cord, the spinal accessory nerve, and the vertebral arteries.

Œdema. The dropsical swelling or tumour, due to the effusion of the watery constituent of the blood into the subcutaneous tissue. The condition may be due to disease of the heart, liver, or kidneys, or it may arise from pressure in the pelvis, preventing the due return of the venous blood. Œdema is generally a grave symptom.

Œdematous. Dropsical.

Œsophagus. The gullet, or canal leading from the pharynx to the upper opening of the stomach. Œsophagitis signifies inflammation of this important passage. Food is conveyed through the "meat-pipe" by muscular and wave-like movements, and does not drop down mechanically after swallowing. The Œsophagus is about nine inches long in the average adult.

Oil, Camphorated. This is a soothing application in chest colds and glandular swellings of the neck. It should be warmed by placing the bottle in hot water, and then rubbed gently into the part by the hand.

Oils are very much used in medicine. Some are soluble, as turpentine, oil of juniper, lavender, mint, or lemon; others fixed, like linseed, croton, almond, olive, castor, cajuput, and cod-liver oils. They are all, more or less, of an aperient character, and many of them may be employed externally as accessories to stimulant preparations, and for emollient purposes. They are referred to separately in their alphabetical order, and in connection with the ailments for the relief of which they are called into request.

Olfactory Nerves. These nerves, issuing from the brain, supply the mucous membrane of the nose, and confer the sense of smell. They are formed of grey matter.

Olibanum. A gum resin, formerly much used for medicinal purposes.

Omentum. A membrane of the stomach, covering the intestines. (See **Mesentery**.)

Omphalocele. Rupture of the navel.

Onychia. A painful disease which sometimes affects the root or side of the nail, resulting in ulceration or the formation of an abscess. Powdered nitrate of lead dusted over the affected surface will sometimes afford immediate relief; but if the ailment be persistent, poulticing and hot fomentation should be resorted to, with lancing if necessary for the liberation of pus. It may be necessary to remove the nail, which can be accomplished painlessly under local anaesthesia by cocaine.

Ophthalmia. Inflammation of the outer covering of the eye, occurring for the most part amongst scrofulous children. Newly born infants are particularly liable to be attacked by this painful ailment, which also frequently assumes an epidemic character amongst school children. Ophthalmia usually commences with pain or oppression across the forehead, a pricking sensation, with heat and dryness, in the eye, giving the feeling of grit or sand between the ball and lid. There is great and increasing intolerance of light, and the inside of the eyelids become swollen and blood-charged, while the white of the eye appears bloodshot, with here and there dark purplish spots where the blood in the capillaries has become effused. Exudation after a time covers the eye with a film of muco-purulent stringy looking matter, obstructing the vision, and occasioning almost unbearable irritation and pain. Relief may be obtained by the introduction of a five to ten per cent. solution of cocaine into the eye. Later a lotion may be applied—a few drops at a time—every two or three hours composed of five grains sulphate of zinc, one drachm of quinquina wine, and rose water to make one ounce. Salicine may be taken internally simultaneously in ten grain doses every two hours or two grains of quinine every four hours. But ophthalmia is a disease which requires skillful handling, so that competent medical advice should always be obtained.

Opium. The thickened juice of the unripe capsules of the common poppy, which, when dried, becomes of a dark brown colour. Opium, in its various medicinal forms, has probably relieved more human suffering than any other remedial agent.

Opium Plaster. This is prepared from finely powdered opium and resin, the proportion of opium being not more than one in ten.

Opodeldoo is the old soap liniment, now largely superseded by the soap and opium liniment, of the Pharmacopœia. It did good service in the treatment of bruises and sprains in its day, and was made up of hard soap two and a half ounces, camphor one and a quarter ounces, rectified spirit eighteen ounces, oil of rosemary three fluid drachms, and distilled water two ounces, all well shaken together and thoroughly amalgamated.

Optical Illusions are frequently occasioned by a disordered condition of the nervous system. They are indicative of brain disturbance. Also optical illusions occur in delirium, caused by alcoholic excesses, fever, or injury. They are the outward sign of inward mischief, which needs very serious attention.

Orthopnea. An affection of the lungs, in which respiration is greatly impeded unless the patient remains in an upright position.

Ossification. When used to indicate a diseased state the unnatural formation of bone is what is usually implied by the use of this term. The abnormal condition occurs at times in the soft textures of the arteries, and chiefly in the great aorta where it rises from the heart. Ossification in any important artery generally leads to aneurism, rupture, and sudden death. Its exact cause and progression are obscure, but doubtless it arises from morbid degeneration. Ordinary ossification means bone-formation.

Ostealgia. Pain in the bones; ostealgitis, inflammation of the bony structure.

Otalgia. Ear-ache; otorrhagia, a discharge from the ear. In this distressing condition the filling of the ear with glycerine or tannic acid, the sufferer being laid on the side, will often afford relief.

Otitis. Inflammation of the inner ear.

Ovariectomy. The operation for removal of tumours of cysts formed in connection with the ovaries of women, now carried out with almost unvarying success by experienced surgeons, whereas only a few years ago it was rarely attempted, because of the fatalities which followed before anaesthetic and antiseptic practice had made such wonderful strides.

Oxalic Acid is a vegetable acid, found in rhubarb, sorrel, and other plants, poisonous, but of limited use in medicine. Calx is the best antidote, or magnesia may be tried, but no time must be lost in their administration.

Oxide of Bismuth, in six to ten grain doses, taken three times a day, about half an hour before meals, forms a corrective of heartburn and acid dyspepsia.

Oxygen. The vital gas of the air, essential to the existence of animal and vegetable life. It is by the inhalation of oxygen that the blood is purified on the lungs. It can be chemically prepared, and has of late years been largely employed in the treatment of pneumonia and other diseases which interfere with the necessary natural oxygenation of the blood.

Oxymel, a mixture of vinegar and honey, was formerly a good deal employed in the making of cough medicines, but spirit of squills has largely supplanted it. The oxymel of squills is prepared by amalgamating five ounces of squill vinegar with half a pound of honey.

Oxyopia. Extreme short-sightedness, preternatural sensibility of the retina.

Oxyphonia. An abnormal shrillness in the tone of the voice.

Ozena. An ailment of the nose, discharging fetid matter, and sometimes occasioning caries of the bones.

Ozone. A dense elemental substance of penetrating odour, supposed to be generated in the atmosphere by electrical agency, and forming the peroxide of oxygen. It is used medically as a deodorizing and antiseptic application where suppuration exists in deep-seated cavities. Naturally ozone is found in the air at

the seaside much more abundantly than in the neighbourhood of thickly populated inland towns.

Pachyphollia. A disease due to thickening of the bile.

Painter's Colic, so called, is an affection of a very serious character, attributable to the absorption into the system of lead from the paint employed in his daily work. The symptoms are cramping pain in the stomach and abdomen, accompanied by continuous constipation, with a blue line round the gums. At a more advanced stage "Painter's Paralysis" with "drop wrist" may occur; pointing to the necessity of a drastic course of treatment. (See "Colic.")

Palate. The palate, or roof of the mouth, is formed in two portions, together making the partition separating the mouth cavity from that of the nose. The hard palate, in front, consists of a bony plate covered by a dense tissue called the periosteum; and the soft palate, or velum, behind, terminates in a central pendulous structure, the uvula. The soft palate is a movable fold of mucous membrane, inclusive of muscular fibres. It assists the articulation of sound materially, and has its part in preventing the passage of food into the posterior nose opening above.

Palpitation of the heart may be occasioned by functional disturbance of the stomach, as in flatulence, or it may arise from over-exertion or excitement, or be directly due to organic disease of a more or less serious character. If a flatulent condition be answerable for the ailment brisk aperient should be administered, while mustard or turpentine plasters applied over the stomachic region will often afford immediate relief. A suitable internal remedy is furnished by a mixture of bicarbonate of soda one scruple, sal volatile half a drachm, peppermint water one ounce, and tincture of capsicum five drops; to be taken at intervals of three hours.

Palsy. A disease characterised by absence of power to regulate the muscles of any part, or the deprivation of feeling, practically synonymous with **Paralysis**, which see.

Pancreas. The Sweetbread, a narrow gland lying across the spine in the upper part of the abdominal cavity, directly behind the stomach. It secretes the pancreatic juice, a fluid resembling the saliva; and its duct enters the bowel at the opening which carries the bile from the liver. The two fluids thus introduced combine to convert the chyme into chyle. The pancreas weighs three to four ounces, and in shape somewhat resembles the tongue of the dog. It reaches a length of from six to eight inches in an adult, and is about an inch and a half wide, and from half an inch to an inch thick. The pancreas of man is analogous to the sweetbread in animals, and the effect of the action of its emulsifying juice is to complete the change of the partially digested starchy food constituents into sugar, a transformation which the stomach has no power to accomplish. Its juice also digests nitrogenous foods and fats. It is the only digestive fluid acting on all kinds of food.

Pannus. A disease of the eye, in which the cornea is obscured by a fleshy and webby covering.

Papilla. Is the name applied to small superficial eminences of the skin and mucous membrane, occurring on the tongue and elsewhere. These minute elevations are exceedingly numerous, and as many as four hundred occur on a surface measuring only a twelfth of an inch square in the papillary layer of the corium. The nipple of the breast is also styled the papilla.

Papules, are pimples erupted upon the skin by disordered or diseased small-pox, chicken-pox, acné, impetigo, herpes, boils, and carbuncles, all commence as papule.

Paralysis. A loss of sensation, motive power, and sometimes of intellect. The nervous system has been disarranged locally and generally, by shock, disease, or injury. Occasionally the effect of paralysis may be obliteration of sensation without interference of motive power, while loss of muscular control may arise whilst sensation continues intact or only slightly affected. The body may be paralysed vertically, from head to foot, on one side only;

that is to say the affected half of the body may be deprived of muscular power or feeling, one or both. The side of the brain which is affected is the opposite to that which is paralysed in the body. When a paralytic seizure is experienced on the right side, there is very often a consequent defect in articulation, or the power of speech, in which the sufferer makes a rambling use of words inappropriate to the expression of his meaning due to the fact that the active speech centre is on the left side of the brain. Palsy again may affect the body transversely, taking away the power of the trunk, and limbs below a certain point. Much local paralysis is that which seizes but one hand, one foot, or one side of the face; or the tongue and palate may be deprived of feeling or motion without depreciation of the muscular or sensitive power elsewhere. The bladder or the rectum alone may be paralysed in other cases, occasioning involuntary evacuation, or the wrist muscles only, as in a phase of lead poisoning or "painter's colic." Apoplexy is the most frequent cause of paralysis, but it may be due to many other disorders such as compression of the brain substance or spinal marrow, tumours, interference with the nervous system or impaired nervous energy generally, continuous exertion, violent emotion, exposure, rheumatism, poisoning and accident. Also paralysis may be the result of decay and debility.

Paralysis, Infantile. Paralysis in children, usually partial, often originates in some region of the body distinct and distant from the part affected; and may, in fact, be due to sympathetic nervous irritation of an extensive character. Such irritation is frequently traceable to bowel trouble, either the effect of indigestion, constipation, or the presence of intestinal worms.

Paraphora. A technical term for delirium.

Paraphrenitis. An inflammatory condition of the paracortex or midbrain.

Paraplegia is complete paralysis of the body, and when seen in the lower portion, almost invariably arising from injury to or disease of the spinal cord or its membrane. (See **Paralysis**.)

Parasites. Intestinal worms are a frequent cause of troublesome irritation in children, and should be treated with suitable vermifuges as elsewhere advised. Fungus or "mould" of a vegetable nature may be conveyed to the healthy from the diseased by contact, such as the touching or wearing of clothing, using towels, brushes, or razors, or sitting on seats previously occupied by those affected. Hence scaldhead, "ringworm," barber's rash, etc., are often spread; hence also lice and other objectionable parasites find new quarters.

Parastoma. Convulsive distortion of the mouth.

Parenchyma. The spongy substance contained between the blood-vessels of the viscera.

Parietes. The walls or sides of any anatomical cavity. The parietal bones of the skull are situated in its sides, and form part of the cranial walls.

Pariethitis. Inflammation of the tonsils.

Parotid Gland. The large salivary gland situated in front of the ear. This, with its excretory duct, is frequently the seat of disease, particularly "the mumps" (which see). Here, too, "tubercular disease" is often made manifest by painful abscesses, leaving ugly scars behind them.

Partial Baldness. (See **Alopecia**.)

Patella, the knee-pan, or cap of the knee. It protects the front of the joint, and increases the power of the muscles which extend the legs.

Pedicular. A genus of parasitic insects, including the common louse. Ticks or lice are usually the outcome of negligence, and frequently indicate debility or the exhibition of a congenital ground for the existence of the pests of the dirty and unhealthy. They inhabit the hair and skin, and may occasionally transfer themselves to cleanly children and others, when they are given short shrift. Vinegar and water will destroy the ova of any of these parasites, and mercurial ointment poison the fully developed pest.

Pelvis, or haunch, is the irregular bony framework which supports the spine, open above and below, and forming the lower boundary of the abdominal cavity.

Its upper diameters are greater in the female anatomy than that of the male.

Pepsin. "Pepic" means promoting digestion, and pepsin is the active principle of the gastric juice, the digestive fluid of the stomach. The pepsin employed in various medicines is procured by the mucous membrane of the stomach of the pig or some other animal with a blunt knife, rapidly drying under heat the pulpy substance obtained, powdering it, and placing it in a well-stoppered bottle. Pepsin is serviceable in all ailments occasioned by want of tone and deficiency in secretion of the gastric juice.

Pericardium. The membranous sac enclosing the heart and its appendages. Its inner surface, resembling in structure the synovial membrane of the joints, secretes a similar lubricating fluid.

Perichondrium. The thin inner lining membrane of the bones of the skull, very firm and tough in texture, and closely attached, analogous to the periosteum in other parts of the body.

Perinæum. The region between the anus and the generative organs.

Periosteum. The adherent membrane enveloping the bones of the body, except at the points where cartilage exists in the joints. In the periosteum (as in the pericranium of the skull) ramify the blood-vessels which afford nourishment to the bones; and upon its laceration or serious injury otherwise there is a liability to necrosis or "death of the bone." An inflammatory condition of this membrane is styled periostitis. The periosteum is subject to rheumatic ailments. It is on the periosteum that bone-formation and bone repair devolve.

Peristaltic. Worm-like or spiral; applied to the wavy motion of the intestines, caused by the contraction of their fibres for the assistance of digestion and evacuation.

Pertoneum. The thin, smooth serous membrane which invests the entire internal surface of the abdomen and covers the viscera. It is of great strength, and whilst permitting perfect freedom to the organs it encloses, is a powerful auxiliary to their retention in the natural position. When dropsical effusion ensues from diseases of the heart, kidneys, or liver, the fluid exudes from this extensive membrane, which is also, in all its parts, liable to inflammation. The peritoneum has to be cut open when surgical interference with the organs within is requisite, an operation now carried on with impunity in anæsthetic and antiseptic practice. Peritonitis, inflammation of the peritoneum, is always a perilous condition.

Perityphilitis is a local inflammation of the peritoneum, usually originating in disease of the vermiform appendix.

Pernanganate. A salt of permanganic acid, the highest oxidised condition of the metal manganese. In solution it is mildly antiseptic and disinfectant, and permanganate of potash is largely used for both purposes, besides being prescribed in pills for the acceleration of tardy menstruation.

Perspiration. The natural excretion of the skin; the passing out of which through the pores produces radiation and maintains the body at its normal standard.

Pharynx. The musculo-membranous sac, measuring about four inches in length, lying behind the mouth and soft palate, and continuous below with the gullet. It is loosely attached to the spinal col. upon which it can be moved. Communicating with the pharynx are the openings for the nostrils, the eustachian tubes from the ears and the larynx; and thus it is that when there is inflammation or catarrh of this part, there may be consequent deafness, loss of voice, or nasal obstruction.

Phlebitis. Inflammation of the veins, recognised by a painful corded feeling and swelling. The disorder may be the result of blood-poisoning, but is most frequently present after parturition, when it gives rise to "white leg," so called because of the tense and glossy appearance of the puffed-up limb.

Phlebotomy. Venesection, or the cutting of the vein for blood-letting, a practice not now nearly so much resorted to as a remedial measure as was formerly the case.

Phlegm. The popular appellation of mucus, as secreted in the expectoration from the air passages. The term used to be employed to express stupidity, because of the mistaken idea that persons specially subject to phlegm were thereby rendered dull.

Phlegmasia Dolens. Puerperal tumid leg, an affection incident to childbirth, alluded to under "Phlebitis," and commonly called "white leg." Due to the inflammatory condition of the veins and retardation of the return flow of the blood therein, it often proves obstinate, and medical aid should be sought for its alleviation.

Phlegmon. A tumour in the skin, red, tense, suppurating, and discharging pus at maturity. It is the outcome of an acute form of inflammation, such as in erysipelas, when slough has formed by reason of the virulence of the poison.

Phosphorus. An elementary body and a constituent of animals, as of the phosphate of lime in bone. Present also in the brain and in the fibres of flesh. It is a deadly and irritant poison, but when employed medicinally in small doses and introduced in a proper medium, phosphorus is beneficial in many forms of disease, particularly those of a neuralgic nature.

Phrenitis. Inflammation of the brain may arise from many causes, internal and symptomatic, or external and accidental. It is a disease of the greatest possible gravity, calling for the most careful medical treatment. (See **Brain**.)

Phthisis. Consumption, a wasting affection of the pulmonary organs or lungs, marked by cough, expectoration, sweats, hectic fever, and other distressing symptoms. There are many varieties of this dreadful scourge; pulmonary consumption proper, laryngeal phthisis, abdominal phthisis, or consumption of the bowels, tracheal phthisis, or consumption of the trachea; tubercular consumption and florid-hectic phthisis, or decline. (See **Consumption**.)

Phylisacium. A vivid red pustule of large size, followed by a dark coloured scab.

Piles. A painful disease arising from dilatation of the veins of the lower rectum on the edge of the anus, properly called hemorrhoids, piles are in the first instance a varicose condition of the hemorrhoidal veins. This excites inflammatory action and occasions strangulation and severe pain. The little tumours formed on and about the dilated veins burst and discharge blood with the evacuations at times; and the mucous membrane extruded from the anus becomes transformed into skin, when we get the condition called external piles. Any form or extent of this ailment is very painful and troublesome. Constipation and sluggish liver action are predisposing causes, and maternity contributes to their formation in other cases because of pressure which it brings to bear on the vessels of the pelvis. The great pile-preventative is full and free daily evacuation, and this must be systematically restored before there can be any lasting cure of hemorrhoidal trouble. Hazeline is a capital alleviating local application either as an ointment or a suppository and to this may be added in very painful cases some soothing agent such as conium ointment, or gall and opium ointment. When the piles are far and persistently obtruded their removal by operative treatment which is readily accomplished by surgeons nowadays is advisable.

Pimples are small rounded and more or less inflamed elevations of the skin, frequently suppurating at the head. The term is popularly applied to Acne (which see), and also describes the first stage of the eruption in small-pox.

"Pins and Needles" or "Leg Asleep," the curious tingling sensation which follows continuous pressure upon the nerve trunk of the arm or leg arises from the gradual recovery of nerve action after its temporary blunting, the successive "prickings" being the successive returns of the numerous nerve fibres to normal action.

Pituitary means that which secretes phlegm or mucus. Thus we have the pituitary membrane of the nose, and the pituitary gland of the brain. Pituitous signifies resembling phlegm.

Plethora. Repletion, over-fulness of the vessels of the body; hence we speak of a person of plethoric

habit when his blood-vessels are turgid and overloaded. The condition generally arises from indolence and excess of eating and drinking in combination with abstention from healthy exercise; and it tends to apoplexy and hæmorrhage. Thus it is the plethoric person who is most prone to bleeding from the nose, in the stomach, and from the lungs, a disagreeable experience which may possibly be a blessing in disguise, relieving the pressure on the brain which might have much more serious consequences.

Pleura. The serous membrane investing the lung, and covering the inner surface of the walls of the chest. It is covered with a lubricating fluid which in health enables the organs to move easily and without friction upon each other. When inflamed from any disturbing cause, however, the surface affected becomes roughened, and the condition of pleurisy or pleuritis is set up.

Pleurisy. Inflammation having roughened the surface of the lung or chest pleura, intense pain is occasioned. Pleurisy is generally, but not always, an accompaniment of disease within the lung substance proper. It commences with a short, dry cough, causing a sharp stabbing pain in the affected part. Shortly thereafter the character of the cough undergoes change, and each paroxysm is succeeded by the expectoration of rusty-coloured mucus, while there is invariably fever and high temperature. A blister may afford relief or leeches may be applied over the seat of pain, and phenacetin administered to allay the febrile disturbance, the patient's strength being maintained as far as possible by a plentiful milk dietary. When the pain is most intense, infinitesimal doses of opium and calomel may be given.

Pleurodynia or False Pleurisy. An inflammatory condition of the chest wall, often called "muscular rheumatism," occasioning a very acute pain, and frequently confounded with pleurisy proper, from which, however, it is distinguished by the absence of fever. It is generally the result of a weakened physical condition coincident with nervous prostration, and may be nothing more serious than an aggravated neuralgic affection of the intercostal nerves. Subcutaneous injection of morphia, and the administration of phenacetin combined with caffeine are likely to give prompt relief, and a liniment of menthol, chloroform, and menthol rubbed over the affected part, will prove beneficial. For the prevention of a recurrence of the attack a pill compounded of quinine, caffeine, and hop extract has been recommended.

Pleuro-Pneumonia. Simultaneous inflammation of the pleura and lungs.

Pleurorrhœa. Collection of fluid in the sacs of the pleura.

Pleurorhœpnea. Pain in the side, rendering the maintenance of the upright position necessary for breathing.

Pleurospasm. The spasm in the side so common in the case of hysterical females.

Plexus. A net-work of nerves, absorbents, or other vessels.

Plugging. Stuffing a wound or organ to prevent bleeding or discharge.

Pneumatocœle. Hernia distended with air, or formed by the protrusion of the lung through the thoracic wall.

Pneumatosis. A disease occasioned by the collection of air in the cellular texture under the skin.

Pneumolithiasis. Disease characterised by concretions in the lungs.

Pneumonia, or Inflammation of the Lungs. A very common and distressing disease, generally supervenes upon a bad chill, caught by a person at the time in a more or less debilitated condition generally. It is reckoned to be due to the existence of a specific germ, which may have long lain dormant in the system until the health of the individual was sufficiently impaired to permit of the development of its virulence, or it may have made its invasion at an opportune time for the immediate commencement of its disease-propagating activity. The characteristic symptoms of pneumonia are high fever, lividity of countenance, a hacking cough, and rapid breathing. Shortly there is viscid and rusty-coloured expectora-

tion. The chest over the seat of pain is invariably dull on percussion, and the stethoscope will reveal fine crepitation, which, as time goes on, grows more crackling in sound and later assumes a bubbling character. In pneumonia the great point of treatment is to keep the temperature down, relieving the local pain by blistering and maintaining the constitutional strength by nutritious dietary, careful attention being given to the prevention of any digestive disorder. The pneumonia patient should be confined to a warm but well-ventilated room; and when his pain is particularly troublesome it may be well to administer soothing medicine in which opium and calomel are compounded. There is a bilious form of pneumonia, and also a disease of less serious character arising from chest inflammation known as spurious pneumonia. A person who has once suffered from pneumonia should be particularly careful for the future to avoid chills and exposure. The disease is sometimes accompanied by and sometimes consequent upon bronchitis.

Podophyllin. A drug extracted from the resin of the dried underground stems of the American May-apple or mandrake. It is a valuable purgative and acts powerfully upon the liver. The tincture should be administered in small doses, and in combination with colocynth or some other purgative and an anodyne like morphia, powdered opium, or some other crumbly material being added to obviate griping. Thus podophyllin provides a safe substitute for mercury in combating bilious disorders.

Poliosis. Premature greyness of the hair.

Polypus. A tumour of morbid growth, attached to the interior of a mucous canal by a pedicle, and so called from the supposition that they have many feet. They occur in the larynx, fauces, nose, ear, rectum, and uterus, and vary in size from the smallest possible dimensions to that of a baby's head, or even larger. They may be gelatinous, fibrous, vesicular, or malignant, and partake very much of the nature of the surface from which the pedicle takes its origin. Usually they are removable by being laid hold of by forceps and twisted to their disconnection, and sometimes they are expelled without surgical interference by muscular action into the peritoneal cavity, and require extraction by abdominal section.

Pores of the skin should be kept constantly clear by cleanliness, and if they become clogged at all the penalty of neglect will have to be paid in illness. An active skin goes a long way to the maintenance of a healthy body.

Forrigo. A skin disease, developing crusts upon the scalp in which sero-purulent matter accumulates, popularly known, in various forms, as ringworm of the scalp, scald-head, honey-comb, etc. Cleansing of the affected surface with carbolic soap, and the application, after drying, of an ointment composed of red oxide of mercury in ordinary poultice, with the addition of quinine, is the treatment of this disagreeable ailment, to be repeated, night and morning, until it is eradicated.

Potash is a compound of oxygen and potassium, and therefore an oxide. It is largely used in medicine. Caustic potash in solution is employed as an antacid in various urinary diseases, besides being utilised for the destruction of morbid growths. Other potash salts serviceable in pharmacy are the carbonate and bi-carbonate, acetate, nitrate (saltpetre), bi-tartrate, chlorate, citrate and permanganate, all of which are referred to elsewhere.

Potassium enters into a great many useful medical combinations quite apart from those in which its oxides find employment. Thus the iodide and bromide are important in the treatment of constitutional disease, the former particularly in rheumatism, and the latter in brain and nervous affections.

Prolapus. A falling down, or falling out, of some part of the body, the term being usually employed to indicate falling of the womb, and bowel prolapsus, not uncommon in weakly children, particularly such as suffer from intestinal worm irritation. A gentle dabbing of the protruding part with cold water impregnated with lead extract, and the application of a suppository augmented by sponging of the hips and loins in salted water daily for a while, is good treatment. Tonic medicine should be administered simultaneously.

Prophylactic. A preventive medicine.

Protrusion of the Navel. When this occurs in an infant it is a good plan to cut a piece of cork or ivory into the shape of the half of a ball, and to press the convex side upon the protruded navel, retaining it in position with adhesive plaster, and gently securing with a body roller. The plaster should be changed every morning, and the skin carefully cleansed to prevent soreness. It may be necessary to continue the treatment for many weeks, especially in female children.

Prussic Acid. This is the old and familiar name of hydrocyanic acid, much employed, in minute quantity and chiefly in combination with other remedial agents, in medical practice; it is a very powerful sedative, and a most deadly poison. It exists in the kernels of all stone fruits, in the leaf of the laurel, and other vegetable substances, but is chiefly prepared chemically for pharmaceutical purposes from the cyanide of potassium.

Pseudæsthesia. Imaginary sense of touch, as in the remains of a limb from which a portion has been amputated, affording a feeling as if the removed part still remained.

Ptosis. Falling off of the eyelashes.

Puerperal Fever. a most distressing and perilous disease, is invariably due to neglect at a critical period on the part of the patient or her attendants. Its occasion is blood-poisoning, which should never occur in a confinement if antiseptic precautions be taken. It used always to be regarded as incurable, but even that has been changed by the advance of medical science, provided always that no loss of time be permitted before the removal of the cause of the mischief and the disinfection of the contaminated parts.

Pulmonary. This is the term applied to everything in connection with the lungs. The pulmonary arteries and veins are so called because they carry the blood to and from the lungs. "Pulmo" is the Latin word for "lung"; thus, we have pulmonary muscles, pulmonary nerves, pulmonary disease, etc. [See **Lungs** and **Consumption**.]

Pulp of the Tooth. This occupies the centre of the tooth and supplies nourishment thereto. When the pulp dies, the tooth loses its translucency, discolours, and decays.

Pulse. The beat or throbbing of the heart and arteries. The normal rate, in adults, averages about 70 per minute, and its increase, during fever, indicates the force of the latter, in which it soon times rises to as much as 120 to 140 per minute. At birth its average has been computed at 130 per minute; but it drops down to 88 by the time five years have been completed, to 78 when the "teens" commence, gradually subsiding to the mean till the age of twenty-five years has been attained, when it rises slightly again up to thirty years old, thereafter steadily to decline. In extreme age it will fall to 60, and sometimes to the feeble pace of 40 and even less.

Pupil. The "apple" of the eye, or transparent portion of the cornea, surrounded by the iris or coloured matter. The pupil, which is really a hole or aperture, is enlarged or diminished, according as the iris contracts or dilates. It permits light to pass directly through the lens to the retina.

Purpura. "The Purples," a kind of scurvy, consisting of spots or patches of a purple colour, resembling bruises; they are occasionally accompanied by a tendency to bleeding at the nose, and some feverishness. This ailment is indicative of want of tone, and morbid tincture of iron with quinine admixture may be taken advantageously, sulphate of magnesia being added should there be any tendency to constipation. Steel wine, with generous dietary, suffices for children.

Pus is the yellowish-white matter produced by inflammation, and discharged from the abscesses, granulating surfaces, ulcers, and open wounds. It may be "healthy" or "unhealthy." Laudable "pus" or "healthy matter" is a thick and creamy faint-odoured fluid, having an alkaline reaction, its composition being water, fat, albumen, some salts (chiefly common salt), and extractive matter. Really it is the blood in a vitiated condition from inflammatory disturbance, and abounding in white cells especially.

Pustule. Malignant, is due to the introduction of the poison of charbon or anthrax into the skin, and used always to be regarded as fatal. Latterly the subcutaneous introduction of antiseptics round the neighbourhood of the pustules has generally killed the parasite and ended the malady. (See **Anthrax**.)

Pustules are pimples which contain pus, and are due to decomposition in serum effused in limited area on the skin surface. Appearing first usually in the guise of clear vesicles, they presently put on a purulent form. The formation of pus, in these circumstances, is accompanied by high fever, wherever there is extensive eruption, as in small-pox.

Putrefaction. The decay and destruction of organised matter by chemical decomposition, with the consequent production of new compounds, generally gaseous in nature. This is a condition almost always perilous to human health and life.

Pyæmia. an old term signifying pus in the blood, but now called "blood poisoning," is always attended by high fever, which may abate only to come again with increased violence. It is due to poisoning through the absorption of germs. The suppuration affects the blood itself and gives rise to coagulation or clot in that fluid. This is reduced to pus, and sooner or later the patient succumbs to the septicæmia which results should the disease not be checked. Pyæmia commences with rigors and a very high temperature, followed by profuse perspiration.

Pylorus. The lower and right orifice of the stomach guarding the entrance to the bowels.

Pyogenesis. The formation of pus.

Pyretic. Medicine alleviating or removing fever.

Pyrosis or "Water Brash" is a consequence of indigestion, and is usually associated with heartburn. It is a most disagreeable disorder recognised by eructation of water fluid. Soups and stews will give rise to it in many cases where the stomach is not strong. Bismuth before meals, in ten grain doses, will usually ward it off.

Quartan. Designating the fourth, as quartan ague, when the intermittent attacks recur about once in every seventy-two hours.

Quicksilver. The metal mercury much used in medicine. (See **Mercury**.)

Quinine is the principal and highly important alkaloid obtained from the cinchona tree, and commonly called "Peruvian Bark." As an antidote for ague it has enormous beneficial use, and it is a valuable curative agent in neuralgia, a tonic in debility, and anti-pyretic in some fevers. Applied locally it is efficacious in eczema and other skin affections.

Quinsy a form of tonsillitis which has proceeded to suppuration, is a very painful throat affection indeed. It is frequent in persons subject to rheumatism, and sometimes immediately precedes an attack of rheumatic fever. Both tonsils are badly inflamed, and the uvula and part of the pharynx are generally implicated. The symptoms, apart from the actual inflammation, are a white-furred tongue, high feverishness, excessive difficulty and pain in swallowing, thirst, and great throat soreness. As the disease progresses, the swelling greatly increases, almost to suffocation point, when the crisis is reached and suppuration affords relief. Quinsy almost always comes when the health generally is low, and the appearance at such times of tonsillitis, it is advisable at once to take as a quinsy prophylactic salicin and chlorate of potash in guaiacum mixture. The inhalation of sulphurous acid is alleviative in actual quinsy, but the disease, once commenced, will usually have its course.

Rabies. Madness: hence rabid, generally applied to a dog supposed to be mad; and rabidness, the dreadful disease sometimes following its bite, otherwise called hydrophobia (which see).

Rachialgia. Pain in the spine; rachitic, ricketsy.

Radius. The bone of the forearm, reaching from the elbow to the wrist, so called because of its power of revolving round upon the ulna. The radius lies to the thumb side when the arm is held with the palm upward.

Ranula. A tumour under the tongue, an enlarged salivary gland, secreting a glairy fluid, and generally requiring surgical removal.

Rash. The popular term for many descriptions of skin affection, and especially to the eruptions and discolorations of scarlatina, measles, scarlet fever, nettle-rash, etc. It is supposed that the name arose from the sudden manner in which the eruptions sometimes appear in exanthematous disease.

Rattles. The characteristic sound of the breath struggle in croup, or the particularly impressive noise made by the parting breath of a dying person as it passes through mucus in the throat.

Rectum. The lowest part of the intestine, terminating at the anus. It is regularly cylindrical, contracting in transverse folds, and capable of very considerable distention.

Recurrent. Returning at intervals, as certain diseases or certain symptoms thereof.

Red Gum. A skin affection common in infancy, resembling eczema, and due to teething irritation. Tepid bathing, a fluid magnesia aperient, and a little zinc ointment should the irritation prove intractable, will generally set this ailment right.

Relapsing Fever. A fever differing materially from either typhus or typhoid. It is sometimes styled "famine fever," because of its propensity to attack the under-fed, and in Germany the disease is often called the "hunger pest." It begins with sudden shivering, frontal headache, and giddiness; proceeds to high fever, with hot skin, white furry tongue, rapid pulse, jaundice, sweatings, and delirium; while there are often as an accompanying feature nausea and vomiting, sleeplessness, pains in the back and muscles, and anxious expression. The fever will rage from five to eight days and when matters seem at a crisis a quick change will come of a surprising character, the fever subsiding, a profuse perspiration exuding from every pore of the pain-racked body, and every appearance of recovery be made manifest. But about the fourteenth day there will come a relapse to the former state of high fever with all the violent symptoms returning as suddenly as they left. This may again be repeated in a very exhaustive manner, the tendency to syncope being most marked in the sweating crisis. Stimulants should be given and restoratives kept always at hand. It takes the patient many weeks to get over relapsing fever and its effects, at the best.

Remittent Fever. This endemic fever differs from ague in there being no distinct intermissions, but frequently recurring attacks, chiefly in the early morning. The treatment is substantially similar to that proper in the case of ague, quinine being the staple medicine usually employed.

Respirators are instruments devised for the purpose of purifying the air before inspiration, and for protecting the air passages generally, especially in cold, damp or foggy weather. In case of difficult breathing and troublesome cough, soothing substances such as creosote, chloroform, menthol, etc., may be introduced into the respirator, with great relief.

Retching. the painful impulse to vomit which results in nothing further than the bringing into the mouth of mixed mucus and saliva, may generally be relieved by iced soda water; but obstinate retching may require a dose of hydrocyanic acid to correct it. This deadly poison should not be taken, however, unless and as prescribed by a doctor.

Retina. The internal coating or issue of the eye. It is a delicate, semi-transparent membrane, composed of the expansion of the optic nerve, its function being to receive the impressions of external objects and carry them on to the brain. When this portion of the visual machine gets out of order, we have the disease known as amaurosis, whilst dropsy behind the membrane may detach it from its matrix or a blood vessel may be ruptured within the retina itself. (See *Eyes*.)

Rhassary. A Persian root, a tincture of which is used in the treatment of chronic diarrhoea for its astringent properties. It may also be applied to spongy gums, and the powder makes a useful styptic in cuts and abrasions.

Rheum. An increased action of the muscles of any organ, the term generally being applied to that of the mucous glands; hence "rheumy."

Rheumatism. This very painful affliction parades of the character of both the diseases included

in its descriptive appellation, and attacks the hands and feet for the most part. There it becomes very difficult indeed to eradicate. If more gouty than rheumatic as to symptoms, the treatment should be a modification of that proper in gout; but if the rheumatic features predominate, then rheumatic remedies will be most likely to prove alleviative, and the salicin may be given a trial.

Rheumatism. An inflammatory or febrile affection that attacks the joints and muscles or their coverings and sheaths in various parts of the body. When the more important joints are involved by the most active form of this very painful disease, the seizure is known as rheumatic fever, because of its being accompanied by pronounced febrile conditions. Less active forms of rheumatism are styled sub-acute, chronic, or neuralgic. In the acute form the joints are so painfully sensitive to the slightest movement that the patient dreads the slightest movement of the bed-clothes. The joints are red and swollen, and a high degree of fever accompanies general functional derangement. The seat of inflammation changes rapidly from joint to joint, the pain returning to the joints from which it removed. In sub-acute rheumatism the symptoms are of a muscular character. Rheumatic headache and lumbago belong to this class. There is no fever in neuralgic rheumatism, and it is intermittent or periodic, but, at its worst, it is perhaps most excruciating of all. Rheumatic fever is apt to set up inflammatory action of the pericardium and the heart itself, attended by palpitation, and it is not infrequently preceded by tonsillitis. Constipation is considered to be an exciting cause of rheumatism; exposure to damp and violent changes of temperature tend to promote it, and it is undoubtedly often of hereditary origin. Salicine (which see) is a very valuable remedy in rheumatism, and its use has quite revolutionised the approved treatment of this painful malady. Residence in a dry soil district is desirable for rheumatic subjects, and the waters of Buxton and Bath are renowned for their alleviative effect in the ailment.

Rickets or Rachitis. A disease of childhood due to the deficiency in the solidarity of the bony substances rendering them insufficient to maintain the necessary weight of the parts of the body dependent upon them. Sometimes the bones become very painfully distorted, beyond straightening; but if a beginning be made soon enough and the little sufferer be carried away to live in pure country air or by the seaside and given generous feeding and a favourable regimen all round it may be very often rescued from crippledom. A good deal of lime water and milk, should be drunk for bone nutrition, and cod liver oil and steel wine given for constitutional up-building. Padded splints may be worn if really necessary, but rest and tonic treatment should obviate this as much as possible. A rickety balm should not be permitted to try to walk until its legs can stand the strain, or they will be malformed. Better be an invalid for a few weeks or months in early childhood than a cripple all through life.

Rigor or Shivers. is that unnatural condition—a consequence of some grave constitutional disturbance—in which a person with an abnormally high temperature has the impression of being very cold, and shivers accordingly. It usually presages fever associated with blood contamination or some severe inflammatory trouble. But Rigor may be attributable also to nervous irritation of a pronounced description, when it need not be regarded so seriously as if arising from septic influences. It is always an alarming thing, and should cause the calling in of the doctor, who will be able to diagnose the case and administer accordingly.

Ringworm. This ugly visitation arises from a fungoid growth of a contagious kind, which establishes itself within the hair follicles of the scalp, chiefly, in children, but may occur in the beard of man, or over any part of the body. There are several distinct varieties. Porrigo scutulata, "scald-head," is a common form. Herpes circinatus is the name given by medical writers to the ringworm of the body, that of the beard is called Syccosis; and Thinea tonsurans is the correct style of the scalp variety. All such hairy ringworms are easier to get than to get rid of. Those established in hairy tissue must be washed with carbolio

soap well, have all the hair cut away that, if possible, being plucked out by the roots. Then the sponging of the spots with bi-chloride of mercury in solution is recommended, two grains to the ounce of water. A more elaborate ointment and one often particularly effective, is one part of the oleate of zinc ointment to which has been added one-eighth part of aristol, mixed well with as much oleate of mercury as there is of zinc. Let this be well rubbed in night and morning and continue theunction for some days after the ringworm seems to have disappeared. A tonic, cod-liver oil and particularly nourishing diet may be tried. Sulphurous acid lotion, applied with a brush, will occasionally succeed in clearing off the facial or body ringworm.

Rose Rash. This slight febrile eruption is sometimes very difficult to distinguish at first from measles, and in other cases closely resembles the beginning of scarlet fever; but the constitutional disturbance accompanying the eruption is relatively slight, and it is very soon certain that rose rash is only the trifling affection, which will yield to careful dietary and a little dabbling with vinegar and water.

Rupture. An eruptive disease characterised by broad and flat vesicles, the scales of which are easily rubbed off and reproduced.

Rupture. The protrusion of one or other portion of the bowel or any of the contents of the abdominal cavity. In the groin it is called inguinal hernia, the most frequent phase; at a lower level we get femoral hernia. There is umbilical hernia also at the navel, most common in women who have experienced maternity. Rupture may be congenital or acquired, and when a baby is born with hernia anywhere a truss should be obtained for it, and it may very likely outgrow the abnormal condition. A rupture occasioned by strain will after return usually have to be kept in place by the constant wearing of a properly fitted truss. A rupture, wherever and whenever it occurs, should not be neglected, or it will be likely to become strangulated, a perilous condition and one occasioning much suffering and, if not like operative surgical treatment. Antiseptic surgery and chloroform have rendered it less likely for fatality to follow even the worst kinds of rupture; but delay may occasion gangrene, with the impossibility of preventing the worst. Trusses should always be most carefully fitted, both for safety and comfort's sake, and chosen under the direction of the surgeon who has reduced the rupture.

S. S. Vitus's Dance, technically called "chorea," and in France "Dance of St. Guy." This peculiar distressing ailment is undoubtedly of nervous origination. Its manifestation is inability to direct and control the action of the voluntary muscles, and it is chiefly found in young persons constitutionally debilitated. The characteristic twitching of the muscles of the neck and face, particularly in the neighbourhood of the mouth, precede more active symptoms of erratic limb motion which, with the ungovernable grimaces of the poor patient, are pitiable to behold. Let the nerves be soothed by valerianate of zinc prepared, but try to get at the root of the mischief by attacking the cause. Medical men prescribe arsenic as a typical remedy in this ailment. Vigorous and thorough handling of the case whilst the person suffering is of tender years should result in the eradication of the disease. If St. Vitus's Dance is seen in a chronic condition in puberty, it often becomes quite intractable. Chorea often occurs after a fright. This curious ailment in olden days was the subject of much ignorant superstition, the poor sufferer therefrom being regarded as "possessed of a devil."

Salicic Acid is a wonderful drug, which, if all that is claimed for it be correct, should be the saviour of untold suffering. It has been held by physicians of the newer school—who therein only follow certain believers in "simples"—to furnish a specific in rheumatism, and it undoubtedly often proves palliative in this painful affection. Salicin is a crystalline substance obtained from the bark of the willow tree, and one of the sources from which salicylic acid is prepared. It makes a most bitter pill or potion, and is in several respects not without affinity to quinine, the active principle of cinchona, the ague specific. Salicylic acid is useful in medicine as well as in the arts and the

manufacturing world, and comes in very useful in the dressing of wounds. There are those who swear by salicin in tonsillitis and all rheumatic ailments, where salicylate of soda is also valuable.

Saliva, the secretion of the salivary glands, which moisten the mouth and assist mastication to prepare the food for swallowing, and for the action of the gastric juices and other digestive fluids. Exuded by the glands surrounding the gums, which are stimulated by chewing into activity, saliva quickly changes the starchy constituents of our food into glucose (a form of sugar). To "make one's mouth water" is to start the saliva flow, setting at liberty the powerful ptyalin that can transform diastase and starch into digestible sugar instantly, and so act as a preventive of acidity and flatulence. The salivary glands consist of the parotids in front of the ears, where the "mumps" make mischief with children sometimes; the sub-maxillary, under the jaw angles; and the sublingual, below the tongue. Each has a discharging duct.

Salivation, the excessive secretion of saliva, produced by mercurial overdosage, by iodide of potassium, or too extensive medicinal administration, or by diseased conditions of the nervous system. A very little mercury will salivate some folk; others may swallow much with impunity. Salivation is accompanied by great gum soreness. The way to correct it is to use astringent gargles, and relieve the prostration, which frequently follows, by generous tonic treatment.

Salol comes from coal tar, and its solution makes a remedial lotion for inflamed rheumatic joints, while sometimes it is administered internally in 5 to 15 grain doses for the relief of fever and rheumatic attacks with good effect, though in other and apparently similar cases it will fail altogether. It is also used to correct fermentation of the food in the bowels.

Sal Frunella. Purified saltpetre, an antiquated but long popular sore-throat remedy.

Salt (Chloride of Sodium) is a natural and necessary stimulant to the digestive functions, secreted in the mother's milk. With milk in some form, that most commonly used is the chloride of sodium—otherwise nutritive food could not be solved and absorbed, and the whole human race, civilised and savage, is aware of its indispensability. It is not, generally speaking, given to infants and children quite so freely as is desirable for the maintenance of the best health conditions. It is found abundantly on land and in water, and wherever it may by circumstance become scarce, it is a commodity of priceless value.

Salt of Tartar. Carbonate of potash in an impure state. An old name for a cleansing substance.

Saltpetre. The nitrate of potash, or nitre, used in India and elsewhere in the composition of a cooling mixture. It has diuretic properties, but can scarcely be classed as a safe and altogether desirable medicine.

Salts. Salts, properly speaking, are the result of the combination of an acid with a base, as Epsom salts, Glauber's Salts, and, strange to say, the "salt of the earth"—the salt of all salts, the common salt of every household, is but a compound of chlorine and the metal sodium.

Sal Volatile. Carbonate of ammonia, a solution of ammonia in spirits of wine, a very valuable stimulant and antiseptic, and an admirable restorative agent in the treatment of fainting hysteria, asphyxia by drowning or hanging, prussic acid poisoning, etc.; also an alleviative of flatulency.

Santonin, the active principle of wormwood, is poisonous to round worm and to thread worms, the last troublesome parasites to children. A two-grain dose, preceded and followed by castor oil, and given in milk, will usually—if repeated at intervals of eight or twelve hours—succeed in banishing these irritating little pests, which are often accountable for convulsions.

Sarcina Ventriculi. Very undesirable fungoid developments present in highly acid conditions of the stomach secretions, and the outcome of pronounced dyspeptic disorders. The fungus is apt to attack those whose dietary has a vegetable bias, and it is often accompanied by depression and irritability with a general inclination towards morbidity. Hypophosphate of soda will destroy the vitality of the growth, but

treatment should be addressed to the invigoration of the stomach and digestive system.

Sassafras. A stimulating sweat-producer in rheumatic and some skin ailments; generally given in combination with guaiacum and saraparilla. Sassafras should not be taken without the doctor's orders.

Savin makes a stimulating ointment, and, indeed, is so irritant in some cases as to be called into requisition for blistering purposes. Internally it has been administered for the correction of menstrual irregularities, but must only be used by a medical man.

Scabies. A synonym of "itch," the ailment being attributable to the minute mite "Acarus scabies." This disagreeable disorder used to be called the "seven years' itch," because of the difficulty experienced in its eradication. The "Acarus" is microscopic, but marvellously instinct with vitality. A single female, finding its way to the finger-roots at the back of the hand, will produce a family of tens of thousands in a few weeks, if unmolested, and give rise to multitudinous pimples of a most irritating character. (See Itch.)

Scald Head. An eruptive pustular scalp affection, forming incrustations of a loathsome and offensive character, and due to a fungoid growth induced by dirt and unwholesome dietary surroundings. There is much irritation and a peculiarly unpleasant odour is emitted. The crusts should be softened by the application of a bran poultice and an ointment of oleate of mercury and oleate of zinc, rubbed in night and morning after cleansing and cutting the hair closely. Simultaneously alterative powders of a suitable character should be administered.

Scalds. Apply a handful of crushed common washing soda, under a folded cloth, preferably of linen, steeped in, and wrung out of cold water. Let these remain on until the severe pain is allayed. Afterwards anoint with a liniment made from the raw white of eggs, or smear with olive or linseed oil, which may be dressed upon the part plain, or mixed with fine whiting or powdered chalk, dusted over the oil with a kitchen flour dredger. Bandage to further exclude the air.

Scalp. The scalp and skin of the head is denser and thicker than the integument of the body generally, and connected by cellular tissue with the parts immediately below. The scalp is largely supplied with blood vessels, hence the profuse hemorrhage which sometimes issues from a severe scalp wound. In treating such, it is necessary to cut or shave away the hair closely for some distance around the injured part, washing the wound with some antiseptic solution, and drawing the cut edges together with adhesive plaster dipped in boiling water. Apply a hot pad and bandage. The stitching of a scalp wound is inadvisable because of the risks of inflammation.

Scapula. The shoulder blade, which serves to connect the arm with the trunk and gives attachment to many of the muscles by which the former is put in motion. It is a broad, flat, triangular bone, over the back of which a ridge runs for the attachment of the muscles alluded to.

Scarf Skin. The epidermis or cuticle, the upper layer of the skin, liable to numerous affections, such as eczema, psoriasis, pityriasis, &c., which see.

Scarification. Incision of the skin by the lancet or other sharp instrument. This is necessary for vaccination, and is frequently resorted to upon the gums of children in teething troubles; also elsewhere for the relief of adjacent congested tissue.

Scarlatina. The term usually applied to a mild form of scarlet fever; but it should never be forgotten that the malady has the same origin and characteristics as the more virulent type of the disease, and even when the attack is what is styled favourable, it may be followed by dangerous complications, so that the convalescent stage requires very careful watching.

Scarlet Fever. The full and pronounced phase of scarlatina, differing therefrom only in intensity; is an eruptive febrile malady liable to attack children of any age, and common also in adults. Sometimes scarlet fever is epidemic and will prove prevalent in waves; that is to say, there may be many cases in a district at about one period, and, after the force of the attack has spent itself, immunity for months and years,

No doubt the disease is propagated by a specific germ, which may be carried in milk or in the air, and is very highly infectious. The fever is preceded by languor, pains in the back and head, and cold chills, the forerunners of all kinds of febrile disorders; but the special symptoms of scarlatina and scarlet fever are difficulty in swallowing, hoarseness, pronounced throat soreness, and peculiar speckled or "strawberry" appearance of the tongue, the papillae standing out bright scarlet, from the edges of the tongue being also very red. There is a great thirst, difficult breathing, and high temperature, with more or less enlargement of the glands of the neck; succeeded by a characteristic rash, commencing on the forehead and face about the third day, and extending to the neck, shoulders, and trunk, until the entire skin assumes the resemblance, as to colour, of a boiled lobster. When the eruption is complete, the urgency of the febrile symptoms gradually abates, and at the seventh day the cuticle begins to peel off in dust and flakes and sometimes even in large pieces, the outer skin of the fingers coming away occasionally like the fingers of a glove. The temperature of the tongue on the tenth day changes to a uniform beefy red, and should the disease take thereafter a favourable course there will be steady recovery, though very great care is requisite during the desquamation period to prevent chill, the new skin being most susceptible. In malignant scarlet fever the shock to the system is so extensive and violent as gravely to endanger life, and dropsy is a frequent sequel. When the throat mischief is aggravated, poulticing will be necessary; for the rest the low diet of fever generally and particularly careful nursing are essential in scarlet fever, with the most unremitting attention to disinfectant precautions. Free ventilation is very requisite.

Sciatica is really rheumatism, occasioning acute neuralgia of the sciatic nerve (or of its sheath), the largest in the human body. Not only the trunk of the nerve in hip and thigh will be affected by excruciating and temporarily prostrating pain, but the branches supplying the calf of the leg and foot are frequently affected. Disabling the sufferer from moving about and very seriously interfering with his rest, this particularly punishing malady is not dangerous to life, and is due to the fact that the sciatic nerve sheath is congested by rheumatic agency, and presses upon the extensive and sensitive vessel. Any blood in the area, contribute to the onset of sciatic, especially where the rheumatic tendency is existent; and treatment should commence with the endeavour to combat the cause of disturbance. If it be constipation the lower bowel must at once be cleared, and kept regularly clear, the blood being freed from the fecal matter it has absorbed. The general health must have attention, for a debilitated condition may of itself induce sciatica in cases. The supplementary treatment is as for rheumatism proper; and counter-irritation may be resorted to locally for the relief of the acute nerve pain during the general curative process. Cutaneous injection of morphia is sometimes insisted upon by the sufferer, because of the practical certainty it affords of temporary sure ease from nerve torture; but this treatment is to be deprecated, save in very exceptional circumstances, the proper thing being to drive away the pain by removing its occasion, and not merely to deaden it by the administration of a potent drug. Salicin is an important remedial agent in effecting requisite blood reform in sciatica as mentioned in the general article on rheumatism; and phosphorus in the food will be found helpful.

Scirrhus signifies a hard tumour, occurring in any part. The condition is commonest in the breasts, a form of cancer, and when surgically interfered with in a timely way will frequently be prevented from ramification to surrounding tissue. Nothing short of the knife is scarcely eradicated of scirrhusoid affection, and there must be no procrastination.

Sclerotic, the outer layer or coat of the eye, dense and fibrous, stretched over the vascular choroid tissue, or infundibulum, or iris, and, when diseased, is always marked by livid congestion and severe aching round the eyeball; and rheumatism is frequently the cause of trouble in the sclerotic coat. Sclerophthalmia

is the technical term for a painfully swollen and hard condition of the eyes and eyeball, incident to the part of the visual organ here mentioned.

Scribner's Palsy or "**Writer's Cramp**," A species of local paralysis of the muscles of the hand and fingers induced by their overwork. (See *Paralysis*.)

Scrofula, indicates lowered constitutional vitality, which may tend to produce many forms of distressing disease, first of a glandular character, and later more extensive and serious. If it is not to culminate in consumption it should be coped with immediately upon manifestation. Muriate of calcium is a splendid specific, cod-liver oil and extract of malt are most invaluable remedial agents, systematically employed from the beginning. If the scrofulous tendency is not conquered by the restoration of healthful energy there will certainly be suppuration in the absorbent glands, and should this not be properly treated by the evacuation of pus, ugly scars will result.

Scurf arises from unhealthy condition of the skin of the scalp due to the circumstance that the cells which cover the outer cuticular layer are prevented from living at maturity, and are consequently thrown off in the form of dandruff (which see). A simple application for this ailment is an admixture of the best vinegar with water in which a lump of quick-lime has been dissolved overnight, the liquid being strained from sediment. The roots of the hair only need to be wetted, and the application is quite harmless.

Scurvy, a disease due to want of sufficient potash in the food, is characterised by livid spots, debility and constitutional exhaustion, and often attended by febrile breath and bleeding from the mucous membranes. Belongs to the large class of preventable maladies which increasing observance of the laws of health and dietary have within living memory very much reduced in extent and frequency. Where scurvy occurs at all its treatment usually consists in the administration of plentiful supplies of lime or lemon juice, containing substances allied to potash, to make up for the lack of vegetable essences in the food which brought about the mischief.

Sorbals are hardened feces from which the liquids have been absorbed during undue retention in the bowels. So long as they are permitted to remain they will occasion more or less obstruction and irritation, and may induce febrile conditions—and in children give rise to convulsions. Hence it is always advisable to effect their removal by the use of an enema, or irruptions of soap and tepid water.

Sebaceous Glands. The sebaceous glands are those minute fatty glands of the skin which secrete a oily matter for moistening and rendering it elastic. They are clogged at the outer extremity, their pores being dirt get "blackheads" or acne. Cleanliness and frequent friction will keep the sebaceous glands in good tune. If they get out of order, extra attention with the use of a lotion composed of elder water, glycerine, rectified spirits, and flowers of sulphur will usually be found remedial.

Secretion signifies the powers possessed by the several organs of separating substances from the blood. Thus we have the secretions of bile by the liver, of the gastric juice by the stomach, and saliva by the salivary glands.

Sedatives are medicines designated to restrain the action of the various functions of the body, removing simultaneously sensibility to pain. Acting first upon the nervous system, they influence the secretions, and if properly selected and applied produce the results desired. Amongst the sedatives most commonly employed in medicine, all of which are referred to elsewhere, are chloroform, menthol, opium, belladonna, and bromide of potash and of sodium. All these and others act locally on external application, while administered internally they aid the system generally.

Senna, one of the most useful purgatives in the Pharmacopoeia, has been known as such in Arabia and the Orient for ages. A most effective article of domestic medicine, it should never be administered where there is inflammation or great irritation of the bowels, but as a palliative to habitual constipation it may be employed frequently without aggravation of the causes of the mischief.

Serous Membranes envelop the brain, line the chest and abdomen, and cover all the vital organs therein situated. Surrounding the brain the serous membrane is called *tachnoid*, in the abdomen the peritoneum, and in the chest the pleura, all of which secrete. White in health, it becomes red when inflamed, its vessels being charged with blood unduly, and is apt to form when thus disordered dangerous adhesions. Dropsies are occasioned by abnormal excretion from the serous membrane, through the blood fluid or serum collecting in cavities and not being carried away.

Serum, the fluid part of the blood. In a blister, scald, or burn, it collects under the skin, and exudes upon the puncture of the cuticle. Technically termed the liquor sanguinis and plasma, it largely consists of water, and holds in suspension the red and white blood corpuscles, and contains in solution salts of potash, soda, lime, and iron.

Shingles, the "herpes zona" or "zoster" of the scientists, is a peculiar and very troublesome disease of the skin, eruptive and inflammatory, generally attacking the trunk, and preceded by febrile conditions. Accompanied by scalding heat and tingling sensations, the shingles usually appear in early puberty when there is a debilitated constitutional condition, the eruptions spreading in a line from the front to the spine, filling with serum and breaking about the fourth day, leaving a dark scab which, on falling away, occasions slight pitting. Pain in the part sometimes follows, which may be relieved by anodyne application. Shingles indicate the necessity for general tonic treatment and generous dietary. (See *Herpes*.)

Short Sight, so called, arises from malformation in the cornea, and may be congenital or acquired by close occupation involving continuous eye-strain. Suitable glasses must be worn for the relief of the ailment, and rest may also be requisite. (See *Myopia*.)

Side Pain. A pain in the side may arise from some very unimportant cause, or it may point to the existence of serious mischief. If intensified upon drawing a long breath, it may very likely indicate an inflammatory condition of the pleura. If on the right side and low down, it is frequently associated with bowel trouble and appendicitis or with typhoid fever. Pain in the region of the groin in females often originates in ovarian disorder. Neuralgic spasms in the side commonly relate to some muscular rheumatic affection. In any case of continued side pain, the cause should be sought out and similarly treated.

Sinapism. A technical term for the mustard plaster or poultice.

Skin. The health of the individual is dependent very largely upon the proper performance of the skin's functions. Roughly, the skin may be divided into two portions—the dermis, or true skin, called also the cutis vera or corium, and the outer skin or epidermis, sometimes styled the cuticle or scarf-skin. The skin is continuous with the mucous membrane lining the passages to the interior of the body, and the mucous membrane. In the epithelial cells under the surface of the cuticle is carried the pigmentary matter which makes a man white, yellow, or black, and the epidermis varies in thickness according to the uses of the parts it covers. The dermis is made up of connective tissues enclosing the blood-vessels, nerves, and glands, and is extremely sensitive, requiring the wrapping of the elastic sensationless epithelial longer for its protection. The outer skin must have its pores kept constantly free from the exudations of the sweat glands by systematic lavation, combined with the requisite friction. This universal necessity of humankind can only be efficiently accomplished by the employment regularly and systematically of pure detergent soaps, such as Pears', the scientific preparation of which has been brought to perfection by the projectors of this Dictionary during a manufacturing career of nearly a century and a quarter's duration. (See also *Epidermis*.)

Skull. The cavity of the skull contains within its surrounding bony walls the brain structure. The cranium is formed of 22 separate bones inclusive of those of the face, united by sutures somewhat like saw-teeth. Each of these bones is made up of two tablets joined by a spongy central portion, the outer

plate being tough and fibrous, the inner hard and glassy. The porous middle layer of the skull bones serves to neutralise the effect of shock from falls or blows; and the division of the cranium into parts circumscribes fracture. The bones most liable to be accidentally broken are the frontal and parietal, or the forehead bone and those side ones which form in the skull cap the dome and walls of the cranium above the temples. A simple fracture under careful treatment will in repose unite and heal of itself; a compound fracture, accompanied by depression of an injured fragment and severe scalp laceration, is a grave matter, whether occasioning direct brain mischief or not, and calls for urgent surgical interference.

Slough. That portion of dead tissue to be separated from a wound, the result of inflammation or injury. The removal of a slough should be effected antiseptically always, for obvious reasons.

Small Intestine. (See *Duodenum, Ileum, and Jejunum*.)

Small Pox is rightly reckoned one of the most serious of all the eruptive diseases, though the ravages of the malady have been immensely reduced since sanitation obtained general and authoritative recognition. How much Jenner's discovery of vaccination and its compulsory application over a long series of years has had to do with this diminution in small pox cases it would be difficult to say, but the enforcement of hygienic observation, and the continuous vigilance exerted by the State in stamping out contagion have together contributed to the decline of small pox in a manner most wonderful. Small pox begins with shivering lassitude, "sinking at the stomach," intense headache and pain in the back, accompanied by fever and thirst. With the appearance of minute red spots on the forehead, neck, arms, wrists, chest and abdomen, and subsequently on the legs, commencing upon the third day, relief of the febrile symptoms is experienced. The eruption rapidly becomes more pronounced, the spots attaining the character of vesicles and running sometimes into each other, when we have the condition of confluent small pox. The pustules are each depressed at the summit, and about the sixth or seventh day after reaching maturity their contents have changed from serum into purulent matter. On the eighth day after the "spots" come out, the disease is at maturity, decomposition having occurred in the vesicles; and then very often comes on a secondary fever, an aggravation of that which preceded the eruption. This is the most usual fatal stage of the malady; but it can be obviated in many cases by the application of a solution of carbolic acid in glycerine to every pustule. Sometimes the swelling of the skin in the more malignant type of small pox is indescribably horrible. Little can be done beyond careful nursing during the course of the disease with disinfectant dressing, keeping the bowels regular, and supplying nutritive and digestive diet. Great care is requisite during convalescence. Isolation is essential, and the hospital patient makes the most speedy recovery.

Snake Bite, or at any rate, bite from the fangs of a poisonous reptile, in this country can only arise from the bite of the viper or adder. Wherever it occurs it calls for instant treatment. It may be necessary at once to excise the injured part surgically, so swift and deadly is the action of some snake poisons. A powerful alkali should at once be introduced into the wound, or it should be burnt with a red hot wire, and strong stimulants, such as alcohol or ammonia, administered internally. The sub-cutaneous injection of strychnine has the effect of counteracting the virus of the bite in a marvellous manner; this of course requires the watchful superintendence of a competent practitioner. Potassium permanganate of potash crystals moistened and rubbed into the bite, enlarged by cutting it, is a safe and satisfactory mode of treatment.

Snuffles is an indication of catarrhal irritation, and the sufferer should be kept for the time being in an apartment at an equable temperature, introducing into the nostrils a little vaseline, or permitting the inhalation of some such soothing vapour, as that arising from oil of eucalyptus.

Soap used upon the human skin should be made with such knowledge and of such material as to be

beneficial and in no wise injurious. Soap of this intrinsic worth is procurable only by buying the best, and eschewing all such as is made from inferior material or which contains irritant alkali in excess, no matter how showily made up or how meretriciously scented. The animal or vegetable fat employed ought to be of pure quality, combined with just enough soda or some other suitable alkali to neutralise the oleic acid and form the fats into an emulsion soluble in water. That is the principle of sound soap, the making of which requires carrying out with chemical and commercial integrity, and adapting to varied toilet requirements by the exercise of expert knowledge. Such soap will be found the world over stamped with the name of Pears. This soap has been manufactured for over a hundred and twenty years, and has always ranked as the highest attainable value in this important class of article. There are certain soaps which, medically, are much employed in pill preparation, to carry purgatives and other remedial substances; indeed, a pure soap pill would in itself possess slightly laxative properties. Soap always makes a convenient enema for injection in cases of constipation, and here again the spurious article should be avoided.

Sodium is a solid ready prepared by the chemists, and is very useful in chronic neuralgia and rheumatism, and is a vehicle for more active rubefacients. It is better known under the familiar name of opodeldoc.

Soda, an alkali extensively used in medicine in its bi-carbonate form, and especially serviceable in acid dyspepsia. Its over-free use is prejudicial, because of its directly stimulating effect upon the gastric glands. In combination with tartaric acid the bi-carbonate of soda makes a very good effervescent beverage.

Somnambulism, otherwise sleep-walking, is the term applied to the peculiar condition of nervous disturbance which includes all the unconscious actions occurring during sleep. It belongs to disturbed dreaming and pronounced nightmare, and is excited by disordered nerves, often so rendered by some irritant agency, such as indigestion, or its consequence, constipation. If the bodily functions are in orderly activity, abnormal and dangerous manifestations like walking, talking or screaming during sleep will be of rare occurrence.

Sore Throat may be a simple relaxation, a malignant ulceration, or anything in between. It is at times a premonitory symptom of some more or less serious ailment, as in scarlet fever, quinsy, diphtheria, etc., and as such is frequently diluted to under other headings in this Dictionary. A common accompaniment of cold and catarrh, it is generally benefited by inhalations of steam, medicated or otherwise, by the application of linseed or bran poultices, by keeping in a warm room for a day and by a Dover's powder at bedtime, followed by a mild aperient in the morning.

Speculum, an instrument employed by physicians in the diagnosis of internal disease.

Spine. The spinal column in the human adult consists of thirty-three bones, but certain bones are blended together. Such are the five forming the sacrum and the four forming the coccyx or "tail." The average length of the column is twenty-eight inches, the variation in stature of grown folk being chiefly dependent upon difference in the length of the lower limbs. The natural curves of the spine are sometimes exaggerated by disease, producing the deformity known as hump-back. It acts as the shield for the vital spinal marrow, as well as enabling us to maintain uprightness.

Spitting of Blood is usually indicative of the existence of stomach, lung, or throat disease, and therefore regarded with very justifiable gravity. A person so affected should observe as much quietude as possible, suck ice, and take some safe astringent solution pending the procurement of medical advice. The dietary should also be regulated so as to avoid irritation.

Spleen. An elongated gland, of soft and pulpy consistence, situated to the left of the stomach towards the diaphragm, this gland is believed to be concerned in the production of colour, and colouring blood globules and also assists in disposing of worn

out blood corpuscles. It is a soft, spongy body, purple in colour, connected to the left kidney by cellular membranes. A similar gland in animals is called the *melt*, and has from them been removed without apparent interference with the functions of any other organ. Well supplied with blood vessels, the spleen possesses no excretory duct or outlet, though it is four inches long, three inches wide and two inches thick. In protracted ague, particularly if much quinine has been taken, the spleen will often greatly enlarge.

Splint. A long piece of wood, gutta-percha, or even a walking-stick, umbrella, or sword, or other suitable substance, used to sustain a fractured bone in position during setting.

Spongopline. A mixture of desiccated sponge with cotton or other lint, and after being rendered antiseptic covered with waterproof material in the dressing of wounds, or used as a compress or in connection with fomentation.

Sputum. Expectoration. In lung disease this should be promptly destroyed or effectually disinfected.

Squill. The bulbous scilla, largely used in medicine as an expectorant and diuretic in dropsy, bronchitis, and catarrhal affections of the chest. It is administered as a syrup, ointment, or in the form of oxymel; also in combination with other remedial agents. It is a powerful drug and needs discreet administration.

Staphyloma, enlargement of the eyeball, with protuberance of the cornea, and consequent dim sight.

Steel is a splendid tonic, usually administered in form of tincture of iron or steel drops. The oxide of iron is the essential principal of the numerous steel preparations so much employed in the treatment of anemia. These preparations are mainly astringent, and readily absorbed.

Stings of Insects. Apply salt water, iodine, olive or unseed oil, or weak ammonia. If the sting be left in the wound, endeavour to extract same by pressing firmly over the puncture with a key barrel, or by using a small pair of forceps or tweezers. A hot poultice over the wound will often draw out the irritating object, affording immediate relief to the inflammation. Stings upon the tongue from a wasp in fruit eating are very dangerous, and should be treated at once by a doctor, as dangerous swelling, leading to suffocation, may ensue.

Stomach, the reservoir of our food and drink, the organ in which certain processes of digestion are carried out. Its principal office is the conversion of alimentary substances into chyme, a subject which has been sufficiently referred to elsewhere. The stomach is the seat of many ailments which affect the system generally in greater or less degree, and have had reference in their proper places. As the great Dr. Kitchener once well said, "The stomach is the centre of sympathy," and is disturbed by hurt occasioned to any fibre of the frame. It is never called upon to suffer without communicating pain to other organs in some manner; thus dyspepsia is immediately indicated by fretting headache, which vanishes upon the removal of its exciting cause.

Stone is a common term for the concretions caused in certain diseased conditions of the bladder and kidneys. (See *Gravel*, etc.)

Straining and difficulty of evacuation indicate an irritable condition of the colon, attributable chiefly to constipation or dysentery.

Stramonium, a common wild herb yielding a dry alleviative of asthma, for which the leaves are smoked in tobacco fashion; the seeds are sometimes employed medicinally in the treatment of rheumatism, asthma, sciatica, neuralgia, and tic. It is a substance, the use of which may make more mischief than it can correct, and so should not be used unless prescribed.

Strangury is a symptom of irritability and inflammation in the bladder, characterised by intense pain and difficulty in urination, and occasioning the passing of blood with the water.

Strangulation. A form of asphyxia, or suffocation by constriction of the throat, sometimes called throttling or garotting. Such strangulation cannot long continue without producing fatality.

Stricture, occurring in any of the bodily passages, may be temporary or permanent, and is in the first

case generally due to muscular spasm. This stricture of the urethra, or passage from the bladder, coming on often with suddenness, will give rise to straining after urination with inability for its accomplishment. The warm bath or an opiate may yield relief, but frequently the use of a catheter will be requisite. Permanent stricture is morbid contraction of the passage concerned mainly accounted for by cancer or humoral growth. Sometimes curable by surgery. Sometimes intractable to treatment.

Strychnine, a peculiarly poisonous alkaloid, obtained from the bean of *Nux Vomica*. In some forms of paralysis it is useful as an injection in small quantities, and is also antidotal to most snake poisons.

Stye, a painful pimple upon one of the eyelids, proceeding usually to suppuration and usually giving rise to considerable disturbance as well as pain. It is a kind of small boil in a most inconvenient situation, and indicates almost always a low condition of the general health. Hot fomentation, great care being exercised not to injure the eye, will usually afford relief by bringing the suppuration to a head, but the juncture may prove necessary. An aperient may help matters, with tonic treatment to follow. The eye should never be poulticed.

Sulphates, combinations of sulphuric acid—an oily liquid formed of three equivalents, one of oxygen and one of sulphur, with some metallic base, as sulphate of magnesia, sulphate of soda, etc. These salts are much used in medicine. Sulphate of zinc furnishes a very valuable astringent lotion.

Sulphur, an elementary inflammable body found in great quantities in volcanic neighbourhoods. It is employed medicinally as milk of sulphur, flowers of sulphur, confection of sulphur, and sulphur ointment. Its use internally will occasion the passing off of sulphuretted hydrogen from the skin, which will blacken any silver article carried upon the person. Sulphur (commonly called brimstone) in any of its forms exerts a laxative influence upon the bowels, and has also a purifying action. One to two teaspoonfuls may be taken by an adult before retiring.

Sulphuric Acid, or Oil of Vitriol, is used medicinally in a very dilute form as a tonic ingredient. It is largely employed in arts and manufacturing processes, and sometimes is the cause of caustic poisoning, most difficult to cope with. Alkaline substances immediately administered, such as chalk, magnesia, soda, potash, soap, or lime will convert the acid into a sulphate and rob it of its deadly effect. This accomplished and the drinking of such milk or oil as possible thereafter may save life, but not a moment must be lost.

Sulphuric Ether, manufactured by the action of sulphuric acid upon alcohol, furnishes an anæsthetic preferred by many to chloroform. It is a stimulant and antiseptic, and sometimes may be found useful for hypodermic injection when collapse is threatened. For inhalation in angina pectoris, asthma, etc., it is often a valuable agent.

Sulphurous Acid has one equivalent of oxygen less in its composition than sulphuric acid, and may be written down as a gas held in liquid solution. It forms sulphites, and is a very useful non-irritant antiseptic, particularly when employed for spraying sore throats. Produced in the combustion of sulphur it is largely utilised for the disinfection of apartments in which contagious diseases have occurred.

Sunstroke, loosen the attire and convey the sufferer into a shady place, applying the coldest water procurable, or ice if possible, to the head, which keep in an elevated position.

Suppository is a method of administering medicine by the bowel, usually composed of cocoa-butter softened down by olive oil and medicated to suit the case. Morphine, belladonna, nuxtonia, hamamelis, ichthyol, and other medicines, are thus introduced by suppository, and food is similarly administered when the stomach is in too irritable a condition to retain it.

Suppression applies in medical phrasing to the cessation of the secretions of certain organs. Such as of perspiration or of the urine or of menstruation.

Generally speaking it indicates the stoppage of natural, periodic, or other evacuation.

Suture, the junction of bones by their jagged margins, hence "sutured" and "sutural."

Swine Fox is one of the varieties of Chicken Pox, an infectious ailment, which see.

Syncope, or fainting, may be fatal when referable to serious affections of the heart or lungs. Attempts, when milder restorative measures fail, should be made to obtain a return to consciousness and functional activity by the employment of artificial respiration, the application of electricity, or the injection of ether or other quick-acting stimulants. In a simple faint, lay the person flat, with head low, and remove all clothing from neck and chest.

Synovial Fluid is secreted by the joint membranes for the lubrication of the cartilages, and for facilitating the movements of the bones, at their junction with each other. The synovia is formed of oleaginous and albuminous matter called in popular parlance "joint oil." When the synovial membrane is in any wise inflamed the fluid will often be excessively secreted, giving rise to painful swelling, as in "housemaid's knee," and should the joint become organically diseased, and chronic inflammation be occasioned, there is apt to be a general degeneration of tissue, in which the synovial membrane participates and helps to form such a permanent abnormality as is specially shown in the knee joint when white swelling appears.

Tamarind. The preserved pulp of the pods of the tamarind tree of the Orient yields an agreeable laxative acid substance, of great use in inflammatory and putrid disorders, for abating heat and thirst and correcting putrefaction. Tamarind juice and tamarind tea are both admirable anti-febrile drinks.

Tannin is the astringent principle of oak-bark and galls. Tannic acid is employed medicinally to stay hæmorrhage, to constrict relaxed tissues, and to check excessive secretions. The preparations principally used are the tincture of galls, the tincture or compound powder of Kino, and the tincture or compound infusion of catechu. Tannin combined with glycerine may be painted upon the tonsils advantageously as an astringent in badly relaxed sore throat.

Tapeworm in the intestines is the result of absorption from infected animal food of the un-developed forms of the parasite, or they may be taken into the human stomach with celery or salad. Once in the human intestine the tiny larva of the tapeworm proceeds to final development. Hatching out, it attaches itself, by tiny hooks in its head, to the membrane of the alimentary canal, and grows downwards by budding, in detachable segments, each capable of the reproduction of their species, to a length as much sometimes as 20 feet. Naturally the presence of tapeworm is irritant in the extreme, and perhaps the best way to get rid of the pest is by treatment with naphthaline, which appears to act as a direct poison to it. Chloroform water has a paralysing effect upon the worm, causing it to be sold on the membrane, when purgation will cast off the parasite with the evacuations. Until the minute head of the worm is detached and voided the cure is incomplete, for any number of new segments may be developed. A simple cure is to fast for 8 hours, then to take at night a drachm of water fern extract, with mucilage and pepper-mint water, a dose of castor oil in the morning, and a plate of mashed potatoes at 11 a.m.

Tapping is the surgical operation resorted to for the removal of fluid collected in quantity in any of the cavities, as of the pleura or abdomen in dropsy. It affords immense relief. Tapping of a minor nature is surgically undertaken for the extraction of superabundant fluid from joints, extensive watery tumours, and large abscesses.

Taraxacum, the medical term for the dandelion, largely employed in pharmacy, chiefly as an adjunct to other drugs. In decoction, extract, and juice it forms an ingredient of pills and potions remedially used in indigestion due to liver torpidity.

Tartar Emetic, the tartrate of antimony and potash, a colourless crystalline salt, soluble in water. It has expectorant properties, and produces a powerfully depressing effect upon the heart's action.

Formerly it was a good deal used in febrile attacks, but is not now so much favoured medically. It is a deadly poison if taken in too large doses, and is employed externally in ointments as a counter-irritant where "white swelling" exists.

Tartaric Acid, the characteristic acid of the grape, exists in various vegetable products, and enters into the composition of cooling effervescent drinks and some medicinal preparations, as the sedilite powder: colourless and without smell, it is peculiarly sharp and "tart" to the taste.

Tartrate of Potash is a mild and efficient purgative, and when given with more powerful aperients, like senna, counteracts their griping properties by accelerating their action.

Tendons are the strong inelastic cellular bands by means of which the muscles are attached to the bones. They are often expressively styled "leaders," and present the appearance of white glistening cords endowed with great strength. The Achilles tendon on the heel—capable of resisting a force equal to a thousand pound weight—the tendon of the diaphragm, and those of the groin, hands, and feet are the most noticeable. Most of the tendons are subject to sprain or rupture, and in the latter case call for surgical treatment. **Terebene**, a colourless volatile fluid, slightly resinous in smell, is procured from turpentine by the action of sulphuric acid under heat. It is useful in bronchitis, five to ten drops on a piece of sugar, and makes a soothing inhalation in inflammatory affections of the respiratory organs. Terebene possesses antiseptic properties, and has been employed in wound dressing. Terebinthina is the oil of turpentine, employed in the manufacture of certain soaps.

Tertian, occurring every third day, as tertian fever, tertian ague, etc.

Tetanus, the technical term of lockjaw.

Tetter, a common name for the skin ailment technically termed "herpes," and also applied to eczema as "dry" and "wet" tetter.

Therapeutic, curative; hence the branch of medicine devoted to the treatment of disease is styled therapeutics.

Thorax, the chest cavity and its bony framework. The conical-shaped thorax, narrow at its summit and broad below, contains the heart and the large vessels therewith connected—the lungs and their bronchi, a portion of the windpipe, the œsophagus, the thoracic duct, and many important vessels, nerves, and glands. It varies in circumference considerably according to the robustness of the constitution; but when properly developed in the adult, should average from 35 to 38 inches, and should be well rounded, neither too flat nor too sharp—bulging to the "pigeon-breasted" formation, which often follows a rickety childhood. The contracted thorax is characteristic of the consumptive tendency, whilst the deep and expansive chest is usually indicative of urgent respiratory power, though overprominence means emphysema of the lungs.

Trismus, a very painful neurotic affection of the face and side of the head, paroxysmal in character, and generally most troublesome in the temporal nerve. Phenacetin is recommended for the immediate relief of the most distressing symptoms, while quinine and nourishing dietary are likely to conquer the neuralgia. One peculiarity of tic is that there is nothing to show the poignant pain, no swelling or redness. This differentiates it from ailments of rheumatic origin. It will come and go with startling suddenness too; sometimes being induced by the slightest touch of the nerve or the most momentary exposure to draught, departing after inflicting excruciating torture abruptly. Emotional and highly-strung persons of indoor occupation are more subject to tic than others.

Tinctures are solutions of numerous drugs in spirit, specially suited for their infusion. Proof, rectified, or aromatic spirit of ether is employed in pharmacy for the production of certain tinctures, not only for its solvent properties, but because of its anti-spasmodic virtue; and aromatic spirit of ammonia for its alkaline quality. Proof spirit is used when the active principles of the drug required remedially are soluble partly in water and partly in spirit; and rectified spirit is

preferable when the drug is but sparingly soluble. All the more common medicinal tinctures are referred to in their alphabetical order, or in connection with the ailments to which they are applicable.

Toe Nails, Care of. The toe nails require to be always clean, well trimmed, and free from compression. Should any indication of abnormality, or of disease in the surrounding tissue appear, advice should be secured without delay and acted upon. (See *Nails*.)

Toes. The toes are liable to fracture, to affection by painful corns, bunions, and to gangrene in senility, as elsewhere noticed. Splints are most necessary in toe injury, as bandaging the neighbouring toes together will give the necessary support.

Tongue. The organ of speech and taste, is a ready tell-tale of health or its converse. To the eye of experience it reveals at a glance the state of the digestive organs, and indicates any disturbance of the general system. Should the tongue be swollen, with accompanying throat catarrh, we have the sign of stomach disorder; a dry tongue points to prostrate strength; furless and red signals intestinal irritation; heavily coated with white fur it announces a febrile bodily state; relaxed it speaks with sympathetic silence of rheumatic trouble; protruded and pointing sideways it indicates partial paralysis, and the situation of the palsied part; strawberry-like it assists in the diagnosis of scarlet-fever. It is liable to many ailments of its own, besides thus by its dryness, moisture, bulk, movements, and the character of its coating affording the index to derangement elsewhere. Ulceration, inflammation, and cancer at times assail the tongue, and demand remedial treatment of a proper character with a pre-emptiveness which will brook no denial. The exquisite sensibilities of touch and taste in the tongue are admirable aids to the direction of the all-important processes of mastication.

Tonsils. Two rounded almond shaped glands reared immediately behind the anterior pillars of the soft palate on either side of the throat, secreting a tenacious mucous fluid. These glands very often become enlarged in childhood, from various causes, and may be surgically reduced or even extirpated without detriment to the future development of the patient. In tonsillitis or inflammation of the tonsils the murate of calcium is a very valuable curative agent; but indications of this ailment should always receive early medical attention, as they frequently point to rheumatic trouble.

Tooth. A tooth consists of cement, dentine or ivory and dental pulp, the whole covered with enamel. The exposed portion above the gum is called the crown, that within the socket the root, and the narrow part intervening between the root and the crown the neck. See "*Cutting of Teeth*."

Toothache. "There never was yet philosopher that could endure the toothache patiently." Shakespeare made Leon sapiently to say in "Much Ado About Nothing." But as toothache does not kill it is made light of by all save the sufferer for the time being. Arising almost always from decay, it may be remedied by the removal of the troublesome tooth, or it can be stayed by the dentist in the early stage of manifestation frequently by skilful stopping. Pain, too, may be assuaged by cleansing the cavity and introducing a pledget of wool saturated with dilute carbolic or cocaine. Should neuralgia or digestive disorder be the exciting cause of a bad toothache bout, as both often are, temporary relief may be secured by overcoming the nerve trouble or setting the digestion right; but sooner or later toothache will take its subject to the dentist if he or she be wise.

Torpor indicates injury to or disease of the nervous system, and unless the semi-comatose person can be roused by ordinary restoratives, a very grave condition is plainly existent. Such torpidity calls at once for the doctor's assistance.

Trachea. Is that part of the windpipe between the bronchial tubes and the larynx or organ of voice. Liable to inflammatory ailments, it is the portion of the air passage surgically opened in the operation of tracheotomy when suffocation threatens from diphtheria and certain other malignant throat affections. (See *Bronchotomy*.)

Trance is an abnormal condition which, without

being either sleep or swoon, involves suspension of the voluntary functions of the body, while therein the mind sees visions. One subject to trance is a "passive resister" to all attempts at restraint, but may often partake of and assimilate administered nourishment. (See *Catalogue*.)

Transfusion. the injection of the blood of one animal into another; sometimes the blood of a healthy and vigorous subject is introduced into the vessels of another person in a condition of collapse as an extreme restorative resource.

Tremor. or involuntary shaking, is a symptom of nervous debilitation arising from undue excitement, exhaustion or actual disease. In fever it indicates great vital prostration, and is a very frequent accompaniment of paralysis and of urebriety.

Trichinosis is a disease—happily infrequent—due to the invasion of the muscles of the human organism by a minute worm called the trichina spiralis, introduced by eating the infected flesh of pigs, or other animals therewith infested. The disorder sets in a few days after partaking of the infected meat, and its symptoms have considerable resemblance to those of typhoid fever, with which no doubt it has sometimes been confounded. After trichinosis has run its most favourable course—for it is not necessarily fatal—the microscopic worms may become encased in the muscles and thus remain embedded, causing no further mischief. The disease requires the most urgent and skilful treatment.

Trunk-Pack is sometimes resorted to in the hydropathic treatment of febrile conditions of the abdomen and thorax, its object being to induce free perspiration coincident with a general reduction of the temperature, obtaining by the aid of saturated towels and many flannel swaddings, all the beneficial effect of a hot bath, without any of its inconvenience and dangers to a person in an enfeebled and precarious state.

Truss. an instrument largely employed for the support of the part by sufferers from rupture. It should always be well made, well fitted in every particular of pad, spring and straps, whether single, double, or bag shaped. (See *Rupture* and *Hernia*.)

Tubercle is directly due to the presence within the system of the tubercle bacillus, which is the organism or disease germ known as the tubercle bacillus. Tubercle attacks the lungs, certain glands, and the bones, and destroys their vitality to a greater or less extent, usually spreading its ravages to the tissues of the body. It cannot flourish under healthy general conditions, and may sometimes be counteracted and driven out of the system by vigorous medical treatment, commenced before the malignant bacilli have obtained too great a hold. The murate of calcium alone or in combination with hyposulphites is very antagonistic to the destructive bacillus which is the active occasioner of consumption.

Tumours are abnormal growths upon or within the body, varying in size and significance from a wart to a malignant cancer. Thus every adventitious excrescence, boil, abscess, wen, polypus, or cancer, is, strictly speaking, a tumour, but not every tumour is a cancer, nor every cancer malignant. Tumours usually require at some time or other surgical attention and they are often successfully removed by operative treatment from the breast, throat, abdomen, larynx, and even the brain, so that sufferers from tumour or their friends need not necessarily take a pessimistic view of their ailment. A tumour of any considerable size wherever situated of course requires expert examination, and will be dealt with according to its particular nature. "Tumid" signifies enlarged or distended, and "tunefaction" is a longer name for a tumour or swelling.

Turkey Rhubarb. The term usually applied to the best kind of medicinal rhubarb in the market, though it does not by any means always emanate from the domain of the Sultan.

Turmeric. obtained from the root of the curcuma, an Oriental member of the ginger genus, forms an important ingredient in curry powder composition, is useful as a means of making chemical tests for alkalies, and finds limited employment in medicine as a stimulant. In India doctors use it sometimes for colic or cramp.

Turpentine is a spirit derived from the resinous

exudations of certain species of pine tree; and possesses many very valuable medicinal properties. Applied externally upon a hot fomentation it is a powerful counter-irritant to spasmodic and inflammatory affections of the abdominal viscera; and it is often remedial in similar treatment of rheumatic attacks of the muscles, nerves, and joints.

Tympanum, the cavity of the middle internal ear in which lies the tympanus. (See **Ears**.)

Typhoid, a synonym of enteric or gastric fever, is a condition of the system entailing very considerable peril to life, and consequently always properly regarded with gravity. (See **Enteric**.)

Typhus Fever, the Black Plague and jail fever of old, is an infectious and pestilential malady arising from a vitiated atmosphere and general insanitary surroundings. Characterised by much pain, excitement, and delirium, it is therefore often spoken of as "brain fever" and "camp fever." Its characteristic eruption, resembling somewhat the spots of measles, and interspersed with what look like flea-bites, is different from the slightly raised rose-coloured and typical rash of typhoid, which disappears on pressure with the finger.

Typhus is variant again from typhoid or enteric in that the latter's most malignant influence is located in the bowel chiefly, whilst the stress of typhus is on the brain. One of its earliest manifestations is severe headache, followed by delirium, sleeplessness, dreadful dreams when fitful slumber is obtainable, twitching of the muscles, and subsequent coma. Usually the bowels are confined, quite an opposite condition to that obtaining in typhoid. Again, typhus has no definite duration like typhoid, but generally begins to decline, should its course be favourable, in about fourteen days, though many cases have lasted much longer. On improvement taking place—upon the fifteenth day or thereafter, as the case may be—recovery is frequently sudden and most marked. The treatment requisite is the admission of as much pure air as possible to the apartment in which the sufferer is confined; most assiduous and watchful nursing, keeping the bowels open, the application of ice to the head in delirium stages, blistering at the back of the neck if necessary, support in the shape of beef-tea and milk, with port wine and brandy should the prostration prove excessive. Sometimes there is distressing cough and chest disturbance, which should find relief in the application of mustard plaster; but this belongs to the essential careful nursing, as does the requisite judgment when to withhold or administer stimulants. Disinfectants must be used to obviate contagion all through.

Ulcer. A sore on any soft part of the body, attended with pain, inflammation, and the discharge of pus, and destructive, at least for the time being, of the tissues of the skin or mucous membrane. An ulcerous condition means literally one in which there is an eating away of surface, and is due to the circumstance that the healing of a wound or sore of any kind has been prevented by the development of the genus of decomposition which have invaded the injured part. Ulcers therefore call for antiseptic treatment, wherever situate, to destroy the vitality of the malign agencies at work within and connected with them. The sooner and the more thoroughly this is undertaken the quicker they will cease to trouble. They should be cleansed and supported, preserved from irritating friction, and dusted with iodoform or aristol to expedite their healing.

Ulna. One of the two bones of the forearm, between the elbow and wrist, sometimes styled the cubitus. It lies to the side of the little finger when the arm is held palm upwards.

Umbilicus. The navel, hence unibellical cord, the navel string.

Urea. A substance of nitrogenous pro-duction contained in the urinary secretion and excreted by the kidneys. When the diet is largely composed of animal food the urea is increased in amount, and diminished by vegetarian alimentation.

Uræter. The tube or duct conveying the urinary fluid from the kidneys to the bladder. When, as it sometimes does, it becomes the seat of intense pain, through the presence or passing of renal calculi, the anodyne treatment recommended is hot fomentation

upon the textile medium of the application, and coincident subcutaneous injection of morphia.

Urethra. The canal from the bladder by which the urinary secretions are voided. It is liable to numerous distressing ailments, which are frequently "quacked," and mostly to the misery of their unfortunate subject. A competent practitioner should always be consulted without delay in affections of the urethra and any of its associated organs.

Uric Acid. Sometimes called also lithic acid, a urinary product, affording urates, and a source of the calculi which occasion such serious bladder disturbance on their accumulation within that organ.

Urine. This secretion of the kidneys conveys from the body in a liquid form certain products of decomposition. It is, in health, of a light amber hue, of an acid reaction, and very slightly in excess of the specific gravity of pure water. An average adult excretes 24,000 grains daily, in which are dissolved so to 12 grains of uric acid, and 500 grains of urea; but the amount of water passed varies according to season and circumstance greatly. Thus the urine is lighter and much more abundant in cold weather, when the pores of the skin are exuding little moisture; but, in high temperature, when there is heavy perspiration, urination is scant, highly coloured, and comparatively frequent. When it is more odorous than the common it indicates that decomposition has been going on; if it contain dark, dull brown blood, the condition points to hæmorrhage in the kidneys; a red or dark colour of the water tells of bleeding in the bladder coat or the prostate gland at its base; an excess of urates tells of the existence of gravel; a brick dust-like deposit is associated with rheumatism; sugar with diabetes; these and other abnormalities in the evacuated water are all powerful aids to the physician in the diagnosis of disease. Difficult or painful urination should always have early medical attention.

Uva Ural, the bearberry, is a North European plant, the leaves of which are largely used medicinally for their astringent properties, and the infusion thereof is prescribed for bladder irritability.

Uvula, the small tongue-like and spongy extension suspended from the upper portion of the soft palate between the tonsils. When elongated abnormally it creates irritation at the top of the larynx, exciting a peculiar kind of cough, and may require surgical reduction to yield relief, though sometimes the trouble may be bargained away or palliated by suitable inhalations. The uvula is a participant in the pain endured by gummy, sore throat and scarlatina.

Vaccination is compulsory by law in this country in the case of infants between birth and the age of three months, unless an objecting parent or guardian can persuade a magistrate to grant a certificate of exemption on conscientious grounds, generally a difficult matter, and the request is preferred in only a comparatively insignificant number of cases nowadays. (See **Small Pox**.)

Verrucal Root, very disagreeably odorous and nauseous to the taste, is used in infusion and tincture for the treatment as a stimulant and antispasmodic, of hysteria, epilepsy, St. Vitus's dance, and other nervous affections.

Varicella, the medical name of Chicken Pox, regarded as a contagious disease, though in itself usually of a mild character, capable of being conveyed by infection to a second person, in whose case a more virulent attack may be experienced.

Varicose Veins, the most frequent position of varicose, or swollen and knotted veins is the calf of the leg, but they may appear elsewhere, and are not uncommon in the region of the anus, when they take the form of or occasion piles (which see). They may arise from age or debilitation, from over strain in standing, from wearing tight garters, and from pressure during pregnancy. When swelling and inflammation accompany varicosity, loss of bleeding and ulceration may ensue. Bandaging and the use of elastic stockings are recommended, and sometimes operative treatment may be necessary.

Veins. After the blood from the heart has passed in the course of the circulation all along the gradually attenuating arterial system, it is taken up by the

capillaries, which, becoming larger and larger, end in the veins. The veins growing more and more expansive on route, join to the main large trunks or vessels through which the blood is conducted back again to the right side of the heart whence it first flowed, to be purified in the lungs for retransmission. The veins are supplied with valves opening forward only, and thus preventing any ebb of the blood. They are liable to distension when pressure is exerted by any abnormal cause upon any part nearest the heart than that affected, giving the condition of varicosity. (See **Varicose Veins**.)

Vegetarian Dietary, in the ordinary conditions of human life, would be insufficient alone to support the functions in vigorous activity and repair the regular wear and tear; that is to say, a mixture of animal food is conducive to the well-being of mankind. On the other hand, vegetable aliment cannot be dispensed with without injurious consequences. Those vegetarians who refrain from animal food on account of their humane repugnance to the destruction of life practically admit this when they partake of nutritious animal products like milk, eggs, butter, and cheese.

Ventricle is the name given to various cavities of the body, as of the brain and the larynx, but more particularly to the chambers of the heart from which is distributed the blood, the left ventricle supplying the circulation to the body, whilst the right keeps the flow to the lungs. (See **Heart**.)

Vertebra. This is the scientific term applied to the bones forming the spinal column. (See **Spine**.)

Vertigo is a symptom which should always be viewed with apprehension, as it very frequently indicates mischief within the internal ear or in the brain itself. (See **Giddiness**.)

Vinegar is, in small quantities, good. It supplies a salutary and grateful stimulus to the stomach, correcting the flatulency of vegetable food and the putrescency of animal aliment. But any excess of it is pernicious.

Vitreous Humour. The pellucid liquid which fills the bulk of the eyeball behind the crystalline lens.

Vitriol. Vitriolic acid, or oil of vitriol, is known in chemistry as sulphuric acid, which is employed medicinally in a guarded way. (See **Sulphuric Acid**.)

Vitus's Dance, St. (See **Chorea** and **St. Vitus's Dance**.)

"Wall" Eye. A condition in which the iris is almost destitute of colour, or bluish-white or greenish appearance, as the case may be.

Warm Bathing is not only essential to cleanliness, but the best of all bathing for health and comfort's sake. A temperature of 70 to 80 degrees gives a sensation of warmth to the skin, and obviates the shock induced by a bath at anything below 60 degrees in temperature or the excessive stimulation resultant from plunging into and retaining the body in water heated to 85 degrees and upwards. Many people are apt to remain over long in a very warm bath, which is exceedingly and positively dangerous to anyone with all defective heart action, besides giving great susceptibility to cold through the opening of the pores effected by heat and immersion. Soap of pure composition, and impregnated with just the requisite amount of alkali and no more, such as can safely be relied on if bearing the name of **Pears**, is necessary to complete healthful luxury of a properly regulated warm bath, removing as it does all the fatty matter exuded by the oil glands. A cold sponge before a brisk towelling before dressing will tone up the skin and system and set the bather into a glow.

Warts are irregular horny excrescences of the outer skin, occurring chiefly on the fingers and hands, but sometimes on the face, neck, and ears; and occasionally also, of a softer nature, upon the mucous membranes. These thickenings of the cuticle, which, at times, are of considerable size, and may involve a portion of sensitive upper surface of the derma or true skin, with its minute blood-vessels, are always unsightly and inconvenient. They may, however, be readily extirpated in most cases by paring or scraping the surface daily, and touching with a stick of lunar caustic; strong acetic acid, or chromic acid, will sometimes suffice to destroy them. If these fail, nitric acid, applied through

a glass tube, so as to protect the surrounding tissues, may be tried. Sometimes they resist treatment, and yet suddenly disappear spontaneously later on in a very puzzling fashion. If pedunculated, they may be slipped off by sharp scissors, or tied round tightly with strong silk, which often brings about their separation insensibly in a short period. Epsom salts taken twice or three times a day for a little while will check, and generally cure the tendency in children to wartiness of the skin.

Water in the Abdomen, technically termed **Ascites** (which see), or abdominal dropsy, is an accumulation of serum in the cavity, caused by obstruction to the flow of blood within the veins; such obstruction being the product of diseased conditions of the liver, kidneys, heart, or a consequence of inflammation of the peritoneum. Tapping affords relief, great relief; but the water will again accumulate if the disease that occasions it continue, until the patient succumbs in the end to exhaustion. Medicines acting on the circulation and secretions may mend matters meanwhile, but continuous abdominal dropsy is difficult to overcome.

Water on the Brain. This is always a serious, and generally a fatal, disease, its origin being tubercle, often inherited. Frequently, too, it follows meningitis.

Weaning. Till the appearance of the first or milk teeth, infants should, wherever possible, be fed entirely by suckling; but after Nature's indication that the child can eat of itself, rusk and farinaceous food may begin to be given. The weaning should commence in the ninth or tenth month; artificial feeding being increased in frequency and quantity of administration as the breast is being gradually withdrawn. Not more than about three ounces of fluid should be fed to the child at any one time, lest its stomach be overloaded, and the digestive powers impaired in their early development. Give thus at regular intervals, with nothing in between, and see that the baby's bowels are kept open. If the maternal breasts become painful upon weaning gentle saline aperients should be taken, and the mammary glands bathed with cologne water lotion.

Wens. These are small tumours, sometimes peduncular, sometimes egg-shaped, elastic to the touch, smooth, and shiny. They consist of yellow, cheesy-looking matter, enclosed in a cyst or sac. They are caused by abnormal enlargement of the sebaceous glands of the skin, and appear on the head, face, neck, and other parts, reaching any size between that of a boy's toy marble to an orange, or even larger. They are harmless, and are best left alone if not so large as to occasion serious inconvenience or implicate other structures. Surgical treatment should aim at entire extirpation of the sac, but there is always some danger of erysipelas following the operation.

White Leg or Phlegmasia Dolens is a painful condition arising sometimes after confinement through absorption of fetid matter. It is due to inflammation in the veins, producing coagulation and obstructing the return of the blood to the heart. The consequence takes place into the tissues, and a tense, swollen and glossy brightness of the skin ensues. There must be perfect rest in the recumbent posture, hot fomentation, and careful attention to the bowels, with a simple and nutritious dietary, while five-grain doses of the iodide of potassium three times daily may be administered with good effect.

White Swelling is the common term of a disease of the knee joint in which degeneration of the synovial membrane and cartilage has taken place as a consequence of prolonged inflammatory irritation. The limb must be placed in splints, perfect rest enjoined, and a dressing of mercurial ointment applied, the general constitutional health being built up as much as possible coincidently. If the patient can be given a change to the seaside air all the better, for white swelling nearly always argues bodily debility.

Whitlow is a painful affection on the thumb or finger deep down in the tissue due to blood-poisoning. The bone, tendons, or strong muscles may be the seat of the suppurating trouble, and the pus often has such difficulty to find an outlet that it will remain until most offensive, and finally escape by the sides of the nail, at some distance from the actual ulceration. There

will be great pain, heat and throbbing. Poulticing, persistent and thorough, is requisite, to get the matter away, and lancet used very liberally will be necessary to clean out the wound completely. The general health should at the same time have medical attention.

Windpipe. The windpipe, except when swallowed always open at the top, is a rigid tube, distended by thick plates and rings of gristle or cartilage. It is a hemispherical tunnel, running from the larynx to the bifurcation of the bronchi, down the front part of the neck, dipping behind the breast bone into the chest. The back part of the tube is flattened and flexible so as to yield to the passage of food and drink down the gullet or food pipe immediately behind. The windpipe or trachea is liable to inflammatory affections like the rest of the air-passages, which are soothed by the inhalation of steam, impregnated with anodyne and antiseptic substances, while hot fomentations and poulticing externally will frequently afford relief. (See *Trachea*.)

Worm Bark. This is the bark of the cabbage-tree, used sometimes as a vermicide, but is not to be recommended because of its uncertain inaction, and is not altogether a safe thing to take.

Worms. Worms are very troublesome to some children, setting up irritation of the intestinal canal they infest, and working much constitutional mischief if not extirpated. The symptoms of their presence are variable and vitiated appetite, foetid breath, grinding of the teeth, picking and itching of the nose, pains in the stomach, disordered bowels, and irritation of the rectum and anus, with passage of the parasites in evacuations. Round worm has resemblance, as far as shape goes, to the common garden worm; thread-worms are thin, short, and white, and inhabit the rectum or lower part of the large bowel. Tapeworms (which see) are enormously long and many jointed, and capable of reproducing detached segments until the head is dislodged. The latter often trouble the adult, and the treatment is described elsewhere. Calomel and scammony, santaline, and other vermicides, are employed for the expulsion of the round and thread-worms, after previous emptying of the bowels, a free purgation again following the elected medicine. Injection of salt and water or infusion of quassa is used to kill threadworms.

Wounds. A clear cut or incised wound, as with a razor, if not extensive, will usually heal readily by being brought together by means of strips of adhesive plaster of a non-irritant nature, small intervals being left between the strips to permit of the escape of blood or serum. Antiseptics ought first to be applied in this case and in every other class of wounds, &c. dirt being thoroughly removed from the wound. Should the wound be long and deep, its edges may be stitched together neatly with white silk and a glover's needle all along, both needle and silk being sterilised before use by saturation in dilute carbolic acid or some other antiseptic. Should any artery or other important vessels have been severed, they will require sewing to stop and prevent further hemorrhage, pressure being exerted to allay bleeding meantime. Wherever extensive hemorrhage exists, surgical assistance should at once be sought. A wound made by a blunt instrument or caused by a fall is generally contused and lacerated, presenting torn, rough or jagged edges. Gunshot wounds sometimes come within this category. Injuries of such a character require cleansing of clot and blood and any dirt foreign matter which may have been introduced. After treating with antiseptics, dressing with carbolic oil is most suitable usually in these instances, being readily renewable. Amateur surgery should never be attempted in serious wounds wherever a qualified practitioner is available.

Writer's Cramp. A painful affection which sometimes attacks those who are condemned to labour continually hard with the pen, sometimes styled "Scrivener's Palsy." It comes of over working one set of muscles. It has analogy to ailments suffered by compositors, pianists, tailors, seamstresses, violinists, engravers, and telegraph operators, and arises from a like cause. Sometimes electricity has been successfully employed for its relief.

Wry Neck, in which the neck is twisted or turned awry, arises from a spasmodic contraction of the sternomastoid muscles which chiefly govern the movement of the head from the side. Should a baby be born with this deformity it is remediable by surgical operation; and if the condition be the result of accidental injury or burning it will also admit of amelioration at the surgeon's hands. Wry neck due to paralysis of the muscle on one side will require special restorative treatment, and if rheumatism be the cause then the inflammation must be combated and a liniment of a stimulant nature applied. Cotton wool and an oiled wrapping should be placed to the part after each rubbing in of the liniment.

Xerasia, a disease of the hair, which becomes dry and ceases to grow when affected therewith.

Xeroderma, a morbid dryness of the skin, in its severest form constituting fish-skin disease.

Xerodes, a kind of tumour, attended with dryness.

Xerophthalmia, a dry red and itching ailment of the eyes.

Yam, the Dioscorea, on whose big tuberous roots John Chinaman and many natives of the East Indies live as much as we do upon potatoes, furnishes a nutritious article of dietary.

Yaws, a cutaneous ailment, common in Africa, the West Indies, and tropical America, commencing with eruptions upon the face, under the armpits, and on the groin. It is contagious and proceeds to ulceration of a very untractable and weakening character.

Yellow Spot in the retina of the eye is the sensitive small central place in the direct line of vision, and is so called from the yellow tinge it assumes after death. When one looks at any object one moves the eye about until the image of such object is reflected directly upon the yellow spot of each eye, thus giving single vision with two eyes.

Zinc. Zinc is a metal which does not usually occur in Nature as such, but is obtained from its ores, chiefly the sulphuret and carbonate of zinc. It is much used medicinally in various ways, both in oxide, chloride, and sulphate. The oxide is a white tasteless powder, largely employed in ointment making; and this preparation or the valenianate of zinc are given internally for epilepsy and St. Vitus's Dance. Sulphate of zinc, or white vitriol, looks very like Epsom salts. It is used a good deal in the making of eye lotions and also provides a very powerful and urgent emetic agent productive of immediate vomiting in poisoning. The chloride of zinc is caustic and antiseptic, and is serviceable in the destruction of unhealthy and malignant growths.

Zinc Lotion, as applied to burns and scalds for emollient and healing purposes, is made of sulphate of zinc, one drachm, diluted in a pint of water. It arrests discharges from the wounded surface, and affords considerable relief.

Zinc Ointment, so valuable in eczema and in ulceration generally, is made by rubbing well together an ounce of the oxide of zinc and six ounces of pure oil, adding one part of carbolic acid to twenty of the ointment. For use with children and in all ordinary cases of watery discharge or suppuration after injury, this is one of the best of healing ointments.

Zizyphus. A shrub chiefly found in tropical regions, one of the varieties of which is supposed to be identical with the lotus, or lote tree of old Egyptian mythology. Zizyphus nummularia furnishes a fruit yielding an astringent essence used in India for bilious disorders, and the bark of Zizyphus jujuba is remedial in diarrhoea. Other varieties of this plant are very largely used in medicine in different parts of the world.

Zygoma, the cheek bone or arch, the arching process projecting from the temporal bone, to which are attached the fleshy fibres of the temporal muscle; the sutures uniting the two contiguous bony formations are technically termed zygomatic.

Zymotic means infectious or contagious, implying reference to such diseases as may be inoculated and are of an epidemic nature. Scarlet-fever, smallpox, chicken-pox, measles, typhoid, mumps, diphtheria, erysipelas, and cholera are all zymotic, and to a considerable extent are resisted by sanitary precautions.

PEARS' DICTIONARY
of
SPORTS & PASTIMES.



EDITED BY
C. B. FRY.

Founder and Editor of "Fry's Magazine," "The Book of Cricket," &c.

Pearš' Dictionary of Sports and Pastimes

INTRODUCTION.

By C. B. FRY.

Founder and Editor of "Fry's Magazine."

It must be understood, of course, that in a compendium of the present nature there is no scope for the detailed technology and the elaborate rules of sports and pastimes, such as Cricket, Golf, and Lawn-tennis among outdoor subjects, or of Bridge, Chess, and Billiards among indoor subjects, which have developed into specialised cults. But the main characters of these are adequately described, and whoever wishes to pursue the study of a particular subject among them in minute detail will find a wide choice of books which may be consulted. The less popular and un-specialised sports and pastimes, however, are treated almost as completely in these pages as the (supposedly) more important; and it must be remembered that really the relative importance of each subject is a matter of fashion and individual choice and is not to be measured by their spectacular importance, which decides the amount of space devoted to them in the columns of the daily papers. A game may be a very good one for play and a very poor one for news; and publicity is no true criterion of the value of a game to those who actually play.

It seems to me that the second division of this Sports and Pastimes Section, which deals with Indoor Games, is particularly useful, for these include subjects upon which information is continually in request, yet is generally unavailable in the form of a book of reference. Considering how much attention is given among us to outdoor pastimes, one is often surprised that indoor games have not been cultivated with a similar regard to the possibilities of this or that pursuit. To my mind there is no doubt that much good would come from the exercise of more ingenuity in the adaptation of some outdoor pastimes to indoor conditions; and I am inclined to agree with that enthusiastic reformer, Mr. Eustace Miles, in his opinion that, where at all possible, one room in the house (he says the largest and the best) should be a "Games Room," equipped with facilities for physical exercise, not only in the form of gymnastics and so-called physical culture, but in the form of suitable adaptations of games. There is a kind of cricket that can be played indoors, and a species of rackets and of fives. Perhaps not the least value of the following pages is that they may suggest to ingenious minds the possibility of such adaptations. But it should be remembered that the exercise of ingenuity in such a way produces a result much more interesting than the mere execution of detailed advice set forth in thought-saving detail.

There is a peculiar fallacy connected with Sports and Pastimes which is worth a few words of refutation. It consists in assuming that such pursuits are entirely outside the sphere of intellectual intelligence, an assumption which carries with it the error of tacitly regarding an individual as one person in his work and as another in his play. It is true that games of various kinds require various physical powers and adaptabilities, but such valuable qualities as observation, judgment, and perseverance are the same in golf and in chess as they are in business organisation and in the study of astronomy. Pastimes that require for success qualities intellectual, moral, or physical which are in themselves valuable, help to give us these qualities, or to develop them in us for all the purposes of life whatsoever. A persevering character comes from activity with perseverance, and whether the activity occurs in the sphere of sport or of work is after all not very material. If you are a thoroughly persevering cricketer, you are more likely to be a persevering man of business than if you ceased trying in this game the moment any difficulty confronted you.

It may be of service, perhaps, to offer a word of advice on how to learn and attain proficiency in games of physical skill.

It is commonly remarked that such games cannot be learned from a book. But this is a half-truth and misleading. You can learn from a book how to do a thing; nothing but actual practice gives that co-ordination of eyes, brain, nerve, and muscle which constitutes actual skill. If a book can only tell you how to do a thing, at any rate you are then in a far better way towards learning to do it than you would be without that knowledge. A good book on a game is really as valuable as a good "coach," except that in consulting a book you have to supply your own brains, whereas in being taught by a "coach" you allow him to do most of the thinking. When it comes to it, no one ever really learns anything, except what he teaches himself, whether physically or intellectually. But a good book or a good "coach" can put you on the right road and point out safe short cuts.

But the great secret of mastering all problems, whether of physical or intellectual skill, is to divide up the complicated whole into its simple parts and master each part successively.

Take, for instance, a stroke at cricket. In this the movement of the feet, the poise of the body, the action of the arms in taking the bat back and again in moving it forward constitute a complicated whole. But if one first of all learns by separate practice the correct movement of the feet, then the correct poise of the body, and then the correct arm-action, the separate practice of each simple part soon enables one to master the apparently complicated stroke. It is a sound maxim that difficulties disappear the quicker the more they are divided up. One might say that the first rule for acquiring skill is "Simple Division."

Then again, a point that is frequently missed in games of physical skill is that the correct mechanism of action can be learnt apart from the playing of the game itself. In a stroke in cricket there are two things, first the correct mechanism of action, and secondly the accurate timing of the ball. It is true that a good stroke requires both; the one is useless without the other in actual play. But that is no reason why the action should not be mastered first, by practice in a bedroom, at any rate to a certain extent, and then applied afterwards with a view to the acquirement of additional skill in timing. You can only learn to do a thing by doing it; but you can assist yourself much by first learning something that is subsidiary yet important. For instance, nothing is more valuable to a cricketer or a lawn-tennis player than the poise of body and quickness of foot that may best be acquired in dancing. Yet who would think of practising dancing in order to become a better batsman or lawn-tennis player? But whoever did so would be perfectly right.

With regard to Training and Fitness, these are long subjects, but they depend on two simple facts. First, there is nothing different between normal good health and athletic fitness except in so far as the heart is called upon to do heavier work in athletics than in ordinary everyday life. Secondly, specialised physical skill comes from specialised practice. In both cases training means gradual education: training is a process of building, not a plunge over a cliff. Any ill effects that come from the playing of the more vigorous games are in nearly every case due to violent strain without previous gradual preparation. It is a matter of common sense.

Finally, it is worth noticing that in nearly all games of physical skill sheer strength counts not much: what does count is the strength that consists in quickness and in accurate mechanism of action. It is, therefore, wise in all set exercises of the physical culture type to avoid those that are slow and ponderous and calculated to promote power. In lifting oxen or elephants, and to cultivate those that suggest rapidity, facility, and precision of movement. Quickness is of more all-round value in outdoor games than what is usually understood by the term strength.

SECTION I. OUTDOOR SPORTS.

Amusements on Shipboard. In the old slow-sailing days of sea-travel, organised amusements were essential to beguile the tedium of a lengthy voyage; but present-day steamers get so quickly from port to port that beyond a game or two at deck-quilts (constructed from rope), or a match at deck-cricket, within a netted enclosure, little in the way of open-air pastime is called for to supplement the concerts in the saloon and other social diversions of the floating hotel. For the children's entertainment, a swing is pretty certain to be fixed up, however; and generally a rope will dangle from some distance aloft to the upper deck, where with to play "swinging the monkey." A passenger grasps the rope with both feet and one hand, wielding a knotted handkerchief in his free hand. He is the "monkey," and, as he swings, the other players "cob" him with their knotted handkerchiefs, avoiding a blow from him as long as possible, for the player struck must change places with the "monkey." "Cock-fighting," hands behind and feet secured, upon a tarpaulin, or astraddle across a spar, has attractions for some.

Angling. Tersely, this sport may be defined as fishing with a rod and tackle, in pond, stream, or sea. The angling may be bottom-fishing, or with the bait

suspended at any distance between the bottom and the surface. Again, it may be fly-fishing, by casting the bait, artificial or natural, on the surface of the water, with that delicate manipulation which is the most artistic and delicate of all angling. The angler requires a suitable rod, line, hooks, and baits; in addition, it is desirable that he should be provided with reel, tackle, hook, landing-net, and creel or fishing basket. His rod may be stout and stiff for bottom-fishing, or light and flexible yet strong for fly-fishing; made in lengths, with adjustable joints. Bamboo and hickory are extensively employed in the making of the better rods; while good ash for the lower joints, and yew, lance-wood, and whalebone for the lighter lengths are frequently utilised. The hooks must be of reliable steel, well made, and of appropriate size for the class of sport engaged in; and the line may be fashioned from fine hempen twine, specially spun to endure immersion, or from cotton, silk, horse-hair, animal or silk-worm gut, separately or in combination. Floats of cork or quill (or both) are required, to regulate the position of the baited hook in the water, for all but fly-fishing, and this regulation must be assisted by weighting the line near the hooks with split shot or

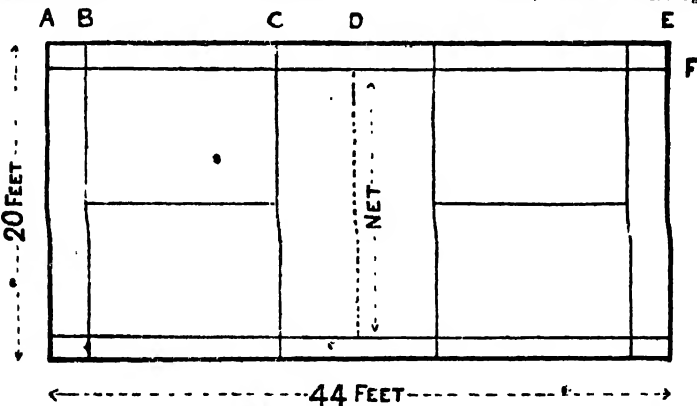
other leaden attachment. Bait is chiefly either a favourite natural food of the fish angled for, or an artificial simulation thereof. Great skill is necessary in casting and controlling the fine line—with its hook-concealing, cunningly-constructed, artificial fly—used in angling for trout, salmon, and other wary fish; and arch practice and care are called for in striking and securing the finny prize. Experience is requisite to success in the less scientific under-surface angling also; and the sport is one that has fascination for many. See also *Sea Fishing*.

Archery, as a sport, is a survival of the use, for marksmanship exercise, of a very ancient weapon of warfare and hunting. Used by ladies and gentlemen members of modern archery clubs, bows may have a strength represented and reckoned in pounds, variant from twenty to fifty, and for long distances, even up to sixty-four pound power; while match bows average about 5 feet long, the extreme length for gentlemen being 6 feet, and the minimum for ladies 5 feet 3 inches.

are nine, seven, five, three and one respectively, the object of the archer always being to secure the "possibles" nine for a gold.

Aunt Sally is a game much favoured at country fairs, in which a wooden head is mounted on a pole, the fun of the thing being the endeavour to strike the nose of the figure with a short stick or club thrown from a given distance, and to break a clay pipe stuck into its mouth, or to knock off something lightly on the flattened crown of the conical head.

Badminton (or **Ladies' Rackets**) is a sort of scientific shuttlecock, played by two or four persons with light-meshed rackets and loaded shuttlecocks over an upright net, 5 feet high in the middle, and 5 ft. 4 in. at the sides, stretched between courts marked in a manner similar to that for lawn tennis, except that the size differs, and the service lines are very much nearer to the net than in the latter game. The "serve" is at Badminton diagonal from "server" to "striker out," and is made underhand, the racket in striking not



A to B 2 ft. 6 in.

A to C 15 ft. 6 in.

A to D 22 ft.

E to F 1 ft. 6 in.

NET: Depth 2 ft. 6 in.

Height 5 ft. 1 in. at posts,

5 ft. at centre,

Top edged with 3 in. white tape.

(Diagram of Ground as marked out for Badminton.)

The best are backed, that is, made of two or more selected strips of suitable wood compressed and secured together to give strength combined with elasticity. The choicest strings are of strongly twisted hemp. Arrows of lime-wood, tipped and triple-feathered, say a foot long, are used with heavy bows; lighter shafts of straight, seasoned deal will do for smaller bows. A brace, or shield of polished leather, hangs ready for use from the archer's bow arm; to the belt, on the right, is attached a pouch, or quiver, to carry the arrows: from the left side is suspended a green worsted tassel for wiping the arrow-heads. Gloves or finger-tips, complete the archer's outfit. Targets are constructed of twisted-circles of straw, sewn firmly with tarred string into flat disc shape, and covered with stout canvas. Four feet diameter is the normal measurement: the target stands on a light iron tripod at the chosen distance. The inner circle is coloured gold, and surrounded first by a band of red, then by one of blue, next by a black circlet, with the "outer" of white. Usually the points scored for hits

being raised above elbow height. Subsequent strokes by "server" and "antagonist" must all be volleyed over the net and into the opposing court. If the opponent fails to strike and return a proper service, "server" scores one; when "server" fails to send the shuttlecock over cleanly and within bounds, "striker" becomes "server." Points for game, with two or four players, are 15; i.e. the player or pair of players who shall first have fifteen aces registered to their credit wins. Should the score become fourteen all, one side must then score two consecutive aces to win. Badminton may be played on a lawn or in any hall or indoor court.

Ball Games are multitudinous in number, and have been from time immemorial. The classic Greeks practised ball-play of some kind or other as a health preserver, daily, either by throwing and catching, or by striking the sphere away with some part of the person or an aiding implement. Succeeding generations have adopted and elaborated upon the exercises and pastimes of their foregoers, as the

paragraphs both in this and the "Indoor Games" section show; balls of various sizes and weights, hollow as well as solid, being played with, along the ground, upon raised surfaces, and in the air.

Ballroom Ball. This is a game, very popular in France particularly, in which a large light air- or gas-distended ball is tossed from hand to hand for as long as possible without allowing it to fall to the ground. Inflated bladders were formerly used for the game; now light rubber is employed.

Bandy was the name of an old game in which many trace the beginnings of both golf and hockey (q.v.). It involved the striking of a hard ball by bands of opposing players with bent clubs or bats, towards fixed and opposite goals. The term "bandy" comes from the Anglo-Saxon *bendian*—"to bend"; and the wooden ball's fiftful course from side to side gave rise to the expressive phrase "being banded about."

Barleybreak, an old English running, catching and tugging game, now quite out of fashion.

Baseball. A glorified and systematised development of the old English game of "Rounders"—is now recognised in the United States of America as a distinctively national pastime. It is played—spectacularly by highly-paid professional experts, as well as by skilled amateurs—with a hard, leather-covered ball of tightly twisted yarn, over a rubber core, and a rounded wooden bat or club not exceeding 42 inches long or 2½ inches in diameter. Nine men constitute each side; one team takes the field, and the other goes in to bat. The pitcher of the out-side delivers the ball to the selected striker of the in side, who endeavours to hit it away to elude the fielders, and run round the bases home without being caught or put out by any fieldsmen, when one run is scored; should he miss three balls from the pitcher and the third ball be caught by the catcher, the striker is out. Upon three men being put out by catching or touching with the ball when off the bases, the fielding side go in; and after nine innings have been completed the side having registered most runs is declared the winner. The catcher stands behind the striker, to catch and throw to the basemen in the field the balls pitched to the striker; and all the fielding side need to be good throwers, swift runners and sure at a catch. The game is governed by very elaborate rules, and the umpire's position is a very responsible one. Baseball is played upon level expanses of turf, not less than 500 feet by 350 feet.

Basket Ball is a game played between sides of either sex, either in an open field or playground, or in a court 80 feet by 40 feet. The teams, five a side, seek to throw a round ball, resembling that used in Association football, into the goal-basket defended by their rivals; which is an open-work bag-net, a little larger than the ball, suspended from an iron ring fixed 10 feet high, and backed by a 6 feet square screen. No player must carry the ball, or hold it for longer than three seconds, or a foul is given to the other side, and a free throw at goal from 15 yards' distance ensues. Penalty goals count one, those got in legitimate play two points.

Battledore and Shuttlecock was a diversion of "grown-ups" as well as juveniles in the early days of the 17th century in England and Scotland, and princes played it. Wooden battledores, and very simple shuttlecocks, preceded the parchment-headed "drums," and leather-covered, balanced bottomed cocks with gaily painted feathers which gained a later vogue.

Beagles denotes the hunting of hares or rabbits by the aid of specially-bred dogs, named similarly to the sport they furnish. They are followed on foot, and afford excellent exercise "to the field." Our public schools and the juniors at the Varsity have kept up or patronised beagling for some years.

Bowling as a pastime has considerable charm, especially in the summer time, either on lake, river, or sea. To render it a safe recreation; reasonable care in embarkation and disembarkation, as well as changing place whilst on board, are requisite in the case of frail craft; and those responsible should know how to handle both the boat and the means of propulsion, whether rowing or sailing. As to the management of racing boats, see the articles on Canoeing, Rowing, Sailing, Sculling, and Yachting.

Boomerang, Throwing the. This is an art or diversion in which the Australian aboriginals were adept. The boomerang is a curved piece of hard wood or stick, flat on one side and rounded on the other; about 3 feet long, not more than three-quarters of an inch thick, and, say, a inches wide. The caster throws it upward with a sickle-like sweep, imparting rotatory velocity as it leaves the hand, when, after ascending to a great height in the air, the missile returns elliptically to near its starting point. The boomerang can also be manipulated so as to reach the ground in a downward direction at a surprisingly long distance from the cast, rebounding with ricochet motion, and striking the object aimed at by the skillful thrower.

Bowling, as distinct from "Bowls," or **Lawn Bowling**, and from an American variation of the pastime, flourishes yet as an outdoor game in many parts of England. Theorem what is sought to achieve is the bowling of a small, round heavy ball accurately, for a given distance, within prescribed limits as to direction, in a certain number of rolls or throws, according to prearrangement. Two antagonists, or a greater number, in sides, enter the contest, and the weight of the ball is employed varies from three pounds downwards to a few ounces.

Bowling (American). The bowling game most favoured in the United States is an adaptation of the old English alley pastime; and is played either in a prepared outdoor alley, or indoor court, with weighty bowls and pins, partaking, save in the shape of the missile, somewhat in the nature of skittles. Complications of an elaborate character have been introduced into the game, which has numerous local variations.

Bowls—Lawn Bowling, or Bowling on the green. Is a game engaged in upon smoothly-shaven turf by several single players, with heavy "blasted" bowls of lignum vitae or other solid wood. Often there are "doubles" at the game, partners taking turn in bowling at the white "jack" previously trundled to a judicious distance across the green, which is usually slightly convex in more than one direction. The object of the bowler is to bring his bowl to a standstill touching the "jack," or as nearly thereto as he can, and, incidentally, if need be, to remove the previously-bowled ball of an opponent to a greater distance from a winning position, or one sent down by his own partner nearer in. Points towards game are scored by the bowlers of the bowls lying nearest the "jack," when an "end" is completed; whereupon the "jack" is sent across the green—not more than twenty-five yards in Scotland, and usually less in England; and another "end" is proceeded with, until the agreed upon number of points to win the rink—twenty-one in most English clubs—are registered to the credit of one player or set of partners.

Bosses are smaller editions of quoits, thrown from a shorter distance than the heavier rings of flattened steel used in the more general game. The object of the competing throwers is to obtain a "ringer," flat-side down, over the iron pin aimed at, which is generally fixed perpendicularly in a quadrangular frame or box of moist clay. "Ringers," or the nearest approximation thereto, score towards the agreed-upon number to make "game"; and two, four, or more (rarely) may participate.

Caber Tossing the. This is a difficult feat, performed at the "Highland games" or "gatherings" of Braemar or elsewhere. A stalwart young pine or fir, stripped of its branches, has to be reared, balanced, and flung as far off as possible, lighting fairly on its thicker end, and falling away from the "tossers." A run, with the caber kept perpendicular, is permitted, within bounds, to obtain impetus, and "knack," in addition to preponderating physical force, is requisite in the athlete who would excel.

Canoeing, when one has mastered the art of paddling, is pleasant on placid waters; but it lacks the excellence, as an exercise, of rowing, in that the arms are brought across the body, tending to continuous chest contraction, in proper paddle-manipulation. Less exertion, however is called for in canoeing than in rowing.

Catching the Third is a merry outdoor game in which both sexes may engage. A double row or ring

of participants is formed on the greensward, the couples standing a pace apart in pairs. A would-be catcher stands out in front of the line, or in the middle of the ring, and the foremost of one couple vacates his place, then running to secure a stand before some other pair, the back person of which must endeavour to gain a place in front of the one left alone. The "catcher" may capture any "third" player of a group where two only should be, or any one on the move; when the victim has to become the prisoner and in his or her turn seek to "catch the third."

Coursing has come to be the accepted appellation of the "sport" of racing after, over chosen or prepared ground, and killing hares with running-dogs, chiefly of the greyhound variety. It is intrinsically inferior to actual hare-hunting with harriers, but coursing meetings bring about large assemblies in some places, and they have the advantage over fox-hunting and horse-racing of not requiring equestrian equipment. Greyhounds, in coursing, are guided by sight, not scent; and some "cock" dogs—winners of such trophies as the Waterloo Cup—realise large sums of money.

Cricket of the spectacular sort, in which the picked players—professional and amateur—of the English counties, contend together, or against Colonial combinations, has risen to a great height of popular favour; but the game continues to furnish beautiful pastime to myriads of young men and youths less conspicuously banded together in local clubs. It is played under elaborate rules, approved by the Marylebone Cricket Club, the acknowledged governing body of the game, between teams consisting usually of eleven players aside, upon smoothly-mown and well-rolled turf pitches. The wickets are two sets of three stumps, eight inches wide when in position, topped by two bails laid in grooves, so as to meet end to end on the centre stump, and not to project more than half an inch above the stumps, standing perpendicularly twenty-seven inches out of the ground. These are fixed opposite and parallel at a distance of twenty-two yards. The side winning the toss has first choice of innings; and each of its eleven batsmen—two at once defending, in alternate overs (should run-making not have changed their position), go to the crease, wielding a bat not wider than four and a quarter inches in the blade, nor longer than thirty-eight inches, handle and all. The bat blade is generally of choice willow, its handle of cane, often having strips of rubber compressed under its tight, even wrapping of twine to give "spring" to it. The opposing eleven are placed in the field in positions to prevent the scoring of runs from strokes of the bat or to secure "catches." The ball used in matches is a beautifully made sphere, leather-covered and filled with compressed cork or similar suitable hard material; it must not weigh less than five and a half ounces, nor more than five and three-quarter ounces, and must have a circumference between nine and nine and a quarter inches. A bowler bowls an over of six successive balls to the opposite wicket; then another bowler, at the other end, does the same. The object of attack is to hit and break the batsman's wicket with the ball by removing one or both bails, in despite of his attempts to defend it, or to cause him to strike the delivered ball into the hands of one of the fieldsmen before it shall have reached the ground, in either of which cases the striker's innings is ended. He must keep his foot within prescribed ground whilst the ball is in play, or he may be "stumped" out by the wicket-keeper or "run out" by any of the opposing fieldsmen. For every time the striking batsman, after making his stroke, is enabled to run from wicket to wicket before the ball is returned by a fieldsmen to the bowler, or wicket-keeper, he scores one run for himself and towards the total of his side. Usually four runs are allowed, without any running, for a ball reaching the boundary, and generally six for one driven clear out of the ground. When ten wickets have fallen the innings is over, and the side which has been fielding goes in to bat. In single day matches the issue may be decided upon the result of an innings completed on either side; but in the important games of lengthier duration, two innings by each team are played, unless victory be

previously achieved by one of the sides having registered more runs than the opposing eleven shall have secured in its completed double effort. Any of the attacking side may bowl either fast, medium or slow, left or right hand, and change from end to end to do so, providing always that no bowler send down two overs consecutively in any one innings. Should no definite result be arrived at, through climatic interruptions of play, or the inability of one side to dismiss their rivals before the winning advantage shall have been secured, "a drawn game" is the result. Umpires, one at each end, preside over every properly-played match, and their decisions must be obeyed in all points.

Cricket Ball, Throwing the. As an exercise as well as a means of acquiring proficiency in fielding, throwing the cricket ball is commendable. It is a good deal practised at the schools and the Universities. The longest recorded "throw" is that of R. Percival, on the Durham Sands racecourse, in 1884, over a measured distance of 140 yards and a few feet. "King Billy," an aboriginal professional, had thrown a cricket ball in Queensland 140 yards a dozen years earlier.

Croquet is a favourite lawn game, especially with ladies. It is played on level grass with wooden balls, light hammer-headed wooden mallets, and a series of iron hoops, six or more in number, arranged in a plan on the turf, the space occupied being ten square yards or more. Rules for playing croquet vary, as do the number of persons taking part in the game; and settings are indicated in the regulations supplied by the manufacturers of the requisites.

Cross-Country Running, where courses can be secured, is a capital form of pedestrian exercise for the active; and affords good and healthful practice for many athletic games requiring "condition" and endurance.

Curling is a winter game said to have been introduced into Scotland by Flemish immigrants about the beginning of the sixteenth century. Therein contending parties slide heavy, hard, smooth, round stones about nine inches in diameter, weighing forty pounds or more, with an iron handle at the top, and flattened at the bottom, over well-sept ice towards a tee or mark, forty-two yards, or some other agreed-upon distance, from the curling tee. The objects of the player are to propel his curling-stone fairly to a lay as near to the mark as possible, to guard that of his partner which has been well-laid already, or to strike away that of an antagonist. The number of "points" to make game are a matter of mutual arrangement.

Cycling, as a machine suited in size and fitness to the rider, and properly geared to obviate undue exertion, is a very good medium for the promotion of recreative pastime in either sex. The safety bicycle, well built, can be controlled with a little persistent practice; after that let moderation be the rider's guide. Time should be allowed, in the country "spin," to take in the beauties of the landscape, and no over-fatiguing journey be essayed. Also let the cyclist walk up his machine, as any stiff leg or many riders insensibly inflict injury upon themselves by disdaining this precaution. It is a great mistake to turn invigorating exercise into an exacting task. The warning applies to all pastimes involving sustained exertion. Competitive cycling should for safety and the public convenience be confined to the track.

Dab and Trigger is a ball game indulged in in some localities. The requisites are a wedge-shaped little block of wood, slightly cupped on the upper surface towards the extremity opposite to that undercut, to hold in position a hard and roughened ball of tough wood, about one and three-quarters of an inch in diameter; and a flexible cane, headed with a firmly secured cube of unspittable wood. The player, with this, smartly "dabs" the trigger end of the block on the ground, causing the ball to spring from its resting place into the air, and with a deft swinging drive seeks to strike it as long a distance as possible.

Deer-Stalking is a sport of the rich, involving the up-keep of the forest land which yearly becomes more and more limited. Only a few fastnesses affording sufficient cover for the "antlered monarch of the glen"

remain in Britain. Civilisation circumscribes "blood sports" by largely extinguishing the avocation of the hunter, and incidentally rendering communities habitually humane. Latter-day strenuousness in the great game of life has made the chase unfashionable with the million, and to hunt or stalk the stag you must now first preserve him, a costly process.

Diabolo. This game is played with two sticks, each about two feet long, with each end of a piece of cord about four feet long joined to one end of both sticks. The "diabolo" consists of a piece of wood or other suitable substance in the form of an egg-boller or two peg-tops joined at the pegs. The player holds one

should never be practised, even by an adept, except in known waters.

Egg and Spoon Racing is a simple diversion where children and people of mixed ages are to be amused. Steadiness of hand, fleetness of foot, and some practice will make a winner. A flattish wooden spoon, an egg, and any number of entrants are wanted for the game; the object being to cover the greatest distance in the quickest time over the grass, with the egg maintained in position at arm's length.

Egg Hat is the throwing of a ball—a bouncing ball preferably—into several hats in succession from a given distance; the player bringing the ball to rest in the

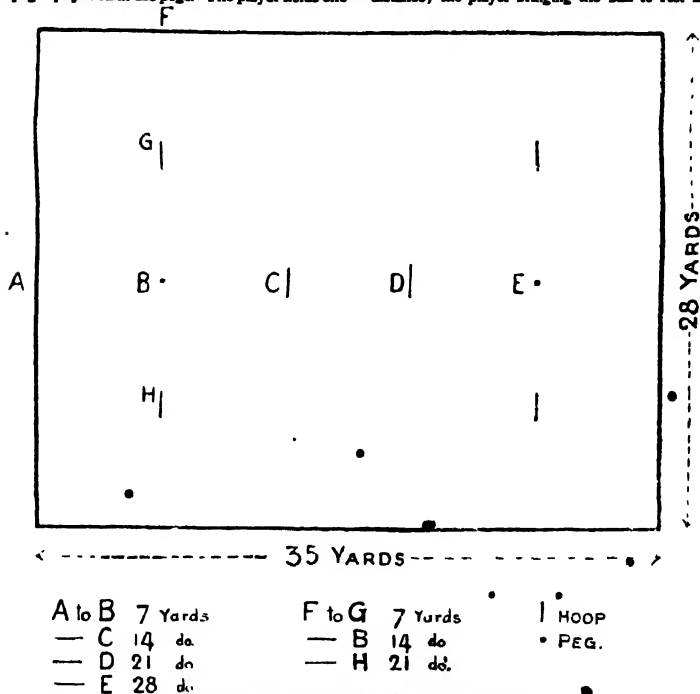


Diagram of Ground as marked out for Croquet.

stick in each hand, suspending the diabolo on the string, and by holding one end of the string higher than the other, the diabolo is made to spin down the string, and to and fro by alternate elevations of each hand. By repeating this action several times rapidly, the diabolo gets on to a quick spinning motion, when the string is suddenly tightened by bringing the ends of the stick wide apart, which has the effect of making the diabolo spring into the air. As it descends it is caught on the tightened cord, when the spinning process is again gone through, and the diabolo again thrown into the air. The object is to see how quickly and how high the diabolo can be thrown and caught without letting it drop to the ground.

Diving is a part of the swimmer's accomplishment, and one that is very desirable. It is a branch of the nautical art which must be mastered gradually, and

greatest number of hats with the smallest number of clean casts winning the contest.

Falconry was a favourite field-sport in Britain in the Middle Ages, as elsewhere, by the nobility and landed gentry, who made it a serious business of their lives; but what few herons there are left in these isles—as well as other fowl whose progenitors were the prey of the trained hawk, and the sport of its owners in former times—now enjoy immunity from organised pursuit, and falcon-hoods, jesses, bells, and tassels, belong to our past history.

Feeder was a ball-game, very much akin to "rounders," engaged in by three players. The feeder with a light ball "fed" the other two in succession as batsmen until he could put one of them out by a catch in the air or by hitting him with the ball whilst running between bases after a stroke. The feeder took his

stand centrally between the bases, and if the striker could get round before the third player left the home base to run, he took strike again. Meanwhile he was safe, when on either of the three out bases, so long as he could elude the touch of the ball from the feeder. If the latter recovered the stricken ball before either of the batsmen got home, and therewith touched the home base, both were out. The striker first "outed" took the feeder's place, and when an agreed upon number of innings had been played, he who had run round the bases oftentimes from strokes of his own was proclaimed the winner. The ball was pitched and struck in the air, a very light bat or rounded stick being employed.

Field Hockey. (See *Hockey*.)

Field Sports. (See separate entries in this sec-

side first scoring fifteen wins. Fives is an ancient game, called in Scotland cage or catch-ball, and in France palm-play. A fives-court is provided at many schools. Light bats are used in some places wherewith to strike the ball, in a variation of the game.

Football, Association. This development of the old English and Scottish game of ball is played between two sides of eleven men each, on a quadrangular field, not less (in International matches) than one hundred and ten yards or more than one hundred and twenty yards long, and between seventy and eighty yards wide. Parallel lines, marked out by flags at the sides of the playing area, are "the touch" lines; and those at the ends, at right angles to the former, are the goal-lines. In the centre of these, facing each

GOAL POSTS 8 yards apart. Cross Bar 8 feet from ground

PENALTY KICK MARK - Opposite centre of Goal, 12 yards from GOAL LINE.

CORNERS - Flag with staff not less than 5 feet high

KICK-OFF CIRCLE - Centre of Ground, radius 10 yards

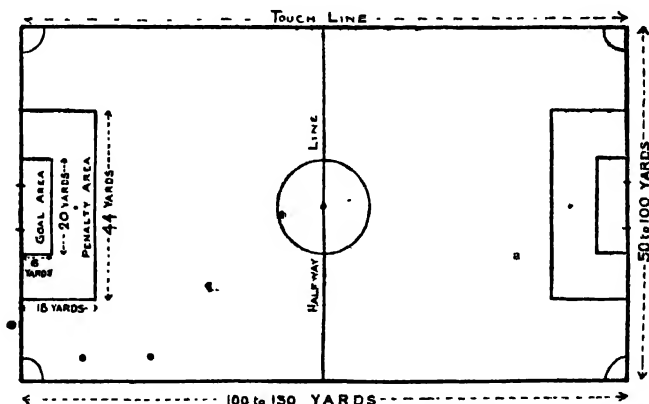


Diagram of Ground as marked out for Association Football.

tion: **Archery, Cricket, Croquet, Football, Hockey, La Crosse, Polo, Shooting, etc.**

Fishing. (See *Angling*, and *Sea Fishing*.)

Fives, played in an out-door court, is a species of hand-tennis, in which a soft ball, covered with thin leather, is struck against a wall by the palms of the hands of the players, usually two or four aside. The leader of the serving-side bounces the ball on the ground and strikes it, on the bound, at the wall, anywhere above a horizontal line marked at a height of three feet, to rebound over a ground line parallel with and six feet from the wall. The players, ranged alternately outside the ground line, have to strike back the ball on the further rebound, either before it reaches the ground or at the first bounce. Should one of the serving-side fail to strike the ball back to the wall properly, or strike it so hard that it bounces out of bounds, the innings of the side is lost. If one of the out-side should miss or strike the ball ineffectively, a point is counted to the score of the serving-side. The

other, are fixed the goals, consisting of two upright posts eight yards apart, with a cross-bar eight feet from the ground, and having a net loosely placed at the back to catch the ball and ensure its having gone between the posts. A half-way line is drawn from side to side of the field, parallel to and equidistant from the goal lines. The ball, a round leather-covered bladder (which must, in important matches, measure between twenty-seven and twenty-eight inches in circumference) is kicked off from the centre at the commencement of the game. It is for each side to prevent the opposing eleven from getting the ball into the net, between the posts and under the cross-bar of the goal it has to defend; and, what is even more important, to strive to get it by pass or direct kicking, or heading, into the antagonists' goal. In all this strenuous endeavour the ball must not be intentionally handled by any of the players except the goal-keepers, in catching and clearing from the goal under their custody. Even then players may not carry the ball more than three paces

without relinquishing it. No player is permitted to hold or push an opponent with his hands, and tripping, jumping at, or kicking an antagonist are alike illegal, and a free kick is awarded against the offenders from the spot where the offence took place. When forty-five minutes' play is completed, the referee blows his whistle, and the game stops, "half-time" having been reached. After five minutes' interval the game recommences, the sides changing ends; and the eleven having registered most goals, in both "halves," after the full ninety minutes' play, is the winner; should there be no score on either side or an equal number be obtained, the game is "a draw." When a goal is scored, the side at whose expense it has been made kicks off anew from the centre. There are explicit

plonships, and International matches attract thousands of eager spectators.

Football, Rugby. Rugby football, in which the ball is of oval shape, and which is played fifteen aside, differs mainly from "Soccer" in the participants being permitted to take up the ball whenever it is bounding or rolling, and run with it towards the goal. The player, carrying or holding the ball, must, however, immediately on being tackled or held by an opponent, throw the ball towards his own goal to one of his own team to continue the run, and a goal can only be obtained by kicking the ball from the field of play direct over the cross-bar between the side posts of the goal. In the Rugby Union game the uprights of the goal are placed 18 feet 6 inches apart, and must be made

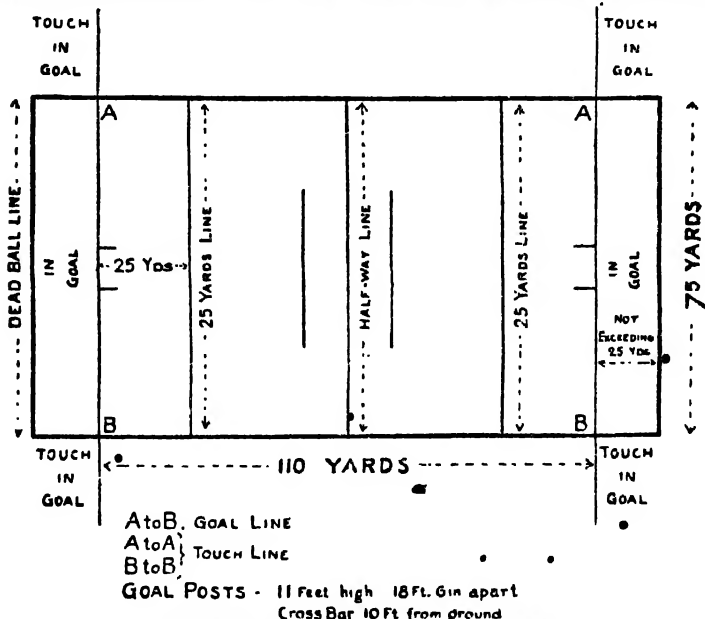


Diagram of Ground as marked out for Rugby Football.

rules governing the procedure when the ball has been kicked into touch or over the goal-line, in both of which cases it is out of play whether the line be crossed in the air or on the ground, and also as to the permissible positions of the players during the game, with regard to the positions occupied at any given juncture by members of their own and the opposing teams. Penalties are imposed for "off-side" and other infringements, and these the referee, who is assisted by two linesmen, has to enforce. Usually an eleven of "Soccer" players consists of five forwards (outside right, inside right, centre, inside left, and outside left); three half-backs (right-half, centre-half, and left-half); two full backs (right-back and left-back), and one goal-keeper, all chosen for their special proven ability in the positions to which they are allocated; and the men are expected to work in harmonious combination. Association football, which is seasonable in England from September till the end of April, is a very fascinating winter game; and the Cup Ties, League Cham-

11 feet in height, the crossbar being fixed 10 feet from, and parallel with, the ground. The ball weighs (in important matches) between 13 ounces and 14 ounces, with a circumference lengthwise of between 30 and 31 inches, and a width-girth of from 25 inches to 30 inches, while the field of play must approximate as closely as possible to 110 yards long and 75 yards in breadth. The "scrum," or scrummage, is an important feature of present day Rugby football, and is caused as the result of a foul against a player or other reason. It is formed by the eight "forwards" on each side facing each other with lowered heads. Three in the front rank, two in the second rank, and again three in the last rank. The ball is then thrown in by the "half-back" between the two front ranks; the opposing forwards strive for the possession of the ball by "hooking" it with their feet, i.e., driving it to the man behind (this applies only when outside the home 25), who "works" the "scrum" for further kicking and open play. In the game, as played under

the Rugby Union rules, a try (gained by a player who first puts his hand on the ball on the ground in his opponents' in-goal) counts three points for his side towards game; a penalty goal (there are numerous penalties—for which free-kicks are given—arising from infringements of the governing laws) equals three points; a goal from a try reckons five points (in which case the try from which it resulted does not count); and any other goal is worth four points. The side with most points, thus calculated, at the close, wins the game. In the Northern Union game the value of points is differently assessed. In the United States, football is played by eleven men aside, kicking and running with the ball being both legal, and the scoring is for goal (kicked over the 10-foot high crossbar and between the uprights) from the field of play five points; for touch-down (when the ball is carried and touched-down to the ground behind the goal line), five points; for a safety-touch (when an opponent has been compelled to carry the ball and touch-down behind his own goal line), two points; and, for a goal kicked from a touch-down, six points. The game occupies two thirty-five minutes' halves, and the ground is marked out with white lines five yards apart, as the ball must be surrendered if not advanced that distance in three running attempts on the part of members of an American side. In the United States the regulations for the great football matches are most intricate. All these developments, of what is classed as Rugby football have grown out of the "Big Side" game so favoured last century by the boys of the great English Midland School (which can itself be traced back to a Continental origination). They comprise various combinations of football, handball, "tackling" and pushing in unison, calling for the exercise of much physical strength, agility, courage, and scientific resourcefulness of movement, both as regards the individual efforts of the players and the organised and harmonious action of wings, sections, and the entire opposing teams.

Fox-hunting is the most extensively patronised survival of the chase, as a "blood sport," so far as England is concerned. The quarry has to be carefully preserved in well-guarded coverts, and the hunting (seasonable from the beginning of October to Lady Day; cub hunting, August 1st to the first Monday in November) requires the upkeep of a pack of hounds for each district, a huntsman, whippers-in, kennel-keepers, and helps; as well as suitable horses, bred for fence and water-jumping and running across country, for the masters of hounds and the ladies and gentlemen of the hunt in each allotted district to ride. The sport is picturesque, exhilarating, and accompanied with its spice of danger, especially to hard and reckless riders; but it is regarded as characteristically English and eminently aristocratic.

Golf, some say, is a game of the leisure or middle age; but it is indulged in with increasing zest by persons irrespective of age, sex, or rank. The pleasure of a three-mile walk over well-kept, breezily-situated "links," and the fascination of driving, putting, and all else belonging to the golf game—which had great vogue in Scotland before its hold upon England became extensive—possesses a charm for many statesmen and persons ordinarily engaged in exacting professional pursuits. Golf is played with quite a number of implements nowadays, carried by an attendant caddie. These are club-headed sticks or irons, called drivers, bulgers, niblicks, putters, spoons, mashies, brasses, corks, mallets, lofers, etc., and small, hard, white resilient balls, made of gutta-percha, or with special rubber cores. On large downs, commons, or specially preserved courses, often by the seashore, the "links" being elaborately laid out with interposed impediments, natural or adapted, in the way of hollows, banks, mounds, and even trees. The object is to strike or "put"—in the fewest possible strokes—the ball, with one or other of the clubs, into each of eighteen (in a full course) small holes, about 4 inches in diameter, cut in the turf on specially prepared greens. The holes may be as close as 100 yards from the "Tee" or any thing between 300 and 600 yards off, and their position is usually marked by flags. At the start for each ordinary hole the ball is "teed"

on the summit of a little heap of sand or soil, and therefrom propelled, by one stroke of the driver, or other selected club, with all the force and judgment at the striker's command, to a position as nearly as possible to the objective hole. A full "drive" including the length of the flight of the ball in the air and the distance it will thereafter bounce and finally roll along before coming to a standstill, from a powerful stroke by a practised golfer, is about 200 yards, and even more. And then another stroke is made which varies according to the distance to the hole. Some holes are short, and require a skillfully-hit ball to land it in one stroke on the "Green." When the ball comes to rest behind a "bunker," or in long grass, and has therefore to be got to the hole, the special club devised for the purpose has to be skillfully employed. The most accomplished golfers have, at their best, managed to "hole" the ball in all the eighteen holes with an average of less than four strokes per hole in a very exceptionally good round; and in the championships, four rounds of a course are played. Matches are either "singles" between two opponents, or "foursomes," in which a quartette of players engage, two on each side playing alternately with the same ball. One must know the "links" well, and be able to judge distances and gauge wind-force and rely on one's own play to get the best attainable results in a golfing competition; but, fondness for the game having once been acquired, it certainly furnishes a healthful and not too exacting outdoor relaxation, usually with very agreeable surroundings. Each player (or pair of players) uses a separate ball.

Hare and Hounds. This is an organised system of Cross-Country Running (*qv*), in which clubs or schools engage for exercise in the winter time; a fleet-footed participant (or, in cases, two in company) being dispatched ahead of the rest, who form the pack. Not only do the "hares" set the "hounds" as fast a pace as they can, but they endeavour to elude pursuit by legitimate doubling and dodging; and by taking any available cover, after having put the pack off scent by leaving behind them a cunningly crossed trail. When the hiding-place of the hares is discovered, they will break away for a further run. In suitable country—with plenty of upland and hollow, as well as copse, to elude pursued and pursuers out of each other's sight sufficiently often to render the sport interesting, and also with a good show of stiff hedges and wide ditches to negotiate—"Hare and Hounds" is fine fun for strong-winded lads.

Harriers are packs of hounds, resembling, but somewhat smaller than, foxhounds, used for hunting hares by scent. The larger harriers are somewhat slow-moving, but the smaller fox-beagle is alert and lively. In the chase, the hare, being found in the form, is allowed a little "law" before the harriers are loosed after her, and must not be pressed upon by the huntsmen, who follow on foot. Neither is it usual for the dogs, should they lose scent, to be directed to the course of the quarry, but they are left to discover the right track by themselves. The sport is one greatly esteemed by many, as affording exercise and excitement, and being legitimate hunting, the "bag" furnishing excellent eating. Hare-hunting, carried out under proper arrangement, possesses great attraction.

Hawking. (See *Falconry*.)

Highland Games. Scottish gatherings at which athletic sports, wrestling, foot-dancing, tossing caber, and other exercises are indulged in.

Hockey is a game of ball played with sticks or clubs having hooked or curved ends, and is popular with both sexes, as providing admirable exercise for arms and legs alike. It is played, under well-devised rules, between a number of persons in parties or sides, the object of each team being to drive the ball, by individual and combined skill and dexterity, assisted by fleet running, through the adversaries' goal. The defence seeks to frustrate the attack, and *vice versa*. The ball is small and of hard rubber, and hockey is played on ground marked very much as for football, the general method of the two games not being dissimilar, though of course the ball has at hockey always to be struck with the stick, and never kicked or

carried. In Scotland a variation of the game is called "shinty," in Ireland another adaptation is known as "hurling." Hockey is sometimes in winter played by skaters on the ice.

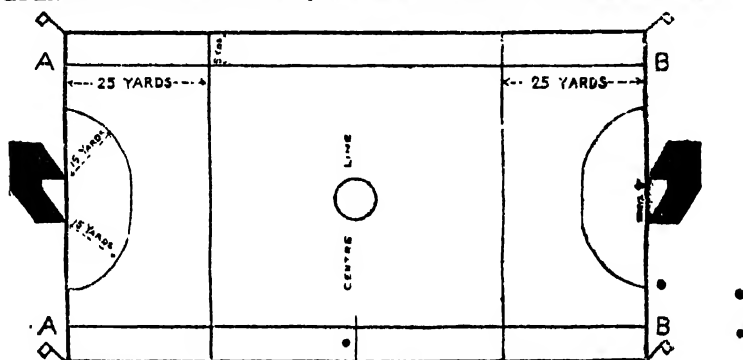
Hoop-Trundling will always retain popularity as a pastime in which boys or girls may obtain running exercise singly, or in couples or groups, in contention for speed and the longest possible maintenance of the hoop in the forward-bounding perpendicular position. The large hoop of light, pliant wood, and the straight stick for driving are most favoured by female trundlers; lads like the hoop of iron and a propeller of hooked metal with wooden handle.

Hop-Scotch is a juvenile diversion consisting of the kicking with the toe of one foot—keeping the other off the ground—of a flat stone out of and into understood positions on a geometrical diagram chalked upon flat pavement, varied as to definition in different localities, but always giving scope for agility.

Hop, Skip, and Jump is a combined triple forward movement of the character indicated by its

participated; and though the ball might never be handled, it could be carried forward on the "hurley" as far as possible, and any amount of tackling and wrestling seems to have been admissible on the part of the players to get their antagonists "off the ball." It was, in its heyday, a very strenuous sport, in which many hard knocks—not always unintentional, it is to be feared—were given; but the fun was characteristically Hibernian. In the beginning the opposing sides lined up "with crossed hurleys" in the middle of the field of play, when the ball was thrown straight into the air to fall in the midst of the players, each team immediately thereafter concentrating its efforts upon getting it into the goal which it was the business of the other side to defend. The scorers of the most goals, of course, won the game.

Ice Hockey is a pastime very much indulged in in Canada, and at times in other places where and when natural ice or an artificial rink may be available, the players being usually mounted on bladed or roller skates. The difficulty of keeping a balance in such



A B, 5 YARDS LINE

GROUND: 100 YARDS by 55 to 60 YARDS

OPENING OF GOAL 7 feet by 12 feet

Diagram of Ground as marked out for Hockey.

name, usually preceded by a run to the hopping-off base, the endeavour being to cover the longest distance possible to the competitor in the separate and full number of steps. At sports in the North of England room is often found for a contest of this simple kind.

Horse Racing, which engages the attention of so many thousands of people, both rich and poor, in all parts of the world, is not a sport which comes within the compass of present treatment. It is the business of a class, and the spectacular attraction, for social or gambling reasons, of a multitude of all ranks.

Hunting. (See *Beagles, Deer-Stalking, Harriers, Otter Hunting, Stag Hunting*, etc.)

Hurdles. The leaping over hurdles, usually of graduated height and "stiffness" as to "taking-off" and landing, either in a foot or equestrian steeplechase, or singly in competitions at school or other sports. Speed and the clean-clearing of the interposed obstacles are the object.

Hurling is the Irish variety of hockey, similarly played, by an equal number of antagonists, with crooked sticks and a ball to be struck into opposite goals. As many as sixty or even more players have

conditions adds great zest to the game as ordinarily practiced.

Ice Polo. Polo, played on ice, is a pastime highly spiced with danger, needing courage and much practice on the part of those engaging therein.

Indian Ball Game was a diversion in which the North American Indians were very expert, using two netted sticks or bats to strike a ball beyond certain bounds, the while opposing players endeavoured to force it in a contrary direction. It originated the Canadian national game of *La Crosse*, *q.v.*

Jiu-Jitsu, is a Japanese method of wrestling, involving a severely scientific physical training. The term literally means "muscle breaking." The wrestler endeavours to get a tight grasp with his left hand upon the left wrist of his adversary, both wrestlers being erect, and lever him backwards, administering a throat blow with the flat of the right wrist, which generally proves a "knock-out." The Japanese attach much more importance to the development of the muscles in the region of the elbow than those of the upper arm; and their jiu-jitsu system, which implies all-round physical training of a highly intelligent order, renders them most difficult to overcome in single combat without weapons.

Jumping is an individual natural exercise to perfection in which practice is essential. As to what thereby can be achieved it may be noted that an Irish amateur, Mr. P. J. O'Connor, cleared in 1907 with a running long (or broad) jump at Kilkenny a distance of 24 feet 11 inches; and Mr. Ray C. Ewry in America 11 feet 3 inches in a standing long jump. Mr. M. Sweeney cleared in 1895, in a running high jump (in America) 6 feet 5½ inches, and Mr. P. Leahy (in England) 6 feet 4½ inches; while Ray C. Ewry got over a string 5 feet 5½ inches high at a standing high jump in America in 1901. In Inter-Varsity contests in England, Mr. C. B. Fry for Oxford in 1899 broke previous records with a long-jump of 23 feet 5 inches, and Mr. M. J. Brooks (also a Dark Blue) got over a 6 feet 2½ inches line at the 1896 sports in a high jump.

Kiss in the Ring is a social diversion in which the players must be on sufficiently intimate terms to render familiarity inoffensive. Then, engaged in with spirit and good temper, it furnishes fine fun in the open, especially to the young of either sex. One player stands in the centre of a ring formed by the rest.

As widely as possible in formation. Sometimes the game is played to the accompaniment of a play-song, in which the isolated participant is enjoined, vocally and musically, to "close the pretty girl," he "likes best." This done, he advances and touches one of the ring, who must then break away from the hands she has been holding—the ring immediately closing up—and run under the arms of the other players, "in and out and round about," to avoid capture, and if she can—and desires so to do—before being held, regain a position as part of the ring by breaking the hold of the players and taking a hind of each, thus reforming the circle. Then the pursuer must commence all over again. But if she is caught, she is led triumphantly into the centre of the ring and kissed. Immediately thereafter, her captor joins the circle, and she becomes in turn chaser and pursued, with renewed singing and merriment. Sometimes the chosen is, perhaps after giving a good run for the fun of it, an easy capture. That depends upon who the pursuer may be. But affability and an even distribution of the sexes are essential to the success and the charm of the simple old pastime, which is a survival of the old English May Games, themselves an adaptation of amusements of far more ancient date.

Kite-Flying as a pastime for the young, was introduced about the end of the 17th century into Britain from China, where persons of mature years still engage in it. The kite is usually formed of paper or a thin textile fabric, pasted on a flat frame of light wood and cane, with balancing tail and tassel wings; but various fanciful shapes are employed, considerable skill being necessary for their proper construction and management in the air at the end of a slender string. The secret of the right way to attach the string is a fitted "belly-band" on the frame near the centre of gravity, and keep the flat surface in oblique presentation to the wind.

Knur and Spell. This is a variety of the game of "trap, bat, and ball," having affinity to "dash and trigger," already noticed; the light ball being struck away when released in the air from a simple trap. It is called in some places "Nurr and Spell," in others "Northern Spell," which latter term is probably the more correct, as indicating a northern adaptation of an old and simple game. It is played for prizes in the manufacturing and colliery districts of Yorkshire, Lancashire, and neighbouring counties by the working classes, adult as well as juvenile.

La Crosse, a development of the Indian "ball game," nationalised in Canada, and localised elsewhere, is played by sides as at football and hockey, with sticks four to five feet long, bent at the end like a bishop's crozier, and netted in tight-drawn gut to a point more than half way down the shaft. The ball, of hard rubber, may be driven with, or carried on the crosse towards goal, which consists of a couple of posts seven feet apart and a transverse bar six feet high. The play space is divided into two halves, of dimensions similar to those obtaining in football, each half being in turn defended by the opposing sides.

Lawn Billiards. This game, also called "Troco," is played on well-mown and rolled turf, as level laid as possible. An iron ring is fixed in the centre of the ground, and the players—two or more in number—are provided with cues, iron hoops at the end. The object is to drive the ball through the ring with a forward stroke, which counts one towards game; or, first striking your opponent's ball, to get your own from the impact under the ring, which is a cannon, and counts two; or, to drive your antagonist's ball through the ring, counting one. The "break" continues until the player fails to score, when his adversary strikes. Eleven, fifteen, or twenty-one may make game, the larger number being usually agreed upon when there are sides instead of single players.

Lawn Tennis is an enjoyable out-door game, played over a net on close-cropped grass, as for "Badminton," with light broad rackets and balls of white felt-covered rubber, instead of a shuttlecock. "Courts" of regulation dimensions are marked with tape or whitewash. The "server" serves across the net diagonally to the opposite court; "striker-out" returns, until one fails, and yields a point. Either player loses a point if the ball in play strikes his hand or any part of his person, or if the ball be struck twice. "Striker-out" becomes "server" at the end of a game. According to the laws of the All England Lawn Tennis Club "on either player winning his first stroke, the score is called fifteen for that player; on either player winning his second stroke, the score is called thirty for that player; on either player winning his third stroke, the score is called forty for that player; and the fourth stroke won by either player is scored game for that player. Except as below: If both parties have won three strokes the score is called deuce; and the next stroke won by either player is scored advantage for that player. If the same player win the next stroke, he wins the game; if he lose the next stroke the score is again called deuce, and so on until either player win the two strokes immediately following the score of deuce, when the game is scored for that player." In the four-handed game the players take the service alternately throughout each game. The rule is that no player shall receive or return a service delivered to his or her partner. The order of service and of striking-out once arranged must not be altered, nor shall the strikers-out change courts to receive the service until the end of the game." The side first winning six games wins the set; except when both sides have won five games, when the score is called games all. Then the next game won by either side is called advantage to the winners, who, should they win the next game, take the set. But, should they lose the next game, the score becomes again games all; and so on until either side win two successive games and the set. Usually a lady and gentleman are partners in the four-handed game, which is deservedly popular to both sexes in the summer time. Clubs play it with very strict regard to code governing the service-line, half court-line, side lines of courts, "volleying," the positions of the players, the method of service, and the definition of "faults."

Leap Frog is a boys' game, in which the *modus operandi* is "the giving of a back" by one lad and the leaping thereover by another, the leaper touching the crouching player's back and getting an impetus forward, legs astraddle, to alight and recover in the erect position at the greatest possible distance. He of the two who gets furthest forward cleanly wins. The croucher has to stand as firmly as he can, his body parallel with the ground, and his head bent downwards, or he will be enjoined to "tuck in his twopenny." The leaper is allowed a run before "taking off" at a fixed distance from the back he has to clear, which may be high or low, according to physical possibilities, so long as rigidity is maintained. North-country lads call this sport "loup back" (leap back).

Marbles. Boys play a variety of games with small spheres, often of stone and glass, but of marble, plain or coloured. These are assessed at different values for play, the staple being the "alley-tors," or taws, worth three (usually) of the "commoners" or "bouldies." The "blood-alley" or "Dutch alley," of

prettily-marked, red-veined, hard, tough marble, procured from quarries near Coburg, in Saxony, is a particular favourite with many lads; the gorgeous elliptically-ringed "allies" of glass are too brittle for the knocking-about they would receive in the games of "shot" and "ring-taw" in which boys delight. Other games with marbles are hand, hole, and odd or even, the principle being by good aiming to get the marbles into a small hole from a given distance; to strike by a finger and thumb shot your opponent's marble, placed on a mark, with your own; or to drive out and capture marbles by alternate approaches from a ring in which they have been stakes, each player getting all he fairly can. Many ingenious games, combinations of shooting and bowling the marbles, are known to most schoolboys. The marbles employed by the players are stakes in the games, and experts in luck are continually "skinning" out their less fortunate antagonists, who have to replenish their stocks by purchase. A variety of marble play in which one boy owns a wooden frame, serrated with small piercings at intervals, is popular in some parts. Over the holes are

and license, and in London in Bluff King Hal's time this lawlessness culminated in the excesses of *Evil May Day* (1517), when the rioting of the city apprentices, in resentment of alien immigration, had to be suppressed by the soldiery, and was followed by the imprisonment of some three hundred of the mob, and the gibbeting of several. This, and a later ebullition of Puritanical animosity against all manner of joyful demonstrativeness, killed "Maying" as an institution in Britain, and banished the Maypole as a "long wooden idol" from the land. But the spirit from which sprang the "May Games" and the "Whitsun Ales" of our forefathers survives in the many popular holidays and gala gatherings that still—with far fuller facilities—mark the spring and early summer on the various recreation grounds.

Mass Running is a lively exercise, forming part of the curriculum of physical drill in some of the schools, varied in character, and calling for no special description.

Medicine Ball is the passing from hand to hand of a heavy ball, a species of exercise favoured much in

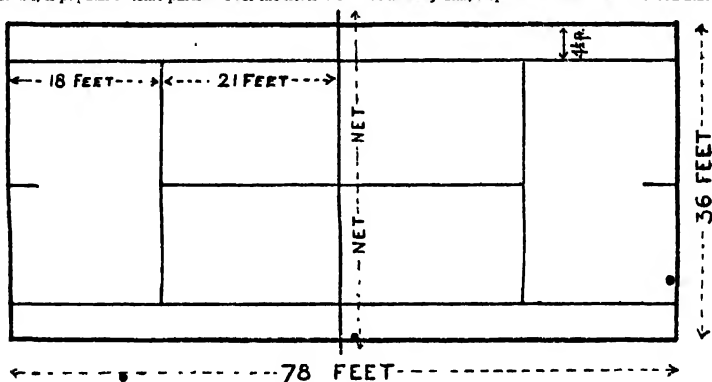


Diagram of Ground as marked out for Lawn Tennis.

numbers, say from one to nine, a low number being placed next to a higher one. The frame is placed on the pavement as the playground, the players roll from a stated distance their marbles towards the holes. The stake is the bowled "boudy." If it fails to enter any hole it becomes forfeit to the owner of the frame; should it enter it wins for the bowler as many "boudies" as are marked over the hole it went through. The frame-owner, having a good reserve stock to pay out with when the bowlers are in luck, usually has the best of it in the end, like the keepers of the bank in gambling games of greater import.

Maying and May Games were merry gatherings of the populace in the open in olden England, derived in a measure from the *Floralia* feasting of ancient Rome, in celebration of the resumption of the reign of the goddess of the flowers. There were archery, morrice dancing, and other devices for pastime all day long, and bonfires, stage-plays, and all manner of hilarity in the streets at night, presided over by the Lord and Lady of the May. The rich in authority provided the wherewithal for the entertainment of the multitude; but the free fun degenerated into disorder

American outdoor gymnasium. The ball weighs from four to nine pounds, and the catching of it strengthens the muscles of the back, legs, and arms, develops the chest, and invigorates the system generally, whilst affording very considerable amusement.

Model Yacht Sailing is a pastime possessing singular charm for many, and affording scope for the exercise of constructive skill, and ability in the management of the tiny craft upon ornamental waters in the parks and elsewhere, especially on breezy days.

Morrice Dancing. Morris or Morrice Dancing had great vogue in medieval Britain as an open-air diversion, the performers being fantastically attired and assisted in their gambols by the noise of the castanets and rattles which they manipulated. It was of Moorish derivation, and was probably brought from Spain, *temp.* Edward III., by John of Gaunt; holding high favour until about the reign of Henry VII., and finally thereafter.

Nicholses, obsolete now, was a game in which a number of holes, according to the number of players, were made in the ground in front of a wall or other barrier, just large enough to receive a ball, which was

bowled from a prescribed distance. "Egg-hat" (*g.v.*) was a variation of the simple pastime.

Northern Spell. (See **Knurr and Spell.**)
Oallone, an adaptation of an old Italian game, "Pallone" (*g.v.*), very similar to rackets or court tennis; quite forgotten now as far as Britain is concerned.

Obstacle Racing, a diversion furnishing occasion for ingenuity on the part of the devisers of outdoor sports, and fun for the spectators, who never merry over the difficulties created for the competitors to overcome or be defeated by. It is a comedy element of summer gatherings which requires here no elucidation.

Otter Hunting. Formerly a common British sport, this can rarely now be indulged in, because of the increasing scarcity of the quarry. Otters would always "put up a good fight" with the hounds trained to hunt them for their riverian seclusion and chase them along the banks of a stream, or follow them when they took the water; but for the assistance of the huntsmen who helped the dogs to harry their quarry, it was generally odds on the otter escaping in his familiar haunts; and in any case he might be expected to maim and drown dogs before being vanquished. Where one of the family of *Lutra vulgaris* survives, he is generally unceremoniously slain as a poacher at the first opportunity.

Pail Mail, the forerunner of croquet, very fashionable in Stuart times. It consisted of the driving with a wooden mallet, in divers directions, of a ball through hoops suspended from poles or driven into the ground, or both; and was often played by ladies and gentlemen on horseback. The sport originated in France and was there called *Paille-maille*. It was played in the park of St. James's Park, London, as a good deal; and the name of the game is perpetuated in a famous adjacent street.

Pallone. This—corruptions of which have travelled westward, one having for a while some favour under the name of "Oallone" (*g.v.*)—is the national ball-game of Italy, dating back to Imperial Roman times, and flourishing exceedingly in the great days of Florence. It is a kind of croquet, between tennis, as we know it, and football, the wrist, however, armed with a bracelet, being employed in striking the sphere. Pallone holds its own as a popular pastime in Italy, and is played with much ceremony, and under strict regulations.

Paper-Chasing is a "conditioning" exercise favoured in boys' schools, especially in cold weather; a species of cross-country running, in which "scent" is laid in a trail, with fragments of paper or confetti, by lads allowed a start of their pursuers. (See also **Hare and Hounds.**)

Palota is a Spanish wall and ball game, usually played by sides and three against three, in an open court with a *fronton* on, or back wall for the rebound, and a rectangular wall at one end slanting downwards at top from the *fronton*. The players stand twenty-five yards from the *fronton*, and strike the pelota or ball with terrific force against the wall, higher than a mark a yard from the ground, using a "chistera," or strong hollow-curved basket, about 3 ft. long, and strapped to the arm. The server sends the hard ball like a cannon shot to the *fronton*, and on the rebound the other players in succession volley it along until a fault is made, counting one against the side responsible. Save for the use of "chistera" and the amazing velocity of the "palota" the game and its regulations resemble "fives" or wall tennis.

Pole-Jumping. Pole-jumping, leaping or vaulting is the increase of the height-clearing power of the leaper by the use of a pole of a regulated length. At Kildermister in 1861, Mr. R. D. Dickinson jumped 11 feet 9 inches with the aid of a pole; and a pole vault of 11 feet 10 inches has been recorded in the United States.

Polo may be simply described as hockey on horseback. It is played by riders on specially trained ponies, long-handled "sticks," or mallets, being used to strike the ball from the ground towards goal. The game was introduced from the East, and is very popular at gymkhanas and military sports, as it permits the display of much equestrian skill and muscular dexterity, while the danger involved proves an added charm to daring riders. The ball—of white-painted

willow-root—must be light enough not to injure the legs of the ponies. Its diameter is about 4 inches. Under the rules codified by the Hurlingham Club—which govern all match and exhibition games—polo is played by eight players, four aside, each having his appointed place and particular duties in the game, his energies being directed to the dual task of impeding the course of the ball towards his own side's goal, and accelerating its progress in the direction of that of his antagonists. Player No. 4 on either side is the back, a position of the greatest responsibility; he guards his goal, and passes the ball forward to No. 3 of his own side, exerting himself all the while to prevent being "ridden-off" by No. 2 of the opposition team. Good polo is played at full gallop on ponies 14 hands 2 inches high, and the "off-side" and "riding-out" laws are rigorously enforced by the appointed umpires.

Prison Bars, or **Bars**, was an old game, like "rounders" or "feeder" in many points, which once held considerable vogue, and had to be prohibited by proclamation in the reign of Edward III. at Westminster, during the sitting of Parliament, from the inconvenience it caused to passing legislators. The full game was played twelve-aside, and there were inter-country matches at "base" in Britain as late as 1880. Cricket has swept it away in this country; base-ball preserves its name, and some of its cardinal features, in America.

Punting, in aquatics, is the propulsion of a flat-bottomed boat in still waters, by means of a long pole pressed to the bottom. It is a useful and easily acquired accomplishment for fishermen and water-fowl shooters, and an enjoyable form of boating in suitable conditions generally.

Pushball is played with an air-inflated ball 6 feet in diameter, weighing about fifty pounds, by opposing sides eleven in number, the object being to roll the ball to a given place, while the antagonists push in contrary directions. A variation of the game is played on horseback, the rider making his "mount" assist him with his lanchers. This kind of push-ball is exploited occasionally at military sports and tournaments.

Putting the Shot is an athletic exercise demanding considerable skill as well as great strength. Mr. D. Horgan "put" a shot weighing sixteen pounds a distance of 46 feet 53 inches in 1864, according to the British official Amateur Athletic Association record; and this has been slightly surpassed in America.

Putting the Weight. A feat similar to the latter (the weight being square instead of round, but also sixteen pounds avoirdupois) has been accomplished by Mr. Horgan, the athlete already mentioned, in Ireland, his record distance being 48 feet 2 inches in this instance. The square sixteen pound weight was "put" 43 feet 10 inches by Mr. W. W. Coo at the Inter-Varsity Sports of 1862 for Oxford.

Quarterstaff, Playing at. Men-at-arms and retainers amused their long and tedious days by bouts with the quarterstaff, giving and receiving many hard knocks, some kind of gesture rewarding the victor. The weapon was a stout staff usually about 6 feet long, iron-loaded at either end, and was grasped by one hand in the middle and by the other between that and the end. In use the latter hand was rapidly brought from one quarter of the staff to the other, imparting to it a swift circular motion, capable of being directed to the delivery of shrewd knocks at unexpected points upon the staff or person of the adversary. Great dexterity was requisite at quarterstaff play to avoid injury.

Quintain, Running at the. An ancient tilting sport. The quintain consisted of an upright post, over the top of which turned easily upon a pin a stout circular beam. The game was to gallop up and endeavour to strike heavily with extended lance upon the broad end of the beam, sending it swinging, and get out of the way before being smitten with a sand-bag suspended from the opposite end of the revolving quintain-head. To miss the quintain with the blunted lance point was a fault, to strike it and spur away unhit by the bag was dexterous horsemanship. Sometimes swords were used by the tilters in lieu of lances; while for the cross-beam was occasionally substituted a substantial wooden effigy of a soldier fixed on a

swivel, a shield in one extended hand and a heavy sword in the other.

Quoits are used in a game which comes down from the discus-throwing days of the Greeks and Romans. "Hoops" of iron are driven into the ground at a distance of 18 to 25 yards, and the players endeavour to cast over one "hot" steel quoit pitched from the other. These are flattened rings, convex on the upper side, 8½ inches to 9½ inches in diameter, and from 1 to 2 inches wide in the ring; their weight varying from 4 to 5 pounds the pair. The nearest cast to a "ringer" wins the throw; and, to count, the quoit must lie rounded side up. The opponents pitch up a quoit alternately, playing in a single-handed game from end to end in succession; and one of each side from either end in turn at the four-handed game. Usually 15 points is reckoned game when four players participate and 11 when only two are engaged.

Racquets, or Rackets. Usually practised in an open space bounded by a high wall at one end, this game resembles "Fives" in the wall-play. The racquets are netted with stretched gut, the balls very hard and about 1½ inches in diameter. The "in-players" (two or four aside may play) guard the inner courts, the "out-players" outer courts. The "in-

complete control of the mount he or she may be able to command. Persistent practice, in this as in all else, brings about perfection.

Rogue is a lawn game in some sense like lawn-billiards, again resembling croquet at points, and would appear to have been adopted in America from the latter game. Its chief feature is the driving of the ball of your opponent by the impact of your own, after a stroke from a short-handled mallet, and getting either or both balls through a ring, on the stroke.

Rounders (of which *Feeder*, *q.v.*, is a variety) is a game that players of differing ages and sex may engage in and enjoy. There should be at least five players a side. The ball should be light and of moderate size, the "bat" a rounded stick easily wielded with one hand. A player on the in side stands on the home base, stick in hand, to receive the ball with his bat from the pitcher, who faces him at about a dozen yards' distance. If he miss striking the ball, pitched to him in the air, three times successively, he is out, and one of his four fellow players comes in to take strike. On hitting the ball the striker may begin his round of the bases placed diagonally to each other about thirty yards (or less); or he may defer doing so until he has dealt with the third delivery.

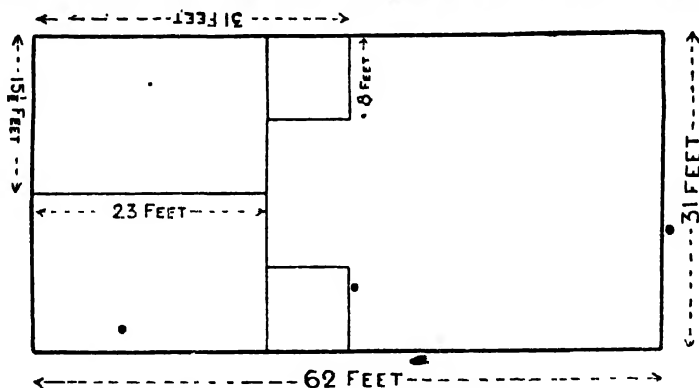


Diagram of Ground as marked out for Racquets.

players," striking the ball above the line on the wall, endeavour to make it rebound to the outer courts; the "out-players" have to volley or strike it back first to the wall (always above line) to rebound within the inner courts. On failure, the opposing players score and serve. At Racquets the wall-line is usually about 2 feet 2 inches high, and the number of aces reckoned to game varies. At Prince's Club the rule is that the game be fifteen up. At thirteen all the "out-players" may set it to five, and at fourteen all, to three, provided this be done before another ball is struck.

Relievo, a rather rough, rushing, catching, and detaining game, engaged in by a greater number of players than the obsolete barley-break, which, in points, it resembles.

Riding is a very valuable exercise as well as a pleasant pastime, and may be profitably cultivated by all who can afford to own or hire a suitable horse. In many points riding on horseback is much better in itself, and conduces more to the enjoyment of various sports, than either cycling or carriage exercise; and it seems a pity that the cult of the automobile, or any other kind of wheeling, should lessen the vogue of equestrianism. The horse-rider requires to acquire, by tuition, or apt imitation, a graceful and easy seat, and

One of the fieldsmen stands ordinarily in front of each of the three out bases, the catcher behind the home base guards that. If the ball be caught in the air by the pitcher or any fieldsmen the whole side is out. If he be struck by the ball when running between bases he is out. He must endeavour to make ground as much as possible whilst a ball on or one of his side has struck is being fielded. No two players of the in side may occupy one base at the same time; but the last to reach it is out at the touch of the ball. The player who has made the round of the bases and reached home takes strike again when his turn comes, until all but one player of the in side has been disposed of by catching or running out. This last player may, by running a "rounder," get all his side in again: that is, he must, after the biggest stroke he can compass, run speedily round the whole of the bases and home again, before the ball is recovered and the home base touched by it. Such a ball must not be caught by any of the out side, neither must the striker be thrown at, or impeded by, the fieldsmen, all of whom must concentrate on getting the ball to the catcher or otherwise touching the home base with it before the striker's return. If the striker reach the first base only safely before being brought to a stand on his run, he scores but one for his hit; reaching the

second base unstopped counts two, and the third three, while a "roader" made usually reckons five. When the entire in side is put out, the fielding side goes in, and the team with the highest aggregate after a completed innings wins, unless two innings aside be agreed on for game before the start. When played with more than five aside the additional players on the out side scout in the country, which makes run-getting more difficult; but the game, fairly played, is a very good and lively one, not over complicated, and capable of conclusion within a reasonable space of time.

Rowing is a deservedly popular sport, as well as a useful art, and it moreover affords splendid and uniform exercise to the entire muscular system. It should be cultivated in some degree by all who have access to any kind of suitable boat on any safe water, for good oarsmanship gives great gratification and brings much physical benefit. To participate in this one does not need to be a racer or to undergo undue exertion. Rowing may be made either hard work or a pleasant pastime.

Running is more in the nature of recreative exercise than sport, and the inspiration to indulge therein, in moderation, should always be encouraged in the young. Running competitions, wherein the attainment and maintenance of great speed are involved, require to be prepared for by careful living and intelligently ordered training. The exercise, as such, comprises a succession of forward leaps, putting the muscles of the legs and trunk into healthy activity, and setting the lungs vigorously to work. At all stages of practice for pedestrianism of every character, it is advisable to avoid over-fatigue, and to desert from violent effort upon breathing becoming difficult and perspiration profuse. Great bursts of energy-expenditure are apt to make physical mischief. Exceptionally fine physique, very severe training, and the pink of condition are requisite to enable any man to run a mile in under four minutes and a quarter, as W. G. George did in 1886; or to accomplish the wonderful series of running records of Mr. A. Shrubal "out up" in 1902 and 1904, transcending everything before achieved on the track over distances from two to ten miles, the mark for which was reached by him in fifty minutes, forty seconds. Celerity and staying power may both be beneficially brought within the command of any person in health by temperate running; training and exercising at proper periods however.

Running at the Quintain. (See **Quintain**.) **Back Racing** provides sport of a comedy character at many summer pedestrian meetings and outdoor social gatherings, particularly to the on-lookers; the competitors get falls as well as fun for their pains.

Sailing in small boats is a pretty pastime, calling for tuition from an expert, and care on the sailor's part thereafter. The management of any kind of wind-driven craft in the water, where life is at risk, ought never to be adventured unless an efficient education in the art of sailing has first been obtained.

Sailing implies the propulsion of a boat by the skillful rocking movement, from side to side, of one oar over the stern; or by the use of an oar in each hand by a single-seated sculler. The latter is an interesting feature of many regattas, the former a desirable and utilitarian accomplishment.

Sea-Fishing, with line and baits, calls for the employment of strong and heavily-loaded tackle, with stout hooks and substantial floats. From shore, pier, or boat, satisfactory sport may often be obtained under favourable conditions of weather and tide, providing properly-attractive bait be used, such as cockles, mussels, small crabs, bits of fish, worms, etc.; while pieces of bright red cloth will sometimes be found a killing lure for mackerel. A very strong rod may be used effectively in a calm sea for some fish, but this is usually dispensed with by the marine angler. Net fishing in salt water is more of an avocation than a sport.

See-Sawing is a childish pastime, needing only a plank supported on a slight eminence, a boy or girl at each end, evenly balanced, to render it enjoyable.

Shinty may be dismissed with a reference to "Hockey," of which it is the Scottish variety—and somewhat ancient at that—as "Hurling" is the Irish.

Shooting is a field-sport to the elucidation of which libraries of books have been and are being devoted. The principal British sports with dog and gun are the shooting of grouse, pheasants, and partridges; and all these can only be indulged in in due season, under license, and by authorised persons, with proper observance of the law of trespass. Shooting for the purpose of attaining or exhibiting proficiency in marksmanship is hedged about by protective regulation, as it should be. Rifles and shot-guns are playthings for the privileged and the discreet.

Shuttlecock. (See **Battledore** and **Badminton**.)

Single-Stick, as differentiated from a variety of "Fencing" (see "Indoor Games" Section) was an old game of cudgels in which the player who first drew blood from his adversary's head was adjudged victorious. Since this kind of "Single-stick" was an extensively popular British sport, fashions have altered greatly.

Skating in the open on natural ice—necessarily in Britain only an occasional winter pastime—is most exhilarating and fascinating to the good skater. The necessary conditions precedent are safe and smooth ice, approved skates, and the ability to poise the body on the narrow ridge of steel firmly secured underfoot whilst moving in the desired direction, one foot relieving or assisting the other. Confidence comes of assiduous application; grace in executing the evolutions of figure-skating will follow. In most large centres rink-skating is procurable, rendering the devotion to the pastime independent of meteorological mutability at the cost of the up-breaking "snap" of frosty out-door air. (See also **Roller-Skating** in "Indoor Games" Section.)

Ski-Running is a sport peculiar to snowy and hilly regions, and the Norwegians and Finns are adepts thereof. The ski are elongated snow-shoes, 8 to 9 feet long, of smoothed, tough wood, upturned at the front. With feet tightly strapped to the centre of these, the ski-runner slips down a snow-covered or frozen incline, and, with the impetus gained, slides up a fronting hill, at the summit, when possible, leaping forward in the air to gain momentum for further glacial progress. Ski-runners in "full go" have been known to leap a hundred feet at a bound.

Skipping is not merely a girlish exercise; it is a pastime which, whether engaged in solus or with the rope "turned" by other hands, is recommended as good practice for athletes who desire to keep conditioned for football and other strenuous games. It keeps the breathing organs as well as the muscles in trim.

Sleighing, or "Sledging" is an alluring pastime on ice or frozen roads, whether the sleigh be drawn by hand or by horses, dogs, or other sure-footed animals, to whose harness are attached merrily tinkling bells. In Russia, Canada, and other lands where snow lies deep in winter the sleigh is often a picturesque necessity of transit.

Splapole. (See **Tether Ball**.)

Squash Rackets is an adaptation of the outdoor Racquet game (wall and ball) which has obtained some favour in the United States. It has no particular preferential merit over the orthodox pastime.

Stag Hunting is one of the old British "blood sports" with but limited lingering vogue. Where it survives a preserved stag is taken from cover beforehand, and carted to the meet to be released for the chase. The object nowadays is not to kill the animal, but to obtain the excitement of the running he may make for hounds and hunters. The Royal Buckhounds, an ancient Court appanage, were kept up as an active hunting establishment until quite recently; and there are still over a score packs of stag- or deer-hounds in England and Ireland. The season for buck-hunting in England is from August 30th to September 17th; the red deer may be chased from the first mentioned date to the last day in September; the hind is hunted in October and again between April 20th and May 20th.

In Ireland the pursuit of the male deer is legally allowed from October 20th to June 10th, and that of the fallow deer is practised between June 10th and Michaelmas.

Steeple-Chasing is the racing (a) of horses—necessarily leapers or hunters—over courses in which impediments in the way of more or less "stiff" fences and water-jumps are interposed, sometimes in combination; and (b) foot-races for lads, in which similar obstacles have to be surmounted. The horse and rider and runner on foot first covering the entire distance cleanly wins (unless a handicap allowance should have been arranged). Any failure to get "over the sticks" or "coming a cropper" at a water-jump puts the competitor out of the race. Obviously more skill and daring are needed in riding a steeple-chase than in horse-racing on the flat; and vigorous school-boys get good sport out of the foot steeple-chase. (See **Hurdles**.)

Stool-Ball is a very old English game generally regarded as a rudimentary form of cricket, now all but relegated to the use and progress of the great national summer pastime. Small sides of girls played stool-ball at one period with considerable frequency; and what was called "stools" was a more extended form of the game.

Swimming comprises the art of floating upon or in the water, and of progressing therein; a very desirable accomplishment indeed, as well as a pleasant and healthful pastime. It involves invigorating muscular exercise, with agreeable support to the body during its practice. The first thing to learn is how to keep the head above water; this is essential mastered, the movement of the limbs to compass progress can be entered upon with confidence. Harmonious flexion and abduction of the arms, and extension and adduction of the legs form the sum total of the science of swimming, as the ability to prevent the sinking of the head comprehends the whole art of floating. Natatorial exercises of the elementary sort should be taken in shallow water, and that near the shore, and in company of a competent swimmer for fear of cramp or panic paralysing the novice. When one can float or take a few strokes with comfort and self-reliance, more extended swimming may be essayed, until one is ready to plunge into the water for exercise or to save a life at any time.

Swinging in a suspended seat, the ropes and supports of which are sufficiently strong and firm, is pleasant exercise; for young children it should be gentle and "safe"; those of larger growth can generally be trusted to take care of themselves.

Tent Pegging is a feat practised in military sports: the taking up of a tent peg on the point of a spear or lance when at full gallop on horse-back. It is a survival from the old days of the tilt-yard.

Tether Ball. This is a game in which a ball is attached by a cord to the top of a firmly planted perpendicular pole, fixed on a lawn or other level ground, marked into two courts. The ball is struck by the players, standing, racquet in hand, on either side of the line marking the division between the courts in the centre of which the pole stands. Ball and racquet may be of lawn tennis, and the pole ought to be about 9 feet high with the cord for the ball 2 yards long. The game is sometimes called "Spiropole," because of the aptitude of the cord to twist spirally round its support after receiving a swinging blow. The players commence alternately; and at "Spiropole" the starter holds the ball in one hand with the cord stretched to its limit, striking it with the racquet with the object of winding the cord tightly and completely round the pole. The opposing player, keeping in his other court, endeavours to make the ball travel in the contrary direction, and whichever first completes a spiral scores a point.

Three-Leg Races are farcical events in which pairs of participants are set to run in competition after having the right leg of one of each pair bound to the left of the other. Tumblers and hilarity result.

Throwing the Hammer. This is a feat of strength and agility practised at athletic sports meetings and game gatherings. A hammer with a 16 pound head and 4 feet handle, grasped with both

hands, has been thrown 113 feet 11 inches in America. In Britain, a 16 pound hammer, swung in a 50 feet circle, was thrown by J. Flanagan 163 feet 1 inch, while the United States record for a similar feat is given as 175 feet 4 inches.

Tig is a juvenile game in which one of a crowd of dodging, running players tries to overtake and touch one of the others, who then becomes "tig," and has to take up the pursuit. "Touch" and "Touch and Go" are the names given to this pastime in some places.

Tilting at the Ring is an equestrian exercise, in which the object is to get the point of an extended lance, whilst riding at full speed, through a suspended ring deftly disengaging the weapon without losing hold of the shaft, and avoiding being unhorsed. It possesses some semblance to the old sport of "Running at the Quintain" (q.v.).

Tobogganing is sleighing down hill, and is very popular in Canada and elsewhere on natural snow-tracks. It is practised also on artificially prepared "switchback" slides, the latter ending often in a "shoot into water." The toboggan is shaped something like a flat-bottomed boat. The pastime in any form is exciting.

Top Spinning. This is a pastime affording perennial delight to a small boy, requiring a smooth surface and a top of one of three kinds to spin thereon. The peg-top is pear-shaped, with an iron or steel prod at the small end. It is tightly wrapped round with a string, beginning at the peg and winding upwards, and then thrown forcibly on the ground, point downwards, the string being released deftly in the cast, to impart rotatory motion. The whip-top is a wooden inverted conoid, kept spinning on the point by blows from a leathern lash. The humming-top is a hollow metal globe on a pointed central stalk, round which a fine string is wound closely and evenly, being introduced through a hole in the side of the sphere to one in the spindle opposite thereto. The top being held firmly near the floor with the left hand, the string is pulled away with swift, strong traction, on its outer end by the right.

Trap, Bat, and Ball. A game deriving its name from a kind of trap (varied in form and construction in different places) being employed to spring the ball into the air to be struck away by the batsman. Sometimes it is called "trap-ball" simply. (See **Dab** and **Trigger and Knur and Spell**.)

Tug of War. This is a game in which opposing sides of equal number (usually seven a side) pull in different directions upon a stout rope, in the endeavour to draw some portion of their opponents half over a central mark or scratch. A prescribed length of play from centre is allowed to each party of tuggers; if this be pulled over, those gaining the ground (or rather, length of rope) score. Concerted tension, strong and long pulling, and firm foothold are factors in the conquest. In Canada in 1877 two teams pulled against each other in a tremendous "tug of war" lasting two hours and ten minutes, without either holding an advantage over the other sufficiently long to secure a win.

Vaulting. (See "Indoor Games" section; also **Pole Jumping**.)

Walking comes naturally as a pastime to man, he being anatomically constructed for locomotion in the erect posture, and there is no exercise more conducive to continuous good health. The alternate forward motion of the legs and feet procures progression, but every limb is called into activity by pedestrianism, and the circulation of the blood stimulated throughout the system. Learn to walk gracefully, and for a reasonable distance regularly without fatigue. Even prolonged walking, in good air, beyond the tiring point, is salutary, but for the ordinary purposes and convenience of latter-day life, it is not often necessary, except for observation purposes. Yet one should be capable of long and quick walking, though there is no occasion to aim at emulation of the speed or endurance of Mr. W. J. Sturges, who walked a measured mile in a trifle over six and half minutes, fair heel and toe, covered well over eight miles an hour, and thirteen miles in just under one hour and forty-three minutes.

Water Polo is handball in the water, with ball and nets and side formation very much as for football. The ball may be used on the head, back-wards and forwards as in the land game; but the players must not touch bottom with their feet when they are passing with the hands or a "foul" will be whistled for by the referee and penalised. A player holding the ball may be immersed to make him relinquish his hold, and the players must not swim to strike from an "off-side" position.

Wheelbarrow Racing is a comic sport in which one person walks forward on his hands the while his feet are held in their by a partner walking in step behind him; the two competing with other pairs in similar plight to first gain the winning post. It always makes an amusing contest at a gala gathering.

Whippet Racing. This is the pitting together of speedy, long-legged, short-bodied, running dogs, of specially-bred, modified greyhound form, in time races, a sport very popular with the pitmen and other workers of the North of England. The whippets are fed and trained regardless of expense, relatively speaking, and prized by their owners often beyond any other possession. They run in heats, on courses contiguous to large towns, being started at pistol shot by release of the slipper's hold on the skin of the neck and the tail above the raised hindquarters. Some whippets can tear along at a rate of over seventeen yards a second.

Wrestling was a feature of the Olympian games of the ancients, and a modification of the method there employed has survived to our day in the Greco-Roman style. Wrestling is also still practised by athletes of great prowess in Cornish, Cumberland, "catch-as-catch-can," and other strenuous styles; more often, it must be admitted, as a more spectacular display than as bona-fide attempts of the participants to do their best to overcome each other; and usually in an indoor arena. In all descriptions of wrestling the endeavour is for one competitor to give the other a fall, either by means of leg hold, wrist hold, or body hold, or by combined grappling and heaving. The back-hold and the struggle to maintain the perpendicular are of the Cumbrian and Westmorland style

of wrestling as exhibited at the Grasmere and Morpeth sports; the grip, on the upper trunk was played for, often for half an hour—until Devonian and Cornish rules, in which kicking was permissible; "catch-as-catch-can" is the chief characteristic of the Lancashire style, that is to say, the wrestler is allowed to take any hold whatever, of the head, trunk, or legs, and maul, haul, grip, and struggle to break his opponent's two shoulders to the ground. Modern Scottish wrestling combines the Cumbrian and Lancastrian styles; Irish wrestling differs again in admitting only the hold upon the elbow with one hand and upon the collar with the other, which must be maintained, the first of the twain going to earth being vanquished. Tripping and sleight of foot are prohibited in the so-called Greco-Roman style prevalent in Continental Europe, in which ground-struggling and sheer weight and strength count most. In one respect all wrestling is alike, there is nothing gentle about it, whatever on subtlety or grace it may exhibit in addition to the employment of physical force. (See also, *Jiu-Jitsu*.)

Yachting is a fascinating sport, both as regards the management of sailing pleasure vessels of light or large tonnage, and the enjoyment of the more expensively fitted steam yachts—now so common—whose owners may assume the proportions of floating hotels. It is calculated that their aristocratic and wealthy owners have sunk in the combined fleets of sailing and steam (or otherwise propelled) yachts which to-day have a place on *Lloyd's Register* as much as ten millions sterling; and their upkeep and maintenance of their crews, with club subscriptions, etc., runs into nearly a million a year. Probably the proprietors of, and guests upon, the smaller yachts, who actually participate in the navigation, get more actual satisfaction from their invigorating aquatic hobby than do the crowned and titled yachtmen who lay themselves out to enter cup contests at enormous cost; anyhow the furling and spreading of "white wings" and sailing over flowing seas at will is a sport at once thoroughly British, healthful, and pleasing. The yachting meetings at Cowes and elsewhere are also always gay and picturesque social functions, given propitious weather.

SECTION II. INDOOR GAMES.

Amusements, Indoor. All the popular indoor amusements, whether games or exercises, are dealt with alphabetically in this section, dances and card games being grouped together for facilitation of reference.

Acting Charades. Choose a word of two or more syllables, each of which is in itself a word capable of simple scenic illustration. Let the ablest mimics of the company, directed by its most resourceful member, act each syllable of the word separately and in order, in a little scene, mirthfully and with all available accessories, lastly presenting a scene properly descriptive of the whole. This makes a good charade. Introduce the key syllables and word into the dialogue, others only indicate it dramatically. Examples of good words for acting charades are "Pen-man-ship," "In-fan-try," (making the first scene an inn), "I-sing-las," "Sup-port-able," "Break-fast," "Fret-work," etc. The things to aim at are variety, fidelity to the subject allied with skilful mystification, and spirited comedy with picturesque dressing.

Acting Proverbs, though otherwise somewhat similar, require a little more preparation than Acting Charades, as some plot must run through the representation of the chosen maxim, which should be a familiar one, the actors endeavouring to delineate its moral. The number of acts required may be varied; thus "A rolling stone gathers no moss" can be presented in two preliminary scenes and a final act devoted to the enforcement of the moral of the proverb.

All Fours. (See Cards.)

Baccarat. (See Cards.)

Backgammon. Requisites: a board or table; fifteen black "men" or pieces, and fifteen white ditto; dice and cups to cast them from. The board is divided into two equal parts by a central bar, and on each half are marked twelve points, six at either end, white and

black alternately. The "men" are placed in the beginning as evenly as possible on points at the opposite ends of the two half tables, eight white pieces, on white points on White's end, and seven black pieces also, on black points, at the same end, with eight black pieces and seven white ones correspondingly disposed at Black's end. The game—which has numerous complications—goes in favour of the player who has first been able to move all his men to the proper points on his own table, and play them off, or bear them away, by means of fortunate throws of the dice. This makes a game of the day, which accomplishes this, before his adversary, by throw gets his men placed in the opposite territory, wins a gammon. A gammon is equal to two hits, and the winning of two games out of three gives the "rubber." Luck has as much play as skill at backgammon. The player who makes most use of his chances wins.

Bagatelle. A table game with balls and cues, the table being much smaller than the regulation size for billiards. It is covered with cloth, and measures from 5 feet long upwards, by 18 inches or more wide, cloth covered and surrounded by a cushioned rim, semi-circular at the top end. Here are disposed eight cup-like holes in a circle, numbered from 1 to 9, the highest hole being the middle one. In front of the first hole is spotted a black object ball. From opposite to this, at the bottom end, in baulk, the first player strikes to hit the black ball and thereafter get his own, or it, or both, into one of the marked holes. The striker follows—in the English game—with seven other balls, holding as many as he can. With each of his strokes he must, to score, first strike the black, and if the black be holed it counts double. Thus if it is driven to rest in the central or 9 hole, the black object ball counts eighteen towards the score of the striker.

Any shot ball coming back over the half-way line is removed as "dead." The total number of the values of the holes filled with the eight shots is marked towards game (a number fixed beforehand for the striker; then his opponent follows with eight strokes. The one first reaching the agreed aggregate number for "game" in an equal number of visits to the table, or making most in an equal number of tries, according to pre-arrangement, wins. **The Cannon Game.** This is bagatelle with only three balls in use, as at billiards. The black object ball is retained, and the opposing players have one a white and the other a red ball to strike with. The black ball is "spotted," and the ball of the non-striker placed on a mark behind it in the middle line of the table between the 1 and 9 holes (the first and middle ones of the circle). If the striker can with his own ball hit first the black and then his opponent's with his own struck ball, he makes a cannon, and counts two towards game. Sometimes these cannons, which are continued by the striker as long as he can score, are alone counted; sometimes the value of any holings made during the striking are added. When the striker breaks down, his adversary takes up the game; and who gets to a given score first is victorious. **Mississippi.** In this game a nine-arched barrier is placed as far up the bagatelle board as possible, and all the balls are sought to be holed, its interposition notwithstanding, with the added proviso that a side cushion must first be struck, otherwise the score resultant is marked to the opposing player. **Sans Egal** is a further variety of Bagatelle, in which, the black ball having been spotted, each player shoots alternately with one of four balls, red or white respectively. All the white balls holed by White count to him, with the black double if he can manage it, and all the red balls he holed to his adversary, and *vice versa*. **French Bagatelle, Russian Bagatelle, or "Shooting up the Board,"** is played on a table—often much smaller than an ordinary Bagatelle board—having a partitioned channel reaching nearly to the semi-circular top on both sides, and the centre studded with pins or pegs formed in circles, each with a small upper entry, and so disposed as to allow channels between. Every circle is numbered low numbered ones being in juxtaposition with those higher; and the highest of all has a bell fixed within it firmly. A small glass ball is shot, by pulling a string, from the left-hand groove, up the board or table, which is slightly inclined towards the player; his aim is to impart just sufficient force to carry the ball to the top, so that it may roll gently down into one of the pinned circles, and there lodge, when he counts the number marked in the hole occupied towards his aggregate score. If the ball roll down to the bottom by the right-hand groove, it does not count; should it ring the bell, the score of its ultimate rest-place is doubled. A slight variation of this game is sometimes styled "The Devil amongst the Tailors."

Ball Games, Indoor. (See Bagatelle, Ball-punching, Billiards, Bowls (Table), Court Tennis, Ping Pong, Pool, Pyramids, Nine Pins, Skittles, etc.)

Ball-punching. The striking of a large inflated ball, suspended by a cord, with the fist, and avoiding the recoil; an athletic exercise of some value in keeping up muscular condition.

Bar-balls. Bar-balls, of variant weight, with a uniting rod, a yard or more in length, for use with both hands in physical drill and gymnastics. (See Dumb-bells.)

Basket Ball. (See Outdoor Sports.)

Basset. (See Cards.)

Bélique. (See Cards.)

Billiards. A ball game of skill and precision, played with a cue on level and smooth rectangular table, covered with fine green cloth, with balls of ivory or bone or bone composition. The table is enclosed by cushioned sides, two to three inches high, having netted pockets at each corner and in the centre of both long sides. The inside measurement of a full-sized table is 22 feet 8 inches by 5 feet 10 inches. Three balls are employed in the ordinary billiard game; a red one, which belongs to neither player, but is "spotted" on

a small mark placed centrally on the table about a foot from the end and furthest from that the striker starts at, and two white ones, one for each player to strike with. Of these one is distinguished by a small black speck, and is called "spot," the other being "plain." One of the players "breaks," by striking his ball from a half-circular space marked behind the baulk line opposite to where the red is spotted. If he hit the red and drive it into any pocket he scores three, or should he own ball, after striking the red, roll into a pocket, he also scores three, both balls resting in pockets after a stroke counting six to the striker. The red is replaced on the spot every time it is holed, and can be shot at from the position in which his own ball comes to a standstill. Should a miss occur by the player in possession of the ball, one is scored by the opposing player, who thereupon takes strike. Should the striker's ball, on a miss, enter a pocket, three is scored by his antagonist, but the lost ball remains in the pocket, leaving only the red to be played at. It is usual for many billiard players to give a "miss" at the start, in order to get two object balls on the table for subsequent play; this is done by the striker playing his own ball out to a cushion intentionally, to roll back within baulk, when the white cannot be played at by the player who follows until the red shall first have been hit. This is giving one away to open up the game. With one white and one red to aim at, if the striker with his own ball hit both object balls he makes a cannon, which counts two. The red ball entering any pocket as a resultant of a cannon shot counts three additional to the striker, for the winning hazard, the white being holed eventually, having first struck the red, whether a cannon be made or not, counts three for the losing hazard, when the striker must make his next shot from baulk. It is possible for ten to be scored from one stroke, by striking the red first, making a cannon, and holing all the balls; but this has the disadvantage of compelling the striker to break again from baulk, with only the red as objective, the opponent's white being out of play until the striker fails to score. Cannons are made frequently by players from strokes in which a cushion is struck at a tangent before the object ball is hit; and the great thing in the game is to score as many as possible, leaving the balls in a position unfavourable to the opposing player. The ultimate failure to score then becomes "playing for safety." Nursery cannons are those made with the object balls nearly together and without leaving them in a position more difficult to score off after the impact. The striker's ball is impelled forward by a distinct strike with the cue, the thin end of which protrudes over a "bridge" made by placing the left hand on the cloth, palm underneath. The cue is held by the heavy end in the right hand, and run forward between the forefinger and thumb of the left with sufficient force to give the required impetus to accomplish the stroke advertised, the object balls or cushions being struck in such a manner as to obtain precision of movement, after the object for the striker's ball, and also for those aimed at and moved by the stroke. The player's break continues until he fails to score, when his opponent goes to the table and continues the game. Generally a game is for 50 or 100 "up," the player first having the agreed upon number marked in his favour winning. Four players, two against two, may have part in a game of billiards; the "plain" and "spot" partners taking stroke alternately.

Pool. This is a game on the billiard table, all of winning hazards, in which, by the employment of various coloured balls, several players may participate, playing in the order in which the colours appear on the scoring board, and each player plays on to the ball preceding him. Every time a ball is shot at it is holed, the owner of it in the game loses a "life," and the striker thereafter plays at the ball nearest on the table to his own until he fails to hole a ball. The striker, if he make a losing hazard—that is, if his own ball should run into a pocket—loses a life. Each player has three lives; and when all but one player has lost these, the survivor takes the "pool," or, two being left in with an equal number of remaining lives may divide the stakes. **Snooker** is a modification of "Pool."

Pyramids is played with fifteen red balls, placed pyramidically, by the aid of a light frame, near the head of the table, the apex towards the first striker with the white. He of two players who holes the greater proportion of the red balls wins the game. Every time the striker fails to score or holes his own ball, the adversary plays with the white, from bulk if lost, or from the position in which it remains on the table otherwise. The maker of the losing hazard, in addition to yielding strike, has to replace a captured red ball on the table, or owe one to his opponent should he not have scored. Variations of this method of pyramid play, in which many billiard rules hold good, admit of three or more players participating.

Blind Man's Buff, a merry, romping game in which one, blindfolded, has to catch and name some other player, who then becomes "blind man."

Bowls, Table. A parlour adaptation of the game of lawn bowls, miniature biased bowls being shot along a polished table from a grooved tilt shoot.

Boxing a combined sport and exercise, when proper gloves are employed, is a useful and commendable art, inculcating the principles of self-defence and the scientific use of the fists in a just quarrel.

Brag. (See **Cards**.)

Bridge. (See **Cards**.)

"**Buz**" is a forfeit game for children, in which the seated company count audibly from one upwards, the participant whose turn comes at any seven or multiple of seven having to substitute the word "Buz." Thus, instead of "seven," "fourteen," "seventeen," and so on, "Buz" must be called out or forfeit paid.

Caledonians. (See **Dancing**.)

Calisthenics is a term comprising numerous exercises designed to give mastery of graceful muscular motion and bodily carriage, *satis* or in concert with others. Its systematic cultivation, with proper regard to the strength of the subject, is good athletically, and as a mere matter of pastime also. Competent guidance in calisthenics is desirable.

Cannon Game. (See **Bagatelle** and **Billiards**.)

CARDS.

Cards for playing with in various ways are of very ancient vogue, in East and West, and have changed a good deal as to name. Those in present use are fifty-two to the pack, in four suits of thirteen each; clubs and spades being black printed, hearts and diamonds red. Every suit consists of three court cards: king, queen, and knave (or Jack), and ten numbered cards. The latter are marked with from one to ten printings of the suit device, the higher being of the greater value in most games, save that the ace usually takes precedence of all, even the court cards. The following paragraphs cover the leading games with playing cards.

All Fours. Six cards are dealt from a complete pack, the thirteenth being turned up to indicate trumps. The hands are played, the greater capturing the less in each trick, and trump cards those of any other suit. The points are High, Low, Jack, and the Game; the latter being the querdon of the possessor of the greater number of counting cards, their values running: aces, four; kings, three; queens, two; Jacks, one; and tens, ten. The point High goes to holder of the highest trump dealt, Jack to the retainer of the knave of trumps, should that card be dealt, Low to the person playing the smallest trump, whether retained or not.

Backgammon. A gambling game, illegal in Britain, in which one player takes the bank against several others, doubling what they stake. Two cards are dealt to each player, the holder of the highest hand taking the stakes, the banker's hand being "trumps," which are of greater value in the game than anything of other suits. All the court cards are worth ten each, the rest in accordance with the pips.

Basnet. A gambling game, played between a banker (who has an assistant, to supervise the losing card) and the punter, opposing the bank.

Bézique. This requires a pack of cards for each player, all the low cards from six downwards being

dispensed with. Four or three may play the game, though two is best. The cards being shuffled together and cut, the dealer gives eight cards to his opponent, and the same number to himself, the seventeenth card being turned up to indicate trumps. Then the non-dealer takes a card, to which dealer plays, the best card winning the trick; play proceeding as at whist, save that ten will take any card except ace. The winner of the first trick takes the top card from the undealt remainder of the pack, his opponent takes the next. Then another trick is played, and another card taken by each and so on till the pack is used up; whereupon the remaining eight are played out in tricks, till all are lost and won. Scoring depends on the combinations held and declared after each trick, the player first reaching 1,000 being accounted the winner. Thus, the winner of a trick who thereby becomes the holder of all four aces registers 200 points towards game, four kings 80, four queens 60, four knaves 40. Simple marriage (king and queen, same suit) scores 20 points, royal marriage (king and queen, trump suit) 40; bézique (queen of spades and knave of diamonds) 40; double bézique (the two queens of spades and both knaves of diamonds) 500; sequence (ace, ten, king, queen, and knave of trump suit) 250. Seven of trumps played or turned up reckons 10, taking the last trick 10, and finally every ace and ten in the captured tricks counts 10 to the taker.

Blind Hookey is a simple game of chance at cards; comprising cutting and speculating as to the turn-up.

Boston is like whist, played four-handed, save that the last card is not turned up to make trumps. The player declaring to win most tricks leads, and makes trumps, providing always that he may, if he consider himself unable to win more than seven, ask for a partner. On being accepted, the two play against the remaining pair, as at whist. Also any player, there being no declaration above seven made, may undertake, *solo*, to get a number of tricks less by two than the provisional caller; and, if there be no partnership, the three players not having called endeavour to frustrate the play of "Boston," the *solo* high declarer, or "whist," the low-caller who deprives him of lead. If declarer or partners achieve their undertaking they take the pool; if they fail they are mulcted. Dealer subscribes half as much more to the pool as the other players. "Boston" or "Booston," very much resembles the game now known as "Solo Whist."

Brag is a game in which three cards are dealt to each player. A declaration is made by one to win two or three tricks, and if this "brag" be not exceeded by the players to his left, he proceeds to make the declared number and win, or to fail and lose.

Bridge is a development of whist, with complications, and is very popular in many circles. There are four players, and in each hand the dealer's partner takes no part in the play, but exposes his cards for the dealer to use as in dummy whist. Trumps are declared by the dealer or his partner (dealer having first option), without consultation, or they may elect to play without a trump suit. The tens, as well as the court cards, are honours, but honours do not count towards winning the rubber, being added to the trick score afterwards to determine the value of the rubber. There is a score for winning "little slam" (twelve tricks), and a higher score for "grand slam" (all the tricks); also for "chicane" (holding no trump in a hand). The scoring of points is an elaborate affair needing special instruction.

BRIDGE SCORE.

Score by Tricks.

♠ for each Trick, above Six, when ♠ are trumps.			
4	"	"	♣
5	"	"	"
6	"	"	♦
7	"	"	"
8	"	"	♥
9	"	"	"
10	"	"	"
11	"	"	"
12	"	"	"no trumps."

Score by Honours.

	♠	♣	♥	♦
Three Honours = . . .	4	8	22	16
Four Honours = . . .	10	16	24	32
Five Honours = . . .	18	20	30	40
Four, all in one hand =	16	32	48	64
Five, four in one hand =	18	36	54	72
Five, all in one hand =	20	40	60	80
Chicane =	4	8	12	16

No Trumps (Sans Atout).

3 Aces =	30
4 " in one Hand =	40
4 " =	100

Grand slam, 40; little slam, 20; rubber, 100.

The game is finished when 30 has been won by *Tricks*.

Casino is played by two, three, or four persons, with an entire pack of cards. Four cards are dealt to each player, and four on to the table, face upwards. Then the players in turn match what they can from their hands on the cards on the table, by pairing or taking two or more up, the pips of which will together equal those on one card held by them. These they win and turn down alongside them. If they cannot pair or match they must lay a card down. When the first deal is played out, another deal round is made to the players until all the cards are exhausted. The game is to capture all the cards you can, and as many tens, spades, and aces as possible. High (or Great) Casino—possessing at the close of a hand the ten of diamonds (two points); Low (or little) Casino, the deuce of spades (one point). "Cards" is when players (or partners) capture a greater share of the counting cards than the opponents, which reckons three points. "Spades" is having the majority of that suit, one point. Aces each reckon for one point. Should all these eleven points belong to one player (or pair of partners with the same high), that player is marked to them and the game ends. Anything held against the preponderating hands in opposing hands is deducted, and the game proceeds until concluded by eleven being scored by one player or pair.

"**Catching the Ten**" is a simple game, resembling "All Fours" and "Don Pedro," except that the greatest point considered is the capture of the ten of trumps by the ace or a court card of the same suit. It will take any other ten, and, of course, any card of a non-trump suit.

Connexions. A rather antiquated game for three or four players; dealing out eight cards should the greater number engage, and ten if the smaller. Card values and manner of play as at whist, save that diamonds are always trumps. The "connexions" to be made are the two black aces, the ace of spades and king of hearts, and the ace of clubs and king of hearts. The player of the first card makes the "connexion," and secures it, unless trumped by a following player. The seizer of the last-mentioned "connexion" and the winner of the majority of tricks take an equal amount from the pool; the maker of the second "connexion" double what goes to either of these; and the fortunate maker of the first-mentioned "connexion" double what the second winner withdraws.

Cribbage. Dealer serves out either five or six cards from an entire pack. Two cards are thrown out by each player, but not exposed; then a card is turned up, and this counts with the crib (which belongs to dealer), and also with the hands of the players. In discarding, and in play, the endeavour is to make as many combinations of fifteen, pairs, and runs, as possible; and "flushes" also count, i.e., all the cards held being of one suit. The court cards are valued at ten each for counting, and the rest according to the number of their pips. Sixty-one points is game when two play at five-card "crib"; twice round the board at six cards. There are further points in the game, for which instructions should be obtained.

Don Pedro is similar to *All Fours* and "Catch-

ing the Ten," except that the capture of the five of trumps, which is "Don," is the chief point in the game, and that all the five count in reckoning the hands as well as the tens, aces, and court cards.

Dummy Whist is *Whist* (q.v.) with three players only, the fourth hand being taken in turn by the dealer, and played in addition to his own hand, against those of the other two players. "Dummy's" hand may be exposed on the table, or otherwise, as arranged.

Ecarté (sometimes called "Discord"), is played with the kings, queens, knaves, aces, tens, nines, eights, and sevens of the pack ranking in value as named; and sometimes two packs are employed. Five cards are dealt to each player (two or more may play), and the succeeding card is turned up for trumps. There may be discarding and changing for fresh cards from the "talon" or undent portion of the cards for play on proposition, and the game—which is of gambling notoriety—has other complications.

Euchre is a modified form of *Ecarté*, the master card being the "joke," the second master card of the same colour the "right" bowler, the next, the other knave the "left bowler." To "euchre" the opponent is to take three out of the five tricks in a hand. A gambling game, popular in America.

Faro, a speculative game, in which players oppose the banker, at a special table, using the entire pack; odds being in favour of the bank.

Loo is a round game in which a number of players can participate. It may be three-card or five-card loo, the former permitting the greater number of players; and it may be "limited" (in which those "looted" pay into the pool counters to the value of their original stakes) or "unlimited" (in which the forfeit is equal to the whole amount of the pool). Winners take an equal proportion of the pool for each trick captured. Those who do not win a trick are "looted." At five-card loo a flush of trumps, or four trumps with "Pam" (the knave of clubs) takes the entire pool without playing, and all the rest save the possible holder of "Pam" are "looted." There are other complications, for which we have not space.

Lottery is a game in which players speculate on their cards as against those of their opponents, and then play for the stakes and the pool to which all contribute. In parts "lottery" resembles *Rouge et Noir*.

Matrimony is played with counters and the full pack, the dealer staking what number of counters he or she likes, on each of the five chances in the game, and the rest (5 to 14 may play) placing one less piece on the chances. Two cards are dealt to each, and then a third turned up to every player. The ace of diamonds turned up to any player clears the pool in that player's favour. The chances are:—Best (ace of diamonds, turned up); Matrimony (king and queen); Confederacy (king and knave); Intrigue (queen and knave); and Pairs (the highest pair). Should any combinations be held in more than one hand, the eldest hand takes; and failing the holding of a chance, the stakes thereto allotted go forward to the following deal.

"Nap" or "Napoleon." Five cards dealt singly to each player from full pack. Player or dealer's left "declares" to win what number of tricks he thinks he can—two, three, four, or "Napoleon" (the whole five) or, with a poor hand, "passes." The next player has the privilege of calling higher and taking the lead in that case, unless he himself be over-called. The first card played by caller constitutes trumps. Should the leader "make" the number of tricks he declares he receives stakes as previously agreed from his opponents; "failing" he "pays out" accordingly. In a "Nap" declaration the "pay out" for failure is generally single, and for success double, but the arrangement may be varied. With an exceptionally poor hand "Misère" may be called by any player and take precedence of all else (unless another calls three). Here the caller's task is to avoid winning any trick, and forfeit or gain are usually as for three tricks. "Nap" is a favorite fast gambling game for small stakes with many card players.

Old Maid is a simple round game. From the pack a single card—generally a black queen—is extracted, and the rest dealt round, one at a time, to a number of players; who pair and place on the table all they can, and then in turn draw a card from the next hand to enable them to complete the pairing. The first to pair all his or her holding wins; and one left with the odd card at the end is "Old Maid." An odd overplus may lie left on the table after dealing the rounds to be drawn from by the last two or three players left in.

Ombre, a Spanish card-game, played by two, three or five (generally three) persons, once popular in Britain, now obsolete.

Patience is a game played singly with an entire pack, though several persons, with a pack each, may play simultaneously and endeavour to beat each other "on time." There are several variations of the game, the object of which is, by dealing from the shuffled pack all the cards, one by one, to get them into sequence or ace at the bottom to king at the top, in all the suits, as quickly as possible. When the top card of any tentative pile cannot be moved on to one of lower value in another heap, the cards not properly disposed of are taken up, re-dealt, and new manipulation adventured. Should an impossible "block" be arrived at, the player must commence all over again.

Piquet is a complicated game for two, the cards from deuce to six inclusive of each suit being dispensed with. Ace ranks highest, counting 11, the court cards reckoning to, the rest according to the number of their pips. Twelve cards are dealt to each player, the eight remaining forming stock, to be drawn from when the cards of least value have been discarded by the players. The main chances striven for are Rejque, Pique, and Capot, worth 90, 60, and 40 respectively towards the full game of 100 points. These and the other features of Piquet require lengthy explanation, as given in handbooks of the game. Play is as at whist, but with no trumps.

Polo is a game of hazard, with numbered "chips," all the cards, and not more than six players, greatly in vogue in America, and popular at many British clubs. It is not commendable as a parlour pastime, because of its gambling associations.

Pope Joan is a round game for a number of players, similar in many respects to "Matrimony" (*q.v.*); the chances speculated upon being Pope Joan (nine of diamonds), Matrimony (king and queen of trumps), Intrigue (queen and knave of trumps), ace (of trumps) and Game (first out); "pools" being made at the commencement on a special board in respect of each of these points. "Stops" are a prominent feature in play, and the eight of diamonds is withdrawn from the pack before dealing begins. For "Pope Joan," once a very popular social pastime, some instruction is desirable.

Put is akin to "Brag," but the "trays" are of highest value, deuces next, then aces, with the rest, from kings to four downwards, as at Whist. The entire pack is used, and two or four can play. Three cards only are dealt separately to each player, and there are no trumps. If the non-dealer be dissatisfied he may throw up his cards, losing a point. The adversary, calling "I put," the other player may refuse to play, yielding a point, or he may play and win or lose. Two tricks of three taken by either player scores five points and wins the game, but one trick each, and the third a tie counts nothing to either. If four play, three cards each are dealt, and one of each pair gives his best card to his partner, who discards his weakest in lieu thereof, and the game proceeds as at two-handed "put." It is a quick, "bouncing" game.

Quadrille is an old-fashioned and very involved game for four players, with forty cards, the tens, nines, and eights being rejected. Its numerous terms and rules require lengthy demonstration.

Quinze is a simple game of chance. The dealer, after shuffling, gives his adversary and himself a card each from the full pack. The non-dealer is then entitled to go on drawing from the deck until the cards he holds count fifteen or nearest thereto, when he wins; but if he overdraw he loses, unless the dealer does the same, when the game is drawn. Thus, being dealt, say, an eight, he draws seven and wins; but,

drawing six, he "stands" at fourteen. The dealer must then draw; and should he hold a tenth card and draw a five, becomes victorious. Drawing six, however, would constitute overdraw and defeat.

Rouge et Noir, played with six packs of cards on a table covered with green cloth and marked in red and black diamonds, is a Continental gambling game of an exciting nature, in which high stakes are often involved, with heavy odds against the "punter," and in favour of the "bank." This hazardous game is also called *Trente et quarante* and *Trente-un*.

Snap is one of numerous childish round games, in which cards of several (usually thirteen) different pictorial devices (four of each pattern) are dealt out singly and successively to the players, one being laid centrally on the table after the first round is dealt, and all face uppermost. Whoever of the players first cries "snap" upon the facing of any card of similar design to that on top of his or her own pile or that of any other player, or in the pool, appropriates the pile called; in the latter case sweeping the pool also. The player eventually holding all the cards takes the pool at the finish, if being replenished by the deposit of further stakes after each depletion until the cards are out. Nuts may be employed as stakes by the juvenile players of this merry game, which is subject to variation. In **Snip Snap Snorum** the cards dealt to the players are held in their hands—an ordinary pack of playing cards being used—and played in turn. When the following player can match the card played before him he does so, cries "Snip," and takes the card and a forfeit. A third player, matching, cries "Snap," and does ditto, while, on rare occasions, a fourth may call "Snorum," and profit accordingly. A player having lost all his, or her, stakes—they start with an equal number of counters—and cards, is out of the game. Ultimately, the pool becomes the property of the player holding out longest.

Solo Whist is a game in which the four players act independently, unless there be "proposal" and "acceptance," when the two partners play together against the other two. Play is as at Whist, honours, however, not being counted. The cards are all dealt, in four threes and the final round singly, dealer facing his last card to indicate trumps. The player on dealer's left may then "declare." If he, with a fairly strong hand, thinks he and a partner could make eight tricks, he calls "I propose," and may be accepted by any one of the other players in their turns, when the game proceeds, should there be no higher call. He may, however, call "Solo," which is a declaration that he intends to try to win five tricks against the combined efforts of the other three players. He may go higher and call "*Misère*," which means that he undertakes not to win any trick, and in this call there is no trump suit. He may declare still higher, called "*Abondance*," and, to make it, must win nine tricks, making any suit he chooses to denominate trumps, always providing that a call of *Abondance* on trumps would have precedence of that call in a non-trump suit, and take from him the lead. A very poor hand does not "declare" but "passes"; though the first player to call, having "passed," may accept, a proposer, should the other players not do so or make a higher declaration, the declarations ranking from *Abondance* downwards, the lead going by rotation. The stakes are graduated, lower, paying out to the other players on failing to achieve their declaration, and receiving upon accomplishing it, with additional winnings per trick exceeding the declaration, and forfeits for each of the declarer and not taker, and for winning any trick after calling *Misère*. *Open Misère* is a higher call than *Abondance*, its declarer exposing his hand after the first trick; and *Abondance Déclaré* is the highest call of all—in which he who adventures upon it must take every trick. Double receivings and forfeits obtain in the last two calls, as compared with simple *Misère* and *Abondance* respectively, though there are no under tricks or over tricks to be paid for.

Speculation is a lively round game, in which seven to thirteen may participate—"the more the merrier"—with a complete pack and counters. Three

cards are dealt to each player singly from left, and then one—which belongs to dealer—turned up for trumps. This may be speculated for by offers of counters, before or after the turn-up, and sold to the highest bidder. Stakes are placed in "the pool," the dealer usually contributing double the number of counters paid in by each of the rest. The next player, or in the event of the card having been sold the next player to the purchaser, then turns his top card—which must not have been looked at by him or anyone else—and if it be a higher trump than the turn-up, he may sell it as he chooses. The player to left of new purchaser then does ditto, and when all have been discovered, the possessor of the highest trump—by purchase or otherwise—in the deal clears "the pool." The game is continued similarly by further deals until the pack is exhausted,—the cards counting as at Whist—the highest trump in each deal taking "the pool."

Vingt-Un is like **Quinza** (*q.v.*), except that the number to be made up by cards drawn after the first deal is 21 instead of 15; and the ace counts either as one or eleven, as he who gets it chooses.

Whist is accounted the best of all social card games, and is played according to rigorous methods and strict rule by four persons—two in partnership against the other two—and the complete pack. The partners sit at opposite corners of the table; and, the cards having been shuffled and cut, are dealt out singly until exhausted, the dealer turning up his own thirteenth card to indicate trumps. The cards are then taken in hand and played out in 13 tricks of four each, the player on the left of the dealer having first lead; and the winner of each trick leading off in the next. Ace is highest card—except in cutting, when it is reckoned lowest—king, queen, and knave rank next in order, and then from ten downwards. The higher card of any suit takes the lower, unless the trick be trumped by a player unable to follow suit; and the tricks are gathered up by one of the pair, winning them, as made. Each trick over six taken in a hand by two partners counts one point to them towards the ten which makes game. The holding of "honours"—the ace and court cards of the trump suit—counts towards game, if a preponderance be held by either pair; that is, if the partners between them are dealt three honours, they score two points; and should they have all four they count four in respect of such holding. "Honours" counting before tricks, a pair of partners holding three or four, having reached a score of eight, may "call" them and win thereby without further play. It is usual for the holder of two honours at such a point to say to his partner, "Can you meet?" Should the answer be "Yes!" the cards are produced and the game triumphantly ended. When the "nine-hole" is reached, "honours" do not count with the players in that position. There are penalties for "revoking," *i.e.*, omitting to "follow suit" with a card of that suit in hand, and for other infringements of the elaborate rules of this scientific game, which requires playing with skill, deliberation, and perfect understanding between the partners. It is very engaging, and admits, consequently, of no general conversation. Dummy Whist (*q.v.*) is resorted to when four players are not available.

Zetema is a game following the principle of "Bézique" (*q.v.*); played, however, with a complete pack of cards and a fifth suit (either spades, clubs, hearts or diamonds) taken from a second similar pack and shuffled together amongst the four suits of the first, making 54 cards for use in all. Scoring is for combinations obtained and the tricks won, and special markers are requisite. These, with the rules of the game, are procurable at most of the toyshops.

Chequers or Checkers, an antique game similar to and the origin of **Draughts** (*q.v.*).

Chess. A highly scientific game of calculation, combination, and concentration, played in Britain now on a board divided into 64 squares, black and white alternately, with 16 pieces, or men, coloured black (or red) for one player and white for the other. These are differently carved, and represent for each, one king, one queen, two bishops, two knights, two castles or

rooks, and eight pawns. These have variant values, and the moving of each is regulated by strict rule, the object of the players being to checkmate the hostile king, which alone cannot be captured and taken from the board. Chess requires deep study, the problems possible, the theatres being of endless diversity and ingenuity. Personal teaching by an accomplished player is desirable.

Coddam is a curious game in which three persons seated at a narrow table manipulate in their hands, held together beneath it, a "piece" (dice or small stones being used) and then bring up the hands, closed smartly in a row, the "piece" being concealed in one. Three others, facing the first three, then have to guess, one of them touching the hand in which he or she considers the "piece" to be hidden. When this is found, the opposing trio take the "piece," and the first three become the guessers. Those making the least number of incorrect surmises win; and the play is accompanied by much facial distortion, badinage, and attempts to confuse the judgment. An incorrect guess is always followed by a disclosure of the "piece" from one of the other five hands, and a new disposition of it beneath the table.

Consequences. A parlous game, in which the players, seated at tables, write down, without collusion, parts of a brief imaginary social story on indicated lines; each folding down what they write and passing on the paper to the next contributor to continue the narrative, until the sheet, on unfolding, upon completion, contains the work of as many different writers as are playing. The characters introduced may be present in the company or not, as pre-arranged. Ten players are requisite for the following specification of the "Consequences" game, which may be ingeniously varied. First player writes:—An adjectival description of a lady; second, a lady's name; third sets down that the adjectival lady unknown met an adjectival—hardening the suitable description—gentleman; fourth the name of a gentleman; fifth, the meeting place of the two; sixth, when the meeting occurred; seventh, what the lady said to the gentleman; eighth, his reply; ninth, the Consequences; tenth, what the world said. The composite story might read at the conclusion thus:—(1) The gushing (2) widow Flighy (3) met sily (4) Lord Solthead (5) in the gloaming (6) guarding the shady lane (7) She said—"Kiss me quick, love" (8) He said—"Does your mother know you're out?" (9) The Consequence was—trouble for two (10) And the world said "Just what we expected." Good fun may be got out of this.

Court Tennis may be played in any large rectangular room or high-walled court, with a netting, three feet high in the centre, stretched centrally at a convenient distance from the walls, the pastime being similar in its main principles, to "Lawn Tennis" and "Racquet," described under "Outdoor Sports"; but highly technical as to detail of play and method of scoring when the "rigour of the game" is observed. The construction and marking out of a regulation court with roofed "pent-house," "dedans," galleries, "grille," "sanctuary," etc., is a matter for the expert, and scientific tennis-play can only be acquired by long practice under proper instruction.

Dabs (sometimes called "Jacks," "Jags," and "Knuckle-stones" or "Knuckle-bones") is a childish game—of very high antiquity—consisting of bouncing a round pot "Jack" marble on a hard stone, and picking up with the hand, or laying down, during the bounce, one, two, three, and then four square stones or knuckle-bones, separately and afterwards, together in different combinations, keeping up an audible count; the object being to continue as long as possible without failing to catch the "Jack" before the picking up or laying down operation is neatly accomplished.

Dances. Dancing, or the art of graceful foot movement with concurrent manual and bodily action, to the accompaniment and time of suitable music, particularly when in harmony with the motion of others, forms one of the most fascinating pastimes for the young of both sexes in this and every other country. Pursued under suitable social conditions, it may be as harmless as pleasurable. The quick and merry dance is most favoured by the sprightly in cool and spacious

assemblies; the slower and staller measure in warm climates and well-filled ball-rooms. We can only briefly glance at the more popular dances here. Their proper execution requires tuition. In the *Bouré Danse*, or *Pas de Quatre*, the partners keep together throughout. The *Caledonians* is a species of *Quadrille*. In five figures, ending with a grand promenade. The *Coltillon* is a combination of waltzing round, in couples and to partners, with the presentation of favours. **Country Dances** take the form of two rows of dancers, say twelve to fourteen couples, standing opposite. These dance in pairs "down the middle" and up again in turn; with other movements—varied in England, Scotland, and Ireland—according to the music. *Sir Roger de Coverley*, or *The Haymakers*, is a pretty country dance, with graceful bowing and curtsying interludes. *Galop* is a simple *dansé à deux temps*, quick and lively, in which the couples turn round as in the *Polka* and *Waltz*; it is adapted for the opening or conclusion of a ball. The *Gavotte*, now out of fashion, was a modified *Minuet* for one lady and one gentleman, with much advancing, retreating, and obsequious, slow and accelerated, to a lively air with repetitions. The *Mazurka* is animated and suitable for participation in by four or eight couples; at times joyous, at times grave, it comes of Polish origin. The *Polka-Mazurka*, resembling a slow *Polka*, is danced by single couples. The *Minuet*, danced to three time, is all elegance and graceful motion, with dignified curtsying glances, fitted for the grandest of costume balls. The *Polka*, of Bohemian extraction, is a dance *à quatre temps*, performed with spirit by separate couples. The *Polonaise*, also danced by separate couples, is the old national dance of Poland, wedded to music *à trois temps*, with peculiar syncopation and final falling cadence. *Quadrilles* are quiet and enjoyable dances, borrowed from France, engaged in properly by eight persons, the couples standing at the start on each side of a square. The *Lancers* is a particular favourite in this class. The *Redowa* is a round dance, slower than, but similar to, a *Polka*, and in some respects like a *Mazurka*, opening with positions as for a *Waltz*. It goes well after a *Galop*. *Reels* are of Scottish origin, brisk and picturesque, and may be danced by one couple or more in conjunction, to a quick measure, six squares, or four crochets in a bar. *Round Dances* are those performed by separate couples in progressive circular movement round the room, as distinguished from set square dances comprising complex figures. *Round Dances*, which are preferred by the majority, include the *Waltz*, *Polka*, *Schottische*, *Galop*, *Mazurka*, and *Redowa*. The *Saraband*, a Spanish dance, is sprightlier than, but not unlike, the *Minuet*. The *Schottische* was originally a German peasant dance, performed in couples, with glissade steps, springs, and double hops in the round movement. A *Spanish Dance*—distinct from the *Saraband*—is performed to slow *Waltz* music, with the *Falset* step, an even number of couples ranging in parallel lines, as in a *Country Dance*, at the start; dancing simultaneously down in the rearing, changing places, and executing other baroque movements in turn. The *Varvianina* is a repetition of gyrations, pauses, advances, and passes to right and left in *Polka* steps. The *Waltz* is a succession of graceful curves, with easy and graduated but undulatory and rhythmic action, reciprocal as between the partners, the swaying and gliding motion possessing much charm when triple time, in the requisite direction, to music in triple time. The varieties of all the dances referred to in vogue are numberless, some with novel introductions which lend them fleeting popularity, such as that accorded to the "go-as-you-please" *Washington Post*; others combining *Waltz* and *Polka* in a captivating way, as in the *Roundabout*. For general favour, as a square dance, the *Lancers* holds its own well, especially when executed with the flirtation figure "finale."

Dice are small white cubes, marked on the six sides with spots numbering from 1 to 6. One or more of these are shaken up in and cast from a wooden cup, the number of spots coming uppermost on the dice constituting the throw. Gamblers used to stake money on their hazards extensively, but in this country

dicing is now, fortunately, not favoured, either by public preference or common law.

Domineas. A game played by two or more persons with twenty-eight stones, or pieces of oblong bone, ivory, or wood, of uniform size, dyed black, faced in white, and dotted with black spots to indicate every possible numerical combination, from double-six to double-blank, a black central dividing line being marked from side to side of each. The game consists in matching and joining one end of the pieces played with one end of another held by the following player, those engaged playing alternately. In the simplest form of domino play, he whose hand of five or seven pieces is first played out wins the round; other games consist of a combination of this and the counting of all the fives and threes formed by the two ends of play to the score of the player who makes them. Each player not only endeavours to facilitate his own scoring, but to frustrate that of his adversary. When one has played his final piece, he is "domino." Some boxes of dominoes extend up to double-nine.

Draughts. A game played on a board made and marked as for chess (*q.v.*) with twelve black and twelve white discs or "men." One player takes the black "pieces," the other the "white," and places them on the three rows of white squares at his end of the board. In turn each moves a "piece" forward, diagonally, either to left or right, one square at a time, keeping to the white squares only, the object being to capture or hem in the "pieces" of his opponent. Any "piece" advanced to the further row on the antagonistic side of the board becomes a "king," and must be "crowned," when it may be moved by the player backward as well as forward. A "piece" left after a move capturable by an adversary must be taken by the latter, or he is "huffed," *i.e.*, he loses the "piece." Capture is effected by leaping over an opposing "man," or to a vacant white square beyond, upon the line of march, from the white space immediately in front; but no player can advance by skipping across one of his own "pieces." A continuous series of leaps may be made at one movement, should blank squares admit. Crowning consists of the placing of a surrendered "piece" upon the "man" which has become a king. He who remains in possession of one or more pieces, crowned or uncrowned, upon any but white squares when his opponent's score is exhausted, wins the game.

Dumb-bells. The manipulation of these, of suitable weight, and of the longer separated allied "Bar Bells," with moderation and regularity, is at once a useful exercise and an agreeable pastime, calculated to keep the muscles in condition.

Dutch Pins is a form of alley-ball game akin to "skittles," consisting of the knocking down, in a few throws as possible, from a marked distance, of wooden "pins" placed in position upon a frame. The missile is usually cheese-shaped, lighter than that employed at "skittles," as also are the "pins," nine in number.

Fencing, with "foils"—not much needed, nowadays, as a protective accomplishment—may be practised advantageously as a pastime and a physical exercise, under competent tuition, by either sex, inasmuch as it does, supplemen of limb, quickness of eye, and muscular strength.

Five Stones. Another name for the marble and square stones bouncing game "**Dabs**" (*q.v.*).

Forfeits are an amusing feature of many pleasant parlour pastimes, some little article, such as a handkerchief, being deposited by the player failing to accomplish a set task—as in guessing games—or committing a breach of rule, to be redeemed by the performance of a penalty at once as harmless and comical as possible, imposed by the company. To blow out a candle whilst blindfold is an amusing example of forfeit.

Go-Bang may be played on an ordinary Chess or Draught-board, the object being to get five "men" in a row, straight or diagonal, with no unoccupied space or "piece" belonging to an opponent intervening. One plays white, the other black, and eight or more "men" can be used by each player; these being placed one at a time in the endeavour to attain the desired combination, or balk the opponent. When both sets

of "men" are down before either player has got his five row, each may move any "men" of his own alternately one space, whenever there is a vacancy; the player who first places his straight uninterrupted five wins. The Japanese play this game on a board of small squares, in numbers, with anything up to 264 counters apiece. Three players with 108 "pieces" each, or four having severally 84 "men" at command, coloured distinctively, may take part in the extended **Go-Bang**.

Guessing Games for the parlour and children's parties may consist of conundrums, charades, or other similar exercises of the wits, the correct guesser becoming interrogator. Or there may be attempts to identify fellow-guests, when there is a large assembly, by the eyes or hands alone; in the former case two or three persons being seated at a table, concealing them below waist, with newspapers enveloping their heads and shoulders, silts being cut to show only the eyes; and in the latter the hands being extended over a screen for inspection. Identification is more difficult than might be imagined, and forfeits can be amusingly imposed for wrong guessing.

Gymnastics, contemporaneously with intellectual culture, provide commendable pastime and beneficial exercise. Gymnastic games develop and keep the muscles in trim, whether practised with or without apparatus; and, provided that the gymnast be airy and properly appointed, and that the incentive of competitive endeavour does not induce the overtaking of the strength, suitable exercises should be regularly gone through by the young of both sexes. Kings, wands, Indian clubs, dumb-bells, bar-bells, etc., may be beneficially employed; parallel bars, horizontal bars, the swinging trapeze, the vaulting horse practised upon; fencing and all manner of physical exercises and indoor games calling for the exhibition of strength and dexterity, including jumping, bending, climbing, or stretching, separately and in combination, contribute to the upkeep of mental vigour as well as physical elasticity and soundness.

Halma is one of many simple games with boards and movable "men," for parlour pastime, needing no description, the rules for its playing being supplied with the requisites procurable at any toy bazaar.

Hand Rings, attached to suspended ropes, form part of the fitness of most gymnasia, and are very useful in body raising and arm-muscle exercise.

Hunting the Slipper, like **Catching the Ring**, is a simple and diverting game; all the players being seated in a semicircle on the carpet save the person left out to hunt. The slipper is passed about surreptitiously and dexterously betwixt, under, or behind the seated players, and on being located, the one in whose possession the objective is detected has to take up the hunt, and, if agreed beforehand, pay forfeit also. In **Catching the Ring** a string is loosely extended between the hands of those at the ends of the half-circle, and moved back and forward by any of the players to elude the would-be catcher.

Indian Clubs are of various weights, for swinging and manipulation in gymnastic and physical drill, and may be used to suit harmonious exercise.

La Brosse, or The Brush, has affinity to "Hunt the Slipper," except that the players stand in a complete ring, holding on with their right hands to a cord extended before them, and passing about a small hand brush with the left. Dancing around and singing or humming a merry tune, if possible to piano accompaniment, they trust the brush to one another as smartly as possible, audibly brushing their neighbour's clothing therewith before losing hold thereon; the object being to confuse the searcher, who stands within the whirling ring. His or her back may be audaciously brushed when his search is wrongfully directed, *la Brosse* being immediately passed away or even thrown across the ring at the risk of being caught by its seeker, who is out of the game making a capture, the one from whom the brush is taken becoming searcher, to the shortening of the circle. When only four remain in the game the ring becomes too small for free motion, and the game ends, or begins over again.

Lotto is a parlour game with numbered discs and cards, one player having the discs in a bag and casting

them out rapidly on to the table, "calling" each number aloud. The other players pick these up as quickly as they can and deposit them on correspondingly numbered spaces upon the cards dealt to them before the disc distribution begins, the one first covering his or her cards completely and properly winning. There are twenty-four cards each having fifteen distinct numbers, ranging from one to ninety, so that each number is repeated in the pack four times; and the complete stock of discs will cover all the spaces. Two, three, four, six, eight, or twelve players may hold cards, distributed to them in equal number. "Picture Lotto" and "Natural History Lotto" are variations from the numerical game, designs taking the place of the figures on the reception cards and playing discs or squares, as the case may be. Quick eyes and hands are wanted when the "calling" is dispensed with, as is usual in pictorial "Lotto."

Morrice, Nine Men. An old game played on a chequer-board, similar to the modern chess-board. Each player had nine "men," differently coloured from those of his opponent. These were placed on the angles of the squares, alternately by each player, and then moved as draughts. Every time each player got three of his own "men" into an uninterrupted straight linear position, he removed any one of his adversary's "pieces" he might choose from the board, until one player lost all his "men" and the game.

Nine Pins. A toy game of skittles (which see also **Push Pins**), the inside in this case being a light wooden sphere, and the pins turned with neck and head. Made in various sizes and available for use on floor or table.

Ping-Pong is a species of "table tennis" for parlour play, with very light, small, hollow, celluloid balls, drum-battledores, and a dwarf driving net; the game being to keep up continuous striking—always over the net and on the table—as long as possible, and to give awkward returns which will force the adversary to yield "faults," each of which scores towards game for his or her opponent. The players serve in turn.

Punching the Bag is a variation of "Ball Punching" (q.v.), a slung stuffed bag being substituted for the inflated ball used in the latter exercise.

Puppet Shows and mimic dramatic performances of the "gallant" show order, in which figures were made to dance and move about with strings and wires, are obsolete; and marionettes, unless of an elaborate character, have ceased to charm the children of this exacting generation of many available entertainments. Only the perennial "Punch and Judy" show holds its own at all, and even that has to be particularly well presented to prove acceptable.

Push Penny (or "Shove Ha'penny") was the propulsion of a coin laid flat to positions marked diagrammatically on a deal table, by striking, with the palm of the hand, its edge with the penny projected over the end of a table. It was a poor game, with sordid associations, and is now all but forgotten.

Puzzles, of the dissection and mechanical order belonging to toydom; arithmetical and geometrical problems of a complex and confusing character afford mental exercise to the ingenious and inculcate perseverance, so ranking as pastimes. But they cannot properly be regarded as games.

Race Games. These and many other ingenious box-games are usually fully described and explained by the manufacturers. Their name is legion and their variety unending.

Roller Skating on indoor rinks is but a poor substitute for the exhilaration of ice-skating in the open on blades of steel, but it affords exercise when the preferable pastime is out of question, and should therefore here receive mention.

Rope Quiffs may be used indoors as well as on ship-board. Their lightness makes them manipulable by the fair sex, and they afford exercise mingled with entertainment.

Roulette is an interdicted gambling pastime, played at special tables, on highly speculative lines. Huge sums in the aggregate have been lost thereat in Continental towns.

Round Games at cards are those in which each player acts independently instead of in partnership with another, as Loo, Brag, Matrimony, Pope Joan, etc. (See Cards.)

Scandal. This is a rather dull game, in which the company sits round, and the first of the party whoport a brief personal story—not necessarily concerning anyone present—to his or her left-hand neighbour. It is repeated all along the line in an undertone, and having reached the last person, the ultimate version is compared with the original, when it will usually be found to have become considerably variant.

Shadow Buff. A white sheet is suspended towards the end of the room; before and facing it a person sits, on the carpet or a low stool. At the opposite end of the room a lighted lamp is placed, all other lights being removed or extinguished. Then, in turn, the rest of the company pass well behind the seated person and between him or her and the light, temporarily disguising gait or dress. From the shadow cast on the sheet the guesser endeavours to divine who occasions it. Upon detection, the person pays forfeit and becomes the guesser. With a little ingenuity "Shadow Buff" may be very diverting.

Singletick is a description of fencing (*q.v.*), and formerly denoted a kind of cudgel play, in which the contestants set about each other lustily until one drew blood from the other's head, and was declared the victor.

Skittles is played in an alley, long and narrow, with nine heavy wooden pins placed on end upon a frame in diamond position, one point of which fronts the player, whose missile is a heavy flattened "cheese" of hard wood. His object is to knock down the whole nine skittles in as few casts as possible, and an expert, with a very fortunate throw, may floor the whole nine at a throw. In "Dutch Pins" (*q.v.*) skittles and cheese are less weighty than those used for the regulation game, and the centre one, called the "king," is the taller of the nine. In one form of skittles, the ball (in that case round) is suspended by a cord from the ceiling at a height just sufficient, when swung skillfully, to strike down any ball it may hit.

Snadragon is a merry game of considerable antiquity—associated with Christmas gatherings—in which raisins saturated with flaming spirit are snatched from a dish in a darkened room, and placed into the mouth immediately.

Solitaire is played on a round board with thirty-three holes on its upper surface. In each hole is placed a glass marble. The player takes away any one marble, and moves thence to any other separated by one from the vacant hole, removing the marble skipped over from the board, as with "men" at draughts; the object being so to take all but one, leaving that the hole rendered vacant by the first move.

Spellicans (or **Spillikins**) is a modern adaptation of the old English game of "push-pin," or "put-pin," played nowadays by children chiefly and elderly folk, with a number of short "spells" or "spills" of wood, bone, or ivory, procurable in boxes at most of the big toyshops. It provides a mild parlour diversion for two persons, at a board or table, and admits of some dexterity of hand without calling for any exacting exertion.

Swimming (referred to under "Outdoor Sports") may conveniently be mastered and indulged in at properly appointed baths, under cover, which are also suited to the display of one's swimming and diving, both very useful arts and invigorating pastimes, when rationally engaged in.

Tableaux Vivants consists of the arrangement of groups of persons in character—to represent some scene in history or romance—with illuminative accessories, the subject being left to be divined by the company. Unlike "Acting Characters" and "Proverbs" (*q.v.*) the characters do not speak; nor is action essential, though that may be permissible if the

stiff and limited movement of the automaton be imitated by the subject, after a preliminary suppositious "winding-up" on the part of the showman, as in "Mrs. Jerley's Wax Works." *Tableaux Vivants* proper, and the latter corollary thereof, affords scope for effective dressing and stage management, and may be made very interesting and amusing.

Tennis. (See Court Tennis, also Lawn Tennis in Outdoor Sports section.)

Tiddley Winks is played by any number of persons at a cloth-covered table, with small thin discs of coloured bone. These, by deft pressure towards the edge with a larger disc, are caused to spring towards or into a wooden cup placed in the centre of the table. Each player starts with an equal number of discs, coloured differently from those of his fellow players, ranging them in line at the edge of the table in front of him. Shots towards the cup are taken in turn, and when a disc is landed therein the player continues until a miss is made by him, when the next player proceeds. Whoever first cups all his discs wins. One disc springing upon another, the under disc cannot be played until that super-imposed has been shot away by its owner in his proper turn. Either sex, young or old, may play, and celerity is quickly acquired by practice.

"Tip It" resembles **Coddam** (*q.v.*), the guessing player, on demanding disclosure of any hand when he believes himself to have located the "piece," crying "Tip It!"—"from the left" or "from the right"—as the case may be.

Toys, simple or mechanical, are the desire and the joy of all children; and often the most simple give the greatest joy. There are, however, toys to suit every childish fancy, procurable at prices within reach of all pockets. Those which belong to elaborate games and display complicated detail requiring costly material, are for the more favoured juveniles of course; but no child need in this age of indolence and ingenuity, lack a sufficient paraphernalia of play.

Yaulking, whether with the high, low, long, or short horse, or with the parallel bars, is a pastime belonging to gymnastic practice. It assists and lends variety to leaping exercise.

Wand Exercises, with smooth sticks about an inch in diameter, and three to four feet long, for grasping with both hands, are beneficial in giving flexibility and strength to the muscles of the shoulders and neck. (See **Calisthenics** and **Gymnastics**.)

Wibbly-Wob is a species of parlour ball game, played on a table, with a small ball and wooden-headed and handled flexible wire wands, the object being to get the ball into a goal receptacle at opposite ends of the table, players thrusting at the ball in opposition pairs.

"**Wills**" is a round parlour game, in which the players write down on a sheet of paper, ruled into spaces, a given number of persons or institutions to which he or she would bequeath property. What is written is folded under, longitudinally, and the paper passed to the next player, on the left, each receiving that of the player on the right. Then in spaces in line with those folded under is entered by each the legacies or articles to be bequeathed to the correspondingly nominated beneficiaries, who are of course unknown to the writer. The papers are folded and passed again, and a third correspondent entry made indicating what it is supposed was done with the bequest by its recipient. At the conclusion, the papers are shuffled from hand to hand, and then read out, when some such result will be disclosed as that the willmaker left to (1) "His Relict," (2) "A Cork-screw," and (3) the legatee "Stewed it till Tender"; or (1) to "The Home for Lost Dogs," (2) "My Dress Suit," (3) when the receiver "Wore it next the Heart"; or, again to (1) "My old Sweetheart," (2) "A Shower-bath," it being (3) "Reserved for a Rainy Day." Council combinations, relevant or irrelevant, when the "Wills" are read, make great fun.

PEARS'
of
DICTIONARY
THE TOILET.



EDITED BY
LENA GUILBERT FORD.
Toilet Editress of "Madame" and "The Lady's World,"

Pears' Dictionary of the Toilet

INTRODUCTION.

By LENA GUILBERT FORD,

Toilet Editress of "Madame" and "The Lady's World."

Every self-respecting woman wishes to look as well as she can, and what a delightful place this old world of ours would be if every woman were a thing of grace and beauty! To attain a considerable share of beauty is not nearly so difficult a matter as might at first sight appear, though beauty in its higher forms—the beauty which poets rave about and which is so generally captivating—is a gift which nature takes care not to make too common. It is gratifying to know, however, that by care and culture every woman has it in her power to greatly improve her personal appearance, and add to the charm of her features.

The beauty to which I refer is not the mere superficial attraction whose power is necessarily evanescent, but represents that far-reaching self-culture which accentuates the best lines of the "human form divine" and improves the weaker points—which, in short, amounts to a general cultivation of personal radiance, and a study of those minute details of the toilet which are real "aids to beauty."

Within certain well-defined limits, art—that is, toilet art—can achieve a great deal towards enhancing a person's good looks, and can often make "plain" people attractive, for there are always improved effects to be obtained by "toning up" here or "toning down" there—effects which even the most favoured of natural beauties cannot afford to neglect or despise.

What is known as beauty-culture is really only another name for health-culture. The two ought never to be separated, for what is detrimental to health must also be detrimental to beauty; and it should never be forgotten that it is with the skin that you have to deal first and foremost in promoting beauty. The receiving old adage that says "beauty is but skin deep," has done a lot of harm. It has confused in thoughtless minds the vice of vanity with the virtue of self-respect. Skin-deep is deep enough, for when the skin is truly beautiful there can be nothing much wrong with the effect of the features. No woman can fail to make a good impression if she be blessed with a fine complexion.

"You cannot improve upon nature" is another proverbial snare. As well say we should leave the vine or the rose-tree to grow in its own wild way. Where there is the best natural environment this leaving nature alone may be wise, but we seldom meet Mrs. Nature in her primitive state nowadays. She is swayed and moulded by the force of changing circumstances and conditions, and a guiding touch of the human hand is often most advantageous. Our physical beauty is amenable to all sorts of improvement, and even the actual shape of one's features may be modified to some extent by judicious treatment.

In the ensuing pages care has been taken not to trespass beyond the legitimate limit within which nature will respond, for to attempt to leave nature behind in these matters is to court humiliating failure. Toilet requisites, I must add, should be few, simple, and good, but the keynote of success in these things is complete and perfect personal cleanliness. A careful study of the instructions here laid down, however, cannot fail to yield gratifying results.

LENA GUILBERT FORD.

On subsequent pages are presented in alphabetical order a number of hints and observations covering in a practical manner the various matters connected with the Toilet. These hints represent a long and wide experience and will be of assistance—especially to our lady patrons—in laying down certain valuable rules by which the most can be made of one's personal charms, particularly if taken in connection with the more general information given in another section of this work, viz., "Pears' Dictionary of Health."

Accessories, Toilet. The paramount requisite of the toilet is a sufficiency of good soft water, naturally so, or made so by some of the many softeners at a temperature suited to the immediate purpose. Next in importance is the supply of pure soap prepared from the best detergent material in an expert and scientific manner, and free from an excess of alkaline substances. (See *Soap*.) There should be accommodation for the bathing of the entire body, or for the ablation of any part thereof, as may be required, such accommodation being as simple and yet as convenient and complete as possible. In the bathroom every appliance should be maintained scrupulously clean and orderly; and the same remark applies with equal force to the dressing-room and the toilet table. Tidiness in these things conduces to the cult of beauty and the promotion of health and personal comfort. Obtain and keep in constant working condition everything really wanted for attaining these objects, according to your individual needs and means; and do not "number up" your dressing-room with useless things. Have a well-considered place for each article, and never let the article be out of that place except when in use. See that the mirrors on wardrobe, dressing-chest, and elsewhere are situated in the best positions as to light and availability; keep the hand-glasses convenient and safe, and have the brushes, combs, sponges, towels, and other articles of toilet service arranged suitably for ready use. A rational and systematic provision of this kind will save much trouble, and enable you to perform the operations of the toilet with satisfaction and success. For the rest, the paragraphs which follow will be found helpful as to detail.

Acne. The ugly spots or pimples which frequently appear on the face—especially of young people—is a disease of the skin glands, and when it takes the form of what is called "blackheads" detracts considerably from the beauty of the skin. It is a common practice to force "blackheads" out by pressure of the fingers, but this is not only painful but leaves a swelling which sometimes develops into a hard and permanent lump. An excellent lotion for getting rid of these things is made as follows: Flowers of sulphur, one teaspoonful; rose-water, one pint; glycerine, one teaspoonful. But when the spots are obstinate the following preparation will be found effective: liquid ammonia, twenty drops; ether, one drachm; Pears' Soap, one ounce. Bathe the affected places with hot water, rub in a little of this mixture with the thumb, and wash it off with hot water. Persons subject to acne should avoid tea and coffee, and use cocoa or warm milk instead. They should not eat pastry, sauces, cheese, or any highly-seasoned dishes, but eat freely of fruit, tomatoes, and well-cooked green vegetables. At night the face should be washed in hot water and steamed well, afterwards rubbing a little eau de Cologne into the skin. Ordinary face powders should be shunned, but Pears' Violet Powder is at once soothing and protective.

Age, Old. Persons of advancing years, if wise, will accept the inevitable changes of time with a good grace, and not endeavour to appear dress, or adorn themselves in a way more fitted to their earlier years. To ape juvenility in life's decline is to draw pointed attention to the actualities which cannot be concealed. Careful living, and the preservation of good temper, with regular exercise suited to the strength, in pure air, are age's best cosmetics. The toilet of those past their meridian should aim at preservation, not an impossible restoration or ridiculous dissimulation. Rigorous cleanliness, inconspicuous attire, and neatness, go a long way towards arresting a too speedy advance of the marks of age. It is natural to dread the little souvenirs which Father Time leaves with us on his yearly visits. In many instances we may outwit him, and since the art of beauty-culture has reached so high a degree of perfection, we feel comparatively few "elderly" women. It is a charming thing, we are told, to grow old gracefully, but most of us prefer to keep young gracefully, and one of the first things to watch for is the appearance of the neck. That is the tell-tale age-mark for most women, notwithstanding their remarkably young faces. The flesh on the neck gets "strungy," and when the head is turned the

unpleasant secret is out! Exercises for keeping the neck in form are simple. An effective one is to stand with the hands on the hips. Inhale a deep breath, force it against the sides of the throat, and hold it for five seconds; then exhale slowly through the mouth in whistling position. If a lighted candle is held before the hips, the breath on departing from the mouth should not waver the flame. It requires much practice before this is possible, and giddiness is liable to ensue during the first attempts. Then, while the neck is thus inflated and the "salt-cellsars" have disappeared, the head is turned slowly from side to side and from front to back. The good effect is seen instantly, but of course is not lasting to that extent, although some part of the benefit remains after each exercise. Another sign of approaching old age is the short nervous step. Therefore anything that will keep the joints well oiled, and the step light and springy, does something toward retaining the youthful appearance. The round shoulder is suggestive of passing youth, and women who sit much during the day to write, read, or for other purposes, must be particularly careful. After sitting for a long time it is a good plan, and wonderfully refreshing, to extend the arms in front of the body, placing the palms of the hands together. Lift them slowly over the head and bring them down at the back, separated, always having the feeling of making the hands as nearly as possible at the centre of the back. Inhale as the arms go upwards and rise on the toes; exhale as the arms descend and regain normal position of feet.

Arms, The. Arms of perfect proportion are uncommon. They are often either too fat or too thin, especially from the elbow to the wrist. In either case massage is the best means of improving them. The flesh of one arm should be firmly grasped with the hand of the other and worked steadily up and down with twisting movement for ten minutes. Then the other should be similarly treated. The development of the arms will be much assisted by dumb-bell exercise, which brings the muscles well into play. Such exercises, however, should be indulged in with moderation, or harmful fatigue will be caused, and the bells should be a pound in weight. Ten minutes is ample for a beginner, but as the muscles become more used to the proceeding they may be gradually extended. Should the skin on the upper arm be toughened and red, the occasional and very careful use of a piece of pumice stone and a small quantity of lemon juice diluted with water will quickly render the skin smooth and white. The arms ought always to be protected from the weather. When exposure to the air is unavoidable a good coating of cold cream, well rubbed in and powdered with pulverised oatmeal, will prevent the coarsening of the skin. The fashion of short sleeves which prevailed for several seasons revealed a sad story as to the shape of fore-arms in general. The shape of a well-developed arm between the elbow and the wrist is exquisite and it is quite easily obtained, and always can be improved. If the arm is too thin, a good exercise is to extend the arms, clench the hands and slowly lift the hands up and down, bending at the wrist. The feeling of resistance should be given all the time to the muscles and the strain will be felt along the fore-arm. This should be done five minutes as many times a day as convenient and a difference in the plumpness will be noticed in a short time. Then a good skin-food should be rubbed well into the arms at night. Olive oil will produce no results in this direction, but in using olive oil it must always be borne in mind that it darkens the skin. It is wiser when applying it to the face, neck or arms, to use a cream whose basis is pure olive oil. In the morning the arms should be bathed first in warm water and then in cold, then in warm again and finishing with cold. The friction should not be strong in drying, but if the arm is not wiped thoroughly dry, the skin will become coarse and rough. It is seldom that the arm is too fat, but if such is the case, the superfluous flesh can be removed by taking it in rolls between the first finger and thumb, and rolling it gently. The massage rollers for this and similar purposes are effective. Tapping the arms with the flat of the fingers moistened with cream will also

increase their plumpness, but during all these treatments, the wrist must be properly exercised in order to keep it slender. Dimples in the elbow are considered a mark of beauty, and nothing is more hideous than a sharply pointed elbow. The point should be treated by soaking in hot water for twenty minutes a day and then massaging gently.

Baldness. There are many vaunted specifics for the prevention and cure of baldness; but none less harmful or likelier to afford general satisfaction than the following cheap and simple application:—Whisk up the yolk of one fresh egg, and mix therewith an equal quantity of the squeezed and strained juice of chopped and uncooked Spanish onions. Add thereto as much crude cod-liver oil in quantity as the two foregoing ingredients make together, and then whisk the whole for fully five minutes. The resulting ointment may be perfumed to mask its rather disagreeable odour, placed in a tight receptacle, and a little rubbed into the scalp patiently every night, after first bathing the part well with warm water. This application will not, of course, be efficacious, if what are commonly called the hair "roots" are decayed from natural causes; nor, for the matter of that, will anything else.

Baths and Bathing. The cold plunge bath is a capital daily invigorator for the robust. For cleansing purposes, and the preservation of health, water heated so as to approach nearly the normal bodily temperature is best; and the room in which the bath is taken should be efficiently ventilated. The water employed ought either to be naturally so, or so rendered by the addition of ammonia, borax, oatmeal, bran, or other suitable agent. The most important aid to the bath, however, is a pure, wholesome soap, especially prepared for the skin, and capable of thoroughly cleansing, and, at the same time, possessing those emollient, softening, and preservative properties, which directly conduce to the health and beauty of the skin. Pears' Soap is such a soap. It has been the leading soap for the bath and toilet for over a century, and is pronounced by the most eminent scientific authorities to be unsurpassable. This matter of the right soap is the most vital consideration in the entire economy of bathing, whether as regards the whole body at once or otherwise. After leaving the bath, the risk of chill must be adequately guarded against. Care, brisk towelling, and quick dressing will ordinarily suffice. So much for the usual home bath. Turkish, vapour, or medicated baths for special purposes should be taken under proper directions and supervision.

A delightful variation from the every-day ablution may be provided by the use of a bath sacket. Get a sufficiency of soft white towelling, and make ~~one~~ bags, about four inches by six inches in size, leaving one side open. Then prepare the following mixture, and fill the bags with it, until they are, when laid flat on your hand, about half an inch thick:—Powdered borax, four tablespoonfuls; powdered orris-root, three tablespoonfuls; Pears' Soap, finely shaved, four tablespoonfuls; good smooth, fresh oatmeal, four large teaspoonfuls; oil of lavender, ten drops. Sew up the bags, and in the morning let one soak in the bath water for ten minutes, then use it as a washing glove until the whole of the body is well lathered. Then proceed with the bath, taking care ultimately to rinse off the whole of the lather.

Bath, Beauty. A beauty bath, of especial benefit to those who suffer from a dull, sallow skin, is ordered as follows: If possible use rain-water of comfortable temperature for this bath, or, failing that, warm water from the tap, softened with borax. Then bring into use a specially prepared bath lotion made as follows: four ounces of rosewater, to which must be added one ounce of glycerine, a teaspoonful of powdered borax, one ounce of alcohol, one ounce of tincture of benzoin. Before being used this mixture should be allowed to stand about a week, being occasionally shaken to secure the proper mingling of the ingredients. At the end of that time two ounces of rosewater should be added.

Bath, Sea Salt. This has now been made a simple matter, sea-salt being easily obtained for a few pence a bag from any chemist, and a cupful of seawater into the bath is all that is required. But the exhilarating effects gained by bathing in the sea are to a great

extent absent when the sea-bath has to be taken in one's own room.

Bath, German Spa Method. A form of bath given by many of the German Spas can easily be carried out in every detail in any ordinary bath-room. Take a pint of good table-salt and spread it over the bottom of the bath, and add a little powdered borax. Fill the bath with boiling water and allow it to cool to a tepid temperature. Take a quick scrub in this, allowing the water to dry the skin. A second bath in clear warm water should be taken after this, using Pears' soap for its special soothing qualities. No matter where the salt bath is taken, whether in the sea or at home, it should be followed as quickly as possible by a clear water one, as indicated, for although salt water is invigorating to the muscles and good for the general health, it has a very injurious effect upon the complexion.

Beauty, The "Cult" of. Intelligent and faithful observance of the hygienic laws pertaining to our systems, and the wearing of apparel fitted to the seasons and to our individual requirements, lie at the very root of the "cult" of beauty, which is attainable by all who are endowed with shapely forms and comely features, or who by the various means at hand, will cultivate them. Indeed, there is much to be done to remedy nature's shortcomings in this respect, by the exercise of proper measures. The first consideration is health, for, lacking that, the human form is bereft of its natural bloom and freshness, and the signs of decay set in early. One of the great essentials of health is the maintenance of the various functional operations in a condition of natural activity, which applies not only to the chief organs of secretion, but to the proper action of the pores of the skin, for which good soap and water are the first aids. Our living should be regulated, day and night, to the harmonious realisation of "joy and temperance and repose." Caprice and indulgence set their detracting marks on personal beauty, and cannot be allowed to dominate "the deeds, done in the body" with impunity. Diet, exercise, and regular living (all of which matters are here dealt with under separate headings) are ruling factors in both health and beauty. The observance of the toilet must be looked upon as a sacred duty by all who wish to attain or maintain beauty, the primal duty being to keep in perfect cleanliness "the casket which enshrines the soul." This is the great guiding principle of the "cult" of beauty, to be applied in a common-sense way, by legitimate means, incessantly. Much can be done by persistence.

"Beauty" Foods. (See Diet, Complexion, and Acne.)

Blackheads. (See Acne.)

Boots and Shoes. (See Feet.)

Breathing Exercises. The disagreeable "colds" which affect young and old alike during the winter months would be almost unheard of if everyone indulged in a regular course of breathing exercises, a few minutes at a time, in the morning, and once during the day, either out of doors or before an open window, devoted to correct breathing should, in a very short time, work a wonderful change for the better in an anæmic person. A girl or woman before commencing to exercise should loosen the corset and all belts and bands that are at all tight; the window must be wide open, if the exercise is performed indoors, and the patient essaying the deep-breathing "cure" must stand facing it and take deep breaths. These must be drawn in slowly and steadily through the nose, until the chest rises and the lungs feel as full as they can comfortably be. The breath should be held for at least two seconds, and then forcibly expelled through the mouth. After the lungs have been completely emptied, a few seconds' pause should be allowed before the process is repeated. Very delicate girls may find this exercise rather exhausting at first, and should be allowed to lie down in the early stages of the "cure," say, upon a rug on the grass in summer, or on the floor in winter, before the open window, with a rug pushed up to the door to prevent draught. Very weakly people, especially those whose hearts are all affected, should fill the lungs by short breaths at the beginning, and as the lungs gain

strength by the exercise the breathing can be lengthened without fatigue. "Health and quiet breathing," to use Keats's expression, are amongst beauty's most precious secrets.

Breath-Sweeteners. One of the best, whatever be the cause of the objectionable exhalation, is a mixture of powdered, prepared charcoal, cinchona bark, cream of tartar, and attar of roses, which will be made up in the relative quantities requisite by any reliable chemist at a moderate cost. Eau de Cologne of good quality, diluted with filtered water, is a simple and useful mouth-wash, and to this a little tincture of myrrh may be advantageously added. Even simpler and cheaper is a solution of borax and water, with honey of roses incorporated. For smokers, liquid chlorinated soda with distilled water, in the proportion of one to twenty, is capital; and a drop or two of orange flower essence may be introduced for odorous effect. Cloves and other powerful aromatics, such as peppermint and cinnamon, rather defeat their object by their assertiveness. (See also **Perfumes**.)

Bust, The. An over-sumptuous bust can be placed less *in evidence* by skillful dressmaking, as can also an unduly flat chest; while both may often be permanently improved by judicious and persistent exercise. (See **Costume**, **Choice of**, and **Exercises**.)

Carriage. There is no one thing which helps more toward the possession of "personal charm" than does a good carriage. The importance of a fine carriage and a graceful walk can scarcely be over-estimated. First of all, to obtain a good carriage, one should stand erect, the weight resting on the ball of the foot, and the heels only just gently touching the floor. The abdomen should be drawn inward as far as possible, and at the same time the chest is raised. With an amateur, the chest can still be forced higher by drawing a deep breath, and by muscular effort the chest may be made to expand an inch or so. The elbows should be drawn backward and slightly bent, and the shoulder-blades should have a feeling of meeting at the back. When this is done, a book is placed on the top of the head, and if the neck is in correct position, and the head properly poised, the book will not fall in walking. The Grecian ladies of old, who were famous for their graceful carriage, swayed the head slightly with each step, but this movement will come naturally, if the other points are mastered in turn. It is difficult to explain in words the exact process of learning to walk correctly, and at first there is bound to be considerable stiffness in the movements, but an easy swinging gait is bound to arrive if the above instructions are carried out in front of a mirror. The shoulders must not move noticeably, but from the waist downward each part of the body has its work to do. The hip moves forward as the right foot is extended, and the movement of the knee is not simply to push forward, but as a marked prancing of a horse it lifts the foot from the ground, performing a rotary motion, and when the foot meets the ground again, the heel should point to the instep of the other foot. If the step is taken in this fashion, there will be no wearing down of heels, in the wrong place or no running over of the foot.

Chafing. For chafing, oxide of zinc ointment is good, but a better and a sure remedy for all ordinary cases—and a sure preventive of chafing if regularly used—is Pears' Precipitated Fuller's Earth.

Chapped Hands. (See **Hands**.)

Cheeks, Hollow. A good plan when the cheeks become noticeably hollow is to wet them with cold water, and while wet rub with a soft curly towel round and round in the sunken places very lightly, so as to affect the muscles beneath the skin. It will bring fresh blood to feed the muscles, and will strengthen and render them firmer. This simple attention will often cause the sunken cheeks to fill out. (See also **Face**.)

Chilblains are very troublesome in winter to many people, and when on the hands are unsightly. The following solution, if adopted in the earlier stages, will generally effect a permanent cure: Put three grains of sulphate of copper to an ounce of water, while equal parts of soap liniment and belladonna will help to

allay the irritation. Another efficacious and simple remedy is this: Take a piece of alum about the size of a walnut and melt it in a pint of hot water. Soak the hands in the liquid before going to bed for ten or twelve minutes, after which they should be covered with gloves without grease of any kind. In the morning the hands should be soaked in a solution made of half a pint of rosewater, three drachms of sulphuric acid, and the same quantity of myrrh.

Chin, Double. There are three corrective courses open to one threatened with the undesirable adiposity known as "double chin." The first is massage, which in this instance consists in gently pinching and kneading the flesh by holding it firmly and rolling in the fingers, and then smoothing it back. This treatment must be steadily persevered in if it is to be beneficial. A second method is directed to reducing the amount of flesh beneath the chin by means of bands of plaster to keep the suppurous flesh in position. These bandages should be worn every night, and although they are by no means comfortable, constitute a reliable remedy. The bandage must be placed under the chin, and passed over the ears by the crown of the head. It is always advisable to have an additional strap passed from the outer edge of the bandage to the back of the head. They may be made of the ordinary bandaging strips or of a good elastic. In the latter case care has to be taken that they are not drawn too tight, so as to interfere with the circulation. The third, and perhaps the most certain remedy for "double chin," is a regular course of exercises. Begin by throwing the head backwards and upwards, at the same time keeping the lower jaw thrust out. The teeth should then be clenched, and the muscles of the throat drawn upward and relaxed, and then drawn up again. Turning the head from side to side to the fullest angle of which it is capable should be the next exercise. If these exercises are indulged in for about ten minutes a day there would be a very marked improvement in the condition of the chin in the course of a few weeks.

Chiroprody. (See **Corn**.)

Clothes, Care of. Never put clothes away unclean, and never forget to pull and straighten the gloves, to roll up veils carefully, and never sit about in a walking-dress indoors, are golden rules to remember for the preservation of raiment. The "well groomed" appearance for which every wise woman strives, is due as much to the care of the clothes when not being worn, as to the clothes themselves. Generally speaking it is better to fold than to hang clothes, but the correct folding of one's wardrobe is a study by itself. Bodices should be held by the top of the sleeves, the yokes allowed to droop down and the back folded in. This brings the two front pieces lying one over the other, where they can be laid without creases. If it is necessary to fold again, the sleeves may be doubled across, but it should never be difficult to find cardboard boxes large enough to take the blouse folded only lengthwise. Several blouses can be put in the same box if folded in this way, and skirts are better laid in drawers than hung in closets unless stretched on frames. The woman who strives to be thought well dressed will have innumerable boxes, containing belts only, gloves only, etc., and labelled. The way to fold a skirt with a train is to lay it on a bed or table, folded down the middle of the front. To begin the train, fold over till the skirt has a regular shape, and then it is folded in gores, the fewer in number of course the better. If buttons are on skirts or bodices, white tissue paper should be put over every one to prevent their impressing the material and in all light clothing, white tissue paper will be found of immense value if placed between each fold. It protects the first, and keeps the garments in splendid condition. This should also be remembered in laying away gloves. Each glove should be wrapped in tissue paper after the fingers have been stretched, the thumb tucked in place and the inside of the glove aired after wearing. It is a pernicious habit to roll the gloves one inside the other immediately after removing from the hands, and the new look will soon be ruined in this way. Boots should be stuffed with paper instantly they are removed from the foot, unless trees are available, and the same pair of shoes should never be worn two days in suc-

cession. The habit of changing gown and foot gear when indoors is very economy.

Clothing, Hygienic. In a climate so changeable as ours, cotton underclothing should never take the place of woollen. During the summer, if flannel cannot be borne, some fine woven woollen fabric should be worn next the skin. When linen is employed it should be changed frequently. Better pay out money for the laundry than for the doctor. All clothes should fit comfortably, and especially should not be tight. Fashion need not be disregarded, but should always be made to bend to comfort and health.

Coffure, The. This French term implies more than the mere arrangement of the hair, the style of which should always be suited to the contour and complexion of the wearer's features, and so dressed as to enhance the wearer's beauty. The daily hygiene of the hair is a matter to which serious consideration must be given if good results are to be secured and maintained. It, of course, varies with the individual; hair which is lank, or moist, or greasy (conditions usually found in the hair of nervous subjects, or of those who have much anxiety, mental worry, or stress of brain work) needs a totally different treatment from that which is dry and full of the scaly dust. (See also under **Hair**.) The hair specialists are by no means agreed as to general governing lines of treatment. Some have taught that the hair should be regularly cut, either at the new moon (to encourage a longer growth), or at the wane of the moon if extra thickness without increased length be desired. A smile may be evoked at the seeming lunacy of this moon idea, but there is method in the madness. Others are emphatic in laying down that it does the hair no good to cut it, and many have outlived the cutting with undoubted success. Then, again, while most of the hair specialists advocate a vigorous brushing of the hair from root to tip (with a convex brush, the bristles of which will penetrate to the scalp) from ten to twenty minutes night and morning; others say that no brush should be used, but that after the application of a few drops of a good hair-nourishing preparation, a thorough combing, beginning at the free end, with a special comb slipped to the head and made with a handle, for hygienic reasons, also without teeth, for the same reason, should be given, and that following this a soft piece of *glace* silk should be used, folded over a fairly thick strand of hair at a time, and then drawn rapidly over it. This is good practice; but the great thing is to bestow constant care upon "woman's crowning glory," ensuring cleanliness by gentle and frequent lavation, and the use of a pure and reliable soap like Pears', followed by patent smoothing and drying. As to making artificial additions to scant and falling locks, that is a matter for taste and discretion—especially the latter. Let it be remembered that the desire of a woman to have a luxuriant, richly-coloured, lustrous head of hair proceeds not only from vanity, as those who rage against the "transformation" would have us believe, but also from the very praiseworthy desire to show the sign of health and vigour. Nothing "lets a woman down" like appearing with thin and poorly-dressed hair, forgotten by Nature, abandoned by art, and neglected by its wearer. One owes herein a duty to one's self and country. But the restoration period should be taken in time and managed tactfully. (See also **Baldness and Hair**.)

Cold Cream, Home-made. This will be found reliable, and preferable to the unknown admixtures which are sometimes advertised under pretentious appellations. One ounce of good white wax, half an ounce spermaceti. Dissolve very gradually by placing, immersed in two ounces of olive oil in a basin near the fire. Cool upon amalgamation. Stir in three drops otto of rose, or orange-flower water to perfume it, and put away in a close-lidded pot or jar for use. It is an admirable emollient, quite free from irritating properties.

Cold Winds. (See **Complexion**.)
Colours and Complexions. Blue is unsuited to the brunette, because its orange reflection intensifies a dark complexion, but a blue veil will diminish the effect of bright light on the hue of any skin, just as blue spectacles preserve the eyes from the sunshine.

Light green increases the ruddiness of a warm complexion, and gives a heated appearance; to the pale blonde it is permissible, imparting enhanced rosiest. Sky-blue and its allied hues become the very fair, bringing into proximity with the dominating tint of their hair and complexion the complementary colouring. Reds, yellows, and oranges may be worn by the dark-haired and dark-complexioned with impunity, as enriching shades of blackness. But violet is treacherous wear, reflecting and augmenting yellowness of complexion or hair, and making blue seem green. If a woman of sallow skin would look her worst, let her adopt violet millinery.

Combs, Care of. Combs can be cleansed by working a piece of cardboard between their teeth, and afterwards rubbing them well with flannel. As tortoise shell combs are always prone to break easily, many may find this hint a useful one. If the combs be really of tortoise shell, the traces of joining should be invisible. First slope the margins of the break by scraping off the broken pieces for the distance of about a quarter of an inch from the edge; then overlap these margins, and when thus arranged, clamp them between a strong letter-clip, and immerse the comb in boiling water for some time. As the horn softens, it unites; and when dry again, the place where the break had been should be unnoticeable.

Complexion, The. Cleanliness has more than all else to do with promoting and keeping a clear complexion. Frequent and regular lavation, with the avoidance of all injurious soaps is the prime essential. (See **Baths and Bathing**.) Sound and refreshing sleep has a very beneficial effect upon the complexion. The habit of falling asleep at a few moments' notice is one to be encouraged in the interests of health—a more important consideration even than colouring, though inextricably bound up with it. After unusual fatigue, the face of even a young woman has a drawn and tired look which ages it palpably. A quarter of an hour's sound sleep removes this and replaces it by the soft countenance of well-rested youth and pink, which is the characteristic of the finest blonde complexion, or the rose and olive of the brunette. (See **Rest**.)

Much can be done to improve a poor complexion by plenty of exercise and hygienic living, as here and elsewhere insisted upon. Beyond this, steaming has a surprisingly good effect upon some sallow, thick-looking skins. Hold the face for a while over water as hot as it can be borne without scalding, keeping the eyes closed and the steam in with a sort of tent formed with a bath towel. Renew the hot water occasionally. Then wash with Pears' Soap and douche the face with cold soft water. The hot water opens the pores of the skin, the soap cleanses it, and the cold closes the pores and stimulates the skin to healthy action. It also braces it against the sun, the east wind, or frost. Some people rub in a little eau de cologne to finish the process, but this is not necessary; indeed, it is best to trust to the emollient and detergent effect of the soap.

To remove the painful smarting which results from exposure to the sun, especially in sea air, the following preparation is of value: An ounce of Pears' Soap dissolved in three ounces of orange-flower water, mixed with one and a half ounces oforris root dissolved in four ounces of spirits of wine. Let the mixture stand for two, pour it off the sediment, and pour a little into lukewarm soft water to bathe the face, particularly after exposure to the sun and wind. "Tan" can be removed from the face by the application of a little peroxide of hydrogen, diluted with water. Have it mixed by a chemist, and on no account made too strong. For "freckles" some recommend the application of buttermilk, and it can do no harm.

A serviceable complexion wash for use after exposure may be thus prepared: Peel a large cucumber or two, cut in slices, place in a double boiler closely covered, and cook slowly—without water—until soft. Put the pieces in a fine linen bag, and squeeze until all juice has been extracted; add to the juice one-fourth rectified spirits of wine (or whisky will do) and one-third elder-flower water. Shake well, pour into small bottles, and seal. The lotion may be applied several times a day at first, and less frequently when the skin has become clearer. Shake well before using.

The *skin in winter* is liable to become dry, tough, and red. To guard against these evils, a little cold cream (*q.v.*) should be applied after washing, and carefully wiped off, after which some Pears' Violet Powder should be dusted over the face, left on for a few minutes, and brushed off with a pad of cotton wool. For the hands, which generally suffer even more from winter weather, an excellent plan is to rub a mixture of glycerine and rose-water into them when half-dry, and finish the drying process thoroughly afterwards. This will keep the hands soft and white in the blithest weather, if gloves be constantly worn out of doors and an old pair used for sleeping purposes.

Sitting too closely over the fire, especially when fresh from a walk in the cold, is most injurious to the complexion, making the skin harsh and dry and encouraging premature wrinkles. To retain one's youthful appearance, the skin must be kept firm and elastic, and anything which helps to induce an unnatural dryness destroys the elasticity.

Complexion in connection with diet. Diet has a great effect upon the complexion. Simple food, as varied as possible and cooked to perfection, is good for both health and looks. Simple dishes eaten with relish, and digested merrily, not sadly, bring brightness to the eyes and freshness to the cheeks. Most of us eat too much meat and not enough vegetables and fruit. Fresh water-cress is a specially good blood purifier. It should be eaten at breakfast and each meal during the day whenever obtainable, with plenty of salt. See also that it is thoroughly well washed. Not only does water-cress give a clear complexion, but it also produces a fresh, bright colour, as it has the peculiar faculty of absorbing iron from the water in which it grows.

Vells are harmful to the complexion, unless they are diaphanous, and of sufficiently open texture to admit the air whilst excluding grit; the skin needs the friction of the air. Constant covering interferes with the circulation and the healthy action of the pores. It heats the face, and keeps it covered with an oily moisture which catches the dust and dirt, despite the veil, and gets into the pores. When the face is left exposed to the air the dust is largely blown off, and the skin remains dry and clean. In *motoring* even within the legal speed limit—velts are a superfluity; and eye-protecting goggles—ugliness's supreme invention—are dispensable, except on a high head-wind. Have your air-bath for the face on a journey, and your water-wash on reaching the end, and the complexion will sustain no hurt.

But in all matters of the complexion remember the testimony and commendation of Adolpha Patti, "Pears' Soap is matchless for the complexion."

Corns. When these are contracted every effort should be made for their eradication, otherwise all the observances of the toilet generally will "leave something to be desired." Here is a good recipe, which should be compounded specially by your chemist according to direction. In one drachm of absolute alcohol dissolve and mix forty grains of salicylic acid and six grains of extract of Indian hellebore. When these are intimately blended, mix up to one ounce with flexible collodion, and again blend thoroughly. Before you apply this to your corns, soak your feet in hot water, in which you have dissolved a lump of common soda, dry, and give each corn one thorough application. Repeat the whole process every night until the corns disappear, but after the first night you should peel off the collodion coating before you cleanse the feet or while doing so. Thus may corns be banished, and they will not reappear if the feet be regularly exercised and good-fitting boots worn. Remember, however, that it is quite as bad to have boots too loose as too tight; in the first case corns are induced by friction, in the second by undue pressure. (See Feet.)

Corsets. Where corsets are worn—and almost every woman wears them where civilization reaches them well-fitting, so as to afford bodily support without stricture. It is tight lacing and hurtful pressure which render stays and corsets a menace; their abuse, not their use, calls for condemnation. The much

abused Dame Fashion sometimes does us a good turn, and her course in the matter of corsets for the past few years is distinctly such. The days of wasp waists (and they return periodically) are always sad ones for woman-kind; but the corset which compresses the superfluous flesh about the hips, and gives support to the lower portion of the body where most women are conscious of a sense of weakness, is robbed of all its injurious effects. A corset must not compress the vital organs, but with the straight-fronted modes, the lungs, heart, and stomach are left quite free. To obtain the best results as to beauty of figure, the corset should be laced with three separate laces. The upper one is threaded till about three holes above the waist line, the second includes only four or five eyelets just at the waist, and the third extends to the lowest eyelets of the corset. It is most important the stays are adjusted properly, and that means placed lower on the body than is usually done. The suspenders are then fastened and after all this is done, the stays are laced to a comfortable tightness. Before the lacing is accomplished, the hands should be placed inside of the corset, and the superfluous flesh drawn above the waist line. Thus prevents the lacing from compressing a vital part, and also improves the figure. If a figure has become too spread, as is so often the case in middle life, care of this sort will do much toward restoring it to attractive lines. It is a mistake to have a corset closely boned, and that is why a cheap corset is seldom a success. The bones need to be fitted in other directions besides from top to bottom, and it is only a skillful corseteer who can do this successfully. The example of the French women who buy a good corset, no matter how inferior the dress, can be followed with advantage. It is ruinous to a figure to sit around the house or work without stays. All sorts of bad habits as to carriage are formed, and on the other hand, if household duties are performed, special and loosely-laced stays should be worn. (See also Waist.)

Comestics. Soap and water come first in the category; purity is a *sine qua non* in the soap, softness in the water. Then a simple cold cream (for which a recipe is given, *ante*), will be found very serviceable. Always be careful to rinse away soap after washing. Eau de Cologne, fresh, yet diluted, is good. For powders keep to Pears', it is safe and effectual where needed. Rouge has been superseded by carmine, that should only be employed with caution and sparingly; bluish preparations are always hazardous. Glycerine induces growth of hair and is not good for the face. A cold cream with vegetable fat as basis is good, and pure olive oil is excellent though darkening to the skin. The powder puff should be a good one of swan's down, and kept boxed away from dust. For the rest, specific cosmetics for various contingencies are referred to in their proper order; but the less they are required and employed the better? Absolute cleanliness is far preferable to plastering the bloom of health to any enamel.

Costume is a very important toilet matter indeed. All apparel and dress accessories should be becoming as to coloration (see Coloration and Complexion), and also, in design and make-up, adapted to suit of the most advantageous presentation of the figure of the wearer; not over-obtrusive of specially good points, nor too obviously fashioned for the hiding of imperfections. Suitability ought to have precedence of smartness in all things, and good taste govern in regard to what to wear, and how and when to wear it. Conform to convention as far as you can, and avoid conspicuousness, whatever the cost; that way vulgarity lies. The best-dressed girls and women, from the standpoint of harmony and real effectiveness, are by no means those who spend the most money, relatively to their status, on fancied adornment. The "fitness of things" must never be lost sight of. Nor should mere cheapness of material be permitted to influence selection at all. The "correct style" in dressmaking is that in which the most is made of well-chosen fabrics, of the best procurable quality, in the interests of the wearer's personality and pocket; and the millinery, jewellery, and etceteras should match on all occasions, comfort as well as suitability being

constantly studied. Let each apply these maxims to her own individuality, whether she be short or tall, stout or thin, dark or fair, young or old; they constitute the "golden rule" as respects costume, and allow a wide range for womanly resource and gratification. (See **Two Figures, The.**)

"**Grown-ups.**" (See **Face** and **Wrinkles.**)

"**Curling the Hair.**" (See **Hair.**)

"**Dentifrices.**" Good simple dentifrices are camphorated chalk, brushed well over the teeth regularly, with clear water rinsing to follow; or powdered borax dissolved in tepid water, to which a little of tincture of myrrh may be added if desired. (See also **Breath-Sweeteners** and **Teeth.**)

"**Deplatories.**" (See **Electrolysis.**)

Diet has a deal to do with rendering trouble taken with the toilet successful or otherwise. If you want to have a good complexion eschew greasy foods, cakes, pastry, and sweets, as well as all highly seasoned dishes. Don't eat between meals. Eat plenty of fruit (fresh and stewed) and green vegetables, underdone beef and mutton, white fish and milk puddings. Abstain from strong tea and coffee, and if you find that any special food disagrees with you, give it up at once. The stomach quickly reacts on the skin, and takes its revenge by giving it a muddy look. The "rigour of the game" in "beauty cult" entails a very strict regimen as regards feeding. An authority on this theme enjoins that "the menu for a would-be beauty must be of the simplest. Two meals a day are the most of which she may partake, and at those the range of choice is decidedly limited. No breakfast is allowed, but a glass of cold water, an orange, or an apple may be taken if desired. The first meal of the day is a mixture of breakfast and lunch, and is eaten at noon. It consists of a good vegetable soup, some nuts (walnuts chopped fine, or chestnuts hulled and mashed or roasted), cheese, brown bread, and butter, chocolate, and for drink either warm milk or cold water. The second and only other meal is partaken of about 7 p.m., and differs very slightly from the first. A soup of lentils or haricots is followed by eggs, whole-meal bread, and various vegetables; salads are allowed, and any fruit which may be in season, with cream. For purposes of digestion, a glass of Vichy water may be taken half an hour afterwards. This "perfect health diet" is said to impart a skin of velvety softness and of faultless tone to those who will carefully follow it. All the vegetables, however, must be cooked by steam alone and served with a little olive oil, while no salted butter may be taken at any time. Plenty of pure cold water is recommended for drinking, as water is most beneficial for building up the wasting tissues. This is severely simple living, carried to the extreme of cautious system, and would entail too much self-deprivation for most folk; but it points the right way. Bacon and all salted meats must be abstained from altogether by those subject to rashes or eruptions, at any rate when symptoms of the skin trouble appear. (See also **Complexion.**)

Electrolysis is by many deemed the surest of depilatories; but for its practice expert professional skill is requisite. It gets to the root of the trouble, which no caustic application can accomplish without occasioning harm in excess of the good it does, and the plucking out of superfluous hairs rarely sees the end of the matter. Electrolysis is recommended as a valuable outside aid to the toilet of all requiring and able to obtain the benefits it can convey. Not only is it of depilatory effectuality, but it can be applied to the cure of nervous affections, to the removal of the trouble of scabs, outgrowths, or indentations occasioned by injury or disease. But no "quack" male or female, will be permitted to apply the electric needle to any part of any wise person.

Exercise should supplement the toilet; exercise of every rational sort, muscular and of the respiratory organs (see **Breathing Exercises**). The brisk walk is a very potential benefactor. If taken regularly in the purest available air, it will give great assistance to the healthy in the way of conserving their good condition; it will help to thin the fat (see **Obesity**), it will develop the abnormally thin. Then "Exercise, Exercise, Exercise"—every morning, and as early as

you can. Don't say you "haven't time"; make time, adjusting your rest and your daily duties accordingly. Your good looks and good spirits will be your long lasting reward. (See also **Massage.**)

Expression. No face can be beautiful, no matter how richly endowed with regular features, if the expression is not charming. It need not be weakly amiable, but must indicate intelligence, the power of observation, and general kindness. The matter of cultivating a good expression is worth every woman's notice. Very far-reaching are the words, "Know thyself," and of more than biblical significance. A woman should have a hand-mirror, and sit by herself in a thoughtful and serious mood to try to know herself—not with the hope that the mirror will return a flattering message, but in the full glare of daylight (face to the light) and search for imperfections. A line here will tell her that she compresses her mouth when sewing; a wrinkle there will testify that when she reads she frowns; and a horrid little thing, which she tries in vain to brush away, will suggest the necessity of massage around the eyes. I wonder if there was ever a woman who did not think that her first "crow's foot" was a hair! If you study the faces of fellow passengers in the omnibus, or in other commonplace public vehicles, you will be astonished to find how really few persons have a nice expression when the features are in repose. One wears a worried look; her neighbour a discontented one; another has an unreliable and weak expression about the mouth, which would perhaps prevent her successful application for an appointment. The prospective employer would say she had a weak mouth, for most people who pride themselves on being students of human nature are very superficial, and to them a drooping mouth means melancholy, a lifted corner a sneer, etc. In reality, there are many qualifications for each mark of expression, but in the instance named, the mouth may be perfectly well-shaped, and the unpleasant expression merely a matter of an unfortunate habit. Rounding corners of the mouth are not looked upon with favour, and usually indicate a real necessity for a change in character. The habit of observing will cultivate a nice expression of the eye, and the smile should be studied most of all. If the teeth are ugly, there is no reason why a smile should reveal them aggressively to the world. I hear someone say that this will induce affliction, but that does not at all follow. There is much that can be done on these lines, but a word to the wise—and what woman is not wise!—is sufficient!

Eyes. An eminent writer has remarked, "Most children are born with light eyes, but a great many of them exchange them for dark eyes as soon as they realise their mistake." The relative beauty of light or dark eyes is, however, as in every case of individual beauty, merely a matter of taste. Beauty must be "in the eye of the beholder" as well as in the eye that is looked upon. Time was when novelists made the dark-eyed girl "as dark of soul as were her orbs," while all the virtues were ascribed to the blue-eyed maidens. Thackeray tried to upset this theory by giving his dark-eyed heroines depth of soul and making the blue-eyed damsels treacherous. Be that as it may, the beauty of the eye is not so much a matter of colour as of shape, size, and expression, and the cleanness of the white surrounding the iris. Still, colour is an important factor in the attractiveness of the eye and has to be counted with. Brightness, softness, sympathy, are the leading qualities.

To keep the eyes clear and bright they should not be subjected to unnecessary strain. Nothing can be more injurious to the eyes than to strain the sight by reading or working in an uncertain light. Never read in a doubtful light, and always have the light falling upon the book from behind. Do not expose the eyes to the glare of strong sunlight unduly, or to that of brilliantly-illuminated places of assembly; and be careful to protect them from injury by dust and other foreign substances. "Washing your eyes" is good homely counsel. Some people suffer from a constant inflammation of the eyes, which not only causes them much discomfort, but seriously detracts from the beauty of the organs of vision. The most efficacious eye-wash in a case like this is a mixture of borax and

camphor-water—not spirits of camphor. The proportions should be ten grains of borax to an ounce of camphor water. Always, in making the toilet, carefully bathe the eyes. When the eyes are weak no better or more harmless lotion can be found with which to bathe them than diluted cold tea.

Eyebrows. The eyebrows can be trained to almost any shape by the exercise of patience and care. When the growth is thick and bushy, they can be trained with the tips of the fingers to grow in the desired shape. Dip the finger-tips into a little rose-oil before manipulating. When the line is uneven the offending hairs may be removed with a pair of small tweezers, or treated by electrolysis. If the eyebrows are too thin, clip them neatly and cautiously with sharp curved scissors and rub into them a little good cream or vasoline at night. This will in a short time appreciably improve the growth.

Eyelashes. The longer, thicker, yet silkier the lashes the greater beauty will they lend to the eyes. Clipping the eyelashes once in every two or three months is very beneficial to them. It should, however, be done with extreme care, a pair of curved scissors being used. The tinting or colouration of the eyelashes is all very well for stage effect; otherwise, it is best left alone. Nature provides lashes of the right hue, for all eyes; the owners have only to keep them in trim, not try to change their hue.

Face. The care and assiduity in cleansing the face cannot be too strongly insisted upon; neither can the necessity for using only the most reliable soap be over-emphasised; and here it need only be said that Pears' is "the purest and the best." Steaming the face occasionally is commendable. To do this without going to the expense of elaborate apparatus, place about a quart of boiling water into a hand-basin, hold the face, with the hair well pinned back and a handkerchief folded across the eyes, over the basin, and throw a large Turkish towel over the head, letting the ends fall round the basin to keep the steam in. This will open all the pores of the face, and the skin should be carefully wiped with a soft linen rag or pad of cotton wool afterwards. Gentle friction is good for the face; so is massage, which keeps the muscular tissues in tone. Puffiness under the eyes is often due to a relaxed condition of the skin. The best remedy will be found in the use of a lotion, composed of twenty grains of tannic acid to an ounce of glycerine. It should be applied night and morning with a fine camel's hair brush. See also **Bathing**, and **Complexion**.

Fat, to Reduce. (See **Obesity**.)

Feet. The. No one can possibly be healthy who does not keep the feet scrupulously clean. In the spring and summer, when the warm weather induces increased perspiration, it is not too often to wash the feet every night before retiring to rest. This should be done in cold water, excepting in cases when this is found to give the lather a chill, when tepid water should be substituted. An octogenarian once told the writer, in reply to a query as to how she had such marvellous health at her advanced age, that she had washed her feet regularly, without intermission, every night since she was a child, and to that fact, and to the wearing of soft, well-fitting boots she attributed her having passed through life without illness. There is nothing soutilless sore, tired feet so much as immersion in warm water, and they are strengthened if a little castal is added. Care should be bestowed on the regular trimming of the toe nails, after bathing the feet.

A good authority on boots asserts that a woman with large, unshapely feet can only afford to wear a laced boot, and never a low shoe of any kind. Button-boots are not to be recommended as a pretty foot suffers considerably in them. No matter how firm the buttons, they "give" to the motions of the feet, and, if worn regularly, entirely ruin a shapely ankle. Laced boots, on the other hand, tend greatly towards the correction of any faults a foot may possess. Button-boots encourage the spreading out and unnatural development of a good-shaped foot, and are the cause of many a weak ankle. Never run in the toes into pointed shoes, but leave them room for free and separate motion. (See also **Cornea**.)

Blistered Feet are always painful. Those subject to

them are advised to wear soft, good-fitting, marine socks or stockings, and at night to take a small portion of Russian tallow, drop it in cold water, rub it on the palm of the hand with a few drops of brandy, and apply to the blistered places. This will have a very healing effect.

Boots and Stockings should always fit quite comfortably; people often make the mistake of thinking that tight-fitting boots are the sole cause of corns. Boots and shoes that are too large are equally fruitful in producing them. All foot-gear should fit perfectly, not too tight, and not too roomy. Again it is a mistake that many women fall into, to wear thick woollen stockings in winter. This sort of hosiery renders the feet tender, and causes undue perspiration. Cashmere is infinitely to be preferred, and can be worn well on into the summer, until cotton, Lisle thread, or spun silk are adopted instead. Care should always be taken that the stockings do not wrinkle, as this also causes the skin to harden, and ultimately induces corns. The same thing occurs when heavy leather boots and shoes are worn, and it is well to be particular when selecting new footwear of any kind to get soft makes, and, if possible, the very best. This, in the end, is the truest economy; poor footwear is a terrible "let down" to anyone aspiring to dress well or look well.

Figure. The. One ought to make the best of one's figure. Not by tight-lacing to malforn the waist (see **Waist**); but by exercise and hygienic living to cultivate symmetry, grace, and correct deportment. Angularity is often as much a matter of habit as of actual physical structure; adiposity, the outgrowth of idleness, "scragginess," the penalty of neglect. The figure to be clothed should be clothed according to its attributes and contours; not concealed by an imitation of some other person's habiliments, that other person being, very likely, built on totally differing lines. The tall figure ought not, as a rule, to be dressed in white or very light raiment, or further elongated by towering headgear. Light-coloured, loose clothing will, however, tone down excessive height to the eye. The well-proportioned of good average height may wear any material of hues not out of harmony with their complexion, almost any patterns; but the full figure looks best in dark or subdued shades, while striping in the design for the buxom ought to be narrow, and meshed in the draping to give length of line up and down, not width-wise. The tall can appropriately have a horizontal trimming and pattern scheme; the dumpy should don the longest and plainest skirts they can carry, eschewing large patterns and criss-cross lines. Skirts, sleeves will not do for the "skinny" and angular, nor will low-cut bodices; but square bodices can be made to cover concavities of collar-bone with out advertising their utility in this respect. Waist gatherings may be adjusted to supply a seeming fullness to the frail by the clever cooper, while fold arrangements across the chest can be expertly managed to "suit all figures." When the feet and ankles are not handsome the skirts may be worn long enough to render the fact unobtrusive, and so on.

Flushing may be the outcome of nervousness, want of self-control, or hurrying from one entourage to another. Again, it may arise from indigestion. The fume powder-puff is powerless to conceal it altogether. But conformation to hygienic conditions will usually obviate it.

Food. (See **Diet**.)

Freckles. (See **Complexion**.)

Frost, Protection Against. (See **Complexion**.)

Gloves form an important item of toilet appanage, adding to, or detracting from, the good appearance of the hands, as well as forming the appropriate protection out of doors. They should always be carefully chosen, and there are more important considerations than their colour and the number of the buttons. Black gloves are generally less elastic than light or coloured ones, and cheap grades are dear at any price. Dressed kid usually retains its freshness longer than the more durable but less elastic and less serviceable kid is soft and yielding. A glove so small that it cramps the hand and prevents grace of motion gives poor service. Short fingered gloves are ugly

and certain to break soon between the fingers, if not at the tips. The way in which a glove is first drawn on and shaped to the hand has much to do with both its beauty and durability.

Grey Hair, Keeping in Condition, and Grey Hair, Preventing. (See **Hair**.)

Hair Dressing. (See **Coffure**.)

Hair, The. Rubbing the hair down with a clean silk handkerchief every day, after brushing, has a wonderfully brightening effect. But to keep the hair glossy and bright, it should be well brushed every night with long even strokes of the brush and a strengthening lotion frictioned into it occasionally. An ounce of cantharides mixed with six ounces of castor oil, scented with eau de Cologne and rubbed into the roots, is good both for the growth and appearance of the hair. One thing to be remembered about the hair is that it appreciates the air and sunshine as much as do the flowers. It is an excellent plan to occasionally let the hair hang down over the shoulders, and to sit in the sunshine with it like that. To wear the hair dressed all day and then at night retire with it closely plaited, is to do it a serious injury. In most cases the natural oil of the hair becomes insufficient for its needs in middle life, and it is well to rub into the scalp a little pure olive oil, or to brush the hair twice weekly with a brush dipped in brillantane. Washing the hair in soda will make it brittle, although it produces a "fluffiness" which many like, and helps the hair to dry easily. Borax has the same good effects without being injurious. The hair should be brushed thoroughly night and morning, not a few hasty whisks of the brush, but long, even strokes, with a firm bristled brush. Whalebone brushes are good, and brushing continued with one for the space of five minutes will work wonders. Metallic brushes should be avoided. The hair cannot grow at all if the ends are split, and therefore a monthly singeing is advisable. To accomplish this, the hair should be divided into strands, each about the size of the little finger, and twisted hard. Hold the lower end of the strand in the left hand, and pass the partly-closed right hand to the roots, thereby exposing all the unruly ends, with a lighted taper these can be easily singed. I do not advise the cutting of the hair, but if it is done, the ends should be cauterised; if not the hair literally "bleeds," and vitality escapes. There is a system of circulation in each tube of hair, quite similar to that of the human body, and there is no part of the body which responds more gratefully to any attention or care.

Regular Shampooing. once every three weeks or a month, is advisable for the hair. An excellent and inexpensive shampoo can be prepared at home in the following way:—Shave about a pound and a half of Pears' soap into a quart of hot water, add to it a large teaspoonful of powdered borax, and a pint of bay rum. Rub this well into the roots of the hair with gentle friction, rinse out all the soap with warm water, and after it is quite dry rub a very little rose oil into the roots. This treatment will give the hair a beautiful silky appearance.

Another good hair wash, which may be given with advantage occasionally, is made thus:—Pour one quart of boiling water upon a piece of rock ammonia as large as a ribbit, and when cool enough to put the hand in, work to a lather by heating. Rub well into the roots of the hair, then into the hair itself. Afterwards wash out the lather with cold water, and also douche with cold.

When the hair appears dry and lifeless after its regular washing, it is a sign that it needs a little tonic, and this can be given it by mixing two tablespoonfuls of castor oil and the same quantity of glycerine into a four-ounce bottle with enough alcohol to set the oil. Shake the mixture until it is thoroughly mixed, roots massage a few drops into the roots of the hair with the tips of the fingers.

To prevent light or golden hair going dark, beat up the yolks of two quite fresh eggs with half an ounce (one tablespoonful) of tincture of Quillaia saponaria, and with a toilet glove rub the whole of this mixture well into the scalp. Next in a quart of hot soft water beat up one ounce of the same tincture, and a heaped tablespoonful of powdered borax

(dissolve this first in two tablespoonfuls of tepid water) and then wash the hair in the liquid. This will produce a plentiful lather when rubbed into the egg mixture already on the head, and may be removed by copious rinsing, first in hot soft water and then in cooler. Dry with hot towels.

Hair may be kept from going grey prematurely sometimes. Take a wash of alcohol and strong black tea in equal parts. Add to this a handful of kitchen salt. This forms a simple and harmless remedy, and will often not only arrest the greyness but strengthen the hair and increase its growth.

Grey hair can be made to keep its silvery tone if constantly washed and rinsed in clear water in which a little blue has been shaken.

For falling hair an excellent preparation is made by adding to eight ounces of alcohol (spirits of wine), half an ounce each of glycerine, spirits of lavender, and tincture of cantharides. Eight grains of sulphate of quinine are then added, and the mixture well shaken. Any perfume desired may be used for scenting it, and it should be well rubbed into the hair night and morning. (See also **Baldness**.)

Another recommended hair preserver is made thus: Take half an ounce of camphor (finely powdered) and moisten with two tablespoonfuls of gin. Put this into a pint bottle and fill with water. Apply with a sponge to the roots of the hair twice every week. Brush the hair at least once daily, using a brush with rather long, soft bristles. This "preserver" will promote the growth of the hair, besides keeping it clean, soft, and glossy.

Curling fluid for the hair may be made and used thus: Take two ounces of borax, one dram of gum arabic, and mix with a quart of boiling water. Stir until fully dissolved and add three tablespoonfuls of spirits of camphor. Damp the hair with this before using the waving irons and the crimp will remain in it during the most inclement weather.

Another curling method. To obtain a permanent artificial wave in the hair, rub a little scented vaseline upon it, leaving it on for a few minutes and then wiping it off with a soft linen rag. After this apply the waving irons, and the hair will retain its wave for a long time in spite of wind and damp. A great deal of the successful waving of the hair depends upon heating the irons employed to the correct temperature. If they are too hot they will dry the hair and render it harsh and brittle, while when too cold they will make but a trifling effect upon it.

Hands. The care of the hands is an important toilet consideration. An excellent and simple wash for keeping the hands white and smooth is made of equal parts of vinegar and water. It is a good plan to keep a bottle of it prepared and standing in the kitchen closet. Wash the hands first thoroughly in warm water, wipe them dry, and rinse well in the mixture. The same preparation is good for removing stains from the hands.

Use gloves at housework whenever practicable. In dusting, for instance, wear a pair of the chamois leather gloves sold at the stores under the name of housemaid's gloves. They cost little and last a long time, and keep the hands and nails quite nice.

To whiten the hands this is a good recipe: Twenty drops of tincture of benzoin, dissolved in one ounce of eau de Cologne. Add ten ounces of elderflower water and the strained juice of two lemons (or of a lemon if you cannot get lemons). Shake well each day for a week or two in a bottle and apply at night, after washing, with a soft piece of flannel or sponge, letting it dry in.

As a preventive of chapped hands nothing is better than an application of rosewater and glycerine well rubbed in after washing, before the hands are perfectly dry, the drying process being finished afterwards. When already badly chapped, a few drops of pure glycerine should be placed in the palm of one hand and well rubbed into the other, and a pair of loose-fitting gloves worn during the night. The application of pure glycerine to hands which are badly chapped is rather a heroic remedy, but it is more efficacious than anything else, all trace of roughness disappearing in the course of one or two applications.

A good plan is to keep a camphor-ice ball on the washstand and rub it over your hands before drying them. Be careful not to go out without care.

Hair, Choosing. Considerations of height, shape of face, complexion, and the age of the wearer, enter into the wise selection of headgear. Heavy trimmings and angular or eccentric shapes are difficult to "carry off" gracefully; and bonnets and toques, however modelled and ornamented, should frame the head completely, the hair arrangement being managed to accord with and complete the general effect. A large hat may be draped and trimmed to "set" and look light; and as to the colours employed in millinery, the aim ought to be to harmonise with and "bring out" dominant tints of eyes, hair, and complexion, and so brighten the entire presentment. The right shades in white or the lighter colours are usually becoming; intense hues and deep black, unless properly relieved by the trimming, the reverse. Green or white ought to be interposed between the skin and a hat with pink body colour; and assertive ornamentation should be avoided; the object of headgear being, with the discriminating, to provide an appropriate and artistic framing for, and not to detract attention from, the face.

Hollow Cheeks. (See Cheeks.)
Hygienic Clothing. (See Clothing, Costume, Corsets, Feet, Waist, &c.)
Indigestion has much to do with the promotion of the skin ailments which occasion so much trouble at the toilet, and are often difficult of treatment if unchecked. (See Diet.)

Lips, The. The skin of the lips is the most delicate of the whole body, and once the lips are allowed to get into a cracked and blackened condition, it is most difficult to induce them to become soft and smooth again. They can, however, be kept so that this painful and unsightly condition does not arise. Many women have a pernicious habit of biting the lips, which, besides spoiling the shape, renders the skin thick and coarse, and is one of the chief causes of chaps and cracks. Whenever the toilet is made, and before going out into the open air, the lips should be lightly rubbed with a little pure glycerine. This is to be preferred to the coloured pigments sold as "lip-salve," for the latter give a painted and unnatural colour, which is by no means becoming.

Looking Glasses should be good, well placed as to light, and, if swung, adjusted at the right angle. The thicker the glass the better, provided it be clear and flawless. It should afford a pure white reflection of pure white paper at any reasonable distance, and give no distortion of form or variation in shade in the pictures it presents of the objects placed before it. Let it be kept quite clear by frequent polishings with soft material; should this be regularly attended to no other cleaning will be requisite.

Manicuring. (See Nails.)
Massage. Massage, properly carried out, is good for giving tone to relaxed muscles, restoring plumpness, and banishing wrinkles, wherever they appear. It also acts as a preventive against this undesirable condition, and is particularly valuable when skillfully applied to the delicate muscles of the face. The woman who is going to give her own face a "course," must remember that the skin of her face cannot stand very rough handling, and that the lines and wrinkles which she desires to banish must be gently smoothed and patted out. To obtain the best result, the finger tips should be dipped in salt and water before starting the manipulation, and constantly during the process, as the salt helps to stimulate the tired muscles. If preferred, however, warm olive oil may be substituted for the salt and water, or oil of sweet almonds may be used to moisten the finger-tips. In the latter case, the face should be slightly heated by the application of warm cloths before the massage is commenced. (See also Arms; Cheeks, Hollow; Chin, Double; Neck; Wrinkles; and Youthful Looks, To Preserve.)

Mouth Washes. (See Breath Sweeteners.)
Nails, The. Once a week the nails should be pared and neatly rounded, both on fingers and toes, for comfort and convenience. It is not at all necessary to employ a professional manicurist to obtain satis-

factory results with the nails, however well off one may be. Soak hands or feet for fully ten minutes in warm, soapy water, in which are a few drops of lemon juice, before commencing operations. This will soften and loosen the cuticle. Paring done, and filing down, attended to where necessary at the edges, apply an orange-stick—procureable at any pharmacy—to each nail, raising and pushing the skin from the nail. Dip the point of the stick in a little piece of lemon and clean the nails, after which rub them with a little vaseline. Wipe the vaseline off with a soft rag and polish with powder and the nail polisher. Because the toe-nails are usually out of sight, they are often neglected, but not by the wise. They require as much care as the nails of the fingers. Manicure "sets" can be obtained at all prices, and no woman should be without these toilet accessories.

Neck, The. A graceful and well-proportioned neck is a very decided accompaniment of a beautiful face and figure, and the care of it is worthy of consideration, especially by women who go much into society. Whether the neck be too fat or too thin massage is equally beneficial. If it be too fat, judicious massage will do much to reduce the superfluous flesh, while if, on the other hand, it be too thin generous friction, with a small quantity of cod-liver oil or a mixture of vaseline and almond oil, in a very short space of time, change a thin and angular neck into one quite passable as regards beauty. The great fear in connection with the use of oils on the skin—the growth of superfluous hair—need not enter into the consideration of the treatment of the neck, as it is very seldom that there are any hair follicles on the neck which could be stimulated into growth by fatty substances.

Neck-tie Oil.—Just mentioned—is one of the most flesh-forming oils that can be obtained, and if once one can make up one's mind to bear with the unpleasant odour, it would be well worth a trial to those who are anxious to develop the neck nicely.

When the Neck is thin or "scraggy," it generally happens that the rest of the body is also of poor physique, and in this case care should be taken to improve the general health by liberal diet, flesh-forming foods, such as cod-liver oil, vegetable, and fruit. One of the best and surest ways of improving the appearance of the neck is by means of breathing exercises. The benefit of the continual practice of good breathing exercises upon the neck can easily be proved by careful notice of those who make singing a profession. They invariably have beautiful necks without any unsightly hollows. (See Breathing Exercises, Chin and Throat.)

Obesity should be guarded against by exercise and careful dietary, especially when middle age is approaching. Then it is that the tendency to put on too much flesh gives trouble to many, coincidentally with an inclination towards indolence. This must be combated. Shake off drowsy feeling; by resolute activity, do not give way to unnecessary indulgence in sleep. Walk and work, and regulate the dietary with care. It is not necessary to starve at all. If when you feel you are growing too stout you avoid fatty foods, substitute toast for bread, and take potatoes only in small quantities, you will probably bring your weight down. Drink hot water with your meals, also half a pint of it before going to bed, and take plenty of exercise of some agreeable kind. Meats may be eaten freely, but puddings and cakes sparingly.

Old Age. (See Age.)
Perfumes. Besides the scents sold ready prepared for use, many may be made up at home, suitable for every toilet purpose. Procure fresh flowers of any agreeable fragrance, and thin layers of cotton, which dip into the finest Florence or Lucie oil; sprinkle a small quantity of fine salt on the flowers, and lay them alternately, a layer of cotton and a layer of flowers, until an earthen vessel or wide-mouthed glass bottle is full. Tie the mouth close with a bladder, then place the bottle in a southern aspect to the heat of the sun, and in fifteen days, when uncovered, a fragrant oil may be expressed from the mass, equal to the essences ordinarily purchased at perfumery shops.
Eau de Cologne can be prepared by any person at home, in quantity, thus cheaply. Take one quart

of rectified spirits of wine (85 per cent. alcohol), five ounces of essence of lemon, twelve and a half drachms of essence of cedar, four ounces of essence of bergamot, one ounce of essence of lavender, and one ounce of tincture of benzoin. The essences should remain in the spirit for dissolution and amalgamation for a full week before distillation and bottling for use.

A good perfume, which is also a preventive against moths, may be made of the following ingredients: Take of cloves, caraway seeds, nutmeg, mace, cinnamon, and Tonquin beans, each one ounce; then add as much Florentine orris-root as will equal the other ingredients put together. Grind the whole well to powder and put it into little bags among your clothes, etc.

A dainty perfume for the breath is made of the white of an egg, the juice of a lemon, two teaspoonfuls of sugar, a dash of almond oil, and another of rose-water. These must be beaten and stirred for hours and then carefully bottled. A half-dozen drops in a wineglass of water and used to rinse the mouth will make the breath softly sweet.

Powder. (See **Complexion**, **Cosmetics**, **Teeth**, etc.)

Puffiness. (See **Face**.)

Red Hands. (See **Hands**.)

Red Skin. (See **Complexion**.)

Rest is as requisite as ablution and exercise, at the proper time, to enable one to obtain the best effect from the toilet, other things being equal. Never keep on, either with work or pleasure, until you are "done up." Get all the beauty sleep you can, remembering the sage old maxim that one hour before midnight is worth two afterwards. Eight hours' sleep is absolutely essential to the woman who wishes to keep the bloom of youth, and, whenever possible, she should close her eyes and rest completely for at least ten minutes during the day. Thus little rest, although it be numbered only by minutes, is more helpful than many would believe, but it must be an absolute rest. Try to let the mind remain a blank, and throw the whole weight of the body upon the couch, giving every muscle a complete relaxation. Another golden rule is, Don't worry. Look always on the bright side of things and cultivate cheerfulness, as worry is fatal to youth and beauty. (See also **Sleep** and **Tired Feeling**.)

Rough Skin. (See **Complexion**.)

Salts, Smelling. Lavender smelling-salts, which are so refreshing, are easily made at home, and here is a good way of doing it. Carbonate of ammonia, cut in squares, eight ounces; oil of lavender, half an ounce; oil of bergamot, half-ounce; oil of cloves, one fluid ounce; oil of cassia, half fluid ounce. Mix and rub the oils well together. Put the squares of ammonia into your smelling bottle. Pour enough of the mixture over the salts to cover them scantily.

Soap. (See **Hair**.)

Scent and Scent Sachets. (See **Perfumes**.)

Shampooing. (See **Hair**.)

Shaving is one of the chief toilet operations of the "mere male," and it may be made easy or irritating. First, the shaving requires a good and well-proven razor, kept sharp by "setting" when requisite, and skilful stropping at and during each time of using. Then the face should be steamed, if possible, or the beard softened by the application of hot water and the thorough subsequent rubbing in of good lather. If a stick of Pears' Shaving Soap be employed, there will be no trouble with the stiffest beard or the most sensitive skin. The thing to do is to rub in plenty of thick lather, then the razor will reap the "stubble" with the soap smoothly and painlessly, and if there be any gashing it will be the fault of the razor or the shaver. The "Shaving Sticks" sent out by Pears in such quantity are so expertly prepared that they permit of easy shaving with even cold water where hot is difficult to obtain—occasionally a great advantage—and they last a very long time.

Shoes. (See **Feet**.)

Shoulders may be kept shapely by exercise, and smooth and white by cleanliness and the conservation of the general health. Physical drill, skipping, and any pastime which calls into activity the muscles of

the arms and shoulders, should have every encouragement. Regular exercise of the right kind, to afford relaxation from the attitudes of compulsory restraint: occasioned by the daily avocation, must on no account be neglected. Round or drooping shoulders are the sure penalty of neglect. Those engaged in sedentary pursuits or condemned to do much stooping of any kind, ought to lean backwards whenever they can, not lounge further forward for momentary relief. Shoulder braces may be worn for support, where necessary, with advantage, elastic and broad of strap; and swinging from a suspended bar, held by the hands, is good; while swimming will afford especially beneficial exercise to the shoulders. If the muscles are given their due share of motion, tension, and retraction regularly, the beautiful natural slope—neither too pronounced nor too "squat"—of the shoulders will be preserved, with the proper plumpness and the pearly glow which no enamelling can successfully imitate.

Skin. (See **Complexion**, **Face**, **Indigestion**, **Sleep**, and **Wrinkles**.)

Sleep. Unless sound sleep in sufficiency be regularly obtained no amount of trouble taken with the toilet will have its adequate reward. Insomnia is a fell destroyer of beauty. Here is a recipe for its avoidance:—On retiring for the night place the feet on a really hot water-bottle, then take in sips a breakfast-cupful of hot milk, chocolate, or beef extract—one kind of nourishment one night, another the next. After that, have a handkerchief folded in four, saturated with equal parts of rectified spirit and cold water, laid across your forehead in such a way as to cover both temples. When the lights are out sleep should come to those who adopt this method.

Smelling Salts. (See **Salts**.)

Soap. Soaps for toilet purposes cannot be too carefully selected, for much of the success of nearly all the operations of the toilet depends upon the quality of the soap used. Soap is the leading agent in laying that foundation of perfect cleanliness without which the various functions of the toilet cannot be performed with necessary completeness. Inferior toilet soaps, whose defects are often disguised in strong perfumes or dubious colourings, should never be used for even the most ordinary acts of personal ablution, much less for the delicate offices pertaining to the making of the toilet and the preservation of physical beauty. It is not enough that a soap should make a profuse lather, or that it should easily remove dirt from the skin, for many pernicious soaps will under this surface service; what is wanted is a soap that has been specially prepared for the toilet by expert scientific knowledge, that contains only those ingredients which are kind, softening, soothing, and refreshing to the skin—a soap that carries with it the elements of both health and beauty—a soap that is natural and wholesome in all its components, and helps nature in obtaining one of the greatest of all attractions, a lovely complexion. Such a soap is Pears' Soap. For upwards of a hundred years this renowned soap has received the praise and commendation of leading scientists and the most celebrated beauties; and such an economy of production has been attained in its manufacture that it is obtainable at a price that brings it within the reach of all. Pears' Soap represents the highest standard of toilet soap that the art of man can make from nature's choicest materials; and is at once the safest and most reliable soap that can be brought in contact with the skin. It gives forth its delicate saponaceous qualities readily and adequately, and is at the same time the least wasteful of all toilet soaps.

Sponge. It is important to keep the bath and other sponges sweet and clean. An old way was to immerse them for several hours in cold buttermilk, washing out in clear water subsequently; but a better method is to soak in clean fresh water into which the juice of a lemon has been squeezed, any toilet sponge that may seem at all sticky. In buying sponges bear in mind that the best are the cheapest.

Steaming. Many people are undecided as to the advisability of steaming the face, but the treatment is an excellent one if properly carried out. On the other hand, much injury will be done if carelessly or ignorantly proceeded with. The proper way is to fill a tall

jug with boiling water, hold the face over it, and throw a towel over the head, covering also the jug, to prevent the escape of steam. The steam must not mix with the air before coming in contact with the face. Once or twice during the ten minutes of steaming wipe the face with a soft cloth. When the steaming is over, dash cold water on the face and wipe dry. Then apply some very good cold cream in a rotary movement from the tips of the fingers and again wipe. Never fail at this point of the process to apply an astringent lotion or Eau-de-Cologne, to contract the pores which have been relaxed by the steaming. Neglect of this will produce enlarged pores, than which there is nothing uglier or harder to get rid of. Now, dust the face all over with a healing powder, or better still, powdered oatmeal, and do not go out into the cold air for at least an hour. This treatment of the face once a week will accomplish a great deal in keeping the skin soft and youthful, but if steamed too long or too often, the skin will soon become "straggly."

Sunburn. (See Complexion.)

Style of Dress. It is obvious that a woman's beauty may be enhanced or very much marred by her style of dress. No one can lay down hard and fast rules, as each individual must be a law unto herself. A few general principles may be regarded as infallible guides. A woman looks taller in stripes and according to the same principle, the stout woman should avoid plaids. Curiously enough, the extremely large check does not so much increase the apparent size of the figure as do the small ones. Purple is a colour to be avoided by the prematurely old, or stout woman, but navy blue is a wise choice. The pointed finish to a bodice is only for the slender sisterhood. It is a common error to believe that the stout woman should wear the pointed basque, but this brings her waist-line some inches below where nature intended it, and furthermore increases its size. Bodices for the stout should end at the waist, and a narrow belt of lustreless material should be her choice. If the gown can be cut all in one, so much the better, but even the princess styles wrongly handled will spoil a naturally pretty figure. All light colours give size, but this does not apply to white. Thin materials over linings, or shaggy finishes are not so becoming to stout figures as are the smooth faced cloths, and satin, except the most supple waves, make one look matronly. Large hats should be worn by tall women, and a hat turned sharply up at the side seems to add inches to the short woman. A bow at the back of the neck, either of ribbon or tulle, has a curious effect of adding both height and dignity to the wearer, as does also a hat turned up at the back and having its brim to extend over the face. Horizontal trimmings are for the slender, and vertical bands for the stout.

Teeth. The first step towards possessing beautiful teeth is to have the proper brush for cleaning them. The brushes should be short and closely set, but not too stiff. In cleaning the teeth, there need be no alarm if the gums bleed. This is often Nature's way of relieving herself. Twice a day is the minimum of times that the teeth should be brushed, and after each time of eating, between the teeth after eating, and a little gentle massaging of the gums once a day, will help to prevent the disaster of "receding" gums. In most cases the mouth is inclined to be crowded with teeth, and many doctors advise having one or two drawn when the child is about ten years of age. The gums are then soft, and the teeth spread to fill the

spaces thus left. If when the teeth first make their appearance they are irregularly set, much can be done by manipulation, practised several times a day during babyhood, while the gums are yet plastic. In having the decayed tooth filled, always consult a reliable dentist as to the material of the tooth. In many cases it is not at all advisable to have the tooth stopped with gold, which pulls away from a too soft tooth and induces more decay, while a silver or composition filling is far more satisfactory. Sound teeth depend largely upon the general health and constitution, but many people permanently ruin what should have been a good set by misusing their teeth.

The tooth brush should never be too hard, as a very stiff brush is likely to irritate the gums and injure the enamel. When the teeth feel loose, as is sometimes the case, especially if a bad chill has been taken, the gums should be painted with sal volatile, a fine camel's-hair brush being used. Great care should be taken that the sal volatile does not come into contact with the lips, or blistering will be the result.

Spongy gums have a very pernicious effect upon the teeth. Where the first signs of "sponginess," or a tendency towards receding is noticed, an astringent lotion should be applied to them night and morning, until an improvement has permanently taken place. A very good astringent lotion is composed of tannin, bark, and myrrh. Any good chemist would mix these ingredients in their correct proportions if told for what purpose the lotion was required.

Each tooth should be cleaned by itself, front, back, and sides. Too often the fronts are well cared for, but the back and sides are badly neglected. While cleaning the teeth, the brush should not be moved from side to side, but up and down, from the gums to the edges of the teeth, taking care that the bristles of the brush pass between each tooth. These trifling precautions towards warding off decay will do wonders in preserving the teeth far on in one's life.

Tartar on the teeth is a trouble which is sometimes caused by indifferent cleansing, sometimes by the over frequent consumption of rich foods or sweets. In either case it is decidedly unpleasant, and can easily be removed from the teeth by a little magnesia. Place a little on the brush, and rub the tooth, or that portion of the teeth upon which the tartar appears, with it. After two or three applications, it will all disappear.

Discoloured teeth, from whatever cause, should have a little fine powdered pumice-stone used to them. This should be moistened, and applied to the tooth with an orange-wood, and well rubbed on the discoloured spots. It should afterwards be brushed off, and the mouth rinsed with an antiseptic wash. Pumice-stone powder is one of the best agents for keeping the teeth in good condition as regards colour, and if not used too often could not possibly do any harm to them.

Tooth powders and tooth waxes are many, and it is to a great extent a matter of personal fancy what sort is selected. Care, however, should be taken to discover if the one employed contains anything which would be injurious to the teeth. Powders which whiten the teeth generally do so at the expense of the enamel, of which they are covered, and in this way commence to sow the seeds of their future decay. Prepared chalk, although a great favourite with many people, has a tendency to make the teeth brittle and should therefore be used with caution.

A good tooth powder recipe is the following:—Mix well together two ounces each of sweet powder, orris root, and camphorated chalk. Add twelve drops of eucalyptus oil, and again mix. Keep in an airtight tin if possible.

Decaying Teeth should be taken in time, and a good dentist consulted immediately; for often by expert attention a tooth can be permanently saved, while if neglected it may get beyond repair, and although art can do much now in the matter of artificial teeth, such teeth can never equal one's own. Gold-filling at the right moment has preserved many a tooth for years in good working order, and saved much pain, inconvenience, and expense.

Thinness may be overcome in many cases by improving the general health and by the adoption of a

nutritious and generous dietary. Exercise should not be excessive, and over-fatigue particularly avoided; at the same time as much fresh air as possible is important, especially if there be incipient anæmia. Special care should be bestowed upon the toilet, and attention given to the suitability of the costume; the clothing being warm, yet light, and adapted to give freedom and encourage development. See also *Figure*.

Throat, The. To keep the throat slender and firm similar exercises to those recommended for the chin and neck (*q.v.*) can be indulged in with advantage.

"Tired Feeling." When a tired feeling arises, after some unusual exertion, a little rest should be taken if at all possible. All the garments should be loosened and a quarter of an hour spent in absolute rest, with every muscle at ease. After this a warm bath can be taken, with half a pint of toilet vinegar or eau de Cologne thrown into the water. After the bath a thorough friction with a little cold cream and a good soft towel, followed by a dash of orris-root powder dabbed on the skin. After dressing again, a delicious sense of freshness will be experienced. See also *Rest*, and *Sleep*.

Toilet Accessories. (See *Accessories*.)

Tonics. (See under *Complexion*, *Hair*, etc.)

Tooth Powders. (See *Teeth*.)

Vails. (See *Complexion*.)

Waist, The. Should the waist be too expansive to contribute to perfection of figure, systematic exercise may do something to mend matters. Such exercise may beneficially be taken in the bath-gown immediately before the morning bath, and with the window of the room in which they are done thrown wide open. Stand with heels together, and arms, with dumb-bells of suitable weight, extended down easily at the sides. With the weight of the body on the right leg, carry the left leg backwards, and at the same time extend the arms upwards as far as they will go, letting the eyes follow the direction of the bells. From this position, twist the trunk from the hips half round to the right, and then swing the bells down as far as they will go in front of the twisted body, and up to position above the head again. Resume the first position and repeat the whole of the exercise, but this time twist to the left. Work at this for ten minutes, taking a deep nasal inspiration between each repeat.

Many foolish girls, and women of maturer years also, in the endeavour to cultivate a sylph-like waist, resort to tight-lacing, and constrict themselves in corsets several sizes too small, suffering much pain and discomfort at the shrine of vanity. Some even go to the extent of sleeping in what used to be called "stays," which ought never to go beyond fulfilling the function the old name implies. Corsets should, wherever worn, be cut on anatomical principles, supporting and keeping the waist in proper and shapely compass, and affording absolute freedom to the vital organs. (See *Corsets*, and *Figure*.)

Winds, Protection against. (See *Complexion*.)

Wrinkles, to Avoid. Some wrinkles can be effaced and others prevented by less aggressive. In conjunction with daily treatment, be sure that you have not the habit of lifting the eyebrows, or contracting them, or that you do not laugh at every silly thing or weep as readily! Always remember that though tears may beautify the heart, they certainly do no good to the complexion. The salt water of tears or of perspiration should be wiped most carefully from the face. At night it is well to wash the face in warm water, in which there is a good lather of soap. Rinse in several waters, and in the last rinse, water put a few drops of lavender water. With the tips of the fingers, start in the middle of the forehead and pass outward to the temples as a first step for a ten minutes' massage. Repeat this movement several times and then work in a rotary movement at the corners of the

eyes. If there is a bad wrinkle at the side of the nose, hold the flesh firmly at one side of the line by pressing the fingers of one hand against it, and with the tips of the fingers on the other hand press gently up and down the line, principally up, and perform little circles of massage from the lips, outward across the face toward the ears. For treatment of wrinkles the direction of massage is always around and outward. Never stretch the muscles downward, and the tissues of the face should always be moved lightly, or they will be stretched, and the skin though improved at first, will eventually have a relaxed appearance, which is almost impossible to get rid of. A little good powder should be dusted in after a day-time massage, which must always be done with skin-food of some sort. Powder is a protection to the skin, but should be washed out thoroughly at night. In the morning no hot water or soap should be used, only the cold water in which are a few drops of toilet vinegar. (See *Face*, *Massage*, and *Youthful Looks, to Preserve*.)

Youthful Looks, to Preserve.—The first step towards looking young is to feel young, for as one feels young, one is generally bright and well, and looks it. To keep young-looking the wrinkles must not be permitted to appear upon the face, the chin must remain oval, no superfluous flesh being allowed to accumulate there, the step should still be light and elastic, the eye bright, the cheeks round and rosy, the throat slender and wrinkleless, for on a woman's throat are generally written the first signs of approaching age. The well-preserved woman must bestow great patience and care upon the complexion and the figure. The care of the complexion, so far as retaining a youthful appearance is concerned, consists—as has been indicated in preceding paragraphs—chiefly in eradicating, or, better still, preventing the appearance of, wrinkles and lines. As a general rule, it is the woman with a thin face and delicate physique who wrinkles early in life, while her plumper sister, though possibly escaping the wrinkles, has to reckon with the other evil—the loss of her youthful figure.

Massage, manual and mechanical, will do much, though rarely all, that is necessary in keeping wrinkles at bay. For some skins a good tonic lotion is of almost greater importance. One application of this character has been specified. The lotion should be applied every night after the face has been massaged with cold cream, and left to dry on the skin.

A light, springy step goes a long way towards preserving a youthful appearance, and this can be maintained to quite old age by those of ordinarily strong constitution, by taking a short brisk walk every day in the open air, and, whenever possible, in the sunshine. It is a very true saying that more people permit themselves to "rust out" than are actually worn out with the work of the years. We should endeavour to keep up our activity by resolution and will-power by every legitimate means.

The lines of the face, says a careful observer, inform one largely of a person's history. Horizontal lines across the forehead are found even in children who are rickety or idiots, and being out in the sun with the eyes unshaded will produce them permanently, but they are natural at forty or earlier. Vertical lines between the eyes denote thought and study, since deep concentration contracts the eyebrows; grief and worry produce the same effect, and, frequently repeated, leaves a permanent fold in the skin. Arched wrinkles just above the nose indicate extreme suffering, either mental or physical. The earliest wrinkles of all and the most unavoidable are those which run from either side of the nostril down to the mouth, and these are produced by smiling and even the motion of the jaws in masticating. But all these facial lines can be more or less ameliorated by the cultivation, systematically, of equability, and by taking timely pains with the massage treatments previously referred to. The preservation of youthful looks "pays" for any trouble it entails, providing always it be intelligently pursued.

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By Mrs. ADA S. BALLIN.
Editress of "Baby: the Mother's Magazine."

The First Year of a Baby's Life

By MRS. ADA S. BALLIN.

The first year of a baby's life is fraught with far more dangers than any other. All the battles of all the nations have not been responsible for so many deaths as carelessness and ignorance cause. In many parts of England at the present day, as many as one-fourth of all the infants born die within the first year of life, and generally from two causes: (1) exposure to cold, which is the cause of all the diseases of the respiratory organs, bronchitis. one of the chief causes of infantile mortality — and greatly retards growth, (2) improper feeding, from which result most of the diseases of the digestive organs, such as infantile diarrhoea, catarrh of the stomach, and other diseases, which carry off their thousands annually. Both causes, namely, exposure to cold and improper feeding, unite to swell the huge mortality which arises from what is called malnutrition, for if a child is not sufficiently warmly dressed, food which should go to nourish the body has to be expended in making heat, and the whole constitution suffers accordingly.

"A new-born child," says Dr. Braidwood, "may be regarded as a mass of animated clay, composed of different tissues, which, by proper exercise, may be developed into a healthy being, or be destroyed gradually or suddenly, by very simple means. All the tissues are at this stage of existence so delicate, and possess the power of such rapid growth, that, with care, they may be cultured to almost any extent, or may be stunted or otherwise altered, so as to lose their vitality at once, or remain amongst others of a healthy growth in an isolated condition. The healthy child develops into the healthy man, but a sickly infant can never become a truly healthy adult."

These are weighty words. They contain the essence of all the science which creates a healthy adult life, and which secures the happiness of an existence that must be a healthy one before any good gifts of life can be gained or enjoyed. What applies to the children of the rich, applies with equal force to the children of the poor. There is not one law for the healthy upbringing of the child of the well-to-do, and another law for the rearing of infants among the masses. Proper food, due attention to cleanliness, and especially to the care of the skin, pure air, clothing of a hygienic kind—such are the landmarks which guide the sensible mother or nurse in baby management.

A baby's basket should be of wicker, and be lined to match the cradle, with washing cretonne or print. It should be in readiness for use.

Baby's Basket. and stocked with the necessary articles well before the time of baby's expected advent. Among the essentials are a complete suit of clothes, a flannel apron, and a number of soft diapers. The requisite fittings should comprise:—

One packet of cord dressings and powder.
One packet of absorbent cotton wool.
Linen thread.
Needles, thimble, scissors, and cotton.
Sponge and square of flannel.
Cake of Pears' Soap.

Powder box.
Pot of grease, composed of equal parts of vaseline and zinc ointment.
Safety pins, large and small.
Thermometer for taking the temperature of room, food, or bath.

A flabby tongue shows debility, and that the digestion is impaired. In a new-born infant, the tongue is generally rather white, and this continues until the saliva becomes more plentiful. When the stomach and bowels are disturbed, and after other disease where the temperature is high, the tongue is coated, but this coating is not so important in young infants as in older children, because it is sometimes

due to the milk not being properly cleaned off the tongue after a meal. After every meal a corner of a silk handkerchief, dipped in water in which a little borax has been dissolved, should be well swabbed round the gums and mouth, and if this is done, that common disease of infancy, thrush, will never appear.

If a child is healthy, it enjoys its food at regular intervals, and food should be given at fixed and definite times. If the child is feverish the

Nursing. appetite is lost, and it is then undesirable to force it into feeding, but plenty of water should be given to drink. During the first six weeks of life a child should have three or four motions, like thick mustard in colour and consistency, during the day. If the motions are white, it shows that the liver is sluggish; if green and sour-smelling, that the child is acid. If curds are passed in the motions, the milk is not being properly digested.

Towards the end of the first year the motions become imperfectly formed, brownish in colour, and thicker. Their consistency gets greater as more solid food is taken. It is of the utmost importance that the mother should always watch the condition of the motions, and of the water passed by the child. If there is difficulty in passing water, the infant should be placed with its hips in a basinful of hot water, which will give relief, and this should always be done if no water is passed for twelve hours. If a child is held out at regular intervals, beginning at the age of about two months, napkins can usually be left off at six months. If the water is strong-smelling or thick, plenty of barley water should be given to drink, and a great mistake which people make in infant feeding is to think that milk is sufficient for both meat and drink. Little children want a drink of plain water once or twice a day after the first two months of life.

One of the most important guides to a child's health is its weight. The weight of an infant at birth varies from six to ten, or even twelve, pounds. **Weight.** But infants which, when born, weigh as little as three and a half pounds may grow up into perfectly strong and healthy men and women if they receive proper attention. The following table gives the average height and weight from birth to twelve months.

AGE.	HEIGHT.	WEIGHT.
Birth.	20½ inches.	7 pounds.
1 month.	20½ "	7½ "
2 months.	21 "	9½ "
3 "	22 "	11 "
4 "	23 "	12½ "
5 "	23½ "	14 "
6 "	24 "	15 "
7 "	24½ "	16 "
8 "	25 "	17 "
9 "	25½ "	18 "
10 "	26 "	19 "
11 "	26½ "	20 "
12 "	27 "	21 "

In the first three days of life there is always a little loss of weight, but at the end of the seventh day the child should be as heavy as at birth. Mere weight in a child may sometimes be due to over-feeding, and really a sign of ill-health rather than of good health, but if the muscles are firm, the eyes bright, the lips red, the tongue red and clean, and the inside of the eye-lids a good deep pink, the child is healthy.

When the baby is born it is not necessary for it to have anything to take for the first four hours. Even if the mother is not able to nurse it for

Feeding. eight or ten hours after birth it will come to no harm, but after the first two hours, when the mother has rested a little, the baby should be put to the breasts every hour or two so as to stimulate their action. No artificial food of any kind should be given until it is quite certain that the mother will not be able to nurse. The first milk which comes in the breasts is nature's aperient, and the old-fashioned plan of giving an infant castor oil, sugar, and

water, or butter and sugar, to relax its bowels, is a most injurious one, and should certainly be abandoned. Every mother who is not absolutely an invalid, who is free from hereditary disease, and who has milk sufficient in quantity and up to the standard in quality, should consider it her imperative duty to nurse her baby. It is too much the fashion nowadays for mothers to think that they are not strong enough to nurse the babies, and fashionable physicians are apt to encourage this idea in order to please their patients, but even quite delicate women often make excellent nurses if they are careful as to their own diet.

A nursing mother should lead a calm and regular existence. She should take plenty of milk and infants' foods, abstain from alcohol

Mother's Food, etc. and tea, and drink plenty of barley water. Her chief

meal should be in the middle of the day, and she should abstain from coarse green vegetables, new potatoes, skins and seeds of fruit, and all root vegetables, as these are apt to cause flatulency. A good diet for a nursing mother is, for breakfast porridge or hominy, followed by fish or egg, brown bread and butter, and milk just flavoured with coffee or cocoa made with milk; at 11.30, milk and barley water, beef tea with toast or a biscuit; dinner, fish meat, plainly-cooked vegetables, milk pudding and fruit; 6 p.m., a cup of cocoa with dry toast and butter, egg or fish; 9.30, cupful of infants' food made with milk. If a mother is able to nurse her child even for a few weeks, the child benefits by it, but if she is strong and the milk supply is good, as shown by the thriving of the infant, she should continue till the end of the ninth month, beginning at about seven months to supplement her milk with one or two meals a day of some suitable infants' food, or of prepared cows' milk.

If the mother is unable to nurse, it is necessary that the food should be adapted to the requirements of the infant's digestive organs. It

Artificial Foods. must be remembered that the child has no teeth, no ptyalin in

the saliva, so that starch in any form cannot be digested, that the stomach is small and not muscular, and that the organs are only slightly active, and that the activity of the liver and glands of the bowels is low. There is much to be said against the custom of giving a wet nurse so popular in France, but human milk may be simulated so exactly that a wet nurse is quite unnecessary. The usual substitute for human milk is cow's milk, which contains one-third less sugar of milk, a little less cream, and thrice as much casein or curd as human milk does. It therefore requires considerable modification to make it suitable as a diet for human infants. The chief mistake in giving cows' milk to young infants is simply to dilute it with water, and sweeten it with cane sugar. This does not make a proper food, as although we decrease the quantity of casein by diluting it in this way, we also still further lessen the already deficient cream, the sugar which is necessary to the growth of the bones, and the sugar of milk which is required as a heat former. Cane sugar, or, worse still, beet sugar, does not properly supply the place of sugar of milk, as in the stomach it causes an acetic acid fermentation, which gives rise to flatulence, colic, and other digestive troubles. Sugar of milk is the natural sweetening agent, extracted from its milk, and contains no nutritive as well as the foregoing elements, while it forms lactic acid similar to the natural acids of the stomach.

To make an excellent imitation of human milk, take one quart of milk, allow it to stand, skim off the cream, and place in a separate jug. Then

Imitation Human Milk. take half the milk, curdle it with rennet, strain through muslin so as to remove the curd, and add the

which comes through and the whole of the cream to the remaining half of the milk. Sugar of milk previously dissolved in a little hot water should be added in the proportion of two teaspoonfuls to each pint. The following diet may be given to an infant at birth:—

Cream 1 teaspoonful
 Whey 3 teaspoonfuls
 Hard water 3 teaspoonfuls
 Milk sugar 1 teaspoonful

For one week meal to be given every two hours, from 2 a.m. to 11 p.m., and once or twice during the night. The infant can take about twelve fluid ounces of food daily. From the second week to the sixth, give for each meal:

Milk	1 tablespoonful
Cream	3 teaspoonfuls
Milk sugar	1 teaspoonful
Water	2 tablespoonfuls
seventeen ounces in the twenty-four hours. From the sixth week, for the next fortnight, give	
Milk	2½ tablespoonfuls
Cream	1 tablespoonful
Milk sugar	1 teaspoonful
Water	2½ tablespoonfuls
From the ninth week to the sixth month, give	
Milk	5 tablespoonfuls
Cream	1 tablespoonful
Milk sugar	1 teaspoonful
Water	2½ tablespoonfuls

During the sixth month gradually increase the quantity of milk to nine tablespoonfuls, leaving the other ingredients the same. Barley water may with advantage often be substituted for plain water. In the seventh month some of the infant's food may be added, or baked flour, which is made by filling an earthenware jar with flour (seconds, not Vienna flour), pressing it down tightly into the jar, and then baking, uncovered, in a slow oven, until the flour is of a light golden brown tint. It may be kept in the same jar, a little being scraped out as required; or, if preferred, the whole may be scraped out after baking, but if this is done, it must be kept in tightly-corked bottles so as to exclude the air and keep it perfectly dry. At first, one teaspoonful of the baked flour, boiled for a few minutes in the milk and water, may be given to the meal, and later on, two teaspoonfuls may be given. Before the first teeth appear, no starch in any form may be given. During the eighth and ninth months the quantity of milk may be increased to thirteen tablespoonfuls to each meal, the other ingredients remaining the same; and after nine months, rusk, thoroughly well boiled bread and milk, beaten up with a fork, may be added. After the beginning of the tenth month, cows' milk may be entirely undiluted, and up to the end of the first year it forms a sufficient diet, with the gradual addition of rusks or bread and milk as I have suggested, and the yolk of an egg, lightly boiled, and given with stale bread buttered, beef tea, mutton broth, or veal broth, in change for the midday meal. Junket and custard puddings may be given to babies who can digest them well.

The quantities of food taken at different ages are based on the actual measurements of the infant's stomach and its digestive

Quantities of Food. capacity. Thus, from the first to the sixth week, the child should take from one and a half to two ounces every two and a half hours; from the sixth to the twelfth week, from three to four ounces every three hours; and from that time about the same quantity up till about the sixth month, when from five to five and a half ounces should be given every three hours; at six months, six ounces, and gradually increasing up to ten months, when eight ounces should be given, the interval being still three hours during the day, but perhaps only one or two meals being given during the night. Some foolish mothers feed an infant whenever it cries, and this is the way to ruin any digestion. Regularity in feeding must be maintained, but a child should not be waked to be fed if it is in good health. If very weak, so that it might die from exhaustion during sleep, it is necessary to wake it in order to feed it during the night. Infants' food should always be given at the temperature of the blood, about ninety-nine degrees Fahrenheit. Catarrh of the stomach often arises from giving the bottle too hot or too cold.

The shape of the bottle is most important, as it should be such that it can be easily cleansed in every part. The test is directly on the

Feeding Bottles. neck of the bottle are the best, and long tubes, owing to the difficulty of cleaning

them, are a fruitful source of infantile disease. When not in use, the bottles should be kept in a basin of water containing borax.

The temperature of the lying-in-room should not be kept too warm, or both baby and mother suffer. From 60° to 65° Fahr. would seem to be about the **Sleep.** right temperature, but draughts or cold must be avoided. An infant, if healthy, will sleep a great part of its time without any undue coaxing to that condition. On no account accustom the baby to being rocked to sleep. It is unnatural. The sleep that comes about in its proper course is calm and refreshing; the sleep induced by rocking is fitful and restless. And when the child is asleep do not trouble too much about protecting its head; let it have free breathing, and keep away from its face all clothing accessories that would be likely to touch its skin and irritate it. Also be careful to keep it from disturbing noises; a child awakened by a sudden shock is often seriously affected for a long time.

Next to feeding, the most important matter is certainly the clothing of an infant. Until recent years

the clothing was most irrational and **Clothing.** insanitary, long binders tightly wound round the body, hindering the growth and development of the internal organs, stiff starched cotton garments chafing the delicate skin, and the way in which the clothes were cut, so as to expose the neck and arms, causing all kinds of diseases of the respiratory organs. The chief points to be insisted upon are that clothes ought to be made (1) to cover every part of the body alike, (2) to rest upon the collar bones, so that the arms shall be quite free, (3) to be short and light, so that the child can move its legs quite freely, (4) every garment should be made of wool, which gives the maximum of warmth with the minimum of weight, allows the skin to perspire, and is absorbent of perspiration, (5) that the garments should be as few in number and as simple in construction as possible, (6) that none of the clothes should be gathered in at the waist, lest the weight should be hung from the shoulders. By this system which has now been largely adopted, the child should have next its body a little knitted woollen vest with long sleeves, made to open and fold over the back; a binder, which can be made by splitting a yard of flannel in three. The binder should not be hemmed or embroidered in any way, as the raw edge of the flannel will not chafe in the way that stitches would do. It should also wear a blanket or barrowcoat, made to reach to the throat, and gored in such a way as to give sufficient width round the bottom and allow freedom to the limbs. This should fold over at the back and tie, and the bottom should be pinned up with safety pins so as to keep the legs and feet warm. The robe should have long sleeves, should be made into a little yoke so as to fasten neatly round the neck, and should be about twenty-eight inches long, and twenty three inches wide at the bottom so as to give a circumference of forty-six inches, and allow freedom for kicking. With this system of clothing, the perilous time of short-coating is avoided, and no change should be made in the dress until the infant begins to attempt to stand. Then by putting tucks in the robe and blanket a short dress may be made. As soon as it is not necessary to pin the blanket over at the bottom, little woollen booties should be worn, but these should be knitted or crocheted long enough to protect the legs entirely, and with square toes. The night gown is made similarly to the robe, and buttoned over at the bottom like a pillow case to avoid the infant exposing its limbs by kicking the best-clothing off. The complete layette consists of three binders made as above described, six vests, four blankets, four night or monthly gowns, two day gowns, which may be embroidered and made very pretty by the addition of lace, four piches, and two head fannels. As soon as baby is put into shoes, which is generally not necessary before the age of ten months, great care should be taken that they give plenty of room for the little growing feet, are extremely wide, and that a size larger be got so as not to appear to be tight for the baby's foot. For outdoor garments at first a large white shawl is the best. Long and heavy

cloaks are injurious, but when the baby begins to move its arms about, a jacket with a small cape, cut as long as the robe, but large enough to allow for growth in the body, should be substituted. The narrow cape may be edged with lace if required for ornament. Baby boys as well as baby girls ought to wear hoods out of doors, as it is a notable fact that baby boys suffer much more from earache and catarrhal diseases of the ear than little girls, simply because the girls wear hoods while the boys wear hats which expose the ears, as the ear-pieces put on the hoods generally slip out of place and are useless. The wearing of hats during the early years of life also causes the ears of boys to be disfigured throughout life much more frequently than the ears of girls are, as the hood keeps the ear flat against the head in its proper position. If carelessly put on, of course, the ears may easily be doubled forward by hat or hood, and so be permanently disfigured. All clothing for young children should preferably be white and be changed frequently, as it becomes saturated with the emanations from the skin as well as soiled with external dirt.

The skin is always giving off waste and poisonous matters from the blood, and it is for this reason that frequent ablution is necessary. Some **Washing.** babies, however, suffer from too frequent washing, and the custom of giving two baths daily is responsible for many cases of eczema. The child should be washed all over once daily with water blood-warm, *i.e.*, about 98° Fahrenheit, and tested with a thermometer, and the soap should be very carefully chosen. That recommended by Sir Erasmus Wilson, president of the Royal College of Surgeons, and by Mr. Startin, senior surgeon to the Hospital for Diseases of the Skin, is Pears' Transparent Soap, which, good as it is, is also very economical, considering the quality and the length of time that a tablet lasts. It is specially adapted for nursery use and the most delicate skins. Ordinary violet powders are sometimes dangerous, and have been found to contain arsenic, but Messrs. Pears make a special violet powder from the purest ingredients which bears the guarantee of their well-known name, so in purchasing it is best always to ask for Pears' Violet Powder. It is put up in a neat tin with perforated lid, most convenient for dusting over the skin. Pears' Precipitated Fuller's Earth should find a place in every baby's basket, as it is healing to the skin and most useful to prevent chafings and excoriations.

A word must be said in protest against the custom of using go-carts for young infants. All kinds of deformities and disease may arise through these.

Perambulators v. Go-carts. The baby muscles not being sufficiently strong to support the body in an upright position. Also, by coming too near the ground the child breathes in all kinds of impurities from the dust. The infant should lie down in a comfortable perambulator, or a mail cart in which it can be covered in away from all draughts, until it struggles up into a sitting position on its own account. Nature indicates when a child is strong enough to sit up and when it is strong enough to walk, and to teach it to do those things prematurely is extremely harmful. All kinds of "baby walkers," go-carts, and the like are therefore to be condemned. A child will drag itself up by some article of furniture, and stand, as soon as it is strong enough to do so. Many of the deformities which one sees among the poor are due to mothers vicing with each other as to how young they can make their infants walk. It is better for a child to have straight legs and not walk till it is eighteen months, than walk at ten months and be bandy for the rest of its life.

Storms of discussion have raged round this subject, and many people refuse to regard vaccination as a formidable disease.

Vaccination. pox, and look upon vaccination itself as a serious danger to a child's health. So widely has this view spread that since the passing of the Act permitting exemption in cases of conscientious objection this privilege has been largely taken advantage of, the exemptious having risen from 53,828 in 1906, being five per cent. of the children born, to

37 per cent. in 1914. The adherents of compulsory vaccination maintain, however, that this relaxation has led to an increase of small-pox cases in recent years, and the subject is the cause of much controversy at the present time. Where exemption is claimed it is necessary for the parent or person having custody of the child to make a statutory declaration before a commissioner for oaths or one justice of the peace, stating that a conscientious objection exists, or that the child is in ill health, and within seven days thereafter the statutory declaration (which requires no stamp) must be delivered to the Vaccination officer for the district. But in the ordinary course a child should be vaccinated before the age of six months. For the sake of the child, however, it is desirable to have it done at three months, so that a perfect recovery may be made before the beginning of teething; but if the infant is suffering in any way from ill-health, especially from skin trouble or eruption, the vaccination should be postponed, which may be done by obtaining a doctor's certificate or a form supplied by the medical officer of health for the district, and returned to him. Emulsified calf lymph is the best form to use, and the easiest method of vaccination is to cleanse the portion of the limb, put a little vaccine on the skin, and scratch the surface with a lancet or damping needle, previously rendered aseptic by passing it through the flame of a spirit lamp. No blood should be drawn, and four scratches should be made. In the case of little girls the vaccination should be done on the outer side of the calf of the left leg, where the resulting marks will not disfigure, and it is better to do so even in the case of boys, for when the long-sleeved clothing is adopted as advised here, it is much easier to vaccinate on the leg. A vaccination pad should be tied round the leg as soon as matter begins to form in the little swelling. These swellings should not be punctured, but should be allowed to dry up, and while the child is feverish the diet should consist of whey or milk and barley water, with a little fluid magnesia to keep the bowels well open.

Teething is a natural process to which young and inexperienced mothers look forward almost with dread, simply because every trouble of illness incidental to this period of infantile life—troubles generally caused by improper feeding and ignorance—are set down to teething. Children who are nursed by their mothers, or brought up on the artificial plan here indicated, generally cut their teeth so easily that the mother hardly knows when the process takes place, but those who are brought up in a haphazard manner, especially those to whom starchy foods are given, suffer very much, and very often die of convulsions, which are really not due to the teething but to improper feeding. The rudimentary teeth exist at birth in a soft pulpy form, and while they are hardening, the embryo teeth are pushed forward, exert a slight pressure on the soft parts above, which really dissolve away as the teeth advance, and leave very little so-called "cutting" to be done. For the satisfactory process of teething the three essentials are: (1) a sufficient quantity of time; (2) a system capable of assimilating this and using it where it is needed; and (3) that the gums shall not offer undue resistance to the teeth. When all these things are satisfactory, no other evidence of teething is generally given than an increased flow of saliva, the desire to have the gums rubbed, or to bite on a hard substance, and the appearance of the little sharp white points.

There is great variation in the time for cutting the first teeth. In some cases they appear as early as four or five months, while

Time of Cutting Teeth. in others their advent is delayed until about the end of the first year, but as a rule the process begins at about the sixth month of life. Delay in teething is not always a sign of ill-health, as in some very strong children the muscular development of the gums is so great that it somewhat impedes the teething, as, for example, in one case a child will run about before he has cut a tooth, or in another case although at ten months no teeth had appeared, in the next month six were cut without any trouble. Mothers generally

think that there is a fixed order for the appearance of the teeth, but there is no absolute rule, and it is not of the least consequence which teeth are cut first. Generally, the two lower front teeth are the first to appear, followed by the upper ones which correspond.

If the bones seem well formed, the gums are hot and swollen and tender to the touch, with a gritty, whitish-looking line along the centre part of the top, there is probably too much muscular resistance to the appearance of the teeth, and if the points can be felt quite near the top, the gums should certainly be lanced. When the mouth is feverish and painful, a corner of handkerchief dipped in cold water may be given to the baby to suck, or a piece of ice wrapped in fine muslin will give great relief. Plenty of barley water should be given to drink and the mouth must be kept scrupulously clean with water in which borax is dissolved. The bowels should be regulated. If there is slight diarrhoea under such conditions, and the motions do not exceed four during the twenty-four hours, nothing should be done to stop it; but if the child is constipated an aperient of fluid magnesia is best, and two motions should be ensured during the twenty-four hours. If, on the other hand, diarrhoea is excessive, the milk may be mixed with arrowroot water or rice water to which a few drops of brandy may be added. In extreme diarrhoea milk foods must be stopped entirely, and the infant should be fed on equal parts of white of egg and tepid water alternately with beef essence, and have rice water or arrowroot water to drink. These may be made by soaking two teaspoonfuls of either Patna rice or arrowroot in enough cold water to cover it for half an hour, pour off any water then remaining, and add a pint of cold water. Boil this down to rather more than half the quantity.

Do not rub the gums. The habit of "rubbing through" the teeth with a wedding ring or thimble increases the pain, and is apt to cause inflammation by the article in question not being properly aseptic. Lancing is free from this danger and really much less painful.

If a child seems fat and fleshy, and the division between the bones of the head (which should be nearly closed at one year) remains un-

Soft Head Bones. duly open, while the head perspires at night, lime salts are not being properly assimilated, and sometimes they are not supplied in sufficient quantity. A tablespoonful of lime water in such cases may be added to the bottle three times a day, or if the child is being brought up on the breast, three grains of phosphate of lime may be given twice a day in a little water, and cod-liver oil may be added to the dietary. Where a proper amount of cream is given, as indicated above, however, such cases are practically unknown.

Exercise is necessary for a child's health, and must be provided for, according to weather and other conditions, almost from the first. When a

Exercise. fortnight old it should begin to be taken out into the open air, if the weather be warm, for half an hour twice a day, and in cold weather should be walked about with in arms in a room. The outside temperature should be 60° Fahr. or higher to permit of a very young baby being taken out; but if the weather be again outdoors airing for it, it must still be given its regular quantum of exercise; that is, it should be wrapped in a light, warm

shawl, taken into a room of slightly lower temperature than the one it is nursed in, and carried about. Children of ten months or so may be allowed to kick or fling and creep about the floor amongst a few toys for a while every day, but care should be taken to guard them against draughts from beneath the door or from windows. If a child's legs show signs of weakness it should not be encouraged to try to walk until well over a year old.

Don't expect too much of the baby in the way of "taking notice." Ordinarily, a baby begins to notice objects when from six weeks

"Taking Notice." to two months old, but the mother and the other children, if there are any, are impatient to attract the newcomer's attention, and often tease its eyesight for a little indication of recognition before nature has quite prepared it for the test. The best way is to wait until the baby begins to take notice of its own accord. Then day by day it will grow more observant, and presently begin to recognise its mother and the people about it. Considering that the brain of a newly-born baby is about 14 per cent. of the weight of its entire frame, while the brain of a grown person is but 2.37 per cent. of the weight of the body, some idea may be formed of the danger of putting too great a strain upon the mental power which even "eye-notice" entails on a very young child. Excitement and shock should be carefully avoided.

The development of an infant's senses is naturally slow. Its hearing is the sense that is quickly developed,

the banging of a door, the shouting of other children, often causing quite a shock to the nerves of the child. It is not for some few months, however, that the baby is able to tell from which direction a sound proceeds, or to differentiate between one sound and another. The sense of taste comes early, the distinction between what is sweet and what is not being present almost from the first, but the opportunity of exercising this sense is naturally limited until the teeth arrive, and with them a larger experience of food varieties. The senses of smell and touch are also late in development from similar causes. But sense-development is so much a matter of brain power and of physical health that no hard and fast statements are possible in regard to the different stages of progression. Speech manifests itself but little, even with the most forward children, before they are a year old. Any sounds they utter previous to that age are little more than parrot cries, though not without meaning to those who know how to interpret baby-language. Some children develop their senses very quickly, others very slowly, and it is not always to those of precocious development that the full mental expansion which should come with later years is assured.

If the mother watches the various symptoms of her child's life, studies the excellent literature on the subject which is now freely published, and does not hesitate to call in a doctor when the child's temperature reaches over 100 degrees as tested by a clinical thermometer (the use of which every mother should understand), the dangers of the first year of life will be reduced to an absolute minimum and the baby be started on its career with a sound constitution, which is the best capital his parents can bestow upon it.

PEARS'
of
DICTIONARY
BUSINESS.



Pears' Dictionary of Business

Being a Dictionary of Subjects, Words, and Phrases, relating to Trade, Commerce, Shipping, Finance, and Law.

Abandonment, a marine insurance term indicating that a shipowner abandons his rights in a ship that has been so damaged as not to be worth his recovering or re-instating, and applies to cargo as well as vessel. In these circumstances, the owner assigns his interest to the underwriters, who realise what they can and pay the owner the full amount for which he was insured.

Above Par, a price above nominal value.

Acceptance. A bill of exchange becomes an acceptance when being presented to the person upon whom it is drawn he accepts the responsibility of discharging it by writing across the face of it the word "accepted," with the addition of words indicating at what bank the bill is payable, and appending the signature of himself, his firm, or his company.

Acceptance for Honour, is when a bill of exchange is taken up by some person other than the drawee for the protection of the honour of the nominal acceptor.

Acceptance General is the term applied to bills of exchange that are accepted without any variation from the conditions on which they have been drawn.

Acceptance, Qualified or Special, is when the drawee or payer of a bill of exchange accepts responsibility for part only of the sum mentioned in the bill, or varies it in some other particular.

Accommodation Bill is a bill of exchange accepted by one person or firm for the accommodation of another person or firm, as a matter of convenience or friendship, without the acceptor having received any consideration, an act which practically amounts to a suretyship.

Accountable Receipt is a receipt for money or goods in respect of which the giver of the receipt is subsequently accountable; for example, a pawn ticket.

Accountants are men whose special business it is to prepare, investigate, and audit accounts, and the leading members of the profession are either members of the Institute of Chartered Accountants or the Incorporated Society of Accountants and Auditors, admission to which is obtainable only on passing an examination. There is nothing to prevent anyone setting up as an accountant, however, though the bulk of the accountancy business of the country is in the hands of certificated men, who frequently fill official positions as trustees, receivers, etc.

Active Bonds are bonds bearing a fixed rate of interest payable in full from the date of issue, and include most bonds negotiable on the Stock Exchange.

Act of Bankruptcy. Among the things that constitute acts of bankruptcy on the part of a debtor may be mentioned the following:—Leaving the country, or remaining out of it, or keeping out of the way of creditors for the purpose of delaying or defeating them; assigning property for the benefit of creditors; making fraudulent gift or transfer; fraudulently preferring one creditor to another; filing a declaration of inability to meet obligations; giving creditors notice of intention to suspend; having goods seized by the sheriff; or failing to satisfy a judgment

before the expiration of a bankruptcy notice served upon him.

Act of God, any event beyond human prevention or foreseeing, such as shipwreck, earthquake, lightning, &c., loss in respect of which cannot be enforced unless expressly provided for.

Actuary, an expert statistician whose duties are chiefly concerned with matters of insurance, banking, trusts, &c.

Adjudication Order. The order of Court declaring the bankruptcy of an insolvent debtor and investing his property in a trustee.

Adjustment. A term used in marine insurance, signifying the determination of varying interests in an adventure by the process of average, a work that is usually done by professional "average adjusters."

Advance Freight. An advance payment for freight of sea-carried goods, payable on shipment, and not recoverable in case of loss of goods in transit.

Advance Note. A note given by the master of a ship to a seaman on his signing engagement agreement. If the agreement be made in any port within the United Kingdom the amount advanced must not exceed a month's wages; but if the engagement be made at a foreign port this restriction does not apply.

Adventure, Bill of. A document declaring that goods shipped in the name of the signer are the property of another, whose risk they are, the signer being only liable for what the goods realise.

Advice. Any notification of a business transaction, apprising an agent, correspondent, or customer that a certain thing has been done. This is an important matter of daily detail, the neglect of which may lead to serious consequences. Thus, in the neglect of the advice of a bill of exchange, the bill may be dishonoured "for want of advice."

Affreightment. The hire contract to carry goods by ship, and often included in the bill of lading or charter party.

After Sight. A phrase indicating that the period for which a bill is drawn does not begin to run until presented for acceptance by the drawee.

Agenda. A list of matters to be transacted or discussed at a meeting.

Alien. Any foreign subject who resides in this country and has not been naturalised. He is prohibited from owning or having shares in any British ship and from holding any parliamentary, municipal, or other public office. After a five years' residence an alien can take out letters of naturalisation through the Home Office, the fees in connection with the matter amounting to about £6.

Allowance, a taxing-master's certificate of allowance of costs in a solicitor's bill that has been before him for taxation.

Allonge, a slip of paper attached to a Bill of Exchange to provide space for additional endorsements when the back of the bill has already been filled up.

Allotment, the allotting of shares, stock, or bonds in a company. Since 1901, no allotment of shares can be made unless the minimum subscription mentioned

in the memorandum or articles of association and in the prospectus, as that upon which the directors would proceed to allotment, has been subscribed, and the sum payable on application has been received by the company, or the entire share capital has been subscribed and paid for, conditions which must be carried out within forty days of the first issue of the prospectus, otherwise all moneys received on share account must be returned.

Allotment Note is a document signed by a seaman, authorising payment by his employers of a portion of his wages (not exceeding one half) for a certain voyage, to a relative or bank specified.

All Rights Reserved, a printed intimation in any book or literary work, notifying that the owner of the copyright has legally protected his rights against infringement.

All-Round Price, a price that covers all charges usually treated as trade extras. (See *Overhead Price*.)

Ancient Lights are rights of outlook, light and air, enjoyed by a property owner over adjoining land. Such a right is obtained either by uninterrupted enjoyment for twenty years, or by written authority, and once legally established cannot be upset, no building being permissible that would seriously interfere with the privilege.

Annuity is a payment of an annual sum to an annuitant for a term of years or for life, or to a succession of annuitants in perpetuity. Annuities are of many kinds, and granted under varying conditions. An annuity may be secured by the payment to an assurance company of certain premiums. Terminable annuities, that is, such as cease after the lapse of a specified period, yield a larger sum per annum than life or perpetual annuities, as they deal with a fixed principal sum returnable with interest within the specified term. Deferred annuities do not come into force until a certain time has elapsed or certain contingencies have arisen. Annuities for life are based upon the same principle as that which governs the granting of an ordinary insurance policy—the expectation of life—and are regulated by tables based on general mortality averages.

Ante-date, to give a date prior to that on which it is written, to any cheque, bill, or other document.

Appraiser, a valuer of property, who pays £2 a year for his license, and is liable to a penalty of £50 for acting without one. No examination is necessary for an appraiser. There is a valuation duty payable on all appraisements. (See *Stamp Duties in Office Compendium* section.)

Apprentice, one who contracts to serve another in a trade or calling for a specified term, in return for being taught the "art and mystery" of such trade or calling. Anyone over the age of seven is competent to bind himself apprentice, the father alone being unable to effect the apprenticeship, although usually made a party to the "indentures." An apprenticeship expires (1) by effluxion of time, (2) by the coming of age of the apprentice, (3) by the death of master or apprentice, (4) by mutual consent of the parties, (5) by the bankruptcy of the master. A stamp duty of ss. 6d. is chargeable on an apprenticeship indenture, whether a premium be paid or not.

Arbitrage, a term used in exchange operations and applied to the calculation of simultaneous values in respect of the stocks of different markets, and the equalising of prices by compensating deals, setting out the cheapness of one market with the dearthness of another.

Arbitration, a method of settling a dispute by a reference to disinterested parties, frequently resorted to in order to avoid law suits, and sometimes, where technical or other special difficulties present themselves, recommended by a court of law. Disputes between employers and employed are often settled by arbitration.

Arbitration of Exchange is the calculation entailed when a merchant having money to remit to one country finds it a saving to remit through another country because of the rate of exchange being more favourable in the latter. It is called simple arbitration when only one intermediate place is dealt with, and compound arbitration if more than one be concerned.

Articles of Association are the rules and regulations detailing the scope and method of conducting the business of a limited company. They must be printed in consecutively numbered paragraphs, and are supplementary to the Memorandum of Association, the terms of which they must not exceed.

Assets are property of any kind available towards the discharge of a testator's, intestate's, or debtor's liabilities.

Assign, a legal and trade term applied to the making over of goods, money, or property of any kind to another.

Assignee, the person to whom anything is assigned.

Assignment, a document of transfer of land, personal property, or rights. *Chattel in action*, such as debts, can be assigned and sued for by the assignee on the following conditions: (1) that the assignment is absolute and not simply by way of charge, (2) that the deed is in writing and signed by the assignor, and (3) that the debtor receives notice of the assignment.

"A" Stock, a railway or other company's deferred stock bearing this designation.

At Sight, a form of notification written on bills or notes denoting that they are payable on demand, without allowance of days of grace.

Attachment, a legal term applying to the seizure of a person's goods or personal effects under process of law, and has special reference to the writ of attachment authorising such seizure.

Attestation is the formal witnessing of the signing of any deed or document and the subscribing of the witness's name in proof thereof. Two witnesses, who are not interested, are required to a will, and they must append their signatures at the request and in the presence of the testator and in the presence of each other.

Attorney, Power of, a document authorising the person to whom it is given to act in all respects as the grantor of the power, in relation to matters specified in the document. Where the power is general it applies to everything in which the grantor is interested, when special it applies to specific matters, such as the power to sign cheques, bills, transfers, deeds, to receive moneys, to effect sales, etc.

Auction is a public sale at which goods or properties are offered for sale by an auctioneer, and sold to the highest bidders when the sale is without reserve.

Auctioneer, a person licensed to sell goods or property by public auction. He is usually paid by commission, and his license costs him £10 a year. In respect of goods seized under distraint, or for sales under the Small Debts Acts, the person selling need not be a qualified auctioneer.

Auditor, the person who carries out an audit of accounts. He is liable to be proceeded against for damages if by his omission or neglect any loss arises. It is no part of his duty, however, to criticise the actions of principals, or to concern himself with the prudence or imprudence of transactions disclosed by the books. His chief duty is to ascertain the true financial position of the business and get out a balance sheet in which this is accurately set forth. The employment of auditors is compulsory in regard to the accounts of most public bodies and companies, but no director or officer of a company may hold the position of auditor.

Average, a marine insurance term applying to loss or damage at sea. It may refer to *particular average*, a contribution by underwriters for part loss or damage; or *general average*, a combined contribution on ship, freight, and cargo for damage and expenses incurred for the common good. Average in the ordinary commercial sense indicates "a mean proportional between two or more figures."

Average Bond, a bond given by the consignees of cargo to the owner or captain of a ship which has sustained a general average loss, agreeing to pay the consignees' proportion of average when ascertained.

Average Clause, the clause in a marine insurance policy excluding certain articles from average unless general, and denaring others free from average if under a specified percentage.

Average Stater or Adjuster, one who possesses expert knowledge in matters of marine insurance, whose business it is to make out statements of averages for the underwriters in regard to claims for loss.

Award, the decision of an arbitrator or arbitrators, or their umpire, on matters in dispute that may have been referred to them. Unless otherwise stated, or by consent for extension of time, an award must be delivered within three months of the arbitration. An award requires a *ros* stamp. Prior to 1906 ad valorem duties were charged, ranging from *grl.* to 35%.

Back Bond, a bond whereby a property owner converts a possession into a trusteeship, in consideration of a loan, his original position being restored on repayment.

Backed Note, a receiving note, endorsed by a shipbroker, authorising goods to be transferred from barge to shipboard.

Back Freight occurs when from causes beyond a captain's control goods cannot be landed at the point of destination, and have to be conveyed back to the place of shipment, freightage thus becoming chargeable against the owner for the return voyage.

Backing a Bill, the act of accepting a bill of exchange by writing across its face the usual form of acceptance and signing it, a term usually applied to the accepting of accommodation bills.

Backwardation is the condition existing when stock can be bought cheaper as a matter of account than for cash. The term is likewise used in respect of the rate of interest paid for "carrying over" a bargain from one fortnightly account to the next instead of closing the transaction.

Bail is the security given for the release, pending formal trial, of a person charged with some offence.

Bailment is the delivery of goods by one person to another for a specific use or purpose, a condition which arises when goods are lent, or pawned, let on hire, entrusted for conveyance, or in temporary custody for repair or alteration. The owner is called the bailor, and the person to whom the goods are delivered is the bailee, who is responsible for their safety and their re-delivery on the conditions on which the goods were deposited being fulfilled.

Balance of Trade, a form of expression in general use to denote the difference between the aggregate value of the imports and of the exports of a country.

Balance Sheet, a summary of the accounts of a business, setting forth in grouped totals on the debit side the amount of capital employed, and the debts and liabilities, and on the credit side the entire assets, including cash, stock-in-trade, property, plant, buildings, and debts owing.

Bank Holidays are otherwise working days on which banks are closed in addition to Good Friday and Christmas Day, and are now largely observed as general holidays. They are (in England and Ireland) Easter Monday, Whit Monday, the first Monday in August, and the day after Christmas Day, or if the day after Christmas should be a Sunday, the following day. In Scotland the Bank Holidays are New Year's Day, the first Monday in May and August, and Christmas Day and the next day. Bank Holidays were the result of an Act introduced by Sir John Lubbock (Lord Avebury).

Banking, as we understand the term to-day, did not exist in England before the time of Charles I., and was adopted first as a protective measure against the risks of royal confiscation, and next for purposes of commercial exchange. In Venice, Barcelona, and Amsterdam, banking systems of a crude kind had been in operation long before this, and London goldsmiths and merchants like Gresham had performed certain banking functions, but it was not until 1694, when the Bank of England was established, for the better handling of the National Debt, that banking in its modern significance was established. Other banks were soon afterwards formed, but were prohibited in 1697; gradually, however, the prohibition was evaded, and in the course of the 18th century many private banks were started in London and the chief provincial centres. This progress notwithstanding, it was not until the London and Westminster

Bank began operations in 1833 that any institution existed as a bank of deposit only. The Bank Charter Act of 1844, which introduced a limiting of note issues and other salutary regulations, did much to improve the general banking conditions. Occasionally, in times of commercial panic, many banks failed, and as under the old joint-stock companies' law each shareholder was liable for all indebtedness, at these periods many people were ruined. The passing of the Limited Liability Companies Act in 1862, however, enabled banking as well as other companies to restrict the liabilities of their shareholders to the amount of their nominal holdings. Banking is now of enormous range. In addition to the ordinary banks, there are savings banks all over the country, and the Post Office Savings Bank, established in 1861, has deposited with it between one and two hundred millions sterling.

Bank Bill, a bill of exchange drawn by one bank upon another.

Bank of Deposit, a bank receiving money at a specified rate of interest, deposits being only withdrawable after a prescribed previous notice has been given. The bank, being thus guarded against emergency calls, is able to invest its moneys more favourably than ordinary banks, and to pay higher interest.

Bank of Issue, a bank authorised to issue its own notes payable to bearer on demand. In London and within a radius of sixty-five miles, the Bank of England is the only bank of issue, except certain banks established prior to May, 1844, which share the sixty-five miles monopoly. Shareholders are liable for the amount of notes outstanding in case of a bank's failure, even though the bank has been registered under the limited liability acts. No new bank of issue can now be formed.

Banks, Joint Stock, banks whose capital is subscribed by shareholders, and with very few exceptions, limited liability companies, the liability, however, not extending to note issue.

Bank Notes are promissory notes of a bank, payable to bearer on demand. In England the minimum sum for which a note may be issued is £5, in Scotland and Ireland £1. Only Bank of England notes are legal tender. Country banknotes can be re-issued after payment, but Bank of England notes are never re-issued.

Bank Post Bills came into use in 1738 as a protection against mail robberies. The Bank of England issues them for sums of not less than £10 or more than £1,000 payable seven days after sight, on the amount being deposited, and without charge, the seven days' interest being the bank's remuneration. These bills are not subject to days of grace.

Bank, Private, a bank carried on by one or more persons, not exceeding ten, in partnership. These banks, however, are now few, none having been established in recent years, and such as were private are for the most part amalgamated with banks of limited liability.

Bank Rate, the rate at which the Bank of England grants loans or discounts bills, and declares at each weekly meeting of the directors, mainly influenced by the gold supply and demand.

Bank Return, the weekly report of the financial condition of the Bank of England, issued every Thursday.

Bank Stock, strictly the Bank of England's banking capital, the rate of interest being regulated according to the Bank's profits. The capital of other banks is also called bank stock.

Bankers' Cheques, a cheque drawn by one bank on another.

Bankers' Clearing House was established to enable bankers to realise the value of the cheques and bills in their hands for collection from other bankers without the trouble of separate presentation at different banks. The Clearing House is managed by a Committee, and although dating back to 1775, it only since 1857 that the present convenient system of clearing has been in operation. Well over twelve thousand millions' worth a year is now cleared.

Bankrupt, one who is insolvent and unable to pay his debts, but only of legal application when a person has been declared bankrupt by a court of law.

Bargain and Sale, a legal term usually referring to a contract for the sale of real property, but also applicable to contracts for the transfer of personal property, although for the latter the word *general use* is assignment.

Barratry is an offence committed by mariners, and may consist of either deserting or sinking a ship, embezzling cargo, doing any other act whereby the shipowner is injured.

"Bear," a Stock Exchange operator interested in bringing down the price of certain stock and operating with that object. It applies more particularly to one who has sold stock which he does not possess and desires to induce a fall in price prior to the next settling day, so that he may make a profit by buying at a lower price than the one he agreed to sell at.

Bear Account, an account of "bearing" transactions, the selling entries representing a greater amount of stock than the "bear" can deliver and often entailing "backwardation" payments to effect a "carrying over" to the next account.

Bearer. The term "or bearer," or "to bearer," on bills or cheques, denotes that the person holding the same has the same right in respect of it as the person specifically mentioned.

Bearer Bond, a bond for money loaned made payable to the bearer or holder of it.

Below Par. When prices are under nominal value they are quoted as so much "below par."

Beneficial Interest, a right to enjoy or derive profit from property which may be legally vested in another. For example, a mortgagee has legal though not actual possession, the mortgagor, who retains practical ownership so long as he carries out the conditions of the mortgage, enjoying the beneficial interest.

Bequest, a gift of personal property left by will.

Bid, a price offered at an auction or other sale, withdrawable at any time before it has been acknowledged by the auctioneer or seller.

Bill Broker, one who buys and sells bills of exchange or promissory notes, selling bills drawn on foreign countries, and buying bills for remitters to those countries. A close knowledge of matters influencing rates of exchange is necessary to the carrying on of this class of business, which is distinct from that of bill-discounting.

Bill for Acceptance, a bill of exchange forwarded by a trader for acceptance by the person on whom it is drawn.

Bill of Credit, a letter authorising the advance of money to a specified person, and undertaking, or implying the obligation, on the part of the writer, to reimburse the person acting on the letter.

Bill of Entry, a written description of goods entered at the Custom House, either for intended exportation or importation.

Bill of Exchange, a written order by one person to another desiring him to pay a person or firm named, or bearer, a certain sum at a certain time. An inland bill of exchange is drawn and payable in the United Kingdom; a foreign bill of exchange is payable abroad. Before it is legally completed a bill of exchange must be signed both by the drawer and the acceptor—the latter being the person who accepts the liability of discharging the bill on the day it falls due.

Bill of Health, a certificate signed by a consul or other official delivered to masters of ships when they leave places, showing (in the case of a *clean* bill of health) that, when the ship sailed, no infectious disorder was known to exist at the port of sailing. A *suspected* or *touching* bill implies that there were rumours of infection; and a *quarantine* bill, or the absence of a clean bill, indicates that the ship sailed from an infected place.

Bill of Lading, a receipt from a ship's captain to the shipper undertaking to deliver goods—on payment of freight—to some person whose name is expressed or endorsed thereon by the shipper.

Bill of Sale, a deed or document designed to furnish evidence of the sale of personal property, as, for instance, goods or furniture, when the sale has not been followed by the immediate transference of such chattels to the custody of the purchaser. A bill of sale must be registered within seven days of its execution.

Bill of Sight. In case of an importer not being

able to make out a complete bill of entry he is allowed to sign such a general description as will serve for the time, and on that, which is called a bill of sight, the goods are landed, though not allowed to be delivered before a proper bill of entry is presented.

Bill of Store. Goods of British origin which have been exported to a foreign country can be re-exported within five years without being liable to importation duties, and when that takes place the particulars are entered in what is termed a bill of store.

Bill of Suffrance is an official permit to a ship to proceed from one British port to another, with dutiable articles on board, and trade, without paying Customs duties until landed or placed in a bonded warehouse.

Bill of Lading, a licence to carry stores, for use on a voyage, free of duty.

Bimetallism is an economic theory which seeks to establish that gold and silver should both be kept at a fixed standard.

Blank Acceptance, a term used when the acceptor of a bill of exchange signs the acceptance without naming the amount or when it is drawn, in which it is open to the drawer to insert afterwards any amount up to the limit covered by the stamp.

Blank Bill or Note is one that is drawn without giving the name of a payee.

Blank Credit, a term used to designate a class of bills resembling accommodation bills, drawn for temporary financial convenience, but not representing actual indebtedness.

Blank Indorsement, an indorsement of a bill of exchange or other document, from which the name of the person to whom it is given is omitted, and is payable to bearer.

Blank Transfer, a transfer of stocks or shares, omitting the name of the transferee, often given to bankers as security for money lent on such stocks or shares.

Board of Trade, a department of the British Government, forming a permanent committee of the Privy Council, and presided over by a member of the Cabinet. Its constitution dates from 1780, but the business of the office is wholly controlled by the President. The six departments of the Board of Trade are: (1) Commercial, Labour, and Statistical, established in 1824; (2) Railway, dating from 1845; (3) Marine, in operation since 1851; (4) Finance and General, since 1851; (5) Fisheries and Harbours, since 1866; and (7) Bankruptcy, established in 1883.

Bond, a document under seal engaging to pay a sum of money or carry out some contract or obligation. It is the nature of a mortgage, and becomes void on its obligation being discharged, but although it is usual to insert in the bond, as penalty for non-fulfilment, double the sum actually secured, only the sum really owing, with interest, costs, etc., is recoverable. The Statute of Limitations does not apply to a bond, being a document under seal, until the expiration of twenty years from the accruing of the right to sue Government, Municipal, Railway, Company, and Corporation securities are usually in the form of bonds.

Bonded Debt, the sum owing by a State or Corporation for the repayment of which it has given bonds.

Bonded Goods are goods stored in a bonded warehouse, and not chargeable with duty until required for consumption. The owner is required to enter into a bond to pay the duty on removal of the goods.

Bonded Vaults, the name given to the underground cellars used for storing wines and spirits under the same conditions as already mentioned in respect of Bonded Goods.

Bonded Warehouse, a building set apart for the storage of dutiable goods, the duty on which is not payable until they are removed. The warehouse is in the entire charge of revenue officers.

Bond Note, a note authorising the removal of bonded goods for exportation or to another warehouse, and requiring the signature of a Customs House official.

Bonus an allowance beyond the ordinary dividend of a company, either in the form of extra money payment or by way of allowance in reduction of premium or otherwise.

Book Credits are the credit entries in business

books by which adjustments of finance are enabled to be made with but little passing of cash or notes, on the same principle as banks balance their Clearing House transactions.

Book Debts, the debts recovered in a trader's books in the ordinary course of business. They are assignable, but the assignment must be in writing and must show adequate consideration. Each debtor must also have notice of the debt. In the absence of such notice, payment made to the original creditor is legal.

Bottom, a marine term now applied to a ship generally, though originally only signifying the keel or hull.

Bottomry, the act of mortgaging a ship.

Bottomry Bond, a contract or mortgage by which a ship becomes a pledge for the repayment of money advanced to enable it to proceed to its destination, and only recoverable if the ship succeeds in terminating its prescribed voyage satisfactorily. In the case of more than one bottomry bond being given, the last has precedence of realisation, on the ground that the last money advanced secured the completion of the voyage. This kind of contract is not in much use in these days, when ordinary Marine Insurance policies practically cover all requirements.

Bought Notes and **Sold Notes**, otherwise **Contract Notes**, are notes which traders exchange with each other, giving particulars of sale and purchase transactions as entered into between them.

Bounties are premiums paid by a Government to persons engaged in producing or exporting certain goods to encourage industry or favour competition.

Brand, a distinguishing name, design, or trademark used for putting on goods, or on cases in which they are enclosed, to define ownership, class, or quality.

British Ship, a vessel owned exclusively by British subjects, or by a corporation or company established in British dominions according to British laws, and registered as a British ship, except in cases of vessels of small tonnage.

Broker is an agent acting for others in buying or selling goods, and carrying out the arrangements between buyers and sellers without having the actual possession of the goods. He must not act in his own name.

Brokerage, the commission, percentage, or fees paid to the broker for his work in connection with any business carried through by him.

Brokers' Contract Notes are notes signed by brokers after effecting a sale or purchase of goods, and sent to those for whom they have been acting. The note to the seller is called the "sold note," that to the buyer the "bought note." They are identical as to particulars.

Brokers' Returns, particulars sent to ship-brokers, setting forth all the items of the cargo of a ship.

"B" Stock, the title of certain preference, railway, or other stock.

Bubbles, the name given to fanciful and sensational financial schemes without substantial foundation, engineered for speculative purposes, and ending in disaster. The most notable example in this country was the South Sea Bubble.

Bucket Shops are the offices of outside brokers who are not members of the Stock Exchange, and are unable themselves to carry out Stock Exchange transactions, but get members to act for them.

"Bull" one who buys, or contracts to buy, shares in the expectation of a rise in price, and consequently realising of profit on them by selling day.

Bull Account refers to the account of a "bull" who, finding himself with more stock than he can settle for, pays what is called "contango" for the privilege of having the account "carried over" to the next settlement.

Burden, a ship's carrying capacity reckoned by tonnage.

Buyers Over, a term indicating buyers are in excess of sellers.

Buying In. If within ten days of a stipulated date a seller on the London Exchange fails to deliver securities bought the buyer may buy in against the seller, the latter becoming liable for all expenses incurred. The time allowed, however, varies at different exchanges.

Bye-Laws are special rules and regulations made by any company or corporation for the carrying on of its affairs, but they must neither contravene the powers conferred by Parliament nor the laws of the land.

Call, an instalment due on shares not fully paid, payable according to the terms of the prospectus or Articles of Association of the company. The term is also used in respect of the option of exercising a call to buy or sell specified securities during a certain period and at a certain price.

Called Bond, a bond concerning which a notice or "call" has been sent out that it will be redeemed on a date named.

Call Money, money lent to bill-brokers and repayable on demand or "call."

Call of More, or "option to double," is the privilege to double the amount of one's present buying at a future-named date on the same terms.

Cancelling is the act of rendering inoperative any bill, note, cheque, deed, or other document. This is usually done by writing or stamping across the face of the document the word "cancelled," or by perforation or obliteration of the signatures.

Capital is either fixed or circulating. The former is money spent in land, houses, factories, workshops, machinery, or other things necessary for the carrying on of business, and not of a nature to be sold or exchanged. Circulating capital is money provided for the purchase of raw material, the remuneration of employees, and other working expenses in the ordinary course of business, and returns to the owner, along with a certain profit, as the products of the workmen are realised. Thus this capital is kept circulating, and unless the whole of the profit made be taken out of the business, will be continually increasing. In a general way, the term capital signifies the money and money-value invested in a business undertaking. The actual capital of a limited liability company is the amount that its shareholders may have subscribed for the carrying on of the undertaking. The term, however, has a varied application. Thus the full sum named as capital in the Memorandum of Association is called the "nominal," "authorised," or "registered" capital, while the sum represented by the shares actually taken up is called the "subscribed capital," the portion remaining unpaid or uncalled up being styled "unpaid" or "uncalled" capital. The principal sum of a loan is also called "capital."

Capitalisation is the act of providing money to be used as capital in a commercial or other undertaking.

Carat, a term used in ascertaining the value of gold and precious stones. In connection with gold, it represents the proportion of pure gold contained in any gold alloy, and for this purpose the metal is divided into 24 parts. Thus 24 carats indicates pure gold, and any lesser number of carats shows the proportion of gold contained in the alloy. As used by jewellers in weighing precious stones, a carat represents 3½ Troy grains. **Carrier**, any person or company engaged to convey goods for hire in the regular way of business. Thus railway companies are common carriers so far as concerns their carriage of goods, but the term does not apply in respect of the carriage of passengers. So long as goods are in the custody of a carrier, he is responsible for their safety, being exempted, however, when damage results by the "act of God," from the "act of the King's enemies," or from "inherent vice," that is, natural deterioration, bad packing, etc.

Carrying Over, a term used to signify the postponement of the settlement of an account over the proper settling day to the next, for which accommodation the speculator has to pay backwardation and other charges. (See **Backwardation** and **Contango**.)

Cart Note, the official note authorising the transfer of drabable goods from one bonded warehouse to another, or from wharf ship to bonded warehouse.

Case of Need, a conditional endorsement on a bill of exchange, naming an additional person, firm, or company, to the acceptor to apply to "in case of need" to take the bill up. The usual form is "In case of need apply to Messrs _____."

Cash, generally speaking, consists of coin, notes, bills, or other documents, that can be immediately con-

verted into cash; but its strict legal significance does not extend beyond coin and Bank of England notes.

Cash Bonus, a life insurance term, applied to a bonus paid in cash to the insurer, and not otherwise dealt with.

Casting Vote, the vote given by a chairman or president of a meeting when the votes of those present are equal. The vote may be his only vote, or, as is usually the case, it may be in addition to his vote as an ordinary member. It is a matter that is generally provided for in the Articles of Association of a company, and is not a right that exists at common law.

Caution Money is money deposited as security for the fulfilment of a contract or obligation.

Certificate, an authorised or official document certifying title, right, or verification, respecting its subject-matter.

Certificated Bankrupt, one who, having passed his examination in bankruptcy to the satisfaction of the court, is granted his certificate of discharge from his existing debts.

Certification of Shares is when shares represented by one certificate are sold in batches, and the company takes the certificate, and certifies on the transfer that the shares therein enumerated are in their custody. If only a part of the holding be sold, a "Balance Certificate" is given to the owner for what remains unsold.

Certificate of Damage, a dock certificate testifying that certain goods on being landed from shipboard are in a damaged condition. Without this the importer cannot recover compensation.

Certificate of Incorporation, a certificate issued by the Registrar of Joint Stock Companies, after the registration of a limited liability company.

Certificate of Origin, a document authoritatively indicating the place of origin of the goods, materials, or manufactures mentioned therein.

Certified Transfer, a transfer testifying that the certificate of the shares mentioned therein has been lodged with the company, and necessary only when a portion of the shares has been sold.

Cessio Bonorum, a Scotch process of law, involving an assignment for the benefit of creditors, after which the debtor is free to resume trading; although after-acquired property becomes liable to seizure until the full extent of the claims against him is satisfied.

Cestui que Trust, one entitled in trust to the income and profits, which he is bound to apply according to the terms of the trust.

Chamber of Commerce, an association of merchants, manufacturers, traders, and others, organised for promoting the interests of trade; and exercising a very beneficial influence in obtaining and spreading statistical information, aiding commercial legislation, and otherwise.

Charter, a government or Crown grant of concessions, powers, or privileges to individuals, companies, or institutions. Such an organisation does not come under the Companies Acts.

Charterer, one who charters the whole or part of a ship under an agreement of charter-party.

Charter-Party, a hiring contract whereby the owner of a ship grants to another person or persons the right of using the whole or part of a ship for a specified voyage or period for the carriage of goods.

Chattels consist of movable property such as furniture and household goods generally, as distinct from fixtures or land.

Cheque is an order on a bank for the payment of a specified sum of money, on presentation, to the person named in the document, or to the bearer. It does not require endorsing when made out to bearer, but must be endorsed when payable to order. Each cheque requires a penny stamp in this country. A banker is liable for loss on a forged cheque unless he can prove carelessness on the part of the drawer. (See **Cheques Crossed**.)

Cheques Crossed. A cheque is crossed for protection. The crossing is usually done by the drawer, who writes " & Co." between two parallel transverse lines across the face of the cheque, after which the cheque can only be realised by being passed

through a bank. The simple " & Co." crossing is called "general"; when the name of a particular bank is added it is called "special." (See also **Not Negotiable**.)

Cheque to Bearer, a cheque payable to the person holding it without requiring endorsement. The wording "or Bearer" after the name of the payee is sufficient, but if the cheque be crossed it must be paid into a bank.

Cheque to Order is one having the words "or Order" printed or written upon its face, to follow the name of the person in whose favour it is drawn, who must endorse the cheque before payment can be obtained. If crossed it must be paid into a bank.

Chose in Action, a commercial-law term denoting a thing in respect of which one has a right of action as distinct from a thing in actual possession. For example, mortgages, bonds, warrants, policies of insurance, and debts. Such rights are now assignable; prior to 1893 they were not.

Chose in Possession, a thing in actual ownership, such as goods and chattels.

Circular Notes, not less in amount than £50, are issued by banks to persons about to travel abroad, to obviate carrying large sums on the person. According to requirements, the bank forwards what is called "a letter of indication" to correspondents at stated places at which the traveller will stop, directing the payment to him of any sum up to a specified limit. Each letter is signed both by the bank and the payee, to prevent personation or forgery.

Clearance may mean (1) a Custom House permit for a vessel to sail out of a port and signifying that all dues have been satisfied; or (2) the same privilege in regard to goods, showing that all local obligations have been disposed of.

Clearance Inwards refers to ships that have arrived at port and discharged their cargo.

Clearance Outwards refers to vessels ready for leaving port.

Clearing a Bill, providing cash to satisfy a bill of exchange.

Clearing Bank is a bank affiliated with the London Bankers' Clearing House.

Clearing House, Bankers', the house through which bankers pass the bills and cheques they hold on other banks by a mutual arrangement, which enables daily settlements to be made on the balance of total sums, thus obviating delays, and greatly facilitating banking transactions. The representatives of each bank attend at the house at 10.30 each morning, and present to each other lists of obligations on behalf of their banks. This interchange having been effected, the clerks return to their respective banks. Three other clearings, at which the same process is repeated, take place during the day. Notification of any cheques or bills that a bank decides not to honour must be given before 4.45. By this system, transactions to the value of many millions are effected each day without the passing of a single note or coin.

Clearing House, Railways, an association of which nearly all the railways of England and Scotland are members, and utilised for settling the accounts of the various companies having running powers over each other's lines. It also deals with various matters connected with the general relations and working of the different railways.

Clearing House, Stock Exchange, deals with Bonds and Shares on much the same principle as that of the Bankers' Clearing House in respect of cheques and bills.

Collated Telegram, a telegram that the sender has repeated to secure accuracy, and for which he pays an extra charge.

Collateral Security is additional security given by a debtor to further safeguard the satisfying of moneys advanced.

Commission, allowance made to agents and others for effecting sales or carrying out business transactions.

Commission Agent, one who sells or buys goods for another, and receives by way of remuneration a commission or percentage upon the amount involved in each transaction.

Committee of Inspection, a committee of creditors appointed by the whole body of creditors to supervise the winding-up of the affairs of a bankrupt or of a company.

Commodatum, a Latin term referring to a loan on condition that the actual things lent shall be returned.

Compounding with Creditors, an agreement whereby creditors agree to accept, and a debtor undertakes to pay, or secure payment of, a certain sum in each £ in full settlement of indebtedness.

Compulsory Winding-up is the winding-up of a company's affairs by the order and under the supervision of the Court of Bankruptcy.

Concession, a special privilege granted by a government, corporation, or other authority to concessionaires, and may include land grants, mining or building rights, powers to construct railways, and the like.

Conditional Advance Note, a note given by the master of a ship to a seaman, undertaking to pay to the seaman's order, a certain sum after a certain time, on condition that the seaman goes with and serves on the ship. (See **Advance Note**.)

Conditions of Sale, the regulations under which land, houses, or goods are put up for sale by public auction, and by which purchasers are bound. It is usual for "particulars and conditions of sale" to be printed and distributed prior to or at the sale.

Confirmation, a note appended to a "confirming an order." On being signed by the receiver it constitutes a confirmation of the contract.

Consideration may take the form of a money payment, a delivery of goods, a promise of money payment, or a promise of delivery of goods, or compensation for loss.

Consideration Money on the Stock Exchange is the amount paid by a buyer to a seller when a sub-purchase is probable; however, the sum stated is often not that actually received, the Stamp Act requiring that the consideration money of the sub-purchaser shall be inserted as the sum regulating the ad valorem duty.

Consignment Note, a form required to be filled up for the despatching of goods by rail or other common carrier.

Consol Certificates are issued by the Bank of England and certify that the holder is entitled to £50 or some multiple of £50 in the Consolidated Three per cent. Annuities.

Consolidated Fund consists of several separate government funds, pledged for the payment of the interest of the National Debt, cost of Army and Navy maintenance, government salaries, &c.

Consols (Consolidated Annuities) comprise the greater portion of the National Debt. They were originally (1751) made to bear interest at three per cent. but the rate has been two and a half per cent. since 1903.

Constructive Total Loss is a marine insurance loss entitling the insured to payment of the full amount for which he is insured on abandonment of his ship and its contents. (See **Abandonment**.)

Consular Invoices are invoices of goods requiring to be declared before and certified by the consul of a country to which they are being exported. Such invoices are only required in respect of goods for the chief South American States, Portugal, and the United States, and as regards the last named country only when the goods exceed £50 in value.

Contango, a cant term of the Stock Exchange denoting the charge made for carrying over a transaction from one settling day to the next.

Contango Day, otherwise "continuation day," or "making-up day," is the second day before settling day, when arrangements are made as to carrying over transactions.

Contingent Liability, a liability which may be discharged without any liability accruing. Thus, the liability of a banker who accepts bills for a customer of substantial position is not likely to accrue.

Contract, any binding agreement between two or more parties, and implying both an agreement and an obligation. There must be offer and acceptance, legal capacity to contract, consideration, and genuineness, otherwise the contract is voidable.

Contract Note, a sharebroker's written particulars of a contract made by him for a client.

Contributories, persons liable to contribute to the amount unpaid on their shares in a limited company in case of the company being wound up. In case of the realisation from existing shareholders being insufficient to discharge the company's indebtedness, those who have been shareholders within a year of the winding up are liable to be called upon as contributories.

Convertible Paper Currency is one that can be converted into cash on demand, as a Bank of England note.

Convertible Securities are such as are always marketable and convertible into money. Consols, railway stock, and exchequer bills, for example.

Co-operation, as the term is generally employed, signifies the union of persons of small means for the purpose of buying necessaries and other things at the lowest rates, and sharing any profits that may arise in proportion to the capital or labour invested. The first co-operative store in England was started at Rochdale in 1844. The movement was eagerly taken up in the great manufacturing districts, and to-day it embraces a vast organisation. There are now some 1,600 co-operative societies comprising considerably over 2,000,000 members. The two wholesale co-operative societies effect sales to the amount of about £30,000,000 per annum.

Copyright, the right of ownership in a literary or art production, vested in an author or producer or his assigns for the life of the author and seven years after, or the full period of forty-two years after publication, whichever shall be the longer.

Cost, signifies the total sum necessary to be paid to cover the expense of making, producing, and remunerating services, in respect of any article or commodity.

Cost and Freight, a term used in respect of goods sold at a price covering cost and carriage.

Cost Book Plan indicates a method of accounts used by mining companies composed of what are called "adventurers," who, by arrangement with a landowner, search for mineral, and in case of discovering it take a lease by which the owner receives a share of the output, and the rest of the yield is the profit of the operators. All particulars are entered in the "Cost Book," and a shareholder can withdraw at any time so long as he has discharged his proportion of the liabilities.

Council Draft is a negotiable instrument drawn by the Secretary for India upon the Indian Council and payable at the Bank of England.

Country Clearing, the clearing of cheques and bills paid into country banks, through the London Clearing House by the London agents of the banks.

Country Notes, the bank notes of any bank of issue other than the Bank of England.

Coupon, a detachable portion of a ticket or document; in banking and business, a warrant or certificate for the payment of interest or dividends; in travelling, one of a series of tickets issued to cover separate portions of a journey; and as used in periodicals and newspapers, a form entitling the possessor who fills it in, to engage in some competition.

Course of Exchange, the price given in one country for a specified sum in the currency of another country.

Cover, a deposit of cash or securities ensuring the depositor against loss in stock exchange or other operations carried out on the depositor's behalf.

Credit Letter of, a letter from a bank, firm, or one person to another, authorising payment to a third person named of a specified sum, for which the sender assumes responsibility.

Credit Note is an acknowledgment, by a seller, of defects in a thing he has sold, and forms a note of credit for a certain reduction of charge in consequence of the defects.

Cum Dividend, a transaction that carries with it the right to receive the dividend then falling due.

Cum Drawing, a sale of bonds, carrying with it the right of any profit to accrue from the ensuing drawing.

Cum New. The right is sometimes accorded to shareholders of a company to have allotted to them

new shares that are being issued on more favourable terms than they are offered at to the general public. Shares sold at this period are said to be "cum new," carrying the right of the special terms of purchase.

Cumulative Preference Shares are shares the dividend on which is a fixed rate and in default of payment in one year, or in any number of years, the amount accumulates until payment can be made. Such dividends take priority over other dividends, though not over debenture interest. (See **Preference Shares**.)

Currency by Tale was the old form of currency of which the Greek obolus may be taken as an example, admitting of being passed from one to another by simple counting, without other test of value.

Currency by Weight, the primitive form of paying by weight of metal, before the introduction of coinage.

Currency Bonds are bonds guaranteeing the repayment of principal and interest in the currency of the country of their issue.

Currency Principle, a phrase used to describe a method adopted by some banks of maintaining an exact equality between the amount of credit and the amount of specie, relying on commission charges for their profits.

Current Account, the amount of money a person has deposited at a bank, and on which he can draw from or add to as may be desired, no interest being chargeable on either side.

Customs are duties levied on goods imported or exported, and have been charged since Anglo-Saxon days, varying greatly from period to period according to necessity, kindly greed or special emergency. Since Free Trade was practically established in this country customs charges have been greatly restricted, still even now the revenue from customs reaches something like thirty-five millions sterling in Great Britain.

Customs Bills of Entry, a daily list issued by the Customs' authorities to subscribers, including a full list of ships' reports, inward, with their cargoes, also of ships sailing with other particulars.

Customs Debenture, a certificate in respect of exported goods entitled to drawback, for duty already paid, which the debenture enables the owner to get refunded.

Customs Declaration, a form that has to be filled up and signed by one who sends goods abroad, stating the nature, weight, and value of the goods.

Customs Duties are duties payable on imported goods, the main articles of which, as regards this country, are tea, coffee, cocoa, dried fruits, tobacco, cigars, wines, spirits, and cordials. The number of dutiable articles has been reduced from some 1,200 articles, in 1840 to about 50 at the present time.

Customs Entry, a statement of particulars of the nature, value, and weight, of imported or exported goods furnished to the customs officials.

Dandy Note, formerly a custom house order sanctioning the transfer of goods from warehouse. Term now obsolete. (See **Shipping Bill and Note**.)

Day to Day Loans, money borrowed for a day at a specified rate of interest, and renewable from day to day by mutual agreement.

Dead Account, the account of a deceased person, or an account that has ceased to be operative.

Dead Freight, the amount charged for empty space to one who having chartered to load a full cargo falls short of requirement.

Dead Loans are loans unpaid at the specified date, or for which no day of repayment has been stipulated.

Dead Reckoning, a nautical term used in calculating a ship's position at sea from the distance shown by the log only, with allowances for leeway, etc., without astronomical observations.

Dead Rent, a term applied to a lease of mining rights, the rent of which it is stipulated shall be paid whether operations are carried on or not.

Dead Security, a term denoting industrial securities on which there can be no realisation unless the properties are sold.

Dead Weight, cargo that pays freightage according to weight, irrespective of measurements, such as iron, coal, etc.

Debenture, a document, or certificate, signed by a public officer, corporation, or company, acknowledging

ing indebtedness for money lent and guaranteed repayment with interest.

Debenture Bonds are the bonds of a government, company, or corporation, engaging to repay a specified borrowed sum, with interest, at a time named, the interest being payable periodically by coupon until the bond matures and is paid off.

Debenture Stock differs from debenture bonds in that it is usually irredeemable. The principal sum is registered in the owner's name, and the interest, which takes priority of dividends, is paid by warrant to the owner's order.

Debit Note is a note giving particulars of an allowance claimed in respect of defective or damaged goods.

Debt, a term generally applied to an amount due or payable from one person to another in return for money, services, goods, or other obligation.

Decimal System is based on a unit of 10, and for purposes of calculation is much simpler than the English system. It is in operation in France and other European countries, also in the United States.

Deer Cargo is cargo carried on deck in regard to which no liability for damage attaches, unless there is an express stipulation, to that effect.

Deed is a written or printed document under hand and seal. It must be signed in the presence of a witness or witnesses, must bear a seal, and must have formal "delivery"—that is, the signer must either give constructive delivery by placing his finger on the seal and saying, "I deliver this as my act and deed," or actual delivery by handing over the deed. Without "delivery" the deed is inoperative.

Deed of Arrangement, a deed of assignment or composition, whereby a debtor conveys property effects, goods, or debts to a trustee or trustees for realisation and distribution among his creditors on the terms specified. Such a deed requires registration as a bill of sale within seven days of execution.

Deed of Insolvency is a deed providing for the realisation and winding-up of an insolvent debtor's affairs by trustees or inspectors.

Deferred Annuities are such as do not come into effect until such a specified later period as agreed upon. Such annuities are purchasable at any post office. In case of death before a deferred annuity begins, the purchase-money is given to the purchaser.

Deferred Bonds are bonds issued by a government, corporation, or company, entitling the holder to a gradually increasing rate of dividend or interest, until a fixed maximum rate is reached, when they become converted into ordinary bonds.

Deferred Stock or Shares are such as do not rank for dividend until after the ordinary, preference, and guarantee dividends have been provided for.

Deficiency, the allowance for shrinkage, by evaporation or otherwise, in dutiable goods during their storage in bond.

Deficiency Bills represent temporary loans made by the Bank of England to the Government.

Delivery Order, an order, signed by the owner of specified goods, addressed to any person or official having charge of them, and requesting delivery of them to the person named in the order. It is negotiable to the extent that it can be placed with a banker to secure any advances he may make on the goods. Since 1906 there has been no stamp duty on a Delivery Order.

Demand Draft, a bill of exchange payable on demand.

Demonetise is the act of depriving coin of the quality of legal tender.

Demurrage, a charge to which the charterer of a ship is liable by neglecting to load or unload within the time named in the charter-party. The term is also used in connection with delays in removing goods after being conveyed to the station of destination.

Deposits, in the commercial sense, comprise deposits of money for employment in business, deposits of negotiable securities with a banker for safety, deposits of similar documents as security for loans, deposits of money or bills in a bank in the ordinary course of business on current account, and deposits of sums at interest.

Deposit Account, deposits of money with bankers withdrawable only on giving a specified previous notice.

Deposit Receipt, bankers' receipt for moneys deposited, specifying the terms of the deposit.

Deposit Warrants acknowledging the deposit of articles as security for loans are of two kinds, special and general. The former includes bills of lading, pawn tickets, dock warrants, and applies to actual goods returnable on repayment of loans, &c.; while the latter does not apply to specific goods so much as to values.

Derelict, a vessel abandoned by its crew, and in respect of which salvage accrues to those who save it, or what it contains.

Despatch Money is the opposite of demurrage, being money allowed by a shipowner when a charterer loads or unloads in less time than originally specified.

Despatch, the note sent by the Customs with dutiable goods, and necessary to be produced at the place of destination.

Deviation, a marine insurance term indicating an alteration of course from that set down in the policy, a departure which, unless made for avoiding perils, annuls the risk of the underwriters.

Differences are payments representing the difference between contract prices and market prices, occurring between speculators who buy and sell apart from the wish to possess. Contracts to pay differences cannot be enforced.

Discount is a deduction which is customary to be made for prepayment or prompt payment of money due. Bank discount is an advance charge reckoned at simple interest rates on the amount of a note or bill.

Discounting a Bill, the act of purchasing at a certain deduction or discount, a bill of exchange, and the right to realise upon it at maturity. The rate of discount varies with circumstances—the credit of the parties liable on the bill, the current rate of interest, and other matters.

Discretionary Order, an order from a client to a broker to purchase stock up to a certain amount at discretion.

Dishonour, the refusal to accept a bill of exchange on presentation for acceptance, or to pay it at maturity.

Dissolution of Partnership, the discontinuance of a partnership from any legal cause, a notice of which must be inserted in the *London Gazette*, and also specially intimated by letter or notice to all with whom the firm have had dealings.

Distress or Distraint, a legal term implying the act of distraining for non-payment of rent, a remedy that dates back to Anglo-Saxon times, but does not obtain in the United States, and in some other countries. Distresses for rent have to be made by day on the premises rented, but if the chattels have been fraudulently taken away, they can be followed and seized at anytime within 30 days.

Dividend, a periodical payment of interest on an investment; and when declared upon the capital of a company undertaking it must be out of profits alone. A dividend may also be a composition or part payment in respect of a claim on the estate of a bankrupt, or a company in liquidation.

Dividend Warrants are written orders to a banker authorising the payment of dividends, and are negotiable.

Docket, a summary copy of any decree; a brief list or label; derived from dock, to cartail.

Dock Warrant, which must bear a *gd.* stamp, is an instrument issued by a dock-owner or company in favour of a person specified by the owner of goods warehoused in dock, and entitles such person to take possession of the goods. Advances on dock warrants are readily made by bankers.

Document Bills are bills of exchange attached to the bills of lading, policies, or invoices, in respect of which they have been given. Should a bill of this class be dishonoured, the holder can claim on the document.

Domiciled is a term applied to a bill of exchange made payable at a particular place.

Donatio Mortis Causa, a donation in prospect of death.

Draft, a written order for payment of money; a bill of exchange.

Drawback, the amount returned by the Customs on exported goods which have already paid duty, and payable only to the actual owner of the goods.

Drawee, the person on whom a bill is drawn, his liability on which does not come into force until he signs and accepts it, after which he is the acceptor.

Drawer, the person who draws a bill, who in case of dishonour is liable to the holder or any indorser who is compelled to pay it.

Drawer's Bonds are bonds of a class in respect of which periodical drawings are made, such drawing being by lots, the holders of such as are drawn being entitled to payment in full, after which time, if unredeemed, no interest is paid.

Dutch Auction, the "cheap-jack" method of starting the sale of an article at a price, and gradually lowering it to an amount at which a sale is effected, or the article withdrawn.

Duties are taxes levied upon goods, commodities, or manufactures. In the case of imported or exported goods these duties are called customs, while duties on home products fall under the head of excise.

Easement, a legal term applied to a privilege enjoyed by any one over another's property, the most familiar example being a right of way.

Ejectment. When a tenant after the termination of his tenancy, either as the result of a notice to quit or otherwise, continues in possession of premises, an action at law can be commenced, and what is called a writ of ejectment issued. If the rent be over £100 a year the action must be in the High Court, otherwise the County Court must be appealed to.

Embargo, a Government order, mostly issued in war time, prohibiting vessels from leaving port, but not applicable in this country to ships carrying wheat.

Emblements are growing crops to which an outgoing tenant has a right if his tenancy terminates before they can be harvested.

Endorsee, the person to whom a bill of exchange passes when made over to him by endorsement.

Endorsement, the signing of one's name on the back of a bill, an act which transfers the right in it to the endorsee.

Endowment Policy is one on which premiums are payable only for a prescribed period, after which the insurer has no other liability, and may either receive the amount for which he is insured, let it remain to accumulate with interest, the whole to be paid at his death, or take an annuity based on the policy value, as may be stipulated in the policy.

Enforced Paper is the "rupee paper" of the Indian Government.

Engross is an ancient mercantile term connected with the idea of monopoly. To engross was to buy up an article in order to increase prices. It also means to write or copy in a hold clear hand.

Entry, particulars of goods imported or exported, supplied for registration at the Customs House, and compulsory whether the goods be liable to duty or not.

Entry for Warehousing, an entry made at the Customs House giving particulars of dutiable goods to be stored on import in a bonded warehouse, and not liable to duty until taken out for consumption.

Equation of Payments, an arithmetical operation determining the date at which a single payment may be made instead of several payments due at various times.

Equitable Mortgage, a charge created on an estate, either by deposit of title deeds or by agreement in writing, which does not as in an ordinary mortgage constitute a transfer of the legal estate.

Errors and Omissions Excepted (*E.E. or E. and O.E.*), when written at the foot of invoices or accounts indicate that they are open to after-correction if any mistakes should be discovered.

Estate Duty is the duty payable upon the value of all property, of which any person may die possessed.

Estoppel, a legal term indicating that a person is barred of a legal remedy because of some former act which precludes him of the right. Estoppel may be either by deed or act.

Estimate, a written statement specifying the

amount of money for which a contracting party will perform certain work or supply certain goods.

Estreat, a certified copy of an original document or record in regard to fines or amercements. The term is also applied to the levying of fines under an estreat.

Ex All, a Stock Exchange term signifying that the stock or shares specified as being sold are sold apart from any dividend, bonus, or profit then due.

Exchange is the giving or receiving of one thing for another; also the name of any building set apart for the meeting of merchants and others for purposes of buying and selling.

Exchequer, which derives its name from the checkered table on which accounts were calculated in early Norman times, is a term connected with the revenues of the Crown. The Court of Exchequer Division existed up to 1881, when it was abolished. In former times it had jurisdiction in all revenue matters. The term Exchequer is now mainly applied to the Governmental department which deals with the public revenues, and is presided over by a Chancellor, who is a Cabinet Minister.

Exchequer Bills, bills issued by the Treasury for sums varying from £100 to £1,000, and bearing interest at the rate current on the day of issue. They are made repayable, at par, in a year from date, but can be renewed annually.

Exchequer Bonds, which are made payable to bearer, are issued by the Treasury for sums borrowed. They are for a specified period (which must not exceed six years), at the expiration of which they are redeemable at par.

Excise Duties are inland taxes imposed on articles of home product for home consumption, or on their manufacture or sale, and were first established in England in 1043.

Ex-Drawing, without drawing, a term used in regard to bonds sold, and indicating that the buyer is not to have any benefit that may accrue from a drawing then taking place.

Execution, a process of court whereby, default having been made in satisfying a judgment, a writ or order of execution is issued authorising the sheriff or bailiff to seize and sell the goods of the debtor, or such portion of them as may be necessary, to discharge debt and costs.

Ex Mero Motu, of one's own action.

Ex-New, not including the right to new stock or shares about to be issued, and for which the shares purchased might entitle their original owner.

Ex Parte, on behalf of, a term used in reference to any proceeding taken by, or concerned with, one party alone, apart from other parties interested.

Expected to Bank, an expression referring to such of a bankrupt's liabilities as may be expected to be entitled to rank for dividend against the estate.

Ex-Ship, a sale of goods on shipboard, all the cost and responsibility of the removal of which falls on the purchaser.

Ex-Warehouse, a sale of goods, the cost of removing which from the warehouse must be borne by the buyer.

Face Value, the nominal value marked on the face of a security—the par value.

Factory and Workshops Act, 1901, is the Act under which all factories and workshops in the United Kingdom are at present regulated. Factories are divided into two classes, textile and non-textile. The Act provides improved regulations as to the sanitary condition of factories and workshops, guards against overcrowding, requires certain things to be done for safety, prescribes who may be employed, and for what number of hours per day or week, etc., and provides an elaborate organisation of inspectors to see the Act enforced.

Fee-Simple, land in absolute ownership, and at the owner's complete disposal.

Fee-Tail, freehold property entailed in a certain line of descent.

Fiduciary Loan, a loan granted without any security being taken.

Fiduciary Note Issue, an issue of bank notes without the provision of a money reserve to meet them,

relying on the confidence of the public and the honour of the bank.

Fine, a sum of money which a legal tribunal, or other properly constituted authority, imposes on a defaulter, transgressor, or trespasser, the payment ordinarily being held to discharge the grievance.

First Class Paper, bills, notes, and other securities given by firms, companies, corporations, or Governments of high position and of undoubted solvency.

First of Exchange, the first of a set of foreign bills of exchange, usually drawn in triplicate. If the first be paid or satisfied, the others fall valueless.

First Open Water, a marine term introduced in charter-parties relating to vessels proceeding to the Baltic ports, and denoting the time when a ship first touches the open sea after the breaking up of the winter ice.

Fixed Capital is money invested in land, buildings, and other property of a more or less permanent nature, such as railways, tramways, factories, etc.

Fixtures are legally such moveable additions to a building or land as when actually secured become part of the freehold. (See also **Tenant's Fixtures and Trade Fixtures**.)

Foaming Point, the temperature at which oil becomes explosive. In the United Kingdom the flash point is 73°.

Floater, a Stock Exchange term referring to what are called Bearer securities, on which loans are readily raised, and as the loans on them are called in by one bank are passed to another, and so on, hence the name "floaters."

Floating Capital is capital which a trader or banker reserves for ordinary business or financial operations and does not appropriate for fixed or permanent investment.

Floating Policy, a marine insurance policy that covers certain specified goods without naming the ship by which they are to be conveyed.

Floating Security, a term used in regard to the security of a limited company, and forming a charge on its assets, but not enforceable unless there is default in payment of principal or interest.

FloTEAM, a legal term applied to goods lost at sea and found floating on the water. FloTEAM does not belong to the finder, but must be delivered up to the rightful owners, or, if no owner appears, becomes forfeit to the Crown. The finder, however, is entitled to a reward proportionate to the value of the goods. (See **JetTEAM**.)

Folio, a term of four different meanings: (1) in bookkeeping it means two pages facing each other; (2) in ordinary legal documents 72 words constitute a folio; (3) in Parliamentary documents there are 90 words to the folio; and (4) in printing the folio is the number of any single page.

For Money, meaning a sale "for money" on the Stock Exchange involving immediate delivery of the securities purchased and payment on receipt, a class of transactions applying specially to Consols.

For the Account, Stock Exchange transactions included in current account for settlement on the next settling day.

Foul Bill, a document given by a Consul or other competent official to the master of a vessel on leaving port, certifying that at the time of clearing the port was infected with contagious disease.

Founders' Shares, are such as are granted to persons concerned in the founding and originating of a company, as compensation for their promotion or other services. They are usually issued tully paid up, and often carry with them special profits and privileges.

Free of all Average, a marine insurance term denoting that in case of partial loss no average, but only in respect of total loss, can be entertained.

Free of Capture and Seizure an insurance term expressing non-liability in case of a ship falling into the hands of a belligerent or other capturing force.

Free of Expense to Ship, a clause throwing all liability for cost of loading or unloading on the charterer.

Free of General Average, a clause in a marine policy absolving the underwriter from general average contributions. (See **"General Average"**.)

Free of Particular Average, a clause defining the insurers non-liability for partial loss, unless the same has been brought about by accident or unavoidable cause.

Free Override, a term indicating that the risk of goods sold is with the buyer after being unshipped.

Free Trade was advocated by Adam Smith in his *Wealth of Nations*, and after a long and bitter agitation, in which Cobden, Bright, Milner Gibson and others actively championed the cause, the principle was legally established in this country by the abolition of the Corn Laws in 1846. By establishing free inter-change of commodities without protective duties, British trade expanded at a wonderful rate during the following three decades, and few were found to favour the old principles of protection. Meanwhile, America, Germany, and other countries were fast building up large industries, and setting up high protective duties against foreign goods. About 1880, in consequence, many manufacturers and merchants in this country began to combine in a Fair Trade organisation, which, however, did not make such headway as to bring about any reversal of Free Trade policy. In May, 1903, Mr. Joseph Chamberlain, who had previously been a staunch Free Trader, advocated a new fiscal policy, in which retaliation by protective duties against such countries as use protection against Britain was proposed. This led to a considerable split in the Unionist party, and Mr. Chamberlain himself resigned his position as a Cabinet Minister in order to have a free hand in urging forward the new movement. Mr. Balfour, the then Prime Minister, declined to avow himself either completely on the side of Mr. Chamberlain or as a Free Trader, and all the Free Trade members of the Ministry thereupon seceded, including the Duke of Devonshire, Lord Balfour of Burleigh, Lord George Hamilton, and Lord Eversley. Since then much discussion has taken place in regard to the fiscal question, and although the verdict of the elections in 1906 seemed to be in favour of Free Trade as a general principle of policy, the agitation for Tariff Reform has increased rather than diminished. Since then both sides of the subject have been actively advocated, and the Unionist party as a whole stands pledged to the principles of Tariff Reform.

Freehold, real estate held in fee simple in perpetuity. (See **Fee Simple**.)

Freight, charges paid for carriage of goods of merchandise by ship; a term still used in the older sense to denote the goods themselves.

Freight Note, statement giving particulars of freight charges.

Freight Release. When goods have been shipped "freight forward," a note of "freight release" showing that all freight charges have been paid must be produced to the master of the ship before they can be taken away.

Funded Debt, the Government's debt in respect of which there is no obligation to pay within a fixed period, or the date of repayment is at some remote date, and taking the form of Consols chiefly.

Funding, the operation whereby a floating debt is converted into stock.

Futures, foreign produce bought for future shipment, and representing speculative operations with a view to "cornering" tactics.

Garnishee, the person on whom a garnishee order is served.

Garnishee Order, an order of court attaching money or goods belonging to a judgment debtor, the object being to prevent such money or goods being handed by the debtor instead of applied for the benefit of his creditors.

Garnishment, notice to a garnishee concerning goods or money, in respect of which a garnishee order has been obtained.

Gazette was the name given to the first news sheet published in Venice about 1536, and named after the coin *gazeta*, which was its price. The term is now in general use, but applied more particularly to publications of an official character, such as the *London Gazette*, which contains Court and Government notifications, lists of public appointments and honours, legal notices and lists of bankrupts. The

London Gazette was first established at Oxford in 1666. There are similar official publications in Edinburgh and Dublin.

Give On, the paying of contango.

Godown, an Oriental storage warehouse.

Gold. (See article on **Gold** in *General Information* section.)

Gold Bonds, bonds payable in gold coin.

Good Delivery, a Stock Exchange term indicating that a security is in proper form and condition.

Goods and Chattels include all kinds of movable property, as well as rights of action, bills, debts, banknotes, bonds, etc.

Goodwill is the intrinsic value of the good repute and custom of an established business.

Grace, Days of, a period of three days allowed by custom of law beyond the fixed day of payment for a bill of exchange or note. Should the last day of grace fall on a Sunday, or other non-business day, the bill or note is due on the preceding day.

Grounding, the charge for space occupied by a ship while in port.

Graving, the cleansing of the bottom of a ship.

Graving Dock, a dock where ships are graved.

Ground Rent, rent payable to the owner of freehold land for the privilege of erecting and maintaining buildings upon it for a specified term of years, after which the buildings become the property of the landowner. The buildings are leasehold property.

Guarantee Fund, a reserve fund set apart to meet possible losses.

Guarantee Society, one which guarantees employers from losses in respect of the defaults, omissions, or malpractices of employees. The guarantee takes the form of an insurance policy, on which an agreed annual premium is paid.

Guaranteed Stock, stock, the interest on which, or the principal, or both, is guaranteed.

Habeas Corpus, the name given to a writ ordering the body of a person under restraint or imprisonment to be brought into court for full inquiry into the legality of the restraint to be made. The first Habeas Corpus Act was passed in 1679, though nominally such a right had existed from Magna Charta, but some of the more despotic kings had disregarded it. In times of public peril the privilege of habeas corpus is sometimes temporarily suspended, many instances occurring in the recent history of Ireland.

Half-Notes. In remitting money, business men sometimes forward half-notes forwarding the other halves on the first being acknowledged. In regard to this practice it is important to know that the property in entire note belongs to the sender until he parts with the second half.

Hall Marks are official marks impressed upon gold and silver articles, testifying to their genuineness and value. The stamping is entrusted to the Goldsmiths' Company of the City of London, at Goldsmiths' Hall, and the marks are the standard of quality, the assay-town's mark, notification of duty paid, date, maker (and sometimes) workman's mark. The term "hall-mark" in common metaphorical use in writing and speech is an indication of quality.

Hammered, a stock-exchange form of proclaiming a defaulter. When a member is unable to meet his engagements, the fact is notified from the rostrum, first of all, by striking three blows upon it with a wooden hammer, which calls the members up. The name of the defaulting member is then given out, and he expelled or temporarily suspended. On paying not less than 6s. 8d. in the £, the defaulter's claim for re-admission will be considered by the committee, and if there are no other charges against him, he may again become a member, but even then he is not discharged from after liability in respect of the balance of his indebtedness.

Haulage, charges for the use of trucks, wagons, or carriages, from one point to another, exclusive of loading and unloading them.

Heavy Stock, a term referring to the stock of railways handling a heavy goods traffic.

Hereditaments may be *corporeal*—as land, or any substantial and permanent property thereto

attached; or unattached, including goods or jewellery; and *incorporeal*, as real charges upon property, the right of user in articles, or offices and privileges issuing out of corporeal holdings. *Incorporeal* hereditaments comprehend franchises, annuities, ways, commons, advowsons, tithes, and the like.

Heritable Bonds are such as include a conveyance of land that comes into operation when the bond itself is not redeemed, or the interest paid, as stipulated.

High Seas are the seas that are open to all, and represent the entire sea-space beyond three miles of the shore.

Hire Purchase, goods obtained on hire which become the absolute property of the hirer on paying the last of the instalments stipulated to be paid by him, but until then he cannot deal with the goods, having no ownership in them. Such goods, however, are not exempt from distraint for rent. If default be made in payment of the instalments the owner has power to repossess himself of the goods.

Holder, one to whom a bill of exchange or cheque has been made over, and who has lawful possession of it for the time being.

Holding Over, the act of refusing to quit possession of premises after the expiration of the term of a tenancy, or of legal notice to quit. A liability for double rent attaches to such action.

Home Consumption, a term denoting (1) goods consumed in the country of their production, or (2) imported goods stored in a bonded warehouse until duty is paid and they are brought into consumption.

Home Use Entry, a document authorising the removal from a bonded warehouse of goods liable to duty on such goods being required for home consumption.

Horse Power, the draught power of a horse, the unit of measurement introduced by Watt for estimating the power of the steam-engine, and defined as 550 foot-pounds per second. The estimate is higher than the average drawing power of the horse justifies, but its use as a working standard is not affected by this.

Hotchpot, a legal term signifying the bringing into common sharing of a specified property, as in the case of a child, who during his father's lifetime has had a portion of estate given to him, being compelled, on the father dying without will, to bring his share into hotchpot to be included in the statutory division ordained for intestates' estates.

Impersonal Accounts are such as relate to things as distinct from people, as goods, cash, etc.

In Advance of Calls, a phrase referring to payments made by shareholders prior to call being made on their shares.

In Ballast. A ship is in ballast when, not having any cargo, she carries some weighty substances for stability.

Income Tax is the personal impost charged on the income of individuals, and was first imposed by Pitt in 1798 to meet the heavy cost of the war with France.

Inconvertible Paper Currency is paper money which cannot be exchanged on demand by the holder for cash to its full nominal value, and, owing to the uncertainty in regard to its realisation, is at a discount in the market.

Indemnity, a formal legal acceptance of responsibility against damage or loss in such circumstances as may be expressed.

Indents are orders from distant countries for goods, specifying particulars and prices, and owing their name to the fact that they were formerly written on forms bearing an indented line, part of which remained with the sender, while the other part was on the order. With the increased facilities now existing, however, there is no special force in an indent beyond that of an ordinary order.

In Forma Pauperis, a special privilege accorded by the English law to suitors, who, being unable by reason of their poverty to pay the costs of legal proceedings, are permitted to have such costs remitted.

Injunction, an order or judgment of court restraining some person or persons from doing certain things which are detrimental to the interests of another or others.

Inscribed Stock is stock in respect of which

holders are simply registered, no certificates being issued to them. No one can deal with such stock except actual holders or persons appointed by the power of attorney of holders.

Insolvency, the condition which marks a man's or a firm's inability to meet full monetary obligations. When a person is in this strait, he can either call his creditors together and endeavour to come to some private arrangement with them, according to the nature of his assets, or he can place himself in the hands of the Bankruptcy Court, which will administer the estate and distribute the assets for the benefit of the creditors.

Inspecting Order, a written order authorising goods in dock, bonded warehouse, or other place, to be shown to the holder.

Insurance, a provision or contract securing against loss by fire, tempest, or other contingency; insuring compensation for accident; allowance during ill-health; or payment of a stipulated sum at death to beneficiaries indicated. Insurances are usually effected with insurance companies, who take the hazard in consideration of annual premiums paid to them by the person insuring. The rates are based on a system of averages.

Intarbores Securities are such as are negotiated simultaneously in different countries, and are dealt in at fixed rates of exchange.

Interest, in its commercial sense, is payment made for the loan or use of money, and is calculated according to a specified rate. Interest is either *simple* or *compound*. When simple interest is paid, the principal sum remains the same; in case of compound interest, each year's interest is added to the principal, and succeeding interest calculations are on the increased amounts.

Interim Dividends are such as are paid on shares before the time of declaring the full dividend.

Interpleader, a form of lawsuit the purpose of which is to decide between rival claimants to property or money. The suit is usually reverted to by the officers of the law when in possession of property of disputed ownership.

Intestacy is the condition supervening on a person possessed of property dying without having made a will. An intestate's real estate devolves upon his heir or heirs; his personal estate goes to his next of kin according to the Statutes of Distribution.

I O U, an informal written and signed acknowledgment of indebtedness, requiring no stamp, and, though not a promissory note, can be sued upon. The letters stand for "I owe you."

Issue of Shares and Loans. Shares are issued by the sending out of certificates in return for subscription payments, and declare the holders entitled to so many shares. A loan issue consists of bonds with a similar declaration.

Jarquer, the principal of the Customs department where all documents relating to import ships are finally cleared, or jarquered.

Jettison, a term in navigation law, signifying cargo thrown into the sea and sunk. Such goods belong to the Crown in default of other claimants. (See *Flotsam*.)

Jettison, a legal term referring to cargo thrown overboard in time of sea-peril to save the ship. The liability to make good property so lost is apportioned according to averages.

Joint Stock Companies may be limited or unlimited, and their capital must be subscribed by more than twenty persons, as with fewer than twenty one subscribers the undertaking is a partnership.

Joint Tenancy, the occupation or possession of land by persons jointly and equally entitled.

Jointure, the property settled on a woman at her marriage forming her separate estate to be enjoyed after the death of her husband.

Journey, the technical name given to fifteen pounds' weight (701 sovereigns) of coined gold, or 60 lbs. weight of coined silver.

Judgment Creditor one who has obtained a court judgment against a debtor.

Judgment Debtor, one against whom a court judgment for payment of debt has been obtained.

Keel, a ship's bottom, the chief foundation timber reaching from stem to stem and holding the whole frame together. In an iron or steel ship, the term signifies the plates that correspond to the keel timbers of a wooden ship.

Keep House, a term applied to a debtor who denies himself to creditors calling at his house. This constitutes an act of bankruptcy.

Kentledge, permanent ship-ballast, and generally consisting of pigs of iron.

Leaches, in commercial law, are acts of negligence or carelessness.

Leagan, floatable goods cast overboard from a sinking ship.

Landing Order, a Customs document authorising the chief officer of a ship, after dues paid, to hand over goods for landing, during which process the walter or searcher examines the goods and finally signs the order as correct.

Larceny in its broad significance means the fraudulent taking away and appropriation of the personal goods of another. Larceny is of two kinds: *simple larceny*, which is theft apart from accompanying aggravation; and *compound larceny*, that which is rendered more serious by being combined with assault, or forced entrance into an enclosed place, such as a house or shop.

Leatage, sand or gravel used for ballasting a ship.

Law Merchant, the mercantile law, which embodies the customs and usages ordinarily sanctioned between merchants and traders, and is recognised as part of the common law of the country.

Law Days are days allowed for loading or unloading ships according to agreement, and date from the time that official permission to load or discharge has been given.

Leakage, an allowance made for losses on liquids by leaking.

Leakage and Breakage, a term of exception sometimes inserted in a charter party or bill of lading and indicating that the shipowner is exempt from liability for any damage of this kind occurring on a voyage, unless caused by negligence of the crew in handling or stowing the goods.

Lease, a letting, or the document setting forth the letting, of lands, tenements, machinery, or other property for a specified consideration and time. A lease for a longer period than three years must be by deed.

Leaseholds, which are personal property, however long the term, are lands or houses held on lease, subject to the payment of ground rent to the freeholder.

Legacy, a gift by will of personal property. There are three classes of legacies: (1) *general*, being payable out of a testator's general assets; (2) *specific*, when comprising a specified part of the testator's property; (3) *demonstrative*, when a certain fund is made liable for the discharge of the legacy; but if the fund has ceased to exist or is inadequate the general estate must supply it.

Legal Day is the whole of the twenty-four hours of a day, from one midnight to the next.

Legal Tender is gold is good in this country to any amount; of Bank of England notes for any sum above £5, except in certain circumstances by the bank itself; silver is legal tender up to 40s.; bronze up to 1s.; farthings up to 6d.

Letter of Allotment, a letter informing an applicant for shares that certain shares have been allotted to him. A stamp duty of 1d. is chargeable on such letters for less than £5, and of 6d. for higher amounts.

Letter of Credence, a letter given by a monarch or other head of State to an ambassador for delivery by the latter to the ruler of the country to which he is sent.

Letter of Indemnity, a letter undertaking to be responsible for any loss or damage sustained in circumstances specified.

Letter of Licence, a document signed by creditors, authorising a debtor or other person to carry on a business for a specified time, and undertaking to abstain from taking proceedings during that time.

Letter of Rescission, a letter sometimes

appended to a letter of allotment, enabling the allottee, by filling up and signing it, to renounce his allotment if he desires to do so.

Letters of Administration, the Probate Court document of authorisation to the next of kin or other representative of a person who has died intestate to administer the estate according to the Statutes of Distribution.

Liabilities by Endorsement are liabilities incurred by the endorsement of bills or other negotiable instruments whereby the endorser becomes responsible for payment should the other parties to the document make default.

Libel, any writing, printed matter, picture or illustration put forth with malicious intent for the purpose of injuring or bringing a person into public ridicule and contempt. An aggrieved person may proceed either by civil action or criminal indictment. A good defence is that the words complained of are true and to the public advantage to be made known. Since 1861 no newspaper proprietor could be criminally prosecuted for libel without the fiat of the Public Prosecutor. A spoken libel is *slander*.

Licence, special permission to do or sell certain specified things, usually such as are liable to excise duty. Licences are required for keeping carriages, dogs, for shooting game, for hawking and peddling, for selling beer, ale, wines and spirits, tobacco, patent medicines, etc. Excise duties in the United Kingdom produce over thirty millions sterling.

Lien, the right by which a person holding personal property of another can retain possession of it until some claim that he has against the original owner is satisfied.

Light Dues are charges levied on ships for the maintenance of lighthouses, beacons, etc., around the coasts.

Limitations, Statute of, passed in the reign of James I. still remains in force, whereby it is laid down that actions for trespass, or debt, or simple contract, cannot be instituted after the lapse of six years from the date of the cause of action; that actions for assault, menace, or imprisonment must be brought within four years; and actions for slander within two years. Actions for the recovery of land must be commenced within twelve years.

Limit, a point of price fixed by a principal, beyond which a broker or agent is restricted from buying or selling.

Limited Liability in regard to companies has been in operation since 1855, and in the case of such undertakings as are registered as "Limited," the liability of shareholders does not extend beyond the paying in of the amount represented by their respective shareholdings. After the passing of this Act limited companies were formed in profusion, and the system was much abused, rendering further restrictive legislation necessary. Many serious company frauds were brought to light from year to year, and in 1907 a fresh Companies Act was passed compelling the publication of such facts and particulars as now renders this class of fraud more difficult of perpetration.

Liquid Assets consist of readily realisable property, such as coins, notes, Consols, and other high-class securities.

Liquidated Damages, an agreed amount of damage in case of breach of contract; or, in an action, the definitely ascertainable amount that may be indubitably due.

Lloyd's, started as a meeting-place for merchants and shipowners at a coffee-house in Abchurch Lane, London, kept by Edward Lloyd, gradually developed into a very powerful association, and since 1774 has had its offices in the Royal Exchange. The members of Lloyd's mostly engage in the business of insuring or "underwriting" ships.

Lloyd's Bonds owe their name to the lawyer who settled the form of them, and are sometimes used by corporations in place of debentures as security for loans.

Lloyd, Austrian, an association of Austrian merchants, founded in 1833 at Trieste on the lines of the British Lloyd's, and owning lines of steamers and interesting itself in literary and scientific affairs.

Lloyd, North German, an important company

owning powerful lines of steamers trading between Germany and all parts of the world.

Lloyd's Policy, a document signed by underwriters at Lloyd's setting forth the terms of the particular insurance effected by it.

Lloyd's Register forms a full record and classification of all British ships, and of foreign ships classed in the register, and is published yearly. The surveyors of Lloyd's make periodical surveys of vessels, and keep a systematised inspection over ships intended for classification. The first class mark for ships is A. Lloyd's Register is now kept in a handsome and spacious building at the top of Lloyd's Avenue in Fenchurch Street.

Lock-out, the act of an employer, who, by reason of trade disputes, or other cause, closes his factories or workshops against his employees.

Log, a line used for reckoning the speed at which a ship is travelling. It was first used in the 16th century. The line is divided into spaces of 50 ft. marked off by knots and measured by a half-minute sand glass, bearing the same proportion to an hour as 50 ft. bear to a mile.

Log-Book, the book in which the records of the takings of a ship's log, as well as the chief incidents of a voyage, are entered.

Long-Dated Bill, a money-market term denoting a bill of exchange for a longer than ordinary period.

Long Exchange, a term referring to the rate of exchange on bills having three months to run.

Long of Stock, an American Stock Exchange expression referring to one who holds stock in anticipation of a rise; equivalent to our "bull" operations.

Made Bill, a bill of exchange negotiated in England and payable in another country.

Maintenance, a legal term signifying the interference in a suit by someone having no direct interest in it, and constituting a punishable offence.

Making a Market is a word sometimes adopted by company promoters prior to share allotment in order to force a demand. Brokers are commissioned to buy in the market at a price slightly beyond the nominal value, a jobber is arranged with to sell them, and an artificially manipulated demand is started. Thus a favourable impression of value and demand is created, and the public may be induced to apply for shares in considerable numbers.

Making a Price, the quotation by a jobber of the price at which he is prepared to buy or to sell.

Making-up Price, the price at which stocks or shares are closed for the current settlement.

Mandamus, a writ commanding the performance of certain acts or duties.

Manifest, a document giving particulars of the various packages comprising the cargo of a ship, and the port for which she is bound.

Manifolding, a cant term applied to a fraudulent trick with half notes. A man cuts a banknote in two, sending one half to one tradesman with an order for goods, and the other half in the same way to another tradesman, impressing upon both the importance of despatching the goods immediately.

Margia, a covering deposit with a broker, accompanied by instructions as to prices that are not to be exceeded.

Maritime Lien, a claim for salvage, damages, wages, or payments made in respect of any maritime adventure and constituting a direct charge upon the vessel enforceable by arrest and sale.

Market Over, in open market, i.e., a place sanctioned by law or custom for selling and buying and open to the public.

Mate's Receipt, the receipt given by the mate of a ship when goods are brought alongside for loading.

Memorandum of Association, the document which contains particulars of the specific objects for which a company is established, and covering the whole scope of operations, beyond which it is not legal to go.

Metalling Clause, a clause in a marine insurance policy, specifying the non-liability of the underwriters for loss caused by ordinary wear and tear.

Metric System. (See *Office Compendium*.)

Mint Par of Exchange, the weight of gold or

silver in a coin of one country in comparison with that of another country's coin.

Mint Price of Bullion indicates the number of coins into which a given weight of bullion is divided.

Mixed Currency, a currency partly of coins of the precious metals and partly of convertible paper, but both must be of legal tender quality.

Mixed Policy is a marine insurance policy combining time and distance conditions—a voyage and a period.

Monometallism, the system of a single metal standard of value in a national currency, such as the gold standard obtaining in England.

Month. The term month in commercial matters means a calendar month, unless otherwise specified.

Mortgage, a legal document whereby one who borrows money conveys his right to certain property to the lender as security for the repayment of the sum advanced, together with interest at a rate specified in the deed. The borrower is called the mortgagor, the lender the mortgagee. A mortgage may be on freehold, leasehold, copyhold, or personal property. The most usual kind of mortgage is a mortgage of real estate, and it takes the form of an absolute conveyance of the property constituting the security; but, for the protection of the mortgagor the deed contains a proviso of redemption, to the effect that if principal and interest be repaid on a certain date (usually six months after the execution of the mortgage) all claim of the mortgagee on the property becomes extinguished. As a rule, however, mortgages are arranged to extend over indefinite periods, and after the expiration of the time prescribed in the proviso of redemption, the mortgagor's legal right of redemption ceases. Then, according to the strict legal construction, the mortgagee becomes absolute owner of the property; but the mortgagor has still what is called his equity of redemption, which entitles him to continue in possession of the property, and to demand the legal retransfer of it to himself on payment of the sum borrowed and interest. It is customary for mortgages to continue for a number of years (sometimes there is a precise term fixed), and so long as the interest is regularly paid by the mortgagor, the mortgagee takes no further steps. If there be failure in payment of interest, the mortgagee gives notice to the mortgagor that unless the default be made good within three or six months he will proceed to exercise the powers of sale or foreclosure given to him by the mortgage, or enter into possession of the property, but in carrying out any of these powers he can only realise to the extent of satisfying his claim for principal, interest, and expenses. Whatever surplus remains beyond this he must hand over to the mortgagor. The same process and conditions obtain when the mortgagee (even if there have been no default in the payment of interest) desires to recall the mortgage sum advanced, and gives the requisite notice. When a mortgagee fails to obtain repayment as stipulated, the most usual course is to act on his power of sale and sell the property mortgaged. To foreclose and become absolute owner, he must obtain a decree of the Court of Chancery, but such proceedings are beset by difficulties and are not frequently resorted to; nor is it often that a mortgagee takes steps to enter into possession of the mortgaged property, having to obtain leave of the Court, and being practically only in the position of a receiver, accountable for the management of the property, collection of rents, etc. A mortgage of leaseholds is by assignment or sub-lease, and of copyholds by what is called conditional surrender.

Mutual Life Insurance, a system of life insurance carried on by members of a company having no shareholders and no subscribed capital, and dividing the whole of its profits amongst its policy-holders.

Name Day, the second day of the Stock Exchange settlement. Also called the "Ticket Day."

Navy Bills, bills of exchange drawn by naval officers against pay falling due.

Negotiable Instruments and Negotiable Paper, such bills, notes, cheques, warrants, bonds, and other documents as are by common usage dealt with as equivalents of coin, and the rights in which pass to the persons to whom they are paid.

Net or Nett Weight, actual weight of goods after every allowance has been made for package, waste, etc.

Nominal Exchange, the state of the exchanges which depends upon the moneys of the countries, and not on the current demand for them at any given time.

Nominal Partner, one who permits his name to be used in the title of a business although having no actual interest in the concern, as in the case of one who has retired from it.

Nominal Price, an approximate or designated price of issue of shares, or price quoted in respect of goods and securities in which dealings are infrequent.

Notaries are generally lawyers appointed to certify signatures to documents intended for use abroad, and to put marks of protest on bills of exchange and promissory notes, foreign and inland, which have not been met.

Notice of Dishonour, the notice which the holder of a bill of exchange must give to drawer and negotiators when the bill is refused payment.

Noting a Bill, a notary's memorandum written upon the face of or attached to a returned bill, after being presented by him a second time and not paid.

Not Negotiable. When a cheque or bill has these words written across its face they do not limit the transfer of it from one to another, but, in the case of a transferor not having a good title to the document, the transferee is merely in the same position as the transferor, and cannot go back upon the original drawer for satisfaction.

Novation is the act of replacing a debtor by another who assumes the responsibility, to which there must be the assent of the original debtor and creditor as well as of the substitute.

Nudum Pactum, an agreement without consideration. Not capable of being sued upon except under seal.

Obscuration, a customs term specifying the difference between the actual and the indicated strength of spirits.

Official Assignee of the Stock Exchange, a member of the house appointed to wind up the estate of a defaulting broker.

Official Broker, one appointed to buy or sell specified securities in cases of non-delivery.

Official Receiver, a person appointed by the Board of Trade to carry out prescribed duties under the Bankruptcy Act, in connection with the winding up of bankrupts' estates, and having the powers of a trustee in bankruptcy.

Official Referee, a High Court official appointed to deal with actions concerning disputed accounts.

Omnium Stock, stock capable of being divided into proportionate parts of other stocks.

On Call, money lent, either repayable on demand or at short notice.

On Demand, a term in general use to denote bills of exchange in which these words have been written. They need no acceptance and are payable on presentation.

One Man Company, a company in which all the shares, except those necessary for constituting a company, are held by one man, or in which one man is the moving spirit.

One Man Mark't, a term denoting a case of the entire dealings in a certain class of shares being in the hands of one jobber.

Open Cheque, an uncrossed cheque payable on presentation to "bearer" or "order," as the case may be.

Open Credit, credit given by a banker to a customer without guarantee or security. A letter or credit authorising payment of money to another person without condition also comes within the term "open credit."

Open Policy, a marine insurance policy, the full amount of which is not declared until the value of the property has been ascertained.

Open Slip, a slip of paper initialed by the underwriter, having reference to the terms of an open policy, and requiring no stamp.

Option, a right granted to a person to buy or sell certain stock or shares at a specified price within a stated period or on an indicated day. (See **Put and Call**.)

Ordinary Stock or Shares, such as have no special privilege or right attaching to them, but which receive dividends representing the profits after paying interest on preference shares and debentures and providing for reserve, etc.

Original Bill, the first of a duplicate or triplicate set of foreign bills. The term also applies to a bill which has been discounted before endorsement.

Over-Capitalisation, the circumstance of a company having more capital to pay interest upon than it has power to earn, a result usually caused by too large a price having been paid for the taking over of the business, or in promotion.

Overhead Price, a price including extras.

Over-Tonnage denotes the providing of a greater tonnage of ships than is required for the freight to be shipped.

Par, a price that is equivalent to nominal value.

Par of Exchange, the equalising of exchange as between the currency of one country and that of another.

Partings, or Parting Bullion, mixtures of gold and silver, called a gold parting when gold predominates, and a silver parting when the reverse.

Partners are persons associated in the carrying on of a trade, industry, or business jointly; and may be active, as when employing themselves in the conduct of the enterprise; sleeping, when providing capital but taking no active part; or nominal, when only lending their name.

Partnership, an association of not more than twenty and not fewer than two persons for trading purposes, whose interests, relationship, and responsibilities are usually defined in a deed of partnership.

Passive Bonds and Shares, bonds on which no interest is paid but which confer some future accruing advantage on the holder.

Patent Laws. It was usual in England, up to January 1st, 1905, for the Patent Office to indiscriminately accept fees for registering and granting "protection" to "inventions." Now the Patent Office examines its records before issuing its papers. Each complete specification is subjected to a rigorous examination to discover whether the idea infringes any British patent granted within the preceding fifty years. If the result of the examination is unsatisfactory the applicant is asked to amend his specification. If he refuses, the Comptroller, after a hearing, may compel him to put in a reference to prior specifications, by way of notice to the public, the applicant having the right, however, of appeal to the law officer—the Solicitor-General. The issue of a patent does not prove its validity. As before, any person who thinks his patent anticipates that of the applicant may oppose the grant of the latter by filing a certain form and paying the requisite fee of 10s. Evidence will then be taken by the Comptroller, the final decision as to validity remaining, as before, with the law courts. The law as to British patents and designs was consolidated by an Act of 1907, which placed a check on the under-minute taking out of patents in this country by foreigners, and provided better safeguards and facilities than had previously existed. Over 30,000 applications for British patents are made annually, but less than half the number are granted as a rule.

Pawnbroking originated in Italy in the 15th century, and extended to this country some years later, the Bishop of Winchester being responsible for its introduction, though he did not charge interest. In the 18th century pawnbroking grew to be a regular business and was regulated by Acts of Parliament. A licence is required by every pawnbroker, for which he pays £7 10s. per annum, with an additional duty of £5 15s. if he deals in plate. The three balls which hang over the pawnbrokers' shops are the ancient arms of Lombardy, the Lombards being the first money-lenders in Europe. (See **Monte-de-Piété**, *General Information section*.)

Pay Day, the day on which Stock Exchange settlements are concluded. Used also to denote the particular day of each month on which a firm pays its accounts.

Payee, the person or firm to whom a bill of

exchange, promissory note, or sum of money is made payable.

Payer, one who pays a bill of exchange, promissory note, or account.

Paying-in Slip, a printed form on which particulars and details of a total amount are written when a customer pays a sum into a bank, indicating how it is made up.

Payment Supra Protest, a payment made after protest has been made denying all or part liability.

Per Capita, per head.

Permit, a customs document of authorisation to remove dutiable goods.

Personal Property or **Personalty**, everything that is possessed apart from that which is freehold.

Per Stirpes, by "stock, or stump, or root," a legal term denoting a succession of next-of-kin by simple right of representation, as grandchildren taking their parents' share under their grandfather's will.

Petitioning Creditor, one who files a petition in bankruptcy against a debtor.

Placing Shares, the act of a broker or brokers in getting people to take up shares, usually referring to such as are placed in order to make up a sufficient number to secure quotation on the Stock Exchange.

Policy Holder, the possessor of a policy, whether the insured, or one to whom the policy has been assigned.

Policy Proof of Interest, an expression signifying that the underwriters will recognise the holder's interest in a policy on producing it, without calling for additional proof.

Pool, the combining of several persons in one large operation in shares, on condition of equal sharing in profits or losses according to the amounts of their respective subscriptions.

Post Note, a bank note made payable to order. Such a note must be endorsed by the payee.

Post Oblit Bond is a bond given for a loan, undertaking to repay the lender the sum borrowed with interest, after the decease of another person from whom he expects to receive money.

Pratique, a licence for a ship to trade in specified ports, provided the port she sails from is free from infectious disease.

Preference Bonds are such as are issued at a fixed rate of interest, and payable before dividends are declared on ordinary shares.

Preference Shares and **Preference Stock** are shares or stock entitled to their fixed dividend before any division of profits can be made amongst the holders of ordinary shares or stock. Preferential rights may be cumulative or non-cumulative.

Preferential Payments in Bankruptcy are such as have to be made before the claims of ordinary creditors are considered, and include rates and taxes which may have become payable within two months preceding the date of the receiving order; wages or salaries of clerks or servants for services during the preceding four months, and not exceeding in any one case £50; wages of labourers or work for services during the preceding two months, and not exceeding in any one case £25.

Prejudice, Without. When statements are made or letters written with the words "without prejudice" affixed, they cannot be afterwards used as evidence should litigation follow.

Premium has several meanings: (1) a prescribed periodical (usually annual) payment on a policy of insurance; (2) the advance in price of stock or shares above par value; (3) a bounty; (4) a payment in respect of a loan, in addition to or in place of interest.

Pre-Preference Securities are issues that take preference even of preference ones, but are seldom resorted to.

Present Value, a term used in discounting, and referring to a simple deduction of interest from the face value of a bill; the determination of the present value of a deferred payment with compound interest; or the calculation of the present value of a series of payments due at regular intervals.

Prices Current, a list of goods and merchandise

with prices and statements, duties, drawbacks, etc., if any.

Pricking Note, formerly a Custom House authority requesting the chief officer of a ship to receive specified bonded goods for exportation. The term is now obsolete. (See **Shipping Bill and Note**.)

Primage, a percentage added to the freight and paid to the shipowner to cover commission for chugging, etc.

Primage and Average Accustomed, an expression often introduced into a bill of lading and referring to charges for covering cost of wharfage, lights, pilotage, &c. There is no separate charge now for average, that being included in primage.

Prime Entry, the first entry of the estimated value of a ship's cargo, on which duty has to be levied, before the vessel can begin discharging.

Private Arrangement, a deed whereby a debtor and his creditors enter into an agreement for the payment and acceptance of a composition in satisfaction of all claims.

Private Company, a small limited company privately formed by members who subscribe the whole of the capital among themselves.

Produce, one who manufactures goods, or one who grows and cultivates the produce of the ground.

Production, a term used to denote a thing produced—that is, made, written, composed, or manufactured; or, in its ordinary commercial significance, the bringing forward and offering of an article for sale.

Productive Labour is divided into three somewhat widely generalised classes: *Productive*, such as minister to human gratification and enjoyment, but can not be stored—*as*, for instance, the services of actors, singers, &c.; *Protective*, such as the labour of soldiers, policemen, judges, &c.; and *accumulative*, those services which produce material objects capable of being stored or exchanged, as those of the mechanic, the factory worker, and so on.

Profit, the surplus remaining after all expenses attending production and sale have been deducted.

Promissory Note, an unconditional written promise to pay a specified sum on a specified date, to, or to the order of, a specified person.

Promoter, one who employs himself in the preliminary work necessary to the flotation of a limited company, and whose remuneration must be stated in the prospectus.

Proof of Debt in Bankruptcy, a creditor's affidavit or declaration, setting forth particulars of debt owing to him by a bankrupt.

Property is of two classes, corporeal, as land, buildings, &c., and incorporeal, as the rights in things not represented by material objects.

Prohibitions and Restrictions, a term applying to articles which are either prohibited altogether from being exported or imported, or are placed under special conditions.

Proprietary Company, a parent company holding lands or mining rights, parts of which it sells or leases to others.

Prospectus, a document containing a statement of the property, business, undertaking, enterprise, or project for the development or working of which an appeal is made to the public to subscribe for shares in the company taking the property over. The provisions with regard to false statement or concealment of facts are exceedingly strict, and persons who have been induced by misstatements in a prospectus to take shares can proceed against its issuers for damages.

Protest, a notification by a notary public of an unaccepted or unpaid foreign bill of exchange, which protest must be effected at the place of dishonour, and contain a copy of the bill, a statement of the parties to it, and other particulars.

Proxy, one who acts for another, or the written authorisation for such action. A proxy requires rd. stamp, but for proxies in bankruptcy or winding-up proceedings there is stamp exemption.

Public Company, a limited company whose capital consists of shares publicly subscribed, such shares being saleable by any shareholder without the consent of the other shareholders.

Put, or "put option," is the right to sell certain stock at a price named on a specified day, in consideration of a premium paid.

Put and Call, equivalent to double option.

Put of More, a "put option," with the additional privilege of selling double the quantity specified.

Pyx, **Trial of the**, is a trial by a jury of experts chosen from the freemen of the Goldsmiths' Company of the City of London, of the gold and silver coins manufactured at the Royal Mint, and in recent years at certain Colonial Mints, during the preceding twelve months. This annual ceremony takes place in accordance with the provisions of the Coinage Act of 1870. The standard pieces of gold and silver used formerly to be kept in the ancient Chapel or Chamber of the Pyx at Westminster Abbey, under the joint charge of the Lords of the Treasury and the Comptroller-General. (See also *Mint*.)

Quarantine is a term used to denote the period for which a vessel, on which there is infectious disease, is detained in isolation until medically certified free from taint. Originally this period was forty days; hence the term, but now the detention and prohibition of intercourse with the shore only lasts until a clean bill of health can be given.

Quarter Days in England are Lady Day (25th March), Midsummer Day (24th June), Michaelmas Day (Sept. 29), and Christmas Day (Dec. 25). In Scotland the legal terms are Whitsun (May 25), Martinmas (Nov. 11), and the conventional terms Candlemas (Feb. 2), and Lammas (Aug. 1) make up the quarters.

Quit-Rent, rent paid in respect of copyhold property to a lord of manor in lieu of services.

Quintal, a weight that varies in different countries. In England and the United States it is 100 lbs.; in France, 100 kilos, equal to about 220½ lbs. avoirdupois.

Quorum, a term indicating the number of members of any body or company necessary to be present at any meeting or commission before business can be transacted. The members constitute a quorum in the House of Commons.

Rack Rent, rent of the full yearly value of the property held. A term generally used to denote excessive rent.

Racking, a term used in the wine and spirit trade when liquors or wine are transferred from certain casks to other casks, or when drawn off from the lees.

Railway Advice, a document sent by a railway company to a consignee of goods intimating that goods are awaiting his orders at a specified station, and that demurrage will be chargeable after a date named.

Rateable Value, the value of property as the same is assessed in the rate books of the local authorities, representing the ordinary rent value less the outgoings in connection with the property.

Raw Materials are products before they have come into process of manufacture, such as wool, cotton, hemp, etc.

Real Estate or Realty, includes all freehold property. Leaseholds, however long the term, are personal estate.

Real Securities, deeds of mortgage of real estate.

Realisation is a conversion into actual cash of what was previously contingent or doubtful, a process that may result in gain or loss on original cost according to the state of the market.

Reasonable Hours, a term often used in commercial documents in regard to applications, presentations, etc., and mainly to be decided by commercial custom. Thus, from 9 a.m. to 6 p.m. would be reasonable hours in any ordinary business.

Receipt is a written acknowledgment of money paid, and since 1893 has in this country been liable to stamp duty, at first according to the amount involved, but since 1894 a uniform stamp of one penny for any sum of £2 or more has been sufficient. A special receipt stamp was necessary before June 1st, 1881, but since that date ordinary penny postage stamps have been used.

Receiver, one appointed to control an estate or property pending dispute or litigation.

Receiving Notes, documents signed by shippers requesting the chief officer of a ship to receive on board specified goods.

Receiving Order, the order of a court of bankruptcy, on petition presented by a debtor or one of his creditors, placing the debtor's estate in the hands of the official receiver, and barring further legal proceedings against the debtor by creditors. Whether the debtor be declared bankrupt or not depends upon the decision of the creditors after the debtor's public examination.

Recognizance, an acknowledgment of indebtedness to the Crown, should a certain specified act not be duly performed; for example, a recognizance in respect of a prisoner liberated on bail, whose failure to appear on the day appointed for trial, would render the recognizance realisable.

Redemption of Mortgage, paying off principal sum, and interest due on a mortgage, and thereby redeeming the charge.

Re-draft, a new bill of exchange in place of one that has been protested, with costs added to the original amount.

Re-exchange, loss incurred on a dishonoured foreign bill.

Re-exportation, the exportation of imported goods.

Reducing into Possession, the conversion of a thing in which one has the right of action into actual possession, as when the holder of a bill of sale enforces his security.

Reference, a person or firm to whom inquiries may be addressed regarding the character, ability, or position of the one giving the reference.

Registered Bonds are such as for security against robbery or loss are registered in the holders' names in the books of the company or State issuing the bonds.

Registered Stock is stock registered in the same manner as mentioned in regard to Registered Bonds above. Holders of such are given a certificate of title.

Re-insure is to take out an additional insurance on the same risk, and occurs when an insurer considers that he has incurred too great a hazard and re-insures with others, so as, in case of loss, the liability will be more widely distributed. Re-insuring, however, does not lighten the insurer's responsibility for the whole amount of the original insurance.

Remedy, the technical term for the extreme limit of allowance the Mint will allow from the fixed coinage standard.

Renewal of a Bill is frequently resorted to when an acceptor finds himself unable to met it when it falls due. It simply amounts to an extension of time, but cannot be effected without the consent of all the parties to the original bill.

Rentes, foreign Government Funds—chiefly those of France, Austria, and Italy—on which annuities are paid, as with English Consols.

Replevin, the name of an action brought by a tenant for recovery of goods unlawfully distrained upon.

Reputed Ownership is a term in use regarding goods and property in the possession of a bankrupt, and applies to everything under his control at the time of his bankruptcy. All such property is presumed to belong to the bankrupt and to be available for realisation and distribution, unless the contrary is proved.

Request Note, a note filled up and signed by an importer when requiring the removal of dutiable goods from one warehouse to another, or (in the case of perishable goods) from shipboard before clearance.

Reserve, a fund set apart by a company, firm, or institution, over and above its capital, to provide for contingencies.

Reserve Capital, such portion of a limited company's unpaid capital as can only be called up for winding-up purposes.

Reserve Price, the lowest price at auction or otherwise at which specified goods will be sold.

Respondentia, a legal term applying to maritime contracts, mortgages ships and their cargoes for money advanced; differing from a bottomry bond in the extent of the pledge.

Resolution, any proposal made at a meeting and put to the vote. An ordinary resolution of a limited

company is decided by a bare majority; a special or extraordinary resolution requires a majority of three-fourths to carry it. The "special" resolution must be subsequently confirmed by a mere majority, but no confirmation is necessary for an "extraordinary" resolution.

Rest, a Bank of England term applied to its weekly return, and signifying the surplus of assets over liabilities (including capital).

Restraint of Trade, a term applying to an arrangement entered into when a business is sold, prohibiting the seller from carrying on a like business within a specified radius or during a given time. Anything in the nature of unreasonable restraint cannot be upheld.

Restrictive Endorsement is one which destroys the negotiability of a bill of exchange.

Refainer, the engagement, by request and payment of retaining fee, of the services of a counsel to represent one of the parties to an action, inquiry, trial, hearing, or arbitration. Another meaning of the word refers to the right of an executor to retain what may be owing to him personally out of the testator's estate from moneys coming into his hands as executor.

Retenue, a French term for the charge made to importers of gold and silver for the conversion of bullion into coin at certain mints. (See **Seigniorage**.)

Retiring a Bill is to withdraw it from circulation after by buying it up and retaining it until maturity or at once cancelling it, or by the acceptor meeting it in the usual way when due. In the latter case it is discharged.

Revenue, in its ordinary application refers to income of any kind; more strictly, however, it is a word denoting the income yielded to a State from taxes and duties.

Revenue Account, the account of a firm or company showing the result of its operations and what profit or loss it has made. It is apart from the capital account.

Reversion is a right to property or benefit, the enjoyment of which does not come into operation until the happening of a certain event or the expiration of a certain period.

Reversionary Interest, a term generally applied to a deferred interest in money or personal property.

Rider, any separate addition to a document, or addition to a resolution or verdict, fastened to the original.

Rigging the Market is a Stock Exchange practice sometimes resorted to whereby persons by secret purchases of a particular class of stocks or shares force an artificial public demand, and consequent rise of price. Then they sell.

Right of Action is the right, obtained by argument or purchase, of claiming or suing for a debt or obligation due to another.

Ring, a combination formed by a group of speculators to obtain control of the operations in a certain commodity, and by creating scarcity to run up prices for their own profitable realisation. (See **Corner**.)

Royalty has several meanings: (1) percentages or dues payable to landowners for mining rights; (2) sums paid for the use of a patent; (3), percentages paid to an author by a publisher on the sales of a book.

Rolling Stock, everything used on railways or tramways for the conveyance of passengers or the transport of goods, and including locomotives, electric motor cars, carriages, wagons, etc.

Rummaging a Ship is the search made by Customs officers for concealed dutiable or prohibited goods.

Runner, one who touts for sharebroking business and is remunerated by a share of the profits on what he introduces, while also liable to bear a share of any losses made.

Running Days, consecutive days, including Sundays and holidays, and used in regard to a ship's running.

Rus with the Land, any condition of tenancy or leaseholding that is special to a property let or

leased and for which continuous fulfilment has been provided.

Sagging Market is one in which prices show a marked and continuous falling tendency.

Sale for the Coming Out is an early sale of shares in a company prior to the issue of share certificates.

Sale or Return, a selling of goods to a retailer on condition that if he fails to re-sell them within a given time the seller will take them back and refund the money paid for them or make an equivalent allowance.

Sale Warrant, a document given with a weight note, in the case of goods sold on payment of deposit, conditionally on an early discharge of the balance.

Salvage, compensation given in respect of property saved from the perils of the sea, when the ship containing it has had to abandon it, or it has been lost. Salvage compensation varies from one-tenth to one-half the value of the rescued property.

Salvage Loss, a term used in respect of a partial marine insurance loss, being the value of the goods recovered deducted from the full amount of insurance.

Sampling Orders are orders addressed to the superintendent of a dock or other warehouse, authorising the giving of specified samples to the person named.

Sans Recours, "without recourse," a term which when written on a bill of exchange by an endorser frees him from liability on the document.

Schedule, a list, summary, index, or inventory. It may be either supplementary or explanatory.

Scrp, a certificate of shares in a Government loan, company, or corporation, a contraction of "subscription."

Seorvener, one who lends or invests money for clients at interest, and is remunerated by commission or procuration fees.

Scrutineer, a person appointed to count the votes at a general meeting of the members of a company.

Scrutiny, an examination of voting papers.

Searchers are Customs officers entrusted with the duty of searching and examining vessels on arrival or departure for goods liable to duties.

Search Warrant, a document issued by a magistrate authorising a search in any place for stolen or concealed property.

Seaworthy, the condition of a ship when it is in every respect fitted for undertaking a voyage. There is an implied warranty of seaworthiness in a marine insurance policy, and should the vessel turn out to have been inefficient at starting, the underwriters have their remedy against the insured.

Second Class Paper, bills, notes, and other securities for the satisfaction of which persons or firms of only moderate standing are responsible.

Secured Creditor, a creditor holding security the realisation of which would satisfy his claim; what it realises beyond that must be handed over to the debtor's estate. In such a case the creditor is fully secured. In case of a partially secured creditor, he may realise on the security as far as it will go, and prove on the estate for the balance.

Securities are documents entitling the holder to specified realisable rights in land, money, stocks, shares, bonds, mortgages, etc., in the event of loans, payments, or advances for which they were given remaining undischarged.

Seigniorage, a Mint charge for converting bullion into coin. The seigniorage on gold is 14d. per Troy ounce, while on silver there is no charge for coining.

Seisin, actual possession of real estate.

Seizure Notes are notes made out by a Customs officer on discovering and taking possession of goods fraudulently obtained or bearing fraudulent trademarks, and left with the goods after they have been placed in a Customs warehouse.

Sellers Over, a market condition when sellers are in excess of buyers, or when there are no buyers at all.

Selling Out, a Stock Exchange term applying to the case of a buyer of stock for the account failing to pay for it, when the stock is officially sold and the transaction closed, any loss that may be incurred being charged against the defaulter.

Sequestration is a legal process putting a sheriff or other officer of court in possession of property or goods until a dispute or claim in respect thereof has been disposed of.

Sequesteror, the person appointed to take possession under a sequestration order.

Set-Off, the placing of a debt due against a debt owing, wholly or partially.

Settlement may mean: (1) the discharge of a debt or claim; (2) the settling of a sum of money on a woman on her marriage as a provision for herself and children; and (3) the Stock Exchange fortnightly settling period, viz. the last three days of the month, as to general stocks and shares, and in the mining market four days.

Settling Day, the last day of the Stock Exchange account.

Sharebrokers are persons engaged in the business of buying and selling shares and stocks for clients.

Share Certificate, a document issued by a public company to a shareholder, certifying the number of the shares held, and the sum paid up on them.

Share Warrant, a document certifying that the bearer owns the shares specified and that they are fully paid up. It is a negotiable instrument, with coupons attached payable at the dates named to whomsoever may present them. When shares take this form the shareholder's name does not appear on the list of shareholders.

Ship Brokers are persons engaged in promoting business between shipowners and traders.

Ship Letter, a letter despatched by a private vessel and not by the usual postal channels.

Shipping Articles, the contract between a shipmaster and his seamen setting forth the terms and conditions of service.

Shipping Bills, Customs or traders' documents containing particulars of goods placed on shipboard.

Shipping Cards, cards issued by shipbrokers giving dates of sailings, approximate dates of arrivals, and other information of use to shippers.

Shipping Note, delivery or receipt note concerning goods sent for loading.

Shipping Weight, the declared weight of goods put on shipboard.

Ship's Certificate of Registry. This is issued by the registrar after the completion of the building of a ship, and sets forth the name, build, tonnage and other particulars.

Ship's Clearance Inwards, the Customs certificate that all dues and demands in respect of a home-arriving ship have been satisfied.

Ship's Clearance Outwards, the Customs certificate that all dues and demands in respect of an outgoing vessel have been satisfied.

Ship's Manifest, is a ship's paper, and contains full details of the vessel's cargo and the ports for which she is bound.

Ship's Papers, such as must go with the ship, comprise the Certificate of Registry, the Contract with the seamen, Charter Party or Bills of Lading, Manifest, Official Log, and Bill of Health.

Ship's Passport, a State document, given in time of war to the master of a neutral ship, containing all particulars necessary to show the vessel's nationality, ownership, equipment, cargo, etc.

Ship's Protest, a declaration, made before a notary, setting forth particulars of loss or damage to ship or cargo, a document necessary for production to underwriters before adjustment of claim.

Ship's Report, a form which every master of a ship is required to fill up within twenty-four hours of arriving in port, setting forth all particulars as to vessel, crew, cargo, etc.

Ship's Store Bond, a document given by a shipowner or captain in respect of dutiable articles to be used as stores during a voyage.

Ship's Stores, articles necessary for the provisioning of a ship; as a Customs term, however, it refers only to articles which would be chargeable with duty if consumed on land.

Share Bill are bills of exchange having less than ten days to run.

Short Exchange, rates quoted for bills payable on sight or within a few days after.

Short Loans, advances for short specified periods at a fixed rate of interest.

Short of Stock, a phrase, originating in America, to denote a selling of what is not possessed, and answering to "bearing" operations.

Short Shipment, a term applied to goods that, through accident or want of space, are unable to be taken on board.

Shut for Dividend refers to the period when the transfer books of the public companies are closed for the making out of the dividend warrants. No transfer can be registered during this period.

Sight Bills are such as are payable at sight, without allowance of days of grace.

Sighting a Bill, a bill is sighted when presented to the person on whom it is drawn.

Sinking Fund, was established by Sir Robert Walpole in 1716 with the object of redeeming the National Debt. A further Sinking Fund was introduced by Pitt in 1786 that ultimately proved to be founded on a fallacious basis. In 1868 the Sinking Fund was restricted to one-fourth of the actual surplus revenue, and a new Sinking Fund was formed in 1875, by which a permanent annual charge to be sanctioned by Parliament from time to time was established, the yearly charge from that date being fixed at 28 millions sterling.

Shipping, a Customs term used in taring, and referring to the temporary transfer of articles from one package to another.

Slander of Title or of Goods, anything uttered in denial of ownership or depreciation of goods, whereby a man suffers loss of sales or custom.

Siding Scale, a scale of wages regulated by appreciation or depreciation in the market value of the products of labour.

Slinging, the act of putting chains round goods lying on the side of a ship for convenience of hoisting. The shipper bears the charge for this.

Slip, a marine insurance term referring to a note of particulars required by an underwriter before undertaking to insure, and which he initials if accepting.

Sola, signifying "this only," is a term applied to a document of which only the original exists.

Solvency, the ability to discharge all debts and obligations in full.

Specific, metallic money, coin, in contradistinction to instruments of credit, such as bills and notes.

Special Commerce, a term including imports for home consumption and exports which mainly represent the products of the countries from which they are exported.

Special Damage is damage sustained by wrongful act and for which damages beyond general damages may be claimed.

Special Endorsement on a bill of exchange is an endorsement specifying the name of the person to whom the indorser transfers the document.

Special Settlement is the day fixed for first settlement upon which stock is first admitted to quotation on the Stock Exchange.

Specie Point, the point above or below the Mint par of exchange it is found more profitable to pay in specie than bills.

Specification, a detailed list of work to be done or goods to be supplied in the carrying out of an order or contract.

Specific Performance, the express carrying out of the terms specified in a contract. Where damages supply an adequate remedy, however, the court seldom enforces specific performance.

Spits, instruments of wood, iron, or steel, used by Customs officers in examining goods for dutiable articles.

Spot Goods are such as are ready for immediate delivery.

Squeezing the Bears, a phrase denoting the condition to which "bears" are reduced when buyers to whom they have contracted for delivery are themselves the holders of the available stock, and by this means compel the "bears" to purchase from them at an advanced price.

Stag, one who buys shares in a new company with the view of operating for premium only, selling as soon as premium point is reached.

Stale Cheque, a cheque that is not presented for payment within a reasonable period. Bankers make a rule of not cashing cheques six months or more old.

Standard Gold is composed of twenty-two parts of pure gold and two parts of copper alloy.

Standard Silver consists of thirty-seven parts of pure silver and three parts of copper alloy.

Standard Money is coin whose value in exchange depends upon the intrinsic value of the metal it contains.

Standarding is an arithmetical calculation for ascertaining the value of bullion, that is converting the gross weight of gold or silver that is not of the standard into its equivalent in weight of standard metal.

Staple, meaning that which is appointed, was an old English term used to designate the commodities traded in by privileged merchants and on which customs were levied. The chief staples were wool, skins, leather, tin, lead, and money. Acts were passed regulating and varying the staple towns from time to time.

State Notes are the notes of a State or Government, undertaking to pay bearer on demand the amount specified in specie.

Statute Barred, a commercial term denoting a debt has passed beyond the limit within which it can be legally recovered.

Statutory Meeting of shareholders in a company is a general meeting which it is compulsory to hold within not less than a month and not more than three months from the time of starting business.

Stay of Execution, an order of court suspending execution on a judgment obtained, until an appeal which has been moved for has been heard.

Sterling Bonds are such as are payable in British currency only.

Stiffening Order, a Customs House permit for a ship before coming to anchor to take ballast or heavy cargo on board for steady purposes.

Stock represents the consolidation of shares and other securities into a money basis of value, and includes the national debt of a country, and fully paid-up shares in a company, and, unlike shares, is divisible into fractional parts.

Stock Exchange, a building in which the operations of buying and selling stocks and shares are carried on. The London Stock Exchange is controlled by a committee of thirty members. There are two classes of members—jobbers and brokers; jobbers dealing in particular groups of stocks, and brokers who operate generally between the public and the jobbers. The annual subscription is forty guineas; and to become a member a man must have served as clerk to a member for two or four years. He must be a member of the club after two years he pays 50 guineas, if after four years 50 guineas.

Stock Receipt, a receipt of registered stock given to the purchaser by the seller on payment of the consideration. On production of this receipt the purchaser's name is registered as owner.

Stopping a Cheque or Note, an act resorted to when a cheque or note has been lost or stolen. The bank is notified of the loss or theft, and in the case of a cheque the banker may refuse to cash it; but as regards a note the banker can only explain matters to anyone presenting it for cashing; he cannot refuse payment if insisted upon, although the presenter may perhaps be arrested immediately afterwards.

Stop Order is an American Stock Exchange term referring to an order to a broker to sell stocks or shares on reaching a certain figure, the price to be made by a third party, and not the broker himself. Should a purchaser not be forthcoming, the broker is at liberty to sell at the next lower price.

Stoppage in Transitu, a seller's right to stop goods on the way to delivery on discovering after despatch that the purchaser is not solvent.

Stores, a maritime term referring to provisions, etc., for the victualling of a ship. Also used to denote any large retail establishment, or goods in bulk generally.

Stowage, payments for stowing a vessel.

Strike is a combined withdrawal from work of a body of workers, for the purpose of obtaining higher wages, or securing some other demand.

Subpoena, "under a penalty," a writ of court commanding the attendance of a witness at a specified time and place. It is called a *subpoena ad testificandum* when requiring verbal testimony only, and a *subpoena duces tecum* when requiring the production of documents.

Subsidy, money contributed by a State, Government, institution, or person, in behalf of any special object.

Superfence Wharf, a licensed wharf upon which dutiable goods may be landed and stored until the duty is paid.

Sum Payable, the amount payable on a cheque, bill, promissory note, or draft, and written out in full in the body of the document. If by error the sum written in figures in another part does not tally with the amount as written out in full, the latter will be deemed correct.

Surrender Value, the value of a life insurance policy at any given time when the person insured because of inability to continue paying premiums, or for other cause, desires a lump sum to be paid to him in consideration of what he has already paid and of his giving up the policy.

Suspense Account, an account of transactions which because of death, lack of information, or other cause, it is impossible to enter in the books in the regular way, and they have to be held in suspense.

Suspension of Payment is when trader, firm, or companies, unable to cope with their liabilities, decide to cease paying further debts, and announce the fact to their creditors. After this step the whole of the assets become available for the whole of the creditors and the estate is wound up.

Take In, to obtain backwardation.

Taking In Shares is when a person having bought more shares than he can take up on the setting day, commences to receive him a portion of them.

Taking Up a Bill is discharging it when it falls due. The acceptor has the first responsibility, and if failing him, it is taken up by an indorser, the latter can sue the other parties previously liable on the bill.

Tale Quale, a grain trade term, denoting that goods sold are equal to sample but that any loss by damage during transportation must be the concern of the buyer.

Talon is the last portion of a bearer-land coupon sheet, containing the intimation that on presentation a fresh sheet of coupons will be exchanged for it.

Tape Prices are the latest prices as recorded on the "tapes," of the telegraph instruments at various places, as supplied by the authority of the Stock Exchange.

Tare is the deduction made in respect of boxes, cases, or other things used in packing goods, leaving only the actual weight of the goods to be paid for.

Tariff, a list of duties charged on specified articles. The term is also applied to any list of charges.

Telegraph Restante, a direction on a telegram intimating that it has to remain at the office where received until called for.

Telegraphic Transfer are messages authorising the transfer of amounts specified from one person to another by process of debit and credit entries by bankers, and much resorted to in transactions between different countries. A trader can in this way pay a sum into a bank in London and have its equivalent paid by the bank's agent in almost any city of the world the same day.

Telegraphing Money Orders, a method of securing payment of sums of money to a person named on the order, at any post office, telegraph office other than the issuing one. No telegraph money order can be issued for a greater amount than £40.

Tenant's Fixtures are such as the tenant has himself put up, and are removable by him at the end of his tenancy, unless they are of such a nature that they cannot be detached without injury to the landlord's property.

Tender is an offer to supply certain things, perform certain acts, or pay a specified sum, but is not binding until accepted.

Tenement, a house occupied or capable of being occupied by a tenant.

Terminal Charges, railway charges for loading, unloading, and otherwise handling goods entrusted to them for transportation.

Third Class Paper bills and other negotiable securities, the responsibility for payment of which belongs to persons or firms of inferior standing.

Ticket, a document giving particulars of shares sold and given to a purchaser by his broker.

Time Bargain, an agreement to buy or sell at a future date at a price fixed on entering into the agreement.

Time Policy, a marine insurance in respect of goods in transit, and limited to a specified period.

Tolls are dock and canal charges for conveyance of goods, and are charged against the owners of the goods, not the ships.

Tonnage as registered is based, not on the carrying capacity of a ship, but upon its cubical capacity, one ton being reckoned for every 100 cubic feet.

Tonnage Duty, port charges, estimated on a ship's registered tonnage, payable on entering or leaving port.

Trade Bill, a bill of exchange in respect of which value in goods has been actually received by the drawee or acceptor.

Trade Fixtures, like tenant's fixtures, are removable by a tenant at the expiration of his tenancy provided no damage be done to the landlord's property.

Trade Mark is a distinguishing design adopted by a producer of goods to indicate his special manufactures. All trade marks are required to be registered, and the forging or counterfeiting of a trade mark is a misdemeanour, punishable by fine or imprisonment.

Trade Unions, a term applied to organisations of workmen formed for mutual protection and assistance, and for the purpose of improving the conditions of their employment generally. Combinations among various classes of workmen have been formed from time to time since the Middle Ages, and trade unions may be regarded as the lineal descendants of the old craft guilds which were suppressed in the time of Henry VIII. The growth of trades unionism was a feature of the latter half of the 19th century. After years of repression a Royal Commission on Trade Unions was appointed in 1869, and their report was followed by the passing of the Trade Union Act of 1871, which, as amended in 1876, now governs the legal position of all such combinations. Since 1866, a congress of delegates from trade unions has met annually for the purpose of discussing labour questions. There are over 2,100 Trade Unions in the United Kingdom with a total membership of about 2,000,000, over three-fourths of which belong to the building, mining, and quarrying, metal, engineering, shipbuilding, and textile trades. Usually a weekly contribution is fixed by the rules, but the income of a trade union varies according to the needs of the organisation, weekly levies being made for special purposes.

Transfer, any document whereby one person transfers property, securities, or rights to another. On the Stock Exchange a transfer of shares or stock is prepared by the seller's broker, signed by the seller, and handed over on payment of the consideration.

Transfer Days are those on which the Bank of England enters transfers free of charge of Government Stock.

Transit, a Customs document permitting a specified vessel or goods to pass or proceed, and serving for outward clearance. It is made out in duplicate.

Treasure Trove, a legal term applying to money, plate, or bullion found hidden in the earth, or elsewhere, and for which there is no owner. The treasure legally belongs to the Crown, but it is the practice to reward the finder with the full value of the property on its being delivered up.

Treasury Bills are negotiable Government acknowledgments of loans, and may be for three, six, or twelve months.

Treat, and **allowance** come common, for waste, carriage, &c., but no longer a custom of trade.

Trusts, a term applied, especially in America, to an arrangement whereby several companies are placed

under one control, mainly with a view to regulate the production and to beat down competition.

Trust Deed, a deed assigning or conveying property, debts, or securities to a trustee or trustees for the purposes set forth in such deed.

Turn of the Market, an expression referring to the difference between selling and buying prices of stocks or shares. For example, if a jobber names two prices, one is the price he will buy at, the other his selling price, and the difference between the two is termed the "turn of the market."

Uberimma Fidel, an expression of mutual good faith by contracting parties.

Ullage, waste or leakage, in liquid contents of bottles, casks, &c.

Under Protest, a commercial term signifying a payment of money accompanied by a declaration that the demand is illegal or in excess of what is justly due, and implying the need of a future rectification.

Underwriter, one who issues shares against loss (See *Lloyd's* and *Marine Insurance*). Also one who, on a limited company's prospectus being issued, undertakes, if the public do not subscribe to the amount required, himself to take up shares sufficient to cover the deficiency, on a specified commission basis.

Unclaimed Dividends are dividends which have not been claimed. In the case of Government Stock, after ten years they are transferred, along with the Stock itself, to the National Debt Commissioners.

Unfunded Debt or Floating Debt consists of Government short loans, payable at fixed dates.

Unified Stock is stock which from being of different interest-bearing rates is amalgamated into one of a uniform rate. The Consolidate Annuities are an example.

Unilateral Contract is a contract that is binding only on one party to it.

Unseaworthy, the condition of a ship when from any cause, including inadequacy of crew or captain, it is unsafe to load it or send it on a voyage.

Upset Price, the price that must be reached at auction to effect a sale. If there is no bid up to that amount the property is withdrawn.

Usury, a term originally used to denote any interest or premium paid for the use of money, but afterwards only employed to express an excessive rate of interest. Many statutes have been passed in order to restrain the practice, and although some of the old evils are continued by private arrangement, the law, as a rule, can afford protection against extortion. The Money-Lenders Act of 1900 compels money-lenders to be registered, and gives a judge the power of reducing any rate of interest he may deem exorbitant.

Vendors' Shares are shares allotted to the vendor or vendors of a business on the same being converted into a limited company.

Venture, a term used when goods are sent out to consignee on a general hazard of sale, for what can be got for them.

Warrant, (1) a magistrate's order for the arrest of a person or seizure of goods; (2) a receipt for goods deposited in a warehouse, and a negotiable document; (3) a document entitling the holder to certain money or property. (See *Dock Warrant*, *Share Warrant*.)

Warrant of Attorney, a document given by a client to his attorney authorising him to appear for him in specified legal proceedings and acts as directed, suffering judgment if necessary.

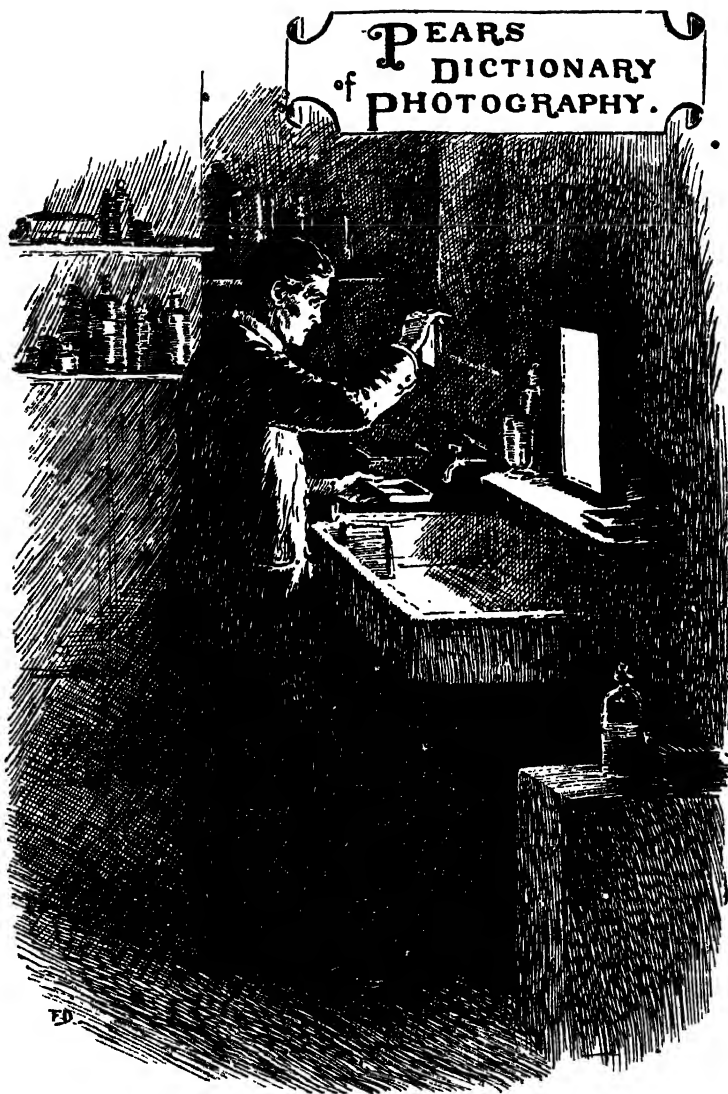
Warranty, a guarantee that goods sold are of the quality stated, and giving the buyer the right of action for damages should the goods turn out inferior.

Watering Stock, a term denoting the issue of extra shares of nominal capital, without providing for interest being paid thereon, the object being to keep down the apparent rate of interest.

Way Bill, a list of passengers or goods carried by a public conveyance.

Wharf Note, a dock company's certificate of weight and other particulars of goods imported.

Winding Up is the closing up of a company's concerns, which may be by reason of insolvency, or otherwise. (See *Liquidation*.)



By F. J. MORTIMER, F.R.P.S.
*Editor of "The Amateur Photographer and Photographic News" and
"The Dictionary of Photography."*

Pears' Dictionary of Photography

Giving Particulars of Terms, Formulæ, and Processes employed in Photography. With numerous Practical Hints on Camera Work and its Applications.

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Accelerator. The constituent of a developer that is used to hasten the process of development. Thus in a pyro-soda developer the carbonate of soda is the accelerator. An increase of accelerator in a developer has the effect of quickening the action and at the same time tends to soften the character of the developed image. (See **Developers and Development**.)

Acetic Acid. A strong-smelling corrosive acid. Should be kept in stoppered bottle. "Glacial" Acetic Acid is the strength usually employed in photography. This contains 99 per cent. of acid and 1 per cent. of water. It crystallises at about 34° F. The commercial "strong" acetic acid is one-third of the strength of the glacial acid. It is a solvent of pyroxyline.

Acetone is a volatile liquid with a pleasant smell and can be used as a substitute for alkali in various developing formulae. The following pyro-acetone developer is recommended.

Pyro	90 grains.
Water	10 ozs.
Sulphite of soda	14 ozs.
Acetone	2 lbs.

Acetone dissolves pyroxyline and is thus of special utility for repairing articles made of celluloid such as developing dishes, etc. (See **Development**.)

Acetylene is used in photography as an illuminant for enlarging and projection lanterns. Special generators and lantern jets with two or more burners and reflector are sold by photographic dealers for the purpose. (See **Lanterns**.)

Achromatic lenses that have been corrected for chromatic aberration is termed achromatic. An achromatic lens brings the rays of light of all colours of the spectrum to the same focal plane. This is a great advantage for orthochromatic and colour work. With a lens uncorrected for chromatic aberration a blurred picture would be produced owing to the superposed images of different colours not coming to the same focus. A more completely corrected lens (for colour) is termed, apochromatic. (See **Chromatic Aberration**.)

Acid-Fixing Bath. The use of an acid-fixing bath is recommended by many plate and paper makers. The bath keeps clear longer and generally tends to give brighter and cleaner results than when plain hyposulphite of soda is used. The acid-fixing bath must not be used for printing-out-papers.

A convenient formula is:—

Hypo	4 ozs.
Metabisulphite of potash	1 oz.
Water	20 ozs.

A cheaper form of acid fixing bath which works well is:—

Hypo	1 lb.
Sodium bisulphite lye	14 ozs.
Water	20 ozs.

(See **Fixing**.)

Actinometer. An instrument for measuring the actinic value or strength of light. (See **Exposure and Exposure-Meter**.)

Adapter. A contrivance consisting of supplementary flanges or rings for fitting a smaller lens to a camera-front in place of a larger one. An adapter may be extemporised for occasional use out of thick cardboard, or strips of paper may be bound round the thread of the smaller lens until it can be firmly screwed home into the ring of the larger lens which is attached to the camera front.

Adon is the name of a special form of telephoto lens made by Messrs. Dallmeyer.

Adurol. A developer for plates and bromide and gaslight papers. The following two-solution formula is a good one:—

a. Adurol	85 grains.
Sulphite of soda	14 ozs.
Water	10 ozs.
b. Carbonate of potash	14 ozs.
Water	10 ozs.

For normal exposures use:—

a. 1 part.	b. 1 part.	Water. 1 part.
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The developed image is of a good black and white character. Adurol is clean working, does not stain, and can be used over again. (See **Development**.)

Aerial Perspective. A term used to denote the idea of distance in a landscape (or photograph of the same), which depends upon the obstructive or dispersing influence of the atmosphere. The correct rendering of the "tone-values" of the composition depends largely upon the presence of, and adequate regard for, the aerial perspective.

Agar-Agar is a vegetable gelatinous material obtained from species of white seaweeds common on the coasts of Singapore and Straits Settlement. It has been suggested as a substitute for gelatine in photographic emulsion making.

Air-Brush is an instrument employed largely by professional photographers and others for working up and finishing photographs and enlargements in monochrome or colour. Air is pumped by means of a foot-blower through a tube into a small instrument similar in size and appearance to a pencil or fountain-pen. The point of this "brush" terminates in a chamber containing liquid colour, and at the extreme end is a fine orifice through which the colour is driven in a

very fine spray on to the picture. The strength and width of the line of spray is regulated by a movable needle in the orifice. This is actuated by finger pressure, which also controls the air passage. The spray of colour is directed like a paint-brush to the parts of the picture that require darkening or altering.

Albuminised Paper is the name generally applied to a form of printing-out-paper that has now been practically superseded by gelatino-chloride and collodio-chloride printing-out-papers. It is prepared by sensitising, in a nitrate of silver bath, paper that has been previously coated with albumen (white of egg) and a chloride in solution. The paper after printing under a negative is toned in a gold-acetate bath.

Alum. There are several varieties of "alum" known to chemists, but "potash alum" (the ordinary common powder alum) and chrome alum are the two employed in photography. The ordinary alum is used to harden the gelatine film of negatives or prints and to prevent frilling in hot weather. Chrome alum is used as a constituent in the manufacture of dry-plate emulsion. A five per cent. solution of alum is the usual strength for a hardening bath for prints or plates, or chrome alum, 1 ounce, water, 30 ounces, may also be used.

Amidol is diamidophenol. It is a very useful developer for plates, and is specially suitable for bromide paper on account of the fine black colour of the image produced. It has the property of developing without the addition of alkali and for this reason is sometimes recommended as an ideal developer in hot weather. In solution it will not keep well and soon loses its developing power. The developer should therefore be made up as required.

The following is a good formula:—

Amidol	50 grains.
Sulphite of soda	24 ozs.
Bromide of potassium	20 grains.
Water	20 ozs.

(See Development and Bromide Printing.)

Ammonia is a very volatile pungent gas known to photographers as "fumes" in water and termed liquor ammoniac fort. s.g. 880. It should be kept in a cool place in well stoppered bottles. The fumes should not be inhaled. It is used as the alkali in pyro-ammonia developer (q.v.). It is, however, unsatisfactory as a developer as its strength is uncertain.

Ammonium Bichromate. Made by neutralising chromic acid with ammonia. It is often used in place of potassium bichromate in processes depending upon the action of light on bichromatised gelatine, such as the carbon process and the oil process.

Ammonium Bromide. Used as a restrainer (q.v.) in development. Potassium bromide is now more frequently used for the purpose.

Ammonium Carbonate is used occasionally as an alkali in development.

Ammonium Sulphocyanide is used in conjunction with chloride of gold for toning gelatino-chloride printing papers. It is a very deliquescent salt and for this reason should be made into a 10 per cent. solution when quite fresh. It has a softening effect on gelatine. (See Toning.)

Amyl Acetate. A colourless liquid with a fruity smell. It is used as a solvent of pyroxyline in the preparation of celluloid and celluloid varnish. A good celluloid varnish for application could be made by dissolving 200 to 300 grains celluloid in 10 ozs. amyl acetate. (The celluloid may be old films with the gelatine removed.)

Anaglyph is a form of stereoscopic print in which one half of the pair of pictures is printed in one colour (red) and the other is printed over it in a complementary colour (green). The stereoscopic effect is obtained by looking at the print through two pieces of glass or coloured gelatine, one of which is coloured red and the other green. One eye looks at the green image through the red glass, the other eye sees the red image through the green glass.

Anastigmat, Anastigmatic, Atigmatism. Anastigmatism is a defect in photographic lenses whereby it is impossible to focus sharply vertical and horizontal near the margin of the field of view. It should not be

confounded with "curvature of field," as in this case the alteration of the focus will improve the marginal definition, though destroying the focus in the centre. An anastigmat lens is one free from astigmatism. The best forms of modern lenses are corrected for astigmatism. A simple test is to make a vertical cross of white paper (not too large) and focus it sharply in the centre of the ground glass screen of the camera. Then without refocussing, swing the camera on the tripod top until the small image of the white cross is at each end of the plate in turn. If the lens is corrected for astigmatism, the image should remain as sharply defined as it was at the centre (with lens at full aperture). If the vertical or horizontal arms of the cross are blurred, the lens has not been corrected.

Angle of View is the angle included by lines drawn from the lens to the edges of the plate it is covering when the image is sharply focussed.

Angle of Lens is determined by the focal length of the lens in relation to the size of plate with which it is used. Thus one lens of a given focal length may be used as a mid-angle lens, as the angle of view it embraces is larger or wider. A normal-angle or mid-angle lens is one of which the focal length is about the same as the diagonal of the plate it covers. Thus a 5-inch lens would be a normal-angle for a quarter plate (4½ in. x 3½ in.). If, however, the same lens is used on a half plate (5½ in. x 4½ in.), it becomes a wide-angle lens, as the angle of view it embraces is larger or wider. If the same lens is used on a 2½ in. x 3½ in. plate, it becomes a narrow-angle lens, as the amount of view included in the area of the plate is smaller and embraces a narrow angle.

Anhydrous means free from water. Many chemicals contain water in their composition which can be expelled on heating them sufficiently. If an anhydrous chemical is recommended in a formula and crystals are used instead, it is necessary to ascertain how much more of the crystals is required to have the same effect.

Animal Photography. (See Nature Photo-graphy.)

Aperture. The name given to a lens that has been corrected for spherical and chromatic aberrations.

Aperture is the term denoting the size of the diaphragm or opening in the lens through which the light passes to the sensitive plate. The entire surface of the glass of a lens is never used, the outer edge being cut off by the diaphragm or "stop" (q.v.).

Architectural Photography. The photography of architecture (houses, churches, cathedrals, &c.) both interior and exterior calls for a rigid camera with adjustments for rising front, swing-back, and wide-angle lens. It is usual to stop the lens down to obtain the finest detail and give fairly long exposure, using a backed plate. (See Halation.) To secure the best results the back of the camera must be perfectly perpendicular, no matter how much the front is swung or raised, otherwise the vertical lines of the building will, in the photograph, converge towards the top or bottom according to the direction of the swing. It is not wise to use a lens including too great an angle. A very wide-angle lens tends to give distorted perspective in architectural work. When photographing interiors a rough and ready rule that may serve as a guide for exposure is to focus with the open aperture of the lens. Then, with the head under the focusing cloth, stop down the lens until detail is only just visible on the ground glass. With a rapid plate ten minutes' exposure will be about right.

Aquaint. Another and earlier name for the gum-bichromate process (q.v.).

Aristotype a name applied to one particular make of gelatino-chloride paper but occasionally used as a general term to printing-out-papers with a base of collodion and gelatine.

Artificial Light Photography. (See Flash-light.)

Autochrome Plates are the invention of MM. Lumière of Lyons and are intended for the production of photographs in natural colours. The results are extremely true to nature but are, so far, only in the form of glass transparencies. Thus each exposure yields but one colour transparency. The photograph is pre-

duced with the aid of minute transparent starch grains which are stained—some blue-violet, some green, and some orange—the proportion of each being of course definite. These grains form a layer or substratum on the glass plate on which is then coated a panchromatic emulsion. An orthochromatic screen is used in exposing and the exposure is made through the glass side. In this way the colours of the image are filtered through the screen of coloured starch grains before reaching the sensitive film. The constituents of this screen permit certain colours to pass according as they approximate the colours of the starch grains. Exposure varies according to light and subject but as a rough guide one second at 1/8 at midday in summer sunshine for an open landscape subject will be about right (this is with the correct yellow screen in position on the front of lens). Other exposures can be calculated from this. The development needs two separate treatments. A negative is produced first and this is then reversed into a positive.

The latest instructions given by the makers are:

The developer recommended is:—

Distilled water 35 ozs.

Metuquinone (Quinomet) 1 oz.

Anhydrous soda sulphite 31 ozs.

Ammonia '900 90 drams

Potassium bromide 90 grains

Dissolve the quinomet in warm water (about 100), add sulphite, and then ammonia, when cold.

For use, take of the above solution 2 oz.

Water 4 oz.

Development must be conducted in darkness, and will be complete in 2½ minutes if exposure be correct, and the temperature of developer about 60° F.

A negative is produced by this method, and at the expiration of the time named, take the plate from the developer, rinse in running water, and place in a dish containing about 3 ozs. of the following solution:—

Water 35 ozs.

Potassium permanganate 30 grains

Sulphuric acid 3 drams

As soon as the plate is in this solution, the remaining operations may be conducted in white light. The plate, from being opaque, becomes clear, and the colours more and more visible by transmitted light.

After 3 or 4 minutes, when the plate is completely clear and shows no trace of negative image, it is taken from the dish and washed for about 30 seconds in running water. The plate is then re-developed in full daylight, using the same solution employed for the first development. When the high lights are completely darkened (about 3 or 4 minutes), the plate is washed for 5 minutes and placed to dry. Fixing is unnecessary, unless the plate is to be intensified. After the plate is quite dry, it should be varnished with the following special varnish:—

Crystallisable benzene 5 ozs.

Gum dammar 1 oz.

This is applied cold by flowing over the surface of the plate.

Other developers may be used for autochromes, and it is quite possible to control development and compensate for under or over exposure. It is best, however, to adhere as much as possible to the makers' instructions.

Azol. A patent one-solution concentrated developer that requires only the addition of water for use. Gives negatives of very fine quality and gradation, and works up detail in under-exposure. Azol is good also for bromide and gaslight papers and lantern slides.

Background. There are many kinds of backgrounds in photography, anything that is behind the principal figure or object in a picture may come under this name. Natural backgrounds are most pleasing, but for portraiture painted backgrounds or sheets may be employed. (See **Portraiture**.)

A pleasing plain background can be made with an ordinary blanket pinned up to avoid creases.

Brown cartoon paper (obtaining in long rolls and various widths) is also very useful for some subjects. The colour or tone of the background will affect the colour or tone of the figure or object photographed. Thus a dark background will make it look lighter than normal, while a white background will have the reverse

effect; contrasts should therefore be avoided, but a graduated background passing from dark on one side to light on the other—or diagonally, will be found handy for portraits. To prepare a home-made background, f.bleached calico of sufficient size should be stretched on a light deal frame, or if it is to roll up when not in use, the calico can be tacked to a convenient wall while being prepared. The following mixture should be freely printed over the surface:—

Common whitening 1 lb.
Glue powder 1 lb.
Tieacle 1 pint.
Water 1 gallon.

Mix thoroughly and add

Ivory black 2 oz.
Ultramarine 1 oz.
Red ochre 1 oz.

Ground down into a fine cream with water. It can be darkened or lightened according to the amount and proportions of colour added. The coating will dry lighter. The above gives a pleasing neutral colour of normal depth of tone suitable for most portraiture.

Backing Plates consists of coating the back of plates with some black or non-actinic substance to prevent halation (q.v.). The essentials of a perfect backing mixture are that it should reflect no rays of actinic light, and that it should be in absolute optical contact with the back of the glass plate.

The two following backing mediums are to be recommended:—

(1.) Amaline Black, bought in the form of a paste, is mixed with yellow dextrin and water to form a black paste. A little spirit is added to facilitate drying. This is spread thinly with a sponge on the back of the plate. This black backing is specially suitable for orthochromatic plates.

(2.) Gum water 2 oz.
Caramel 1 oz.
Burnt sienna in powder 1 oz.

Mix in a mortar. If too stiff add a little spirit, and spread over back of plate with sponge or pad of lint.

An old printing frame makes the most suitable holder for the plate during backing. It is placed in position, glass side out (in the dark room of course), a pad of perfectly clean blotting-paper is then placed in contact with the film side and the back put into position. In this manner the backing can be applied cleanly without soiling the fingers, and a dozen plates can be backed and put up to dry in a very short time. The first can be put into the dark slide or holder as soon as the twelfth is backed.

Most makers now supply their plates ready backed at a small extra charge. Backed plates should be used always if possible. The backing mixture can be removed with damp sponge previous to development.

Baryta Paper is pure paper coated with an emulsion of sulphate of barium, made partly insoluble by chrome alum. This is used as a support for gelatino-chloride printing-out emulsions and in collotype printing, etc.

Beach's Developer is a pyro-potash developer named after its inventor, F. C. Beach, of New York. The following is the formula:—

a. Hot distilled water 2 ozs.

Sulphite of soda 2 ozs.

When cold add:—

Sulphurous acid 2 ozs.

Pyro 1 oz.

b. Carbonate of potash 3 ozs.

Sulphite of soda 2 ozs.

Water 7 ozs.

For use mix 1 dram of a, 1 dram of b, and 1 oz. of water.

For over-exposure use more of a.

For under-exposure use more of b. (See **Development**.)

Bellows. The folding portion of the camera which unites the back and front portions is called the bellows and is usually made of blackened calico or leather. The folds have to be carefully designed and well constructed so that they close up evenly into the smallest possible space and are quite light-tight.

Slight damage to camera bellows can usually be repaired with black sticking-plaster—or with small pieces

of thin black kid glove applied with seccotine or glue.

Bichromate of Potash is a red coloured crystalline chemical which has the property of rendering many colloids—such as gelatine, gum, etc., insoluble, when the latter, after being treated with it, are exposed to light. It is used in the carbon, the gum-bichromate, the oil and the bromoil processes, also in the chromium intensifier.

Bird Photography. (See *Nature Photography*.)

Blacking. The interior of all cameras, dark-slides, and lens tubes should be coated with a dead black to prevent the reflection of light and consequent fog on the plate. A good black for the purpose can be made by grinding lamp- or ivory-black into a paste with japaners' gold size.

Another formula for blackening wood is as follows:—

Extract of logwood 1 oz.
Chromate of potash 30 grains.
Water 35 ozs.

Dissolve the extract in boiling water, add the chromate also in solution. This is a deep violet liquid which changes to black in contact with the wood.

To blacken leather-covered hand cameras which have become shabby apply the following mixture with a sponge:—

Glue 4 ozs.
Vinegar 14 pints.
Gum arabic 2 ozs.
Black ink 8 ozs.
Isinglass 2 drms.

Blanchard's Brush consists of a piece of swansdown calico doubled and fastened by means of an indiarubber band round the end of a strip of glass 2 inches wide and 6 inches long. It is used for applying various sensitising solutions to papers, giving a streak 2 inches wide, of evenly distributed solution with each sweep of the brush across the surface of the paper.

Blisters occasionally occur in printing papers in hot weather and very occasionally in plates. A bath of alum in solution will usually prevent blistering; formalin (1 part in 50 water) is also a preventative.

If blisters have already formed on the surface of bromide or printing-out paper, they may be reduced with a bath of methylated spirit.

Changes of temperature in different solutions when a print is being passed from one to the other is a frequent cause of blistering.

Blocking-out. A term used to describe the application of black, red, or other opaque paint to those parts of a negative that are not required, when the print is made. The parts that are "blocked out" do not allow the light to pass and remain white in the print.

Blue Print Process, called also "ferro-prussiate" or "cyanotype" process. This process, in which salts of iron are used for the production of the image, gives a picture of a bright blue colour. One method of preparing it, so that a positive image is obtained from a negative, is as follows:—Good smooth drawing paper is pinned on to a board and coated by means of a Blanchard brush (q.v.) with:

a. Potassium ferricyanide 75 grains.
Water 1 oz.
b. Ammonio-citrate of iron 96 grains.
Water 1 oz.

Mix equal parts of a. and b. for use.

Dry the coated paper in the dark and print under the negative in a printing frame in the ordinary way until the image is clearly seen of a greenish colour. The prints are then well washed in plain water till the high lights are quite white. Rinse in hydrochloric acid 1 dram, water to ozs., and then again in plain water. The print is then dried. The process, on account of its cheapness and ease of making, is largely used by architects and engineers in copying plans and tracings, etc.

Boiling Silk or Cloth is a fine-mesh translucent fabric used in photography for diffusing both light and definition of detail when making enlargements. Interposed between the lens and the bromide paper various degrees of diffusion or softening of the image

can be introduced according to the distance from the paper. It is best stretched on a light frame for use.

Books on Photography. There are a great number of books on photography that should be read by the serious worker who wishes for further instruction in the art. The following is a selection of some of the best:—

For the Beginner:—

"How to ensure Correct Exposure."
"To make Bad Negatives into Good."
"Development made Easy."
"Home Portraiture made Easy."
Price 4d. each. (Published by Hazell, Watson and Viney.)

The Text Book for general information and reference on everything photographic:—

"The Dictionary of Photography." Price 7s. 6d. (Hazell.)

For Special Branches of Photography:—

"Practical Pictorial Photography" (Hinton); price 2s.

"Lantern Slide Making" (Lambert); price 1s.

"Bromide Printing" (Lambert); price 1s.

"The First Book of the Lens" (Piper); price 2s. 6d.

"Chemistry for Photographers" (Townsend); price 1s.

"Photography on Tour"; price 6d.

"First Steps in Photo-micrography"; price 1s.

"Photography with Roll and Cut Films" (Hodges); price 1s.

"The Perfect Negative" (Lambert); price 1s.

"Finishing the Negative" (Ward); price 1s.

"Retouching" (Hubert); price 1s.

"Toning Bromides" (Somerville); price 1s.

"Carbon Printing" (Wall); price 1s.

"Platinotype Printing" (Hinton); price 1s.

"P. O. P." (Hinton); price 1s.

"Marine Photography" (Mortimer); price 6d.

"Portraiture without a Studio" (Lambert); price 1s.

"Making Enlargements" (Smith); price 1s.

"Development and Developers" (Brown); price 1s.

"Flashlight Photography" (Mortimer); price 1s.

"Hand Camera Work" (Kilbey); price 1s.

"Photography for the Press" (Ward); price 1s.

"Photography of Coloured Objects" (Mees); price 1s.

"The Oil and Bromoil Processes" (Mortimer and Coulthurst); price 1s.

Broken or Cracked Negatives can generally be printed from if the gelatine film is not broken as well as the glass. First, to prevent further fracture, cement a clean piece of glass (same size) to the glass side of the broken negative. This can be easily done by applying small spots of seccotine or fish glue to the corners, pressing the two surfaces together, and allowing to set hard under light pressure (such as a book placed on top). The negative should then be printed from in an ordinary frame, but should be placed at the bottom of a deep box so that vertical light only strikes the cracked surface. An alternative is to place the printing frame in a shallow tray suspended by strings from the corners. If the tray is then rotated while the negative is printing, the crack will scarcely show in the print. The same principle may be applied in a modified form to bromide or gaslight printing, or the film may be stripped from the broken glass and transferred to another plate. (See *Stripping*.) If both the film and glass are broken the first method is best, taking care to assemble the pieces carefully and in exact register on the surface of the new glass, using a spot of, or a drop of, Canada balsam for each piece. If the cracks still show, and the negative is a valuable one, an enlargement should be made from it, the cracks carefully painted or worked out, and the enlargement then copied to make a new negative. A positive may also be made from the broken negative and a new negative made from it after careful retouching.

Bromide Paper and Printing. Bromide paper is paper coated with an emulsion of bromide of silver in gelatine, with or without other silver haloids, and is

used for obtaining prints by development either by contact printing or enlarging with daylight or artificial light. There are a great number of bromide papers on the market, and obtainable from all photographic dealers. They vary only in surface textures (glossy, matt, smooth, rough, etc.), and slightly in speed. The paper is sold in packets and rolls. Packets of cut sizes are most convenient to handle. It should be opened and used in the dark room in yellow or orange light. The sensitive surface is easily seen by the tendency to curl inwards. If further evidence is needed, the corner of the sheet may be nipped between the teeth; the sensitive (or emulsion) side will stick to the teeth.

For contact printing the paper is placed in a printing frame with the negative, sensitive side to the film of the negative in the same manner as for daylight printing with P.O.P. (q.v.). The loaded printing frame is then taken out of the dark room and exposed to gas, electric, or lamp-light, or the white light may be turned up in the dark room (take care that the remainder of the bromide paper in the packet is covered up).

The exposure varies according to the intensity of the light, the distance of the negative from the light, and the density of the negative. The speed of the paper also affects the exposure. The makers' instructions, given with each packet of paper, should therefore be followed as to correct exposure, or trial prints may be exposed and developed until the right time is ascertained. As a rough guide, with a negative of average density, an exposure of fifteen to twenty seconds may be tried at a distance of 18 inches from the light of an ordinary fish-tail gas burner, or four to eight seconds with an incandescent burner. The worker should try to work with the same light and always at the same distance from it; by this means, when the varying densities of negatives are gauged, good prints can be made with every exposure.

Development of the print is conducted in the dark room. Prints up to and including 10 x 8 inches can be placed dry in a developing dish and flooded at once with the developer. Larger prints should be soaked first in plain water, taking care in both cases to avoid air-bell-forming on the surface. If the print is over-exposed, the image flashes up quickly and soon goes grey and dark all over, with no contrasts. If it is under-exposed, the image appears slowly, and the shadows clog up and get very black, while the highlights remain thin or light. If correctly exposed, the image will come up gradually and evenly, the shadows first, then the half-tones, and finally the details in highlights. The dish is rocked during development, and when the print is fully developed (this is best ascertained by looking through the print, not at it), it is fixed, washed, and dried.

Developers for Bromide Prints. One of the best developers for bromide paper is amidol. This gives fine black tones, and is easy to make up. A good formula is given under Amidol (q.v.). Another good formula for a developer that keeps well and gives good tones on bromide papers, is:—

Metol	8 grains.
Hydroquinone	30 grains.
Sulphite of Soda	1 oz.
Carbonate of Soda	1 oz.
Potassium Bromide (10% solution)	20 minims.
Water	20 ozs.

Dissolve in the order given, and use a sufficient quantity for the print. This developer may be used for several prints, but it should be remembered that stale developers will produce stains, and developers in which there is an excess of bromide will produce unpleasant muddy tones, especially if the prints are over-exposed.

After development the prints are fixed in

Hypo	4 oz.
Water	1 pint

or the hypo-metabisulphite fixing bath given under "acid-fixing" (q.v.). Fix the prints for ten minutes and then wash well in running water (or several changes) for one hour.

To ensure success in making bromide prints, the exposure should be correct, the dark-room light should be safe (otherwise the prints will be fogged), the dishes, etc., should be kept clean, and the developing dish

never used for fixing and *vice versa*. Contamination with hypo on the surface of the prints or in the developer should be avoided, or marks and stains will result. The hypo bath should be about same temperature as developer, or blisters may occur.

For making enlargements and toning bromides, see **Enlarging and Toning**.

Bromoil is the name of a process for the production of photographic pictures in oil-pigment upon a base consisting of a bromide print or enlargement. The outlines, details, and masses of the original photograph are retained, but the tones can be darkened or lightened generally or locally at the will of the operator and the success of the final picture depends upon his artistic skill. The procedure is as follows:—A bromide print of good quality (fully exposed and developed—preferably in amidol developer) is bleached in the bromoil bleaching solution sold by all dealers for the purpose, or the following may be made up:—

Ozobrom stock solution	4 parts.
10 per cent. potash alum solution	4 parts.
10 per cent. citric acid solution	1 part.
Water to make	20 ozs.

An alternative formula is:—

Potassium bichromate 10 per cent. sol.	2 parts.
Potassium bromide	1 part.
Potassium ferricyanide	1 part.
Alum	4 parts.
Citric acid	1 part.
Water	10 parts.

In any of these bleaching baths the black colour of the bromide disappears leaving only a faint yellow image. The print is then rinsed and placed in

Water	1 pint.
Sulphuric acid	1 oz.

(Note.—Add the acid to the water and not *vice versa*.)
Allow the print to remain in this for five minutes.
Then again wash and fix in

Hypo	2 ozs.
Sulphite of soda	1 oz.
Water	20 ozs.

Finally, wash again and place the print on a pad of wet blotting paper when it is ready for pigmenting, or it may be hung up to dry and then re-wetted at some future time for pigmenting when required. The pigmenting is conducted with special fish and hog-hair brushes in the same manner as in "Oil-printing" (q.v.). **Bulb Exposure.** Every instantaneous shutter, that is fitted with a pneumatic ball and tube arrangement for actuating the mechanism, can be kept open at will by pointing the index of the shutter to "B" (bulb) and keeping a steady pressure on the India-rubber ball. The term "bulb exposure," i.e., keeping the shutter open at will, is now also used with shutters that have no pneumatic release.

Burnishing is the operation of drawing prints over the surface of a heated bar. A burnisher for photographic prints is constructed somewhat on the principle of the household mangle, but with the lower roller stationary. The surface of the prints (the prints are mounted on card) is lubricated with a solution of fine grains of Castile Soap dissolved in an ounce of methylated spirit. This is rubbed over the print with a sponge. Burnishing is generally done by professional photographers. For other methods of applying a high gloss or glaze to photographs see **Enamelling and Glazing**.

Calcium Chloride, a chemical that has the property of rapidly absorbing moisture from the air. It is used in photography for drying the air in preservative boxes in which platinum type paper is kept. When the calcium chloride has absorbed a certain amount of moisture it becomes damp itself. When this occurs it should be baked on an iron shovel in a hot oven until dry again and ready for further use. A calcium tube or box is the term applied to the receptacle in which platinum type or carbon papers are kept. The air within is kept perfectly dry by means of pieces of calcium chloride in the bottom of the tube or box.

Camera. The term is now so well known as hardly to need a definition. It is an apparatus consisting of a light-tight box with a lens or its equivalent at one

end and place for the light sensitive plate or film at the opposite end. The image of external objects is projected by the lens on to the screen or plate within the camera. In form it may be a wooden-sided box, leather covered or polished, or it may consist of merely the back for the plate and the front for the lens connected with a light-tight collapsible bellows and held apart by struts or a baseboard, both of which will fold up when the apparatus is closed. Cameras may be divided roughly into three groups: (1) stand cameras, (2) hand cameras, and (3) hand and stand cameras combined (*q.v.*).

Caramel, a form of burnt sugar used in photography for backing plates in the prevention of Halation (*q.v.*).

Carbon Process. This process consists of the formation of the photographic image in carbon or coloured pigment mixed with bichromatised gelatine. It depends upon the action of light on gelatine which has been treated with bichromate of potash or ammonium. Gelatine so treated becomes insoluble when exposed to light. If coloured pigment is mixed with the gelatine, which is then treated with bichromate, and paper is coated with the mixture, a sensitive surface is produced that, when exposed under a negative in a printing frame, will reproduce all the gradations of the negative in degrees of varying insolubility according to the relative densities of the image. As the surface of the pigmented gelatine is dark no visible image can be seen when printing, and it is therefore necessary to use an actinometer to time the correct exposure, or the time taken to print a piece of P.O.P. under a similar negative may be taken as a guide. The negative must be given a "safe-edge" before printing. This is a narrow band of black paper stuck round the extreme edges of the negative and prevents the picture filling up in development. To make the positive or print it is necessary, however, that the pigmented gelatine, or "tissue" as it is called, should be transferred to another support before development. Development is conducted with hot water only, and the object is to dissolve away all those portions of the tissue which were unacted upon by light and remain soluble, leaving only the picture which is formed of the insoluble tissue. It is obvious that as the light acted upon the sensitive tissue from the top downwards the upper portions become insoluble first and development or washing away of the soluble parts must proceed from the bottom. To achieve this the tissue, after printing is complete, is placed face to face with a piece of "transfer" paper (sold for the purpose) and both are immersed in cold water until the first tendency to curl has ceased and the tissue remains flat. They are then withdrawn, still face to face, and vigorously squeezed into perfect contact. They are then placed between blotting boards for five or ten minutes under pressure (a large book will do) and immersed in a bath of water at a temperature of 105° or 110° F. When the pigmented gelatine begins to ooze out at the edges of the paper, strip off the paper upon which the gelatine was originally spread and keep washing the print which remains on the transfer paper with the hot water by throwing the hot water on to it with the hand or by means of a cup or small soft sponge. As soon as development is complete, and the picture remains perfectly clear upon its new support, it is plunged into a bath of cold water to set the gelatine and then placed in a bath of the following:—

Powdered Alum 1 oz.

Water 30 ozs.

This bath fixes the print and clears it also. The print is finally washed in several changes of water and hung up to dry.

This process is called "single-transfer," and it is obvious that the picture so produced is reversed right and left. For many subjects—such as landscapes, etc., this does not matter. But if it is desired to have the picture right-way round the print must be re-transferred, and this is called "double-transfer." In this case the first development of the print must be conducted on a waxed "temporary support" (obtainable from all makers of carbon tissues). The

procedure is the same up to the final washing. The wet print is then brought into contact with a piece of "final support" under the surface of water, and complete contact secured by squeezing and putting under pressure until dry. When dry, the temporary support is stripped off and the picture remains right way round on its final support. The final support may be paper of any texture, and almost any hard-surface material—such as wood, ivory, etc., may also be used. It is prepared by coating with a substratum of Nelson's gelatine, 1 ounce; water, 20 ounces. When dissolved (with heat) add to it gradually 12 grains of chrome alum dissolved in 1 ounce of water. The commercial final support—which is supplied in great variety by the makers of the tissue—merely requires soaking in alum solution, 1 ounce to the pint, an hour before using.

Carbon tissue can be bought either "sensitive" and ready for immediate use, or "insensitive," when it requires sensitising in—

Potassium bichromate 4 drs.

Citric acid 1 dr.

Water 25 ozs.

Ammonia (880)—sufficient to turn the liquid a

pale yellow colour (about 3 drs.).

The insensitive tissue is immersed in this for two minutes in hot water, or three minutes in cold. It is then hung up to dry and kept protected from light, air, and damp. The tissue when sensitised (either bought or home-made) will not keep long. The tissue when printed has a continuing action, and the printing will go on even after it has been taken out of the printing-frame and placed in the dark. Development should therefore be undertaken soon after printing.

Celluloid, a transparent material, the chief constituent of which is pyroxyline or gun-cotton. It dissolves in amyl acetate or acetone and forms a useful varnish. It is chiefly used in photography as a substitute for glass, and as the base for "cut films," "roll films," and "film packs" is familiar to every amateur. It is also used as the base for cinematograph films, and when coloured is employed for the production of developing dyes, etc. It is very inflammable and must not be used near a naked flame.

Cardinal. A trade name applied to a concentrated one-solution developer for Plates, Films, Papers, and Lantern slides.

Changing Bag. A very portable form of dark tent used for changing sensitive plates in daylight. As a convenient accessory for the outdoor photographer it is very useful. The bag is usually made of several thicknesses of opaque material and is shaped somewhat like a pillow-case with sleeves. The dark-slides and plates are inserted into the bag, the hands of the operator are introduced through the sleeves, which fit closely to the arms, and the plates are changed inside the bag in perfect darkness by sense of touch only.

Chloride of Gold. Used in making the gold-toning baths for various silver printing-out papers. It is sold in small 15 or 71 grain tubes, the contents of which should be dissolved in 15 or 71 drams of water.

Chromatic Aberration. Every simple single lens suffers from this defect, which is due to the fact that rays of light of different colours are refracted at different angles; and each differently coloured ray of light that goes to build up a picture has a different focal length. Moreover, the principal "visual" rays are focussed further from the lens than the "chemical" rays. Chromatic aberration is corrected by combining one lens with another of different power so as to bring the principal visual and chemical rays to the same focus.

Cinematograph. An apparatus for the projection of animated pictures. The pictures are taken in a special machine on a continuous film at the rate of about twenty per second. The pictures are projected on to a screen—magic lantern fashion—by means of a lens and strong light enclosed in the apparatus, and the effect of motion is given to the incident depicted by the rapid sequence of continuous series of succeeding exposures taken of the original subject. As each separate picture in the series is brought before the lens, a revolving shutter uncovers it and allows the light to

strikes through, the shutter then covers the lens for a fraction of a second at the instant when the film is moved on, and the following picture of the series is then uncovered. This is repeated with great rapidity, and the retention of vision assists in giving an impression of the continuing action rather than any individual phase of it.

Clearing Bath. When negatives become stained in development, a clearing bath is sometimes necessary to remove the stains. The following is a good formula:

Alum 2 ozs.
Citric acid 1 oz.
Water 20 ozs.

The alum may be replaced with 1 oz. of chrome alum. This has a tanning effect on the film, and is especially useful for pyro-developed negatives, changing the yellow stain into a fine olive-green. (See also **Thioarsbamide**.)

Cloud Negatives are produced most readily on orthochromatic plates used in conjunction with a yellow light filter. Strongly marked clouds may, however, be easily photographed on ordinary plates, using a fairly small stop and rapid exposure. The utility of cloud negatives for printing suitable skies into landscape subjects is great (see **Combination Printing**), but great care must be taken that the lighting of the landscape and that of the clouds printed in is from the same direction. Cloud negatives should not be too dense, but rather on the thin side and full of delicate gradation. A soft working developer, such as rodinol or metol, is most suitable.

Colloidio-Chloride printing-out papers are similar in many respects to the familiar gelatino-chloride P.O.P., but are made with a colloid base for the sensitive emulsion instead of gelatine. These papers (sometimes known as C.C.) are printed out under a negative in daylight, and are toned and fixed as in the case of gelatino P.O.P. (q.v.). They are also made "self-toning," and need fixing only. One great advantage of C.C. paper is its hard surface. It can be dried between blotters or in front of a fire if prints are wanted quickly.

Colloidion is used in wet-plate processes, and also in preparing an enamel surface for prints. It is made by dissolving pyroxyline (gun-cotton) in a mixture of equal parts of alcohol and ether.

Collootype is a photo-mechanical process by which prints in a greasy ink are obtained by means of a film of gelatine used as a printing surface. The picture is produced in the gelatine by the action of light through a negative—the gelatine being previously treated with bichromate of potash. After exposure, the film of gelatine is washed and inked with the greasy ink by means of a printer's ink-roller. The ink adheres only to those places which have been affected by light. By using a suitable press, many proofs can be obtained.

Colour-Sensitive. (See "**Orthochromatic**.")

Colouring Photographs. There are many special sets of tints sold by all photographic dealers for the purpose of colouring or tinting photographs. These are mostly aniline dyes in solution, and are applied in thin washes with a brush direct to the surface to be coloured. Aniline dyes—obtained in crystals of almost any colour—dissolved in water to which a drop of liquid oil of gall and a little gum arabic have been added, will serve the purpose well. Ordinary transparent water colours can also be used. A little oil of gall in gum water serves as a medium, and overcomes all tendency to greasiness that occurs with some prints. Several thin washes of colour applied evenly are better than one full wash. Ordinary oil colours thinned with methyl and turpentine can also be used effectively on glossy surfaced prints. Use the transparent colours only. The air-brush is also an effective method of applying colours. (See **Air-Brush**.)

Colour Photography. The Autochrome process (q.v.) is at present the most satisfactory and successful form of direct colour photography. There are several other somewhat similar processes, all of which appear to be founded on the same idea of a screen plate, and the results are all in the form of colour transparencies. Colour photography on paper is still only possible in a satisfactory manner by means of the

three-colour process. This necessitates the taking of three separate negatives of the subject through three different colour screens (red, blue-violet, and green). Prints from these three negatives are produced in the primary colours, superposed on one piece of paper, and in combination reproduce the colours of the original.

Colour Screen. (See **Light Filter**.)

Combination Printing. It is frequently necessary in the production of a pictorial photograph to combine the best or most effective portions of two or more negatives to make an effective whole. To do this successfully requires both skill and knowledge, otherwise results may be produced that betray their method of production too clearly. The most general application of combination printing is the addition of clouds from a suitable sky negative to a landscape subject. This is done by covering over—or masking—the sky portion of the landscape negative by means of a piece of opaque paper, the edge of which follows the general outline of the horizon. The landscape or foreground portion of the picture is then printed, and the negative is replaced with the sky negative. The print is arranged under this, so that the sky comes in the portion left blank, and the landscape part is now protected by masking with another piece of opaque paper in the same manner as the sky was protected before. The paper masks are then placed to the front of the printing frame, and printing should be conducted in diffused daylight, so as to secure as soft an outline as possible. In this way it is possible for the landscape and sky portions of the picture to be printed on the same piece of paper without showing a join. Foreground, middle distance, distance, and sky, can, if necessary, be printed from four separate negatives in this manner. Great care should be taken, however, to see that the lighting of the sky and landscape is from the same direction. The same method can be applied in making enlargements. The masks are then used between the lens and the easel on which the image is projected. The margins of the horizon must be marked in pencil on the bromide paper as a guide for the second printing.

Combined Bath is the name given to a toning bath which is combined with the fixing agent, i.e., hypo.

A simple but good formula is:—
Ammonium sulphocyanide 15 gra.
Sodium chloride 30 gra.
Hypo 2 ozs.
Water 10 ozs.
Add little by little:—
Gold chloride 1 gr.
Water 2 oz.

There are many other formulae for combined baths, but they are not generally recommended on account of the possibility of sulphur toning and consequent fading. (See **Toning**.)

Composition is a term denoting the grouping of the parts of a picture so as to form a pleasing and harmonious whole. Composition in the strict sense of the word simply means placing together (com-together; position-placed); but the artist by this word means a good deal more than merely putting things together, as one might put a row of books together on a shelf. The artist thereby means: (1) selecting some things and rejecting others, and (2) arranging the things selected in such a way as to express an idea, e.g. strength, grace, activity, repose, &c. Further information on this large subject will be found in the books devoted to pictorial photography. (See **Books**.)

Concave, Concavo-convex, etc. Concave is the term applied to the inner side of a curve or the inner curved surface of a lens. Concavo-convex means that one side of a lens curves inwards and the other side bulges out (convex). If one side dips in and the other side is flat this is called plano-concave. A double concave lens is one in which both sides curve in and the lens is thinner at the middle than at the margins. This form of lens is called a "negative" lens.

Condenser is the name of a combination of lenses mounted in a metal cell, which have for their purpose the condensing or collecting of rays of light which would otherwise be scattered and lost. These rays of light from a source of illumination behind the condenser

are then thrown forward in a beam of parallel or slightly convergent rays. A condenser is a necessary part of every optical lantern ("magic lantern") and artificial light enlarging apparatus. By its beams the light of the illuminant inside the lantern is collected and thrown forward through the transparency or negative in the most evenly distributed manner and with the greatest intensity. The usual form of lantern condenser is two plano-convex lenses mounted in a brass ring or collar with the convex surfaces nearly touching, and the flat surfaces outwards. (See **Lantern**.)

Conjugate Foci. The distances from object or original (in copying) to lens, and from lens to focussing screen or plate. In enlarging, the distances from negative to lens, and from lens to bromide paper are the conjugate foci of the lens.

Contrast is the term usually applied to a negative or print in which the densities of high-light and shadow are very abrupt, *i.e.*, without much half-tone. Contrast can be reduced in a negative by a selective reducer such as ammonium persulphate, or in a print by "sunning down" the high lights, or staining the paper. (See **Reduction**.) Contrast is generally present in under-exposed negatives.

Convex. The opposite to concave. The outside of a curve, *i.e.*, the surface of a lens that "bulges" out. (See **Concave**.)

Copper Toning. (See **Toning**.)

Copying Photographs can be conducted by either daylight or artificial light, the chief thing to watch being the evenness of the lighting. The camera must be so arranged that the picture to be copied is parallel with the focussing screen of the camera, both vertically and horizontally. Unless this is done the lines of the copy will not be straight. The lens should point to the middle of the original, and if the picture has a glossy surface the lighting should be so arranged that there are no reflections. A wall at the back of a well-lit room is a good position for diffused light, while a couple of incandescent burners, one on each side of the picture, and well shielded from the lens, will serve for copying at night. Focus with a large stop in the lens, and then stop down to get maximum sharpness. Orthochromatic plates should be used, and if the original has colour, a colour screen should be employed. The plates should not be too rapid. Exposure should be full, and can be ascertained only by trial. As a rough guide, with medium speed plate and stop $f/16$ in a brightly lit room, half a minute's exposure may be sufficient. Development should be conducted with a clear working developer, such as metol-hydroquinone (*q.v.*).

Cracked Negative. (See **Broken Negative and Stripping**.)

Crystoleum. A method of obtaining coloured photographs on glass. The process consists of squeezing a silver print in optical contact with a piece of glass, rendering it transparent, and applying paint or other colours to the details of the picture (the colours are applied to the back and show through the transparent photograph); then applying broad masses of colour to a second piece of glass, which is bound up with the first. When viewed from the front the effect, if the painting has been well done, is that of a photograph in natural colours.

Curvature of Field. In a single or uncorrected lens the rays of light do not come to a focus at the same time on a plane surface—such as the surface of a dry plate—but fall along a curve having the centre of the lens as its centre, and the focal length of the lens as its radius. To secure sharpness of focus at all points with such a lens, the plate would have to be concave, or saucer-shaped. Lenses with curvature of field will give an image sharp in the middle but blurred at the edges, or sharp at the edges and blurred at the centre, according to the distance of the focussing screen from the lens. This form of aberration is corrected in the better class lenses.

Daguerreotype. The earliest practical method of obtaining a direct permanent photograph of a person or an object. Invented by Daguerre, hence "daguerreotype." The process consisted of exposing (in a camera) a silvered copper plate, previously subjected to the action of silver iodide and silver bromide, and then

developing the image by exposure to a bath of mercury. The picture was fixed in a bath of cyanide of potassium and toned in hyposulphate of gold. The exposure usually extended to twenty minutes or half an hour, in bright sunshine.

Dark-Room. The room in which all operations requiring actual handling of the sensitive plates or films used in photography must be conducted. It is usually lighted by a "dark-room lamp" in which oil, gas or electric light is used. The light is filtered through a red, orange or other non-actinic medium (glass or fabric). Dark ruby glass is generally safe for all but colour-sensitive plates which require special "safe-lights," yellow or orange medium is sufficiently safe for bromide paper and lantern plates. Safe-lights specially manufactured for dark-room lamps are now obtainable from all large dealers and should be used in preference to "home made" varieties. The general arrangement of the dark room depends largely upon its size. It should be well ventilated (see that the ventilators do not admit light as well as air), and if possible water should be laid on. A lead lined deep sink for developing is very convenient, and racks should be fitted for storing dishes, etc. There should be plenty of shelves within handy reach for bottles, and all bottles should be plainly labelled so that they can be read by the light of the dark-room lamp. Provision should be made for turning on white light for printing bromide paper, &c. and if sensitive materials, such as plates, papers or films are stored in the dark-room, they should be kept in a dry corner below any gas burners, otherwise the fumes which ascend will soon spoil them. The dark-room light should be tested from time to time by leaving a dry-plate on the work bench in full view of the light but with half of the plate covered up. If the light is safe no trace of fog should appear on the exposed half when the plate is developed.

Dark-slide is the name given to the piece of apparatus containing the dry-plate used in the camera when making an exposure. It may be "single" when it is made to hold one plate only, or "double" when containing two. The first is usually made of metal, the latter of wood with wooden or metal draw-shutters. It is called "book-form" when it opens like a book and a plate is placed one on each side. Dark-slides are sometimes termed "plate-holders."

Deliquescent. This term applied to a chemical substance means that it is liable to become liquid on exposure to the air.

Depth of focus or "depth of definition" is the term applied to the distance between the nearest and most distant objects in a view that are rendered in sharp focus at the same time. A long-focus lens with large aperture has less depth of focus than a short-focus lens with small aperture. All lenses of the same focal length and working at the same aperture have the same depth of focus.

Developing Machine and **Developing Tank.** Mechanical contrivances for holding a number of films or plates in a vertical position during development. The film- or plate-holder stands in a tank or metal box containing the developer, and development is conducted automatically. (See **Stand and Tank Development**.)

Development and Developers. Development is the production of a visible picture or image in dry plate, film, or sensitive paper by chemical means from an invisible or latent impression. As applied to the production of a visible image on a plate coated with sensitive emulsion, that has been exposed to light in a camera, development consists of the application of a "developer." The developer is generally made up of (1) the developer proper; (2) the accelerator, which hastens the action of the developer; (3) the restrainer; and (4) the solvent or water. The developing agent may be pyro, hydroquinone, metol, amidol, etc. (*q.v.*). The accelerator is usually an alkali, and the restrainer is usually a bromide. Development is conducted in the dark-room (*q.v.*). The plate or film is placed in a flat-bottomed developing dish, and the developer poured over it, with a sweeping action, so that air-bubbles do not form on its surface. The plate should be protected as much as possible from the rays of the dark-room lamp, and the

dish should be rocked so that the developer is kept in constant motion. After a time, if the plate has been correctly exposed, the image will begin to appear and gain density. With some developers, such as metol, rodinol, etc., the image flashes up quickly, but takes some time to gain density. With other developers, such as pyro-soda, the appearance of the image is more gradual. If the plate has been over-exposed, the image will come up quickly in any case. If this happens, it should be quickly washed in plain water, and some restrainer (bromide of potash in 10 per cent. solution) added to the developer, and development continued. If the plate is under-exposed, it will take a very long time for the image to appear, and then perhaps only the high lights will come up (as black patches in the negative). In this case, more accelerator should be added to the developer, and an extra quantity of water also, to dilute it. When development is complete, the plate is rinsed and placed in the fixing bath (q.v.). Correct development can only be determined by experience, but generally it is safe to continue until the high lights are clearly seen as dark patches at the back or glass side of the negative. For developers see **Pyro**, **Metol**, **Hydro-quinone**, **Amidol**, **Rodinol**, **Azol**, **Adural**. See also **Stand development**, **Tank development**, **Time**, **Development**, **Films**, **Bromide paper**, and **Galathee paper**.

Diaphragm, or stop, are the metal or ebonite plates with a central opening used in a lens to cut out marginal rays and enable the middle portion only to be employed. Waterhouse stops are thin metal plates with circular openings of certain diameters. These are inserted in a slot cut in the barrel of the lens. Iris diaphragms consist of a number of very thin leaves of metal or other stiff opaque material opening and closing circularly to various sizes in the centre of the lens mount between the front and back combination. These are the two kinds of diaphragms most frequently met with, and their sizes of openings or "apertures" are determined by the focal length of the lens to which they bear a definite ratio. The usual markings of stops are $f/5.6$, $f/8$, $f/11$, $f/16$, $f/22$, $f/32$, $f/45$, $f/64$. These signs mean that the apertures are $f/5.6$ th, $f/8$ th, $f/11$ th, $f/16$ th, $f/22$ nd, $f/32$ nd, $f/45$ th, and $f/64$ th of the focal length of the lens. These apertures have also a settled ratio one to the other, and it will be found that the area of any one is just one-half of the next larger, and consequently lets one-half the amount of light through the lens to the plate. It therefore follows that double the exposure will be required for, say, $f/11$ than for $f/8$, or half the exposure required for $f/16$, and so on. This ratio is useful to remember when the correct exposure for any one stop has been ascertained. A smaller stop inserted in the lens increases the depth of definition, and is necessary sometimes when considerable detail is wanted, but the proportionate increase of exposure with the smaller stop should not be overlooked. The U. S. or "Uniform System" of stop marking is used by some lens makers, and the stops are marked 2, 4, 8, 16, 32, 64, 128. These indicate the ratio of exposures, and the actual f values are $f/5.6$, $f/8$, $f/11$, $f/16$, $f/22$, $f/32$ respectively. For general use the following maxims should be remembered:—A large stop gives a bolder picture than a small one—the masses of the picture are seen rather than fine detail. Focus with the largest aperture, then insert smaller diaphragms until the desired sharpness is obtained. The smaller the stop the longer the exposure, also the flatter the field of the lens and the greater the depth of focus (or depth of definition).

Diffusion of Focus can be produced in various ways: (1) By optical means in the construction of the lens itself, and a picture in which the details and outlines are softened and the masses broadened is obtained; (2) It can be brought about by putting the lens out of focus; (3) or by the obstruction of some translucent material when making the print, printing through the glass side of the negative, interposing a piece of film or glass between negative and sensitive paper when making contact prints, or by the use of **Bolting Silk** (q.v.) when making enlargements.

Distortion occurs in a photograph when (1) a lens

of too short focus has been used; the perspective in this case is distorted. (2) When the camera has been tilted in taking architectural pictures or copying subjects in which there are straight vertical lines. The lines in such a case will converge towards one end of the picture. (3) When a single lens is used for subjects containing straight marginal lines, these will be bent outwards or inwards at the ends according to the position of the stop in the lens.

Double Extension is the term applied to a camera that can be extended double the focal length of the normal lens used with it.

Doublet. A term applied to a lens that possesses two combinations or separate lenses (usually similar in construction) mounted at opposite ends of the lens tube; one lens correcting aberrations of the other.

Dry-Mounting is the name given to a form of mounting photographs in which the prints are mounted dry on to cardboard or paper mounts with the aid of special tissue and heat. The tissue is prepared with a coating of shellac on both sides, and is first affixed to the back of the print with a touch from a hot iron. Both print and tissue are then trimmed together and placed on the mount in the correct position. Print and mount are then put under even pressure between two hot plates, the shellac on the tissue melts, and the print firmly adheres to the mount without cockling.

Dry Plates. Glass of certain specified size coated with a film of gelatine in which a sensitive salt of silver is emulsified. These can be bought commercially so perfect in preparation and so cheaply that it is not worth while to attempt their manufacture at home. The dry-plate which varies in speed from slow or "ordinary" to extreme rapidity becomes the negative after exposure in the camera and development and fixing. (See **Development** and **Slides**.)

Enamelling Prints. This is done by coating the finished print with a film of collodion to give it a brilliant surface. The procedure is as follows: Clean a glass plate perfectly (an old negative will do) polish with French chalk and coat with:

Pyroxyline 10 grains.

Methylated Alcohol 1 oz.

Ether 1 oz.

Having made a solution of gelatine 10 grains to the ounce of distilled water, slip the collodionised plate and the print carefully into the solution of gelatine, avoiding air bubbles; bring the print face downwards into contact with the coated plate, remove from the solution, and squeeze into optical contact, and allow to dry. When thoroughly dry, raise one corner with a knife and the print will strip from the glass bearing the collodion film with it. (See also **Glazing Prints**.)

Encaustic Paste. A paste used to give "sun face" to the finished print. Useful for producing a slight gloss on dull or matt surfaced prints, especially in the shadows. Dissolve gum elemi in oil of lavender and add white wax previously dissolved in the same solvent. The proportions should be such as to yield a firm pouce. Apply to the print with the finger and then polish with a soft rag.

Enlarging is the operation of obtaining a larger image of a negative or positive upon some sensitive surface such as bromide paper. It may be done by daylight or by artificial light, in an enlarging camera or by projection of the image on to an easel. The negative that is enlarged from should be sharp in detail, and not too dense or with strong contrasts. The operation of enlarging tends to increase contrast and magnify other faults. A thin negative with plenty of good gradations and detail gives the best enlargement. The great number of small cameras that are now used renders some form of enlarging almost a necessity if prints of any size are required. The negative must be fixed up so that it is evenly illuminated from behind. The simplest method of enlarging is to place the negative in position in the back of the camera with which it was made. Have the back of the camera open so that light can be freely admitted. Place the back of the camera against a hole cut in a shutter that entirely blocks out the light of a window. Fix the camera on a shelf in front of the hole, so that the only light that enters the room is through the camera. The camera thus acts as a sort of magic lantern, and projects

the image of the negative on to a screen that is fitted up in front of it. Focussing is done by means of the rack and screw of the camera, and the daylight outside the window can be rendered more even (if there are obstructions such as houses on the other side of the street, etc.) by placing a large piece of white cardboard at an angle of 45 degrees just outside the hole in the shutter, so as to reflect the light from the sky through the negative. When the image is sharply focussed on a piece of white paper fixed to the screen or easel (which should be quite firm and placed so that it is perfectly parallel vertically and horizontally with the camera body) the lens can be covered with a cap made with a piece of orange coloured glass in the top. This will allow the image to be still seen but will not fog the bromide paper, which is then pinned on the easel in the place occupied by the white paper. The exposure is then made by uncapping the lens, and after exposure the enlargement is developed in the manner described under **Bromide Paper**. Enlarging cameras are also sold for daylight enlarging. These consist of what is practically a small camera and a large camera front to front on a long baseboard. The negative is placed in a holder at the back of the small camera and focussed on the ground glass screen of the large camera, the image being projected by means of a lens fitted in the middle at the junction of the two cameras. The bromide paper in this case is fixed (in the dark room) in a large dark slide which is placed at the end of the big camera, and the smaller end is then pointed towards the sky or other even source of illumination. The dark slide containing the paper is opened and the lens in the middle is uncapped by means of a small shutter worked from the side.

Artificial light enlarging is usually done by means of an enlarging lantern which is practically the same in principle as the magic lantern. It is made of metal or wood lined with metal, and contains the illuminant, which may be either oil, gas, electric light or lime-light. A condenser (see) is placed in front of this, then the carrier for the negative and the lens for projecting the image on to the screen or easel. By alteration of the distances between lens to negative and lens to easel, enlargements of different sizes can be made. The greater the enlargement the nearer the lens will be to the negative and the further away from the easel, and *vice versa*. The exposure in making enlargements is best ascertained by means of trial strips of paper giving varying times doubling the exposure each time until the best result is obtained. This will serve as a permanent guide for future work. It is impossible to give an exact guide as so much depends upon the strength of light, density of negative and size of enlargement. It will be useful, however, to bear in mind that the exposure increases in ratio with the square of the enlargement. Thus, if an exposure of four minutes is required for an enlargement of two diameters (i.e., four times the area of the original negative), an exposure of sixteen minutes will be required for an enlargement of four diameters (i.e., sixteen times the area of the original negative).

Enlarged Negatives are made in the same manner as bromide enlargements except that the extra thickness of the glass plates must be borne in mind when focussing, also that the plates are much faster than the paper. Enlarged negatives are, of course, made from positives, which may be made by contact printing with the original negatives. Enlarged negatives may also be made on the bromide paper which is subsequently waxed or oiled to remove the grain of the paper when printing, or on negative paper which is specially made for the purpose.

EurySCOPE. A trade name for a double- or rapid rectilinear lens of large aperture.

Exposure is the generally accepted term for the period of time during which the light acts on the sensitive surface of the plate or film in the camera while a photograph is being taken. Exposure varies according to the following factors, all of which have to be taken into account if a good negative of any subject is to be secured—

(1) Actinic quality of the light. This depends on

time of day, time of year, and position of the object photographed.

(2) Speed of plate or film.

(3) Aperture or "stop" of lens.

(4) Colour and distance of the object photographed. It is obvious that shorter exposures are possible when the light is very bright than when it is dull, or later in the day, that a rapid plate needs a shorter exposure than a slow one, and a small stop in the lens will lengthen the exposure in the ratio described under **Diaphragms**. A dark subject will also need a longer exposure than a light one. A reliable table of exposures is given in the *Official Compendium section*, showing the alterations of light values for each month, and variations for different plate speeds and stops in the most simple form for immediate application. For local and general variations in light exposure meters are invaluable. Several excellent meters (no larger than a small watch) are on the market—notably, Watkins's meter and Wynne's meter. These also take into account all the other factors mentioned and are perfectly reliable for all problems of exposure.

Exposure Meter. (See **Exposure**.)

Factorial Development is the name applied by Mr. Alfred Watkins to that form of development which depends upon the time of the first appearance of the image in relation to the time of complete development. The "factor" is arrived at by dividing the time of total development with a certain developer (this is ascertained by trial) by the time of first appearance. Each developer has therefore a different "factor" and the application of this factor to the time of first appearance with any exposure will give the time when development will be finished. Factorial development renders the production of well developed negatives practically automatic provided the right factor of the developer is known and the exact time of first appearance of the image correctly noted. A list of factors for all developers is published.

Ferrotypes (the familiar tin-types of the seaside photographer) are positives taken by the wet collodion process on thin iron plate which is coated with brown or black varnish.

Ferrototype Plate. A specially prepared thin iron plate with a highly enamelled surface. Used in glazing paints. (See **Glazing**.)

Ferro-Prussiate. (See **Blue-Print**.)

Film-Pack. (See **Films**.)

Films offer many advantages over glass plates on the score of lightness and convenience in carrying. Their disadvantages are that they are not so rapid as the quickest plates and they do not keep so well. The flexible support which forms the base of films is made of celluloid. This is coated with sensitive emulsion similar to that on glass dry-plates. All modern makes of films are what are termed "non-curling," i.e. they do not curl when placed in the developing solution and they dry comparatively flat. This is effected by a coating of thin colourless gelatine on the reverse side of the film to counteract the "pull" of the emulsion. Films are obtainable in three forms: (1) Roll-films ("spools" or "cartridges"). In this form the film is in a continuous band wound with a black paper backing round a wooden spool which fits a receptacle in the camera. The end of the film, with its black paper backing is passed across the back of and inside the camera on to another spool on the other side. Sufficient film is wound off for the picture to be taken on it, the exposed portion is then wound forward again and a new unexposed portion takes its place. In this way a dozen pictures can be taken on one length of film which is finally wound entirely on the second spool. It can be removed from the camera in bright daylight and replaced with a new spool or cartridge of unexposed film. (2) "Film packs," in which a dozen films cut to size are ingeniously assembled and clamped one after the other after exposure from the front to the back of the holder by pulling out paper tabs. (3) "Cut films," which are supplied in packets like plates and are loaded into dark slides or holders, and exposed in a similar manner to plates. The development of cut films and films from film-packs present no difficulty. They may

be treated separately and developed in a dish like plates, or in special tanks made for the purpose, or, what is perhaps best of all, they may be developed, a dozen or more at a time, in a large deep dish full of diluted developer. They should first be soaked in plain water (in the dark-room of course) until limp, and then passed into the developer, which may be any standard formula of pyro-soda, metol, hydroquinone, rocinol, amidol, or azol, etc., diluted with twice the normal quantity of water. Films require full exposure to give good negatives, and they must be thoroughly developed. The usual fault with amateur's negatives on films is under-exposure and under-development.

Roll-films are treated somewhat differently. They may be cut into short lengths and developed in a dish or developed in one piece by passing backwards and forwards through a dish of developer, holding one end in each hand and see-sawing up and down, or the best plan is to develop in one of the special developing tanks now on the market for the purpose. When developed, the films are fixed and washed in the same manner as plates and hung up to dry in a good current of air.

Filter Paper and Filtering. Filter paper is specially prepared unsized pure paper used for filtering chemical solutions. For use, the paper should be folded in half, and then across the middle again, opening out to form a cone. This is inserted in a glass funnel (which is placed in the neck of a bottle), and the solution poured in. Filtering can also be accomplished by placing a small wad of cotton-wool loosely into the neck of a glass funnel and pouring the liquid through.

F/8, F/11, F/16, etc. These symbols appearing on a lens mount indicate the stops or diaphragm apertures, and bear a relation to the exposure. (See **Diaphragm**.)

Final Support. (See **Carbon Printing**.)

Finder. (See **View Finder**.)

Fish Photography. (See **Nature Photography**.)

Fixed Focus. A term applied to a lens when working at a point beyond which objects are in sharp focus. This varies according to the focal length of the lens and its aperture. A short focus lens with fairly small stop may give everything in sharp focus beyond, say 12 or 14 feet, whereas a longer focus lens with a big aperture may not present all objects sharply on the focussing screen until they are 30 or 40 feet away. Everything beyond these distances would, of course, be also in focus, so if the lens is set for this distance, it will not require re-focussing for any objects beyond. Objects nearer to the camera would not be in focus.

Fixing is the chemical action which removes from the plate, film, or paper any sensitive salts unacted upon by light or by the developer, thus rendering the negative or print unalterable by the further action of light. It is then said to be fixed. Hypo-sulphite of soda—commonly called Hypo—is the chemical generally used for the purpose. The average strength of the fixing bath for plates is—

Hypo 4 ozs.

Water 1 pint

while for prints it may be a trifle weaker. When fixing both negatives and prints care should be taken for the process to be thorough, or stains and fading will result. Negatives should be fixed for at least 5 minutes after the final disappearance of the milky appearance of the film when viewed from the back. (See also **Fixed Fixing**.)

Flare and Flare Spot. An optical defect due sometimes to the bright edges of the stops producing internal reflections in a lens. It shows itself in the developed plate in the shape of a circular fog-patch.

Flash Light is one of the most useful forms of artificial lighting for portraiture at night, as it needs no costly apparatus and can be accomplished satisfactorily by any amateur. Flash light is produced by the rapid burning of magnesium, either alone or in conjunction with some other substance rich in oxygen, such as chlorate of potash. If burnt alone it may be fired in a reservoir lamp, in which case the magnesium powder is driven through a methylated spirit flame by air pressure with a ball and tube; if a mixture is used it must not be fired in an enclosed lamp or an explosion

may occur. As the mixtures are best—giving the brightest and quickest flash, a lamp may be dispensed with altogether (although there are several excellent ones on the market specially constructed for the purpose). The flash mixture may be fired on a tin tray or tile, and is ignited by the application of a lighted match or taper or by placing it on a train of touch-paper or gun-cotton. A reliable flash-light mixture is made as follows:—

Chlorate of potash 60 grains.

Magnesium powder 30 grains.

Sulphide of antimony 10 grains.

The ingredients should be dried and sifted *separately*, and then mixed carefully with a feather or spill of paper. Avoid friction with any hard substance, or the mixture may explode. The best position of the light for flash-light portraiture is fairly high at an angle of 45° with the sitter's head, and about on the same plane, or a little in front of the camera. Shield the lens from the light. Focussing can be done by means of a light held near the sitter's face. All lights in the room may be kept burning during the actual exposure, provided none are shining direct into the lens. The lens does not need to be capped, as the exposure is made by the flash itself. The smoke that arises after the flash can be quickly cleared by opening doors and windows to create draught. A bigger light or two placed apart may be used for a larger room or group. The quantities of flash powder necessary for correct exposure varies with the speed of the plate, stop, colour and distance of subject. As a guide, it will be found that with lens at F/8, rapid plate, sitter in light clothes at 5 feet from light, 12 grains will be sufficient, at 10 feet 30 grains, at 15 feet 70 grains, at 20 feet 100 grains.

Focal length, focus, or equivalent focus. The focal length of a lens is the distance from the ground glass (or focal plane) to a point in the lens when a very distant object is in sharp focus. This point is roughly, midway between the combinations, in a doublet or in the centre of the lens itself if a single lens. When the focal length of a lens has been correctly ascertained the exact apertures of the stops may be measured and their values determined, if they are not already marked. (See **Angle of View** and **Angle of Lens**.)

Focal plane shutter is the name given to the type of high-speed shutter that works directly in front of the plate, inside the camera, or at the focal plane. It is actuated by spring rollers and consists of an opaque blind that rapidly winds on one roller at the bottom of the shutter as it unwinds at the top. In the centre of the blind is an adjustable opening or slit—this can be made wide or narrow at will. The speed of the shutter and the exposure of the plate depend upon the tension of the spring rollers and the width of the slit in the blind. With a very narrow slit and a high tension it is possible to make the blind travel across the surface of the plate at a great speed, exposing on one portion for 1/1000 second only. The focal plane shutter is of high efficiency and speed for speed passes more light to the plate than any other type.

Focussing cloth, an opaque cloth used to exclude light when examining the image on the ground glass focussing screen of a stand camera. It is most conveniently made of black velvet or silk or mackintosh cloth. The last is perhaps best as the camera can be protected with it in wet weather.

Focussing Scale. This is the engraved scale of distances that is affixed to most hand cameras and other cameras in which the picture is not focussed on the ground-glass screen. Its function is to serve as a guide for the position of the camera front or lens in obtaining sharp focus. The scale is usually marked in distances of feet or yards, and when the pointer attached to the camera front or lens is opposite any marked distance, objects at that distance will be in sharp focus in the resulting photograph. To make a focussing scale for a camera, the best plan is to adopt a practical test. First fix the pointer securely on the side of the camera front or other movable portion to which the lens is attached; fit a focussing screen to the back of the camera and carefully focus a very distant object—e.g. a distant church spire. Now make a mark where the pointer comes and call this "Infinity."

This will be the point beyond which all objects will be in focus (the lens should be used for these trials at full aperture). Now carefully focus an object 30 yards away and make a second mark. Repeat the process for objects at 20 yards, 15 yards, 10 yards, 8 yards, 6 yards, 4 yards, 2 yards, and 1 yard. Regard these, for practical purposes, as paces. The marks made where the pointer indicates these distances can be permanently indented in the woodwork of the camera, or they can be engraved on a small strip of ivory that can be screwed to the camera's side exactly over the original marks. For future use it is only necessary to set the pointer to any distance at which the object may be from the camera, and there will be no necessity for any other focussing.

Focussing Screen, the ground glass at the back of the camera upon which the image formed by the lens is seen. The focussing screen, although fitted to most cameras, is not used much by the hand-camera worker and "snap-shooter," who prefers to rely upon the focussing scale or scale of distances engraved upon the base board or side of the camera. For the worker with a tripod camera the focussing screen is a necessity, and the sharpness and composition of the picture is seen upon it. Oiling the screen renders the grain less visible, and a substitute for a broken focussing screen can be improvised out of a wet handkerchief or sheet of thin paper, a fogged, developed, fixed and washed plate, or a piece of plain glass dabbed over with putty.

Fog is the commonest of all faults in negative making. It appears as a veil all over the plate, in dark patches here and there, or as streaks from one corner or another. All these may be due to accidental exposure to light other than through the lens, to faulty apparatus and light leakage at corners of dark slides, etc. When fog has occurred in the camera the edges of the plate protected by the rebates of the dark slide will remain clear. If fog occurs through faulty dark-room light the plate will be fogged all over. Chemical fog may also produce a similar effect all over the plate. This may occur by forcing the development or the presence of too much alkali in the developer.

Formalin, a 40 per cent. solution of formaldehyde in water. It possesses the property of hardening gelatine, and renders it insoluble. It is valuable in the prevention of frilling which sometimes occurs with plates and papers in hot weather. A little may be added to the fixing bath.

French Chalk, used for polishing glass or ferrotype plates when glazing prints. (See **Enamelling and Glazing**.)

Frilling. Negatives and prints are said to frill when the film leaves its support at the edges. Occurs most frequently in the case of albumen or alum or a little formalin in water will prevent the frilling spreading. A bath of methylated spirit applied to the negative or print after washing will reduce the frilling and cause the gelatine to contract to its original size. In this condition it can be carefully replaced in its original position, and when dry will show no marks. If plates show a tendency to frill and no alum or formalin is obtainable, a wax or tallow candle rubbed round the edges before development will keep the solutions from these parts altogether.

Gelatine, an animal substance obtained by boiling bones, hoofs, horns and other animal matter. Used in the production of photographic emulsions and for coating plates and papers for various photographic processes.

Gelatino-Chloride Emulsion Paper. (See "P.O.P.")

Glazing or Glossing prints. The production of a high glaze or gloss on photographs is accomplished by "burnishing" (q.v.), "enamelling" (q.v.), or, in the case of gelatine-surfaced prints (i.e. gelatino-chloride, P.O.P., bromide and gaslight papers, etc.), by squeezing the prints in a wet condition into optical contact with a perfectly clean piece of glass, or ferrotype plate. The glass should be thoroughly cleaned and washed to remove all trace of grease, etc., and then polished with a little French chalk well rubbed in. The wet print face downwards is brought into contact

with the glass plate under water, withdrawn and well squeegeed to remove all air bubbles between the surfaces. A piece of paper on the back of the print will protect it from abrasion. When quite dry, the print will peel off with a highly glazed surface.

Glycerine is obtained from oils and fats as a by-product in saponification. It is used as a preservative of pyro and is used as a physical restrainer in various developing processes.

Glycin. A clean-acting developer, somewhat slow in action, but well suited for stand or tank development (q.v.).

Gold Toning. (See **Toning and Chloride of Gold**.)

Gum-Bichromate. A printing process in which pigment mixed with gum arabic in water and a certain amount of bichromate of potassium. The mixture is spread on paper and when dry is exposed under a negative. The picture is then "developed" by soaking in water until the unexposed portions of the pigmented gum are sufficiently washed away. The exposed portions (i.e. the shadows and half-tones of the picture) are rendered insoluble by exposure to light and remain on the paper. A considerable amount of local manipulation and control can be effected with this process, as the image can be worked upon and reduced with a brush, and at the same time repeated coatings and printings will give any extra density to the shadows or other portions of the picture. Printings in different colours can also be resorted to.

The sensitive coating is made as follows:—

a. Clear white gum 4 ozs.
Water 6 ozs.

Soak till dissolved and squeeze the mucilage through fine muslin.

b. Bichromate of potash 1 oz.
Water 9 ozs.

Mix equal parts of a and b and then stir in as much water colour (the ordinary tube colour) as will give the required tint. The mixture is then spread evenly and thinly on paper with a broad flat camel-hair brush. The paper (which should be a pure paper of good quality, hand made for choice) should be damped first to stretch it, then pinned down to a board and the mixture applied at once. When dry expose under the negative in the ordinary way until the details of the image are just visible in the surface of the pigmented paper. Develop in cold water by careful washing or spraying. If over-exposed, warm water may be used. When development is complete soak the print in an alum bath, rinse and dry.

Gum-Platinum Prints are produced by printing in the gum-bichromate process upon a base formed by a lightly developed platinum print.

Halation is the spreading of the light when photographing a brightly-lit object surrounded by dark shadows, such as an open window photographed from the interior of a room. Halation also occurs when photographing landscapes with branches of trees, etc., against a brightly-lit sky. Here the encroachment of the strong light will sometimes cut out the thin lines of the branches altogether. The most ordinary occurrence of halation is in interior work when the windows will appear as if surrounded by a halo of light. It is caused by light reflected from the back of the plate. Backing the plate is a preventive of halation. (See **Backing**.)

Half-Plate, a photographic size, $6\frac{1}{2} \times 4\frac{1}{2}$. (See **Sizes**.)

H. and D. An abbreviation of "Hurter and Driffield," the names of two investigators in the subject of plate-speeds. These initials, accompanied by a number seen on a box of plates, indicate that the speed of the plates has been calculated according to the sensitometric scales of Hurter and Driffield, and are comparable one with another. Thus a plate marked "H and D 200," is twice as fast as one marked "H and D 100."

Hand camera. is the name usually applied to any camera that can be effectively used in the hand, and for which a tripod or other support is unnecessary. This fact alone points to the need of an instantaneous shutter, as it is difficult to give a "time" exposure

when merely holding the camera in the hands. Exposures of half a second can, however, be easily given by holding the breath during the release of the shutter. Any camera of the type usually associated with a stand or tripod can, if fitted with an instantaneous shutter, view finder, and focusing scale, be used quite well as a hand camera. The essentials of a good hand camera are portability, readiness for use, a reliable and silent shutter, rapid lens, quick and certain plate-changing arrangement (either changing box, magazine, or dark slides), a good view-finder, and unobtrusiveness in appearance. Hand cameras are of many types, e.g., box-form, folding, small folding pocket-cameras, focal plane folding, and reflex (q.v.). [Also see **Instantaneous Photography and Camera**.]

High-Lights. The brightest parts of a picture, which are represented by the greatest density or opacity in the negative, as the face in portraits, the sky, and other bright portions in a landscape.

Howard Farmer Reducer. (See **Reduction**.)

Hydrochloric Acid. A strong corrosive fuming acid used in dilute form as a clearing bath for platinum-types and in other photographic formulae. The yellow "spirits of salts" can be used for cleaning bottles and measures, etc.

Hydroquinone. known also as hydroknone, hydroquinone, and quinone, a useful developing agent giving negatives of clean black and white character. A good one-solution formula is:—

Hydroquinone	90 grs.
Sulphate of soda	2 ozs.
Carbonate of soda	2 ozs.
Water	10 ozs.

This keeps well, and for use is diluted with four times its volume of water. For over-exposure add a little 10 per cent. solution of bromide of potassium. For under-exposure dilute still further with water. Hydroquinone works best in combination with metol, unless great contrasts are required, for which purpose (especially when copying black and white subjects) it is specially suited. (See **Metol-Hydroquinone**.)

Hypo. an abbreviation of hyposulphite of soda. (See **Fixing**.)

Hypo Eliminator. The best hypo eliminator is water. Negatives and prints should if possible be well washed in at least twelve changes of clean water after fixing in the hypo bath, or placed in running water for an hour. Allowing the prints to soak in plain water will remove the hypo. To hasten the removal of hypo when time is short or when on tour various chemicals have been suggested such as potassium percarbonate. To use this effectively, rinse the plate after fixing, cover with clean water and add three to five grains of the potassium for every quarter-plate. As soon as the liquid ceases to effervesce remove and rinse in clean water for a few minutes. "Anthion" and "Hypo" are two good commercial hypo eliminators. (See **Washing**.)

Instantaneous or Snapshot Photography. is the term applied to that phase of camera work in which pictures of moving objects are taken in a fraction of a second by means of "instantaneous shutters." These are placed either on the front of the lens, between the components of the lens, behind it, or immediately in front of the plate. The first are called "before-lens" shutters and are usually of the roller-blind "time and instantaneous" type, the second are called "diaphragmatic shutters," and are usually of metal with thin blades that open in a slit in the centre of the lens, the third are called "behind-lens" shutters and are similar in construction to the first, and the last are called "focal-plane" shutters (q.v.). Success in instantaneous photography depends largely upon correct exposure at the right moment so as to catch the moving object in the right position on the plate. The variations in speed attained by different moving objects has first to be considered. An engine crossing the line of view at right angles at 30 miles an hour needs a much quicker exposure than when it approaches the photographer at an angle or nearly end on. Again, the distance necessary for a galloping horse does not depend on his rate of progression, but upon the rate of progression plus the rapid local movements of the legs. An appreciation of these

points is rapidly gained by experience, and allowance made when making the exposure.

The essentials to be considered when dealing with high-speed work with the camera are: (1) good light, (2) a rapid plate, (3) a reliable instantaneous shutter, (4) a lens working at a large aperture, (5) as full an exposure as is consistent with the movement of the subject, and finally (6) careful development in dilute developer. The rule for ascertaining the required exposure for any moving object is as follows: Divide the distance of the object from the camera (measured in inches) by the number of yards per hour at which the object is travelling multiplied by the focus of the lens. Thus, if an object is 100 feet from the camera and the focal length of the lens is 5 inches and the object is moving at 20 miles an hour, the formula is:—

$$\frac{20 \text{ (miles)} \times 6}{100 \text{ (feet)}} = \frac{1,200 \text{ (inches)}}{35,200 \text{ (yards)}} \times 6 = \frac{1,200}{211,200}$$

The following table will be found an approximate guide for snap-shot work, assuming the object to be about 50 feet distant:—

Street scenes with people walking slowly	1-20 sec.
The same but with people walking more rapidly	1-45 sec.
Cattle feeding, sheep, etc.	1-15 sec.
Children playing or people walking very quickly	1-100 to 1-150 sec.
Horse trotting	1-150 sec.
Cycling or man running	1-150 to 1-200 sec.
Horse galloping	1-200 to 1-500 sec.

If the object is nearer the camera the exposure must be shortened, if further away it may be lengthened.

The development of instantaneous exposures calls for careful treatment and the plates can generally be regarded as under-exposed. Dilute developer with additional alkali is recommended, and care should be taken to shield the plate from the dark-room light during the prolonged development. (See **Developers and Development and Hand Cameras**.)

Intensification is the means employed for increasing the deposit or printing density of a negative. The most generally used method is the application of a solution of mercuric chloride and a subsequent darkening. To intensify a negative it is essential that it has been thoroughly fixed and washed. The mercuric solution is made up as follows:—

Mercuric chloride	2 parts.
Hydrochloric acid	1 part.
Water	100 parts.

The image completely bleaches in this. When the negative is white right through to the back it is well washed and immersed in

Sodium sulphite	1 part.
Water	6 parts.

or in a hydroquinone developer or in Strong liquid ammonia 10 parts.

Water. In either of these the image is blackened and is much denser and darker than it was originally. There are several other methods of intensification, such as the use of uranium, lead or silver, but the above is most generally useful for all purposes.

Isochromatic. (See **Orthochromatic**.)

Japline. A special kind of platotype paper with a very fine surface. (See **Platotype**.)

Kallitype. A printing process in which iron and silver salts are used. To make the first size the paper, which may be any pure good paper, and coat with:—

Ferric oxalate	75 grains.
Hot water	1 oz.
Oxalic acid	5 to 10 grs.

Dissolve, filter, cool, and add Silver nitrate 30 grs.

Keep the solution in the dark. Expose the paper until image is just visible and details show in highlights, then develop with

Borax	44 grs.
Rodile salt	33 grs.
Water	1 oz.

Potass. bichromate solution (5 grs. per oz. of water) . . 45 to 60 mins.

This produces fine black tones. After development, immerse prints in a 10 per cent. solution of Rochelle salts, and then in a 1 per cent. solution of ammonia 880. Wash and dry.

Kinematograph. (See **Cinematograph**.)

Labels for bottles in the dark room are best made from stout white paper, on which the names of the contents of the bottles are plainly written in waterproof black ink. If the bottles contain developers, toners, or other made-up solutions, the formula should be written on the label also. The labels should be firmly stuck to the bottle with good paste, and then sized and varnished. The solutions should always be poured out of the bottle on the side opposite to the label. This will prevent the chemical, that may run down the side, staining the label.

Landscape Lens is the term sometimes applied to a "single" lens. It is used with a fairly small stop to give good definition, owing to its lack of correction, but gives a brilliant image.

Lantern. The lantern as used in photography may be either the (1) "optical" lantern (the modern equivalent and development of the "magic" lantern). (2) The enlarging lantern or enlarger (q.v.). Both are similar in general construction and principles, and consist essentially of a lantern body made of metal or wood lined with metal, an illuminant inside the lantern body, a condenser (q.v.) in front of the illuminant to collect and condense all the available light, a carrier or stage for holding the lantern slide, transparency or negative in position, an objective or projection lens in front. Adjustments are included for altering the relative positions of the light and lens, and the image (i.e., the lantern slide or negative) illuminated by the light coming through the condenser is projected by the front lens on to an easel or screen in front. The size of the image or picture thrown on to the screen depends upon the distance the screen is from the front lens. The further away it is the larger the picture will be, and *vice versa*. The alteration of the distance of the screen will necessitate adjustment of the distance of the light from the lens. The light is centred (i.e. made to give a clear white disc on the screen) by moving it up or down or to right or left, or nearer or further away from the condenser. A combination of these movements will ensure the correct position being attained at which the best light is given.

Lantern Slides are small positive transparencies on glass, usually $\frac{1}{2}$ by $\frac{3}{4}$ inches, and are made by contact or reduction from negatives. These little pictures are projected by means of an optical lantern on to a white sheet or screen and appear enlarged a great many times their original size. The preparation of lantern slides needs careful technical accuracy in view of their subsequent enormous enlargement. The slides are made on commercially prepared lantern plates. These plates are coated with a fine silver-chloride emulsion and are either "rapid," for black and white tones, or "slow" (gaslight) for warm tones. The former can be used for reduction from large negatives by means of a reducing camera as well as for contact; the latter are generally used for contact only. For contact printing the plates are exposed behind a negative in a printing frame the same as when making a bromide or gaslight print. Exposure varies according to the speed of the plate, density of the negative, and intensity of the light. Correct exposure is found by trial, but is about the same as for bromide or gaslight papers respectively (q.v.). After exposure the plates are developed in developers similar to those for bromide or gaslight papers, or other formulae may be used. Hydroquinone developer (q.v.), restrained with ammonium bromide, potassium bromide, and ammonium carbonate, will give a great range of tones from sepia to red according to the amount of over-exposure. Pyro developer also gives good brown tones. Full instructions will be found with each box of plates. Lantern slides, when developed, fixed, washed, and dried, are bound up in contact with a "cover-glass." This is a piece of thin clear glass, same size as the slide, and is bound to it by thin strips of gummed paper or linen stuck on all four sides, the edges holding the two together. A cut-out mask of black paper is held between the

two showing only the required portion of the picture. Two white spots are placed on the front of the slide at the two top corners. This enables the lanternist to tell which is the right way up when placing the slides in the lantern carrier in semi-darkness.

Latent Image. The invisible image impressed upon the silver salts in the emulsion on a dry plate or bromide paper, etc., and brought into visibility by means of a developer.

Lens. This is probably the most important part of the photographers' outfit, and enables the image to be formed on the sensitive dry plate in the camera. Photographic lenses are of various types, from the single or landscape lens to the more complex modern anastigmat (q.v.) and telephoto lens. The better the lens the more highly it has been corrected for aberrations. Lens aberrations indicate some departure from the ideal performance of the instrument, and may be "chromatic," "spherical," "distortion," "curvature of field," or "astigmatism," etc. (q.v.). (See also **Aperture**.) Great care should be taken of a good lens to preserve it from scratches, the highly-polished surfaces are easily abraded, and the quality of the lens then suffers. (See also **Supplementary Lens**.)

Light-Fog. (See **Fog**.)

Light Filters. These are of coloured glass or gelatine, and are employed to cut out or block certain rays of light when using colour-sensitive plates. Called also "colour-screens," "ortho," "iso-screens," and "ray-filters." (See **Orthochromatic photography**.) When used to filter the light from a dark-room lamp, they are usually termed "safe-lights" (q.v.).

Magazine Camera. A form of hand camera containing a magazine of plates (in metal sheaths) at the back. They are changed automatically by pressing a lever outside the camera.

Magnesium. (See **Flashlight**.)

Magnifier. (See **Supplementary Lens**.)

Masks and Discs. Masks are pieces of black paper the same size as a negative, with a square, round, oval, or oblong opening cut in its middle. Placed between the negative and sensitive paper when printing, the mask protects the covered parts from light action, and they remain white. A portrait can thus be masked out of a group. The piece cut out of the middle of the black paper is called a disc, and if placed on the portrait or other portion that has been printed through the mask, will permit the surrounding white paper to print to a suitable tint. Cut-out black paper masks are also used in lantern slides (q.v.). (See also **Combination Printing**.)

Matt Surface Paper. The term applied to printing papers that are not glossy surfaced, but are not absolutely rough in texture.

Matt Varnish. (See **Varnish**.)

Meniscus. A term applied to a lens that is concavo-convex in form.

Mercuric Chloride. (See **Intensification**.)

Methylated Spirit. Used in photography principally for the purpose of quickly drying negatives and prints. If these are placed in methylated spirit for five or ten minutes after leaving the washing water, and then set up in a current of air or in front of a fire, they will dry in a few minutes.

Metol. A quick-acting developer, highly suitable for instantaneous exposures, develops shadow detail without rendering high lights too dense. Produces negatives soft in quality; also suitable for bromide and gaslight papers and lantern slides. A good formula is:—

a. Metol	75 grains.
Sulphite of soda	14 oz.
Water	30 oz.
b. Carbonate of soda	14 oz.
Bromide of potash	8 grs.
Water	30 oz.

Use equal parts of each.

Metol-Hydroquinone, known also as **Metol-Quinol** or **M.Q.**, an ideal combination of developers for all rooms, by combining the detail giving qualities of metol with the density producing characteristics of hydroquinone. Suitable for negatives, lantern slides.

and bromide and gaslight papers. A reliable formula is—

a. Metol	40 grains.
Hydroquinone	50 "
Sulphite of soda	100 "
Bromide of potash	15 "
Water	20 ozs.
b. Carbonate of soda	1 oz.
Water	20 ozs.

Use equal parts of a and b mixed for normal exposure. For over-exposure decrease the proportion of b and add a few drops of 10 per cent. solution of bromide of potash. For under-exposure increase b and dilute with equal bulk of water.

Mountant. There are several forms of pastes and other adhesives suitable for mounting photographs, the best known being starch-paste. This is made by mixing one ounce of starch (in powder) with one ounce of water, forming a thick even cream. Add to it, constantly stirring, eight and a half ounces of *boiling* water in which twenty grains of alum and five drops of carbolic acid have been dissolved. A clear translucent jelly of strong adhesive qualities should be formed; if it is not, heat it in a pan until it clears. This will keep about a week. Ordinary flour can be similarly treated and makes a good paste (not translucent), perhaps the best both for sticking and keeping qualities is dextrine.

Take:—

Best white dextrine	1 lb.
Cold water sufficient to make smooth stiff paste.	
Add water	10 ozs.
Oil of wintergreen or cloves	2 dram.

Mix the dextrine and water together until quite clear of lumps, add the further quantity of water, then the oil, and then bring the whole mixture to the boil, when it should be like clear gum. Pour into pots, cover up, and in from twelve to twenty-four hours it will set to a hard white paste that can be spread easily on backs of prints, etc., with the finger or a brush.

Mounting and Mounts. Mounting is the operation of affixing photographs to suitable mounts by means of an adhesive. Prints mounted wet are apt to cockle and bend the mounts unless specially pressed and flattened when dry. With larger sizes this tendency to curl can be counteracted by pasting another piece of wet paper to the back of the mount. Mounting the print dry is generally best. It can be pasted all over the back and applied carefully to the correct position on the mount (marked with a fine-pointed pencil beforehand—a dot for each corner), or it can be mounted by applying the adhesive to one edge only. A strong dextrine mountant or fish glue is best for this purpose. Thick neutral-coloured "art" papers are largely used for mounts, and a series of two, three, or four of these, showing a thin line of tint one under another, can be built up into a very effective surround for the picture. This is termed multiple-mounting. (See also **Dry-mounting**).

M. Q. is an abbreviation for "Metol Quinol" or metal hydroquinone developer (q.v.).

Muriatic Acid. Another name for hydrochloric acid.

Nature Photography. The photography of animals, birds, fishes, insects, plants and geological subjects may be included under this heading. A camera with long extension and great rigidity is needed. A reflex camera is specially adapted for birds and animals. A lens of large aperture is necessary and a silent shutter is essential. Rapid plates (orthochromatic preferred) and a great store of patience are also required. Animals and birds may be stalked in their nature surroundings and the photographs thus secured after careful watching and waiting are more valuable from the natural history point of view than when the subjects are photographed in captivity. Fishes are generally photographed in glass tanks with back and front very close together—practically holding the fish in position. The longest possible exposure that the subject permits should be given in nature photography, to secure all detail.

Negative is the term applied to the glass plate or film on which picture appears, but with the lights and shadows reversed. A negative is produced either in the camera by direct action of light through the lens or

by printing in a frame from a positive. (See **Exposure and Development**.)

Negative Storing. Boxes with grooved interiors are sold specially for storing glass negatives. Film negatives may be stored in envelopes, and books of envelopes are supplied by dealers for the purpose. Glass negatives may also be stored in paper bags (obtainable from the photo-dealer) and kept in sets or series in boxes with all particulars written outside. Another convenient method of storing large quantities is to keep the negatives (in two, film to film) in their original plate boxes, marking the outside of each box with a distinctive catalogue number for easy reference to the contents. The boxes should be stored standing on edge and not flat.

Nitric Acid, called also "aqua fortis." A corrosive, fuming acid used as a preservative in pyro-developer.

Oil-printing. The oil-pigment printing process is the production of an picture in greasy ink (printers' or lithographic ink) on paper that has received a coating of gelatine, sensitised with potassium bichromate, and exposed to light under a negative. The action of the light renders the bichromated gelatine insoluble in proportion to the densities or gradations of the negative, the darkest shadows being most insoluble and the high lights (protected by the white parts of negative) remaining untouched. The exposed paper is soaked in plain water and washed. The gelatine absorbs water and swells in exact proportion to the gradations of the negative. The parts that hold most water will now repel the greasy ink when applied with a brush (with a dabbling action). The shadow portions (insoluble gelatine and not swollen with water) "take" the pigment, and the ink will adhere all over the image in correct amount according to the lightaction, and the picture is formed with all detail and gradation. The gelatinised paper (carbon transfer paper answers the purpose well, although special papers are made for the process) is sensitised by soaking in:—

Potassium bichromate	1 oz.
Water	20 ozs.

for one minute. Drain and dry in dark.

Or a spirit sensitizer composed of:—

Ammonium bichromate	10 grs.
Sodium carbonate	10 grs.
Water	4 ozs.

One part of this sensitizer with two parts of alcohol and applied with a Blanchard brush (q.v.).

Printing takes about one-sixth the time necessary for P.O.P. After printing wash in cold water for half an hour. The print can then be dried (soaking it again when required) or pigmented at once. Pigmenting is conducted by laying the print face upwards on a pad of wet blotting paper. Remove surface moisture with fluffless blotting paper or a damp rag. Spread some of the pigment (sold specially prepared for the process) on a piece of glass or a palette. Dab one of the specially made fish-hog-hair brushes on the pigment until evenly distributed. Then with a "dabbling action" apply it to the print. Apply only a little pigment at first, increasing it as the image grows. Continue to apply the pigment until the picture is complete. A "hopping" action of the brush will take the pigment off. A "pressing" action will make it adhere. Thinning the pigment with a little boiled-oil or megilp will make it take more readily everywhere. In the production of prints in this process and also in Bromoil (q.v.) control of local tones or gradations can be easily accomplished. High lights can be cleaned up, shadows can be strengthened, details can be subdued or removed entirely, and in skilful hands a good composition can be made from a negative that would not yield a passable print in any "straight" process.

Optical Contact. An expression used to indicate the cohesion of two surfaces with no air spaces between. When a print is squeegeed on to glass and all air-bubbles are pressed out, it is said to be in optical contact.

Optical Lantern. (See **Lantern**.)

Orthochromatic, or Isochromatic, means "colour correct." The term is applied to dry-plates that are more sensitive to yellow and green than the "ordinary" plates. As they are still very sensitive to

blue and ultra-violet, a yellow screen or light-filter must be used with them to cut these rays out. The "ortho" plate used in conjunction with a yellow screen will give a comparatively colour-correct rendering of a landscape with clouds, or any other natural scene. "Ortho" plates must be developed in a deep ruby light, as the ordinary dark-room light will generally prove too actinic for their extra sensitiveness to colour. In other respects the treatment for "ortho" plates is the same as for ordinary plates. The "orthochromatic" screens or light-filters are made of yellow glass, with optically worked surfaces, or stained gelatine film. The screen is used either in front of or behind the lens, and increases the exposure twice, five, or ten times, etc., according to the depth of colour.

Ortol. A developer for plates, films, and bromide and gaslight papers. It gives an image of good density and colour. A useful formula is:—

(a) Ortol	70 grains.
Potassium metabisulphite	35 grains.
Water	10 ozs.
(b) Carbonate of soda	1½ oz.
Sulphate of soda	1½ oz.
Water	10 ozs.

Use a 1 oz., 5 oz., water 10 oz.

Over-Exposure. When a plate has been exposed in the camera for a longer period than would be necessary to give a good negative with all gradations reproducing the original, it is said to be over-exposed. An over-exposed negative is flat and lacking in contrast, but with plenty of detail. It may be remedied sometimes by intensification (q.v.).

Ozobrome is a method of making carbon prints from bromide prints or enlargements without the action of light. One bromide print may be used to make several ozobromes if required. There are two methods of procedure. The first process consists in placing the bromide print or enlargement in a dish of plain cold water, then immerse a piece of "pigment plaster"—similar to carbon tissue—in the special pigments solution supplied for the process. When the pigment plaster is well saturated (about three minutes) take out and place for a few seconds in a bath of hydrochloric acid (10 per cent. solution) 1 oz., water 25 ozs. Drain and then bring into contact—face to face—with the bromide print soaking in the plain water. Withdraw them together from the water and squeeze on a hard surface. Leave for twenty minutes, then develop in warm water (100° to 110° F.). Strip off the plaster backing and the carbon image will develop like an ordinary carbon print, but with the bleached bromide print as a base. This bleached silver image can be entirely removed now by means of a hypo bath. Wash the print and dry.

The second process is similar to the first up to the squeezing of the pigment plaster to the bromide print. After remaining in contact for twenty minutes, place them in cold water and strip off the bleached bromide print. Then bring the pigment plaster into contact with a piece of carbon transfer paper which has been previously well soaked in water. Squeeze together, place under slight pressure for twenty minutes, and develop in hot water (205° to 210° F.) as for an ordinary carbon print (q.v.). The bromide print can be used over and over again for other ozobromes, or redeveloped and kept in its original condition.

Panchromatic applied to dry plates, means sensitive to all colours of the spectrum as distinguished from orthochromatic (q.v.).

Panoramia Camera. A specially constructed camera for taking panoramic views.

Paper Negatives are useful in making enlargements. They are on specially prepared, nearly grainless, thin paper, coated with dry-plate (slow) emulsion. Paper negatives are developed in the same manner as ordinary glass negatives or films. Thin bromide paper may be used for making negatives for enlargements, but is too slow for exposures in the camera. If the grain of the paper shows it may be obliterated and the paper rendered more translucent by rubbing in melted paraffin wax or vasoline.

Paper Mineral. A fine tracing paper, very translucent and used for affixing to the backs of negatives for working upon in pencil or crayon.

Para-amidophenol. (See Rodinal.)

Parts. (See Weights and Measures.)

Passé Partout. A form of finishing prints for exhibition by binding them by the edges to a piece of glass cut to the same size as the mount. An effective and economical form of framing. A backboard is used to prevent damage to the back of the print, and rings are fixed to the backboard to hang the picture up. The binding strips may be paper or coloured tape and are stuck on with gum, glue, or paste.

Paste. (See Mountant.)

Paste, Encoustic. (See Encastic Paste.)

Photo Aquatint. A term applied originally to a form of photogravure and then to the gum-bichrome process (q.v.).

Phosphata Paper. A printing paper with an emulsion of silver phosphate. It is used in gaslight both for manipulation, exposure, and development. Development is physical in character and prints can be produced with great rapidity.

Photo Meter. A meter for measuring the strength of light. (See Exposure Meter.)

Photo-micrography is the process of obtaining photographic enlargements of microscopic objects by the aid of the microscope used in conjunction with a camera.

Photo-telegraphy. A new application of photography by means of which photographs can be transmitted over long distances by electrical means. The telephone line is usually employed and experiments in "wireless" transmission of photographs have also proved successful.

Pigment Processes. The various printing processes used in photography in which a pigment is incorporated or otherwise used in conjunction with some colloid which is rendered sensitive to light by chemical action. (See Carbon, Gum Bichromate, Bromoil, Oil-Printing, Ozobrome, etc.)

Pinhole Photography. Taking photographs by means of a camera with a pinhole instead of a lens. The pinhole is made with a pin or needle in a piece of thin metal (thin sheet brass answers well). The edges of the hole must be clean and free from burr. No focussing is necessary as the image is always in focus and the size of the picture depends only on the camera extension. The exposure varies according to the size of the hole which depends on the diameter of the needle that made it. It is roughly thirty to one hundred times the ordinary exposure.

Pinholes are small transparent spots that occur in negatives, and may be due to dust settling on the plate while in the dark slide or during exposure. They are also sometimes due to minute air-bubbles in the developer. They can be stopped out with a little water colour paint applied with the fine point of a small sable brush.

Plate-sunk Mount. A term applied to a photographic mount with an indented centre—to which the print is mounted—an imitation of the plate-mark round an engraving.

Platino-Bromide. A name applied to a certain type of bromide paper with a surface approximately resembling a smooth platino type print, which is further imitated by the colour and tone of the print when developed. Called also Platino-matt.

Platinotype. A beautiful printing process in which iron and platinum salts are utilised. The pictures obtained are in pure platinum and are absolutely permanent. The paper as sold is of a yellowish colour on the coated side. This is exposed under a negative in a printing frame and exposed to daylight until all details are just visible in a brownish tint on the yellow ground. The image is developed by placing the print in a solution of potassium oxalate (1 in 6 approximately) or in developer specially prepared by the makers of the paper. This gives perfect black tones. A different paper is supplied for sepia tones and is developed in a hot bath of oxalate solution 10 parts, saturated solution oxalic acid 1 part. Used at 150° to 160° F.

After development the prints are cleared and fixed in several successive baths of hydrochloric acid 1 part, water 60 parts. Finally washed and dried. Platinum papers must be kept in a calcium tube to protect them from moisture in the air.

Platinum Toning. (See **Toning**.)

P. O. P. An abbreviation for Printing-Out-Paper. All photographic printing papers that print under a negative in daylight and give a fully visible image are termed printing-out-papers, in contradistinction to development papers, in which the image is invisible or only partly seen after exposure. By P. O. P. is generally understood the gelatino and collodio-chloride papers and self-toning paper. These papers are exposed under a negative in a printing-frame and examined from time to time in subdued light to note the progress of printing. Printing is conducted in full daylight, but not in direct sunlight, unless the negative is very dense. Printing is carried further (darker) than is required in the finished print. In self-toning papers the printing is carried further still. When printing is complete, the print is ready for toning, after which it is fixed in hypos 3 ozs., water 1 pint, washed thoroughly and dried. (See **Toning**; also **Glazing**, **Self-toning**.)

Portraiture by photography is probably the most popular form of camera work, and is the branch that attracts most amateurs—although its special application is confined largely to professionals. Successful pictorial portraiture is comparatively difficult. To achieve something more than a mere snapshot of a person severe to the camera is considered. The background and environment of the figure need careful consideration. These should always be as simple as possible, so as not to detract from the interest of the portrait. (See **Background**.) The lighting is important. This will make or mar the portrait. The pose should be as natural as possible, and the sitter should not stare at the camera or appear "camera-conscious." Dark shadows, caused by strong top or side light, or by the sitter being too close to the light, can be rectified by reflectors of white material placed on the shadow side, or by translucent muslin diffusers placed between the sitter and the light. The most effective form of lighting for general portraiture is a good top side light, not too near, but a little in front of the sitter. A high window facing north, or a sloping skylight answers well. This lighting with a reflector should serve for most portrait studies. Ordinary rooms with a fairly large window can also be used for home portraiture by blocking up the lower half of the window, and using the upper portion only with the assistance of a reflector to light the shadow side of the face. Do not put the figure too close to the window or the lighting will be too hard. Long-focus lenses of big aperture are best for portraiture. Short-focus lenses give distorted perspective, and small apertures increase the exposure too much. Home portraiture can also be accomplished by flashlight (q.v.). Rapid plates (preferably orthochromatic) should always be used for portraiture and the largest stop in the lens. A full exposure gives the best results, and the negatives should be developed with asoft-acting developer such as metol (q.v.), rodinal, or a well-diluted pyro-developer with an extra amount of alkali. (See also **Retouching**.)

Positive is the name applied to the print or transparency made by contact, reduction, or enlargement from a negative.

Potassium Bichromate, a chemical of considerable importance in photography. It is met with commercially in fine orange-red crystals. Dissolves in water, and when incorporated with certain colloids, such as gelatine, possesses the property of rendering them insoluble on exposure to light. Is used in photo-mechanical processes, and collotype, etc. (See **Carbon**, **Gum-bichromate** and **Oil-process**.)

Potassium Bromide, used principally as a restrainer in development, and in emulsion making. As a restrainer it keeps the image clear, and assists in building up contrast and preventing general fog in cases of over-exposure. It is most conveniently used as a ten per cent. solution in water, i.e., 20 ozs. of solution contains 1 oz. bromide. A few drops are added to the developer.

Potassium Cyanide, used in making the cyanide reducer for negatives. It is a deadly poison and should not be handled more than necessary.

Potassium Ferri-cyanide, or Red Prussiate of Potash. Used in the iron or "blue-print" process

(q.v.), also in bromoil and other formulae. Used in conjunction with hypo in making a useful reducer for negatives. (See **Reduction**, also **Toning**.)

Potassium Iodide, used in making emulsions with silver nitrate.

Potassium Metabisulphite, used as a preservative in pyro and other developers and preventing staining of the gelatine film. Used also in making a non-staining acid fixing bath (q.v.).

Potassium Per-carbonate. (See **Hypo Eliminator**.)

Printing is the process of making a positive from a negative so that a picture is obtained in which the gradations of light and shade are represented as seen in nature. The term is more usually applied to contact work in a printing frame rather than to making enlargements. (See **Carbon**, **Cloud Printing**, **Bromide**, **Gaslight paper**, **Bromoil**, **Oil-printing**, **Platinotype**, **P.O.P.**, etc.)

Printing Frame. A wooden frame made to hold the negative while making contact prints. The negative and printing paper (film to film) are held in the rebate of the frame by a flat wooden back which is hinged in the middle, so that one end can be lifted to inspect the progress of printing. The back is held securely in position by two cross springs which clip onto the sides of the frame.

Pyro. The abbreviated name of pyrogallol (sold as pyrogalllic acid), an extensively used developing agent. Gives negatives with a tendency to yellow colour according to the formula employed. Sold in light, white, feathery crystals, very soluble in water or in heavier crystals or "tablets." The earliest formula for a pyro-developer for dry plates was pyro-ammonia. This has been practically discarded now in favour of pyro-soda, of which the following is a good formula:—

Water	.....	30 ozs.
Potassium metabisulphite	.....	1 oz.
Potassium bromide	.....	60 grains.
Pyro	.....	1 oz.

Stock Solution: β .	
Sodium carbonate	..... 2 ozs.
Sodium sulphite	..... 3 ozs.
Water	..... 10 ozs.

For use take β : 3 ozs. water to make 20 ozs.
or β : 5 ozs. water to make 20 ozs.
Use equal parts.

Increase the quantity of β for under-exposure and dilute with more water. For over-exposure increase the proportion of α and add 20 to 30 drops of a 10 per cent. solution of bromide of potash. Pyro used in conjunction with metol gives a very satisfactory developer. A favourite formula is:—

α . Metol	.....	45 grains.
Potassium metabisulphite	.....	120 grains.
Pyro	.....	55 grains.
Potassium bromide	.....	20 grains.
Water	.....	20 ozs.
β . Sodium carbonate	.....	3 ozs.
Water	.....	20 ozs.

For use take equal parts of each.

(See also **Acetone** and **Beach's Developer**.)

Pyroxyline. The chemical name for gun-cotton. It is produced by the action of nitric and sulphuric acids on pure cotton wool. It dissolves in a mixture of alcohol and ether, and is then known as collodion. This is employed as the base for the silver salt in the wet-plate process and in the preparation of collodion emulsions. Gun-cotton is also used as a means of rapidly igniting flash-powders. (See **Flashlight**.)

Quarter-Plate. A photographic size, $4\frac{1}{2} \times 3\frac{1}{2}$ inches. (See **Sizes**.)

Quinol. Another name for **Hydroquinone** (q.v.). **Rembrandt Effect** is a term frequently applied to that type of portraiture in which the outline of the features in profile are strongly lighted, while the remainder of the face and the background are in comparative shadow.

Rodinal. A concentrated "tabloid" developer of great utility for films, plates, bromide and gaslight papers, and lantern slides.

Rapid Rectilinear. A doublet lens that has been corrected for distortion of line. Usually ab-

breviated to "R.R. lens." Called also a "symmetrical lens" or "rapid symmetrical." When the two components forming the lens are the same in construction, one component or one half of the lens can generally be used as a single lens of double the focal length of the complete lens. (See **Lens**.)

Reduction (in Size). In the production of lantern-slides (q.v.), or small prints from large negatives, it is necessary to use a reducing apparatus. It consists, in practice, of a camera which takes a photograph on a small scale of the original negative or picture. The adjustments should permit the original that is being copied to be evenly illuminated by transmitted (or reflected) light, and the reducing camera should be truly square and vertical with the plane of the original, otherwise distortion will occur. (See **Copying** and **Lantern Slides**.)

Reduction in Density in negatives is secured by means of a reducer. A useful formula is the ferricyanide-hypo reducer (called also "Howard Farmer's" Reducer, after its inventor). It is prepared by adding a small quantity of potassium ferricyanide (10 per cent. solution) to hypo 1 oz., water 5 ozs. The mixture should be of a light yellow colour and keeps acting for only a few minutes. Negatives can be placed in the reducer straight from the bath. If hypo predominates in the solution, reduction affects the high lights, but when the ferricyanide is in excess, the shadows are attacked first. As soon as the required reduction is complete, wash well and dry. Persulphate of ammonia is also a favourite reducer. Local reduction can be effected physically by rubbing the required part of the dry negative with a wad of cotton wool soaked with methylated spirit.

Reflex Camera. A form of camera, usually used as a hand camera, in which the image cast by the lens is reflected (by means of a mirror placed at an angle of 45 degrees inside the camera) to a focussing screen at the top of the instrument. This serves the purpose of a full-sized view-finder, and the image can be focussed up to the moment of exposure. The plate is in position in its usual place at the back of the camera, and at the desired moment the mirror is released. It springs up and shuts out the top focussing screen, and simultaneously a shutter exposes the plate. Reflex cameras are especially useful for instantaneous work that requires great precision of focus, and also for natural history photography, e.g. birds, etc.

Registration. Any photograph may be registered (copyrighted) at Stationers' Hall on payment of a fee of 1s. The necessary form is supplied on application.

Rembrol. A commercial one-solution concentrated developer for plates, films, papers, and lantern-slides. Needs the addition of water only.

Restrainder. A chemical added to a developing solution to restrain its action. Usually Potassium bromide in a 10 per cent. solution is used with developers for negative work.

Retouching is the process of spotting out defects in photographic negatives or prints. It is generally accomplished with a fine-pointed pencil—after the film has been prepared to "take" the black-lead—or with a fine sable brush and water-colour of the right tint (for prints). To prepare the surface of a negative for retouching, a little special varnish must be rubbed over the film to give it a "tooth." A formula for preparing this is:—

Powdered resin 60 grains.
Turpentine 2 ozs.

The retouching pencil must be of hard lead—H.H. or H.H.II.—and must be sharpened to a fine needle point (by rubbing on fine glass paper after using the knife). The pencil is used on the parts requiring retouching with a loose "dotted" sort of stroke, making a series of tiny commas, or with a very light and small circular action. The point of the pencil must not be pressed hard and the density must be built up gradually. Spots, freckles, lines, etc., on the face in a portrait, which appear as almost transparent places in the negative are readily filled up in this manner and the texture of the skin can be smoothed considerably. It is not wise to overdo the retouching or all character will be removed from the features. An occasional rough print may be taken to

see the progress of the retouching, and if unsatisfactory it can be entirely removed by wiping the film with a rag dipped in turpentine. The process can then be started *de novo*. The retouching desk on which the work is done is a sloping board with side struts to hold it in position. A rectangular hole is cut in the middle of the negative field (film upwards) over this hole in grooves. As the retouching has to be done by transmitting light, a mirror is placed below the negative to reflect light from a window or lamp up through the hole in the desk. A top screen of wood or cloth cuts out extraneous light while working.

Reversal is when those parts of the image which should appear dark in the negative come up light, and *vice versa*. It is due to the extreme action of light on the sensitive film and is also known as solarisation.

Reversed Negative is one in which the position of the picture is reversed as regards right and left. Reversed negatives are used for certain photo-mechanical work and in carbon printing in single transfer. They are made (1) in the camera direct by taking the picture through the glass side of the plate or by means of a prism, (2) by stripping and reversing the negative film itself, (3) by reproduction from other negatives.

Rising Front is a movable panel of wood fitted to the front of the camera and holding the lens, which can be moved up and down so as to exclude or include more or less of the foreground of a picture without shifting the camera.

Rodinal. A concentrated one-solution developer for plates, films, papers, lantern slides, &c., needs only the addition of water for use. Made from paramidophenol.

Roll Film. A popular form in which sensitive films are supplied for use in cameras. The films are in a long strip backed with black paper and wound on a spool. (See **Film**.)

Roller-Blind Shutter. A form of instantaneous shutter in which a continuous strip or blind of thin opaque material, containing a rectangular opening or slit in the middle, passes from a roller at the top of the shutter and rapidly winds on another spring roller at the bottom. During its passage from one roller to the other, the opening in the middle uncovers the lens to which the shutter is attached. (See **Instantaneous Photography**.)

The body of the shutter itself is in the form of a narrow shallow box with an opening right through its smallest dimension. The rollers are fitted inside the box at top and bottom, and the lens of the camera fits into the opening at one side, leaving the other side free. The principle of the roller-blind is also applied to the Focal Plane Shutter (q.v.).

Safe-edge. (See **Carbon**.)

Safe Lights. This term is applied generally to the media or coloured screens employed in dark-room lamps, and may vary according to the sensitiveness of the plates or papers used. For bromide papers a good yellow light (orange glass or two thicknesses of special yellow fabric—sold for the purpose) will suffice. For ordinary and rapid non-ortho plates, ruby and orange glass combined, or two thicknesses of yellow fabric and one of ruby fabric will be safe. For orthochromatic plates a very deep ruby light is necessary or one of the commercially prepared safe lights may for the purpose should be used. (See **Dark Room**.)

Short-Focus Lens. A lens of which the focal length is less than the length of the longest side of the plate for which it is used may be called a short-focus, or wide-angle lens so far as that particular size of plate is concerned. Generally, however, the term means a lens with a focal length less than five inches. Such lenses have greater depth of focus (or definition) than long-focals lenses.

Screen, Coloured. (See **Orthochromatic**.)

Screen, Lantern. The screen or sheet upon which the picture in the lantern-slide is projected by the optical lantern (q.v.). To get the most brilliant result the screen should be white with a little blue in it and should be opaque.

Self-Toning Papers are printing-out papers in which the amount of gold necessary for toning the image is incorporated in the emulsion itself. Prints on

self-toning paper only require fixing in a plain hypo bath to give a finished picture of a pleasing colour. Thorough washing is necessary after fixing.

Shutters, Instantaneous. Mechanical contrivances for exposing the sensitive plate or film in the camera to the action of light for the fraction of a second, and allowing the image formed by the lens to impinge on the surface of the plate during that period. (See **Instantaneous Photography** and **Roller-Blind Shutter**.)

Silhouette Photography is that form of portraiture in which the face or figure is shown in profile in solid black against a plain white background. The method of producing these effects is to pose the sitter in profile against a white sheet. Focus the camera carefully and then exclude all light that may illuminate the near side of the figure or sheet. The whole of the light must come through the sheet and may be daylight or flashlight. Use a slow plate and develop with a well-restrained developer to give great contrast and density.

Sizes, Photographic. The principal sizes of photographic plates and papers are $1\frac{1}{2} \times 2\frac{1}{2}$; $3\frac{1}{2} \times 4\frac{1}{2}$; 5×7 ; $5\frac{1}{2} \times 7\frac{1}{2}$ (lantern plate); $3\frac{1}{2} \times 4\frac{1}{2}$ (quarter plate); 5×7 ; $5\frac{1}{2} \times 7\frac{1}{2}$ (postcard); $6\frac{1}{2} \times 8\frac{1}{2}$ (half plate); $6\frac{1}{2} \times 9\frac{1}{2}$ (stereoscopic); $7\frac{1}{2} \times 9\frac{1}{2}$ (whole plate); 10×8 , 12×10 ; 12×12 . The principal sizes of continental plates are $6\frac{1}{2} \times 9$ centimetres; 9×12 cm.; 12×16 cm.; 12×18 cm.; 18×24 cm.; 12×20 cm.

Skidagraphy, an early name applied to Radiography (*q.v.*)

Snap-shot photography. (See **Instantaneous Photography** and **Hand Camera**.)

Sodium Carbonate: ordinary washing soda. It is best to use the pure carbonate of soda prepared for photographic purposes instead of the common variety. Should be in clear crystals.

Sodium Hyposulphite. (See **Hypo**.)

Sodium Sulphate. Used largely in photographic formulae as a preservative for various developing agents, such as pyro, metol, hydroquinone, amidol, &c. It also prevents staining the film during development. Should be obtained in clear crystals. When it turns white or gets partly white it has oxidised and become sulphate and is then of no use for its original purpose.

Solarization. (See **Reversal**.)

Spherical Aberration is a defect in a lens and consists in bringing the rays passed by the centre of the lens to a focus at a point nearer than where the rays passed through the margins. Occurs most commonly with "single" lenses.

Spool. The name given to the rolled-up length of sensitive film backed with black paper and wound on a wooden spindle, used in a roll-film camera. A "spool" of film may contain sufficient for two, six, or twelve exposures, and is sometimes called a film-cartridge, and can be loaded into the camera without the need of a dark-room. (See **Film**.)

Squeegee. A useful accessory employed for squeezing a print into optical contact with a sheet of glass, or for expelling the air from between two pieces of paper (as in the carbon process) or other surfaces. It is made in two forms: the roller-squeegee, a tube of seamless rubber on a wooden spindle revolving in a convenient handle, or a flat straight-edged strip of rubber cemented or otherwise held in a long wooden holder. The latter form is more satisfactory in practice. When squeegeeing, start pressing out the air from centre of print towards the margins. Place a sheet of clean blotting-paper and then a sheet or two of ordinary paper over the back of the print to prevent abrasion.

Stains on Negatives. (See **Clearing Bath** and **Thiocarbamide**.)

Stand Development. This term is applied to the system of slow development in dilute developer, in which a number of plates are dealt with simultaneously. A grooved porcelain or metal tank is employed to hold the plates vertically, and almost any non-staining developer, such as metol, hydroquinone, adurol, redial, &c., may be used in a considerably diluted state. Development is allowed to proceed slowly (for many hours if the developer is very dilute), and this treatment generally tends to balance faults of exposure

and make the most of each negative. A developer specially suited for stand-development on account of its clean working properties is glycine. The following formula is suitable:—

Glycine	1 oz.
Sodium carbonate	2½ ozs.
Potassium carbonate	5 ozs.
Water	90 ozs.

Dilute one part of this with 6 to 12 parts water.

(See also **Tank Development**.)

Starch Paste. (See **Mountant**.)

Stenopic Photography. Synonymous with **Pinhole Photography** (*q.v.*)

Stereoscopic Photography is that form of camera work in which two photographs are taken simultaneously (if the subject is moving) with the same exposure, and with a camera having two similar lenses placed approximately the same distance apart as the human eyes. The resulting prints from the two negatives (usually taken side by side on one plate) when mounted, and viewed in a stereoscope, give the illusion of solidity to the objects photographed. This is due to the two points of view in the two halves of the pair of pictures. Two separate cameras may be used, or two exposures given with one camera—moving it a few inches to right or left before making the second exposure. Special stereoscopic cameras are sold for the purpose. When mounting the prints from a stereoscopic negative, care must be taken to mount the right hand print on the left and *vice versa*, as it must be remembered the negative has reversed the two views. The pictures may also be seen to advantage as transparencies.

Stock-Solution is the term applied to a concentrated form of any formula of which a portion is taken from time to time and diluted for use.

Stops. (See **Diaphragm**.)

Stripping Negatives. The film of a negative can be stripped from the original glass or collodion base by treating with the following solution:—

A. Methylated spirit	2 ozs.
Water	2 ozs.
Formalin	1½ ozs.

Take 8 parts of this solution and add 1 part hydrofluoric acid. Place negative in this first cutting film all round about ¼ inch from edge. The film readily loosens in this and can be taken off. It can then be transferred to a new piece of glass. (See **Cracked Negatives**.)

Sulphide Toning. (See **Toning**.)

Sulphite of Soda. (See **Sodium Sulphite**.)

Sunning Down is the term used when the high lights (e.g. the sky) of a print are perfectly blank and are coloured or tinted slightly by extra exposure to the light. In the case of printing-out-paper, this is effected by merely exposing the print to sunlight for a few seconds, carefully shielding the portions of the picture that are already sufficiently printed. A graduated sky effect, dark at the top and lighter near the horizon, can be obtained by slowly uncovering the sky part during the period of exposure to the light.

Swing Back. The movable back of the camera that can be swung vertically so as to get the plate truly perpendicular when the camera is pointed up or down.

Swing Front. The front of the camera holding the lens can in many cameras be swung from the centre so that the lens points up or down at will. Both the swing front and the swing back are useful movements for architectural photography.

Sulphuric Acid. A strong, corrosive acid used in the Bromoil process (*q.v.*). Develops great heat when diluted with water. Always add the acid to the water, and not *vice versa*.

Sulphocyanide of Ammonium. A very deliquescent chemical. Used in the gold toning bath. (See **Toning**.)

Supplementary Lenses, or magnifiers, are single lenses applied to the front of the ordinary lens for the purpose of increasing or decreasing its focal length. By careful calculation of the amount of this increase or decrease, objects at different distances can be brought into focus without altering the position of the original lens on the camera. These lenses are largely used in hand cameras that are not provided

with focussing adjustments. To find the focal length of a supplementary lens necessary to reduce or increase the focal length of a given lens, multiply the focal length to be altered by the focal length desired, and divide the product by the original focal length less the final focal length. A "positive" lens will reduce the focal length. A "negative" lens must be used to increase the focal length.

Symmetrical Lens. (See **Rapid Rectilinear**.)

Tank Development. This term is applied to the development of plates or films in a grooved metal tank or box. The plates (a dozen or more) can be treated at once according to the number of grooves) are held vertically in the tank and a clean acting developer of known strength poured on. The constitution of the developer may be so arranged that the development is complete in a certain time, say five, ten, or twenty minutes. This is arrived at by trial with a correctly exposed plate. A great number of developing tanks are now made and are obtainable from photographic dealers. They all embody the same principle, and many are made so that the plates can be reversed top to bottom at intervals during development. This prevents uneven development. (See also **Stand Development**.)

Telephotography is that branch of camera work in which a telephoto lens is used. The effect of this lens is to bring distant objects into focus, on the plate on a large scale, but without a long camera extension. The telephoto lens consists of a combination of an ordinary large-aperture photographic lens with a "negative" (or double concave) lens. This negative lens acts as a magnifier and the size of the image varies with the distance of the separation between it and the positive lens. To obtain the same sized rendering of distant objects with ordinary lens would require a camera of many times the length.

Temporary Support. (See **Carbon Printing**.)

Ten per Cent Solution. (See **Weights and Measures**.)

Thiocarbamide. A chemical used for making a clearing solution for negatives and for the removal of stains. The following is a useful formula:

Thiocarbamide 20 grs.
Citric acid 10 grs.
Water 2 ozs.

Thiocarbamide used in the developer will bring about reversal. (See also **Clearing**.)

T. and I. An abbreviation for "Time and Instantaneous," applied to photographic shutters that are capable of giving "time" exposures as well as "instantaneous."

Three-Colour Photography. (See **Colour Photography**.)

Tissue. (See **Carbon**.)

Time Development. A system of developing negatives in which the time of first appearance of the image bears a definite relation to the total time taken to develop the image fully. (See **Factorial Development**.)

Time Exposure is the term generally applied to an exposure given by uncapping the lens of the camera for any time more than a second. Less than one second's exposure is usually regarded as "instantaneous." When using an exposing shutter on the lens, exposures of from half a second to three or four seconds are sometimes referred to as "bulb" exposures (*q.v.*).

Toning is the process whereby the tone or colour of a photographic print is altered or changed by chemical means. Nearly every form of print is capable of being toned, but gelatino-chloride, or collodion-chloride papers (P.O.F.) and "bromide" or "gaslight" papers are most frequently treated in a toning bath. A favourite toning bath for gelatine P. O. F. is

Ammonia sulphocyanide 20 grs.
Chloride of gold 2 grs.
Water 20 ozs.

Dissolve the sulphocyanide in half the water and gold in remainder. Add gold to sulphocyanide, a little at a time, until all is mixed. The prints should be well washed in plain water first, and then placed in above bath until

all warm colour has disappeared from all but the darkest shadows when the print is viewed by transmitted light. Rinse the prints (a dozen or more) can be dealt with at once in the toning bath, and place in the fixing bath composed of:—

Hypo 3 ozs.
Water 20 ozs.

Fixation is complete in about ten minutes. Then wash prints for two hours, and dry. It is generally well to undertone, as the prints become much colder in colour when dry. A toning bath for giving fine brown tones is:—

Phosphate of soda 60 grs.
Chloride of gold 2 grs.
Water 40 ozs.

Brown and brown-black tones are obtained, especially on matt-surfaced P.O.F., by platinum toning. Use the following bath:

Potassium chloroplatinate 3 grs.
Sodium chloride (salt) 50 grs.
Citric acid 50 grs.
Water 20 ozs.

Immerse dry prints in 10 per cent. salt bath for five minutes, wash and tone in above. P.O.P. prints can also be toned and fixed in one operation (see **Combined Bath**). Browne and gaslight prints—usually black and white in colour—can be toned to almost any hue, from red to brown or blue. The best method of getting a rich brown or sepia colour is to bleach the prints in:

Potassium ferricyanide 40 grs.
Potassium bromide 60 grs.
Water 10 ozs.

When the image has quite disappeared, rinse and place in:

Pure sodium sulphide 40 grs.
Water 10 ozs.,

until the image reappears in a strong brown tone. Then wash well and dry. Red and blue tones are obtained, or bromide and gaslight prints by using the following solutions:—

a. Neutral potassium citrate 4 ozs.
Water 40 ozs.
b. Potassium ferricyanide 1 oz.
Water 10 ozs.
c. Copper sulphate 1 oz.
Water 10 ozs.
d. Uranium nitrate 50 grains.
Water 1 oz.
e. Ferric ammonium citrate 1 oz.
Water 10 ozs.

Fg. tones from warm black, through sepia to red use a, 5 ozs.; b, 2 ozs.; c, 1 oz., mixed and poured over the wet print.

For a different series of warm sepia to red-chalk colour use: b, 2 drams; d, 1 dram; glacial acetic acid, 2 drams; water, 10 ozs. After toning rinse in dilute acetic acid (1 in 100) and then wash in several changes of water.

Blue tones are obtained by immersing the prints in:—

Water 10 oz.
b. 1 oz.
c. 1 oz.
Nitric acid 1 dram.

Wash in several changes of water after toning and hang print up to dry. The methods of toning bromide and gaslight prints given above can also be used for lantern slides.

Transfer Paper. (See **Carbon**.)

Tripod is the name of the three-legged stand used for supporting the camera while the photograph is being focussed and taken. They vary in construction from heavy wooden affairs for bulky cameras to telescopic, aluminium, pocket tripods for small, light cameras. The best forms have adjustable, sliding leg joints, to permit ready levelling of the camera on uneven ground. The tripod top is the section to which the legs are attached and to which the camera is screwed.

Triple Extension means that the camera is capable of an extension of bellows three times the focal length of the lens ordinarily used.

Under-Exposure occurs when the amount of

light that reaches the plate or sensitive film through the lens is insufficient to record completely all details of the image—especially in the shadows. (See **Development**.)

Uranium. (See **Toning**.)

U.S. Numbers. (See **Diaphragm**.)

Varnish, Negative. Varnishes specially prepared for application to negatives and obtainable from all photographic dealers. The varnish is poured over the film side of the plate, which is then set up on end to dry in a warm place. A good cold varnish for application with a brush for glass negatives is:—

Celluloid 120 to 150 grs.

Amyl acetate 16 ozs.

A good varnish for films is:—

Dammar 50 grs.

Benzole 1 oz.

Matt varnish for applying to the back of a negative (gives a ground-glass effect and can be worked upon with a soft pencil) is made as follows:—

Sandarac 90 grs.

Mastic 20 grs.

Ether 2 ozs.

Dissolve and add

Benzole 1 oz.

Must be applied to the negative cold.

Vitrol, a commercial concentrated one-solution developer for films, plates, papers, and lantern slides, &c.

View Finder is the little instrument attached to most hand cameras for the purpose of determining the amount of subject or view that will be included on the plate at the moment the photograph is taken. The reflector form is, in effect, a tiny reflex camera, and the image formed by the small lens is reflected up by means of a mirror to the view point of the top of the finder. The direct vision-finder is usually a simple double-concave lens, rectangular in form, which presents the view in miniature when looked through. This type of finder affixed to the top of the camera with a sighting-pin arrangement permits the camera to be used at the eye-level and the object sighted as with a gun. Another form of direct-vision finder is made of a wire frame with intersecting wires crossing in the middle at right angles. This is fixed to the camera front (above the lens) and a sighting pin is placed at the back. This wire finder may be same size as the plate and the object is looked at through it.

Vignette and Vignetting. This is the method of softening off the edges of a picture until the margins are perfectly blank. It is generally used in portraiture and is accomplished by covering the negative with an opaque paper mask—fixed a little distance in front of the printing-frame, during printing. An opening is made in the mask approximating the outline of the portrait and tissue paper placed over the opening still further softens the effect. Vignetting, when making enlargements is accomplished by moving a piece of cardboard to and fro between the lens and bromide

paper. A hole being cut in the card to allow the required portion of the image to show through.

Washing Negatives and Prints is best accomplished in running water. The removal of hypo or other chemicals from the film cannot be done by allowing the plate or print simply to soak in water. Constant movement should be imparted to the washing water by means of a stream of water entering the washing trough (a large circular basin is good for prints) through a rubber pipe at an angle. Negatives should be washed vertically or film downwards, but not touching anything. Washing racks and tanks are now obtainable so cheaply that it is better not to risk the permanency of the negatives by not employing one to wash them thoroughly. The next best plan is to give the plates or prints a series of complete changes of clean water. Twelve changes with five minutes' soak between each will generally prove sufficient. (See **Hypo Eliminator**.)

Watkins. This name when applied to dry-plate speeds, e.g., "200 Watkins," signifies that the speed has been determined according to comparative tests calculated by Mr. Alfred Watkins. (See also **Exposure Meter and Exposure**.)

Weights and Measures. Photographic Formulæ are usually made up by apothecaries' weight:—

20 grains = 1 scruple.

3 scruples = 1 drachm = 60 grains.

8 drachms = 1 ounce = 480 grains.

Chemicals are usually sold by avoirdupois weight:—

437½ grains = 1 ounce.

16 ounces = 1 pound.

The fluid measure is:—

60 minims = 1 drachm.

8 drachms = 1 ounce.

20 ounces = 1 pint.

2 pints = 1 quart.

4 quarts = 1 gallon.

Whole Plate. A photographic size measuring 8½ by 6½ inches. (See **Sizes**.)

Wide-angle Lens. A lens is said to be wide-angled when its focal length is much shorter than the diagonal of the plate it covers. It embraces an angle of view that is comparatively wide. The same lens, however, used on a much smaller plate might be a mid-angle or narrow-angle lens. (See **Angle of Lens**.)

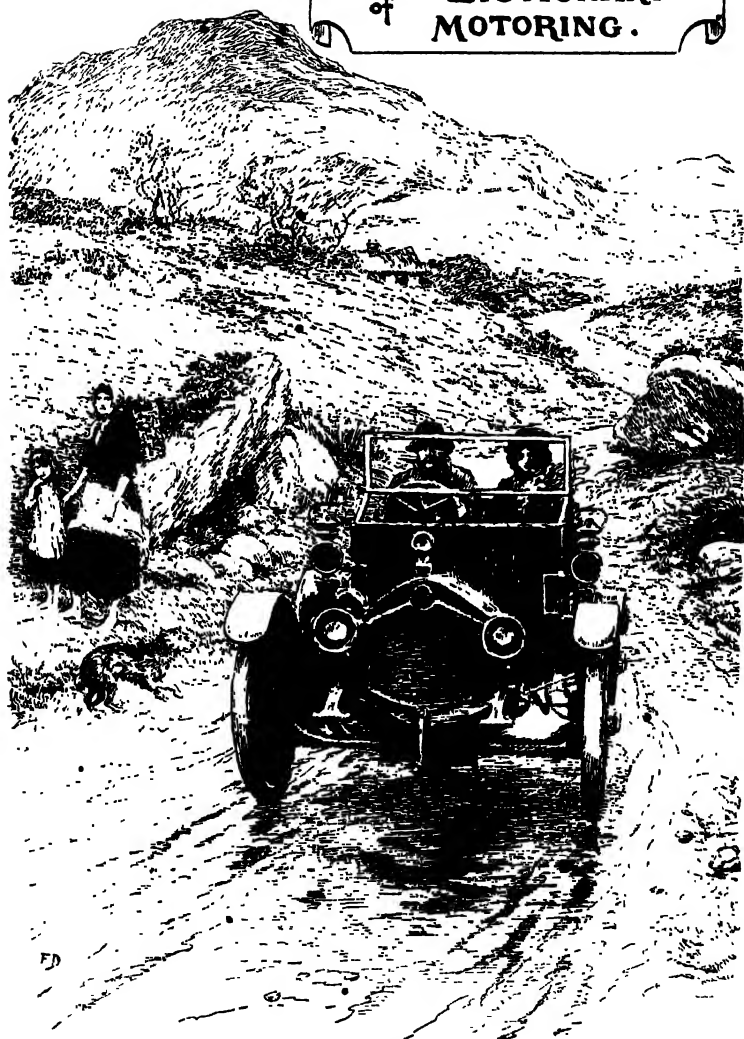
Wynne. The name of an actinometer, the calculations of which are sometimes used in giving the speeds of plates, e.g., "68 Wynne," means that the speed of the plate is 68 when used in conjunction with the Wynne meter. (See **Exposure Meter**.)

Xylonite. A form of celluloid, used in making light, unbreakable developing dishes. Spirit should not be used in these dishes or they will quickly get out of shape.

Yellow Screen. (See **Orthochromatic**.)

Yellow Stain. (See **Clearing Bath** and **Thiocarbamide**.)

PEARS'
of
DICTIONARY
MOTORING.



EDITED BY
H. WALTER STANER.
(Editor of "The Autocar").

Pears' Dictionary of Motoring

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The rapid development of the motor in its various forms has brought into use so many words peculiar to the subject that an adequate Dictionary of motoring terms seems indispensable to motor users, the more so as automobile nomenclature is, unfortunately, at the present rather loosely applied in many ways. In an industry or sport covering such a wide range many new words are necessarily brought into play; some hitherto confined to other special branches are pressed into the service, while many ordinary every-day words are also commandeered and given a fresh significance in their new alliance.

In compiling such a glossary as this, therefore (which, naturally, should be as concise as efficiency will allow), it is a nice point where to draw the line—what words to include, what to omit—without being too diffuse on the one hand, too incomplete on the other. Consequently, it is necessary to have some foundation upon which to work, and for such a basis, in order to render this Dictionary as informative as possible, the reader has been assumed to have a fair equipment of general knowledge, but to be ignorant of motoring matters. This assumption, superfluous in many cases, must absolve the author from what, to the initiated, will seem a harping on the obvious, but even when apparently the commonest words are defined, it may be found, either that they have a peculiar shade of meaning in this connection, or that the definition includes some point of information which it is desirable to convey.

Absolute Pressure is pressure reckoned, not with the usual atmospheric pressure, but with complete vacuum as a basis. Atmospheric pressure is really 14.7 lb. per square inch above entire vacuum. Therefore, to obtain absolute pressures this amount has to be added on to the atmospheric pressure. The principle underlying the idea of absolute pressure is bound up with that of absolute temperature. The theory of absolute pressure is useful in calculating compressions in cylinders, etc., and a description of the method employed well illustrates its use. If we assume that a full cylinder contains air at atmospheric pressure—i.e., 14.7 lb. to the square inch—when this is compressed into half the space it will be at double the pressure (29.4 lb. per square inch); compress this again into half the space (in other words into a quarter of the original volume) and we get a pressure of 58.8 lb. and so on. This method, though not strictly accurate, is near enough to be used for practical purposes, and in any case it shows how absolute pressure is the basis of such calculations.

Absolute Temperature.—When a gas is heated it expands $\frac{1}{273}$ of its total volume for each degree (Centigrade) of heat by which its temperature is raised, or on the other hand, shrinks proportionately for each degree it is lowered; consequently, theoretically, any volume of gas at the temperature of zero, should shrink to nothingness at 273° below zero (Centigrade) or 459° (Fahrenheit).

Accelerator is a mechanism usually operated by a pedal to act on the throttle independently of the ordinary hand throttle lever. In the usual arrangement either the throttle hand lever or the accelerator can be used for operating the throttle, but the accel-

erator can only work above the minimum set by the throttle. Although the term "accelerator" is usually applied, "foot throttle" might more nearly describe this item.

Accessories.—This term is applied to the smaller and less important fittings that go to make up the equipment of the car, as for example, lamps, speedometer, etc., and may include essentials of the car, as for instance, coils, accumulator, magneto, and so forth. Accessories may be regarded as the smaller details, as distinct from the component parts. (See **Components**.)

Acetylene (C_2H_2).—A gas composed of 24 parts by weight of carbon to 2 of hydrogen: is derived from the action of water on carbide of calcium. In combustion it gives an extremely bright light, and as the carbide is exceedingly portable and the pressure of the gas can be made to regulate the supply of gas-making water, the system is very convenient for car lighting. Many acetylene lighting systems are automatically regulated by the pressure of the gas generated. Some regulation is necessary, since acetylene, when mixed with certain proportions of air, becomes explosive, and, in fact, has been used as a source of power in internal combustion engines. This same tendency also makes it subject to rather stringent rules by railway and transport companies when it is being carried in any quantity. (See **Lamps**.)

Accumulator.—Accumulators or secondary batteries are cells for the storage of electricity—they cannot generate electricity. They consist of lead and oxide of lead plates in a solution of sulphuric acid, the lead forming the negative pole, while the oxide forms the positive pole. For motor requirements they are

made in various sizes, usually to work at 4 volts, although 6 to 8 volt accumulators are sometimes used.

Adapter.—This term is usually applied in motor parlance to a fitting enabling one tyre pump connection to be used with tyre valves of varying screw threads. It is also sometimes applied to a type of electric fitting made to enable various types or sizes of lamps to be used with one socket.

Addendum.—The outer end part of a gear tooth beyond the pitch line; the part that meshes most deeply with the gear in engagement.

Adiabatic expansion of a gas takes place when no heat is being lost through any external source, all the heat that disappears going in actual work. When a gas is kept at a constant temperature and allowed to expand in a closed cylinder, its pressure, according to Boyle's law, varies inversely with its volume; that is to say, if a certain volume of gas at a given pressure is called on to fill twice the original space, its pressure sinks to one half, and so on. But the pressure of a gas also depends on its temperature; heat the gas and its pressure rises; cool a gas and its pressure decreases; also heat and work are mutually convertible. (See **Thermodynamics**.) If, therefore, in its expansion the gas gives out work, its temperature is lowered proportionately to the amount of work given out, and so the pressure falls more than proportionately to the increase of volume. When a gas, otherwise expanding according to Boyle's law, is doing a certain amount of work and so losing a certain amount of heat, the expansion is said to be adiabatic. Pure adiabatic expansion is more or less a theoretical expansion, because in practice a certain amount of heat is lost through the cylinder walls and other causes.

Adjustment.—The alteration of particular details to give varying results with a view to obtaining best results. The term is also used for the mechanism by which such alterations are effected.

Advance.—When the timing of the ignition is so altered that the spark in the cylinder passes at an earlier point in the cycle of operations, the spark is said to be "advanced." Roughly speaking, the most advanced point at which sparking takes place is when the piston is at a height of about half an inch before the top of its stroke. Advanced sparking is only intended for fast running, when the explosion only has time to begin to take real effect by the time the piston has reached the top of its stroke. (See **Spark Timing Variation**.)

Air Cooling.—See **Cooling System**.

Air Pump.—This term may refer to the tyre pump, to the pump for supplying pressure to force the petrol to the carburettor on cars with pressure feed, or to the pump of a self-starting device. In the second case the air pump may either be a hand pump used at starting (after which the exhaust gases from the engine supply the pressure) or it may be a small pump driven by the engine. Air pumps for self-starting apparatus are usually like very small motor bicycle engines, with the cycle of operations reversed (that is, with the crank shaft driving the piston instead of vice versa), and the pump cylinder is usually air-cooled and are driven off the engine, or sometimes from one of the gear box shafts.

Air Valve.—Besides being used for the tyre valve, this word describes the valve for admitting additional air to combine with the mixture from the carburettor on its way to the engine. In self-starting apparatus, too, the air at pressure used for starting is distributed to the proper cylinders in rotation by a valve which also may be called an air valve.

Alcohol.—An organic hydro-carbon compound (C_2H_5O) in liquid form capable of being used as a fuel in internal combustion engines. Though it can be used in ordinary petrol engines it gives the best results with very much higher compression pressures; in fact, 200 or 300 lbs. to the square inch is not too high for this purpose. Owing to the tax on alcohol in this country, however, its development as a fuel has not been practicable, although, since alcohol can be extracted from so many sources, its development offers very great possibilities for the British Empire. This tax is, of course, owing to the possibilities of its being used for drinking, and alcohol rendered undrinkable

and only intended for industrial uses is known as denatured alcohol.

Alignment.—When two shafts are placed with their ends opposed to each other in such a manner that the axis or line running all along the centre of one shaft continues in a straight line with the axial centre line of the other, they are said to be in alignment. Shafts may be out of alignment in two ways; either the centre line of one shaft may be parallel but not in line with another, or the centre line of one shaft may lie at an angle with that of another. Rigidly connected shafts running when out of alignment with each other cause excessive wear on their bearings, and may even break. Therefore, as the frame and mechanism of a car when travelling on the road can never be regarded as absolutely rigid, perfectly dead alignment cannot always be expected at all parts, and consequently flexible couplings are introduced to permit of unalignment without serious consequences.

Alloy.—A composite metal made up of a mixture of two or more other metals which are themselves chemical elements, or, in other words, incapable of being chemically split up into other constituents. Brass and gunmetal are, for example, typical alloys.

All-Weather Body.—Practically a light edition of the cabriolet, from which it may usually be distinguished in that the front corner pillars can be slid down when the hood is folded back, while in the cabriolet they remain standing. The windows, too, are generally merely detachable, or fold back, instead of letting down into the panels in the usual manner.

Alternating Current.—Electric current is generated in a dynamo by the work performed in cutting across with the armature the lines of force between the poles of the magnets. As the magnetic lines are cut first in one direction and then in the other by the armature windings, the current flows through the windings first in one direction then in the other. Where no provision is made to reverse every alternate flow of current, the current alternates in direction. Alternating current cannot be used for charging batteries without some means of transforming it into continuous current. The ordinary magneto generates an alternating current.

Aluminium.—A metal (Al chemically)—one of the chemical elements—which, as it is produced from the silicate of alumina in clay, is also one of the most plentiful. It is, however, not easy of extraction, hence its comparatively high price. For practical motor work it is always used in a more or less alloyed state, about 90 per cent. aluminium, and the rest copper and other ingredients. When properly alloyed it is extremely light for its strength (cast aluminium weighing 160 lb. and wrought 167 lb. to the cubic foot, specific gravities respectively 2.56 and 2.70), and can be easily cast at a fairly low temperature, although it takes a great quantity (not intensity) of heat to melt it. It is also much used in sheets for the making of motor carriage bodies. It is quite unsuited for withstanding great stress, and is not desirable for holding stress, but is tapped into it. It is also seriously affected by salt water, or even sea air, which corrodes it, and so, in general, is unsuited for marine work.

Ammeter.—An instrument for indicating amperage.

Amperage.—The current of electricity flowing in a circuit, or capable of being given out by a generator or accumulator. The amperage of an electrical circuit may be compared to the rate of flow of water through a pipe circuit.

Amperes.—The unit of electric current. It represents the rate of current flow necessary to overcome a resistance of one ohm at a pressure of one volt.

Angle Iron.—A form of manufactured wrought iron rolled in lengths so shaped in section that it forms the letter L, or two sides of a square.

Anneal.—To anneal metal practically means to soften it. In the case of steel this is done by heating it gently and then allowing it to cool as slowly as possible. Curiously enough, the method adopted for annealing copper is the same as that for hardening steel; that is to say, the copper is heated to red heat and then plunged in water. Annealed metal is generally less brittle and less liable to crack.

Antimony, a metal (chemical symbol for which is Sb), is an element, and is frequently found in small quantities in conjunction with tin, on which it has a hardening effect. It is sometimes used as a hardening agent in the manufacture of brass, bronzes and similar alloys. Its specific gravity is 6.7, weight per cub. ft. 418 lb.

A. O. V.—An abbreviation for "automatically opened valve." The term is usually applied to inlet valves so actuated.

Apron.—The under-shield of sheet metal that serves to protect the engine, gear-box, etc., from mud and road grit. In certain cars the apron is made integrally with the pressed steel frame.

Arbor.—Another name for a shaft, and one frequently employed in American practice.

Arc of Contact.—In a contact breaker or distributor for electrical ignition, the contact is often made by a piece of brass let into the face or circumference on the disc-shaped non-conducting body of the contact maker or distributor, and the part of the circumference over which this contact piece extends is called the arc of contact. It is usually measured in degrees, so as to express its dimensions in terms of the circle.

Armature.—Electricity is most economically produced by passing a piece of iron between the poles of a magnet, in which action work is done by the piece of iron cutting the magnetism between the poles. In a dynamo or magneto (which is really only a specialised dynamo) this piece of iron is elaborated into a system of coils of wire on a core, and is known as the armature. The greater the number of turns in the coils of wire in this case the higher the voltage of the current produced. This use of the word applied to a dynamo or magneto is its most usual application, but an armature may also be the bar of metal that is attracted across the poles of an ordinary magnet. In this form it is particularly familiar as the loose piece across the two ends of the ordinary horse-shoe magnet. The term also defines the soft piece of iron usually attached by a spring to the trembler of a high tension coil, so as to make contact with the core of the coil when the latter is magnetised.

Artillery Wheel.—The type of wooden-spoked wheel most generally employed for cars. It has wooden spokes and wooden felloes, and a metal (usually cast iron) nave or hub, into which the wooden spokes butt. **Asbestos** is a silicate of magnesia which can withstand great heat, and is much used for making joints, etc., that are subjected to high temperatures. It is placed on the market in the various forms of cord, rope, and sheets.

Atmospheric Pressure.—The envelope of air surrounding this earth is computed to be from 40 to 50 miles in height; that is to say, every square inch of surface on the earth has upon it the pressure of the weight of a column of air usually 40, or 50 miles high, but at very high points on the highest surface, of course, less. Normally it amounts to 14.7 lb. to the square inch. This explains the use of the term "an atmosphere," used sometimes as a unit of pressure. Such an "atmosphere" of course amounts to 14.7 gr. roughly speaking, 15 lb. to the square inch. Atmospheric pressure is usually taken as the starting point in discussing ordinary pressures, although for scientific calculations absolute pressure is very frequently used as a basis.

Atomiser.—A device for breaking liquid fuel up into minute particles, in order that the air may mix more completely with it so that a good explosive mixture is obtained. Owing to the requirements of paraffin when used in an internal combustion engine, atomisers are very frequently used in conjunction with that form of fuel. An atomiser must not be confused with a vaporiser.

Automatic.—A word used in automobile matters to denote the self-operation of an apparatus.

Automatic Valves are valves which, being fitted with springs, are capable of being opened by the suction of the engine; when that ceases they close or return upon their seatings by the action of the springs mentioned.

Auxiliary Air Valve.—At slow speeds an

engine requires relatively more air for carburation than at high speed. Accordingly in most carburetters the mixture is adjusted for low speeds, and as the speed rises auxiliary air is admitted above the carburettor jet, its admission being controlled by the speed of the engine, and consequently being proportionate to engine requirements.

Axial.—Along, or pertaining to, the axis.

Axis.—The longitudinal centre line of a shaft or other detail of construction.

Axle.—The shaft bearing the weight of a vehicle, and transmitting that weight to the hubs of the wheels. In motor cars the front axles, owing to steering requirements, are different in construction and principle from the back axles, and these latter again may be divided into two sorts, the solid axles upon which the wheels (usually driven by chains) revolve, and the live axles which usually form a casing in which is the mechanism through which each wheel is driven by a separate shaft. This mechanism is so arranged that the driving effort shall be exactly balanced to the requirements (see **Balance Gear**), so that when, in rounding a curve, the outer wheel has to traverse a greater distance than the inner, each wheel is given its correct proportionate amount of rotation.

Babbitt Metal.—The name given to a white metal used for lining bearings and composed of about 84 per cent. tin, 8 per cent. copper and 8 per cent. antimony.

Back Fire.—When from any cause an ignition occurs in the cylinder before the piston has reached the top of its stroke, and the engine is not running at sufficient speed to render the timing of such firing accurate, the crank shaft of the engine may momentarily tend to rotate in the opposite direction. This can happen either when starting the engine with the ignition advanced too far for the speed at which the crank can be turned round by hand, or when a short circuit causes the spark to pass at the wrong moment. In the first case the back fire may injure the person at the starting handle, in the other case it seriously stresses the engine and may cause a breakage, so causes of back firing should be carefully avoided.

The word is sometimes misapplied to an explosion in the silencer.

Back Pressure.—When a piston is on its exhaust stroke in the cylinder, it has to displace the burnt gases therein. Should the speed of the engine be excessively high or the openings from which the gases are expelled from the cylinder by the on-moving piston too small, the exhaust cannot then escape with sufficient rapidity and tends to retard the piston, and so act upon the engine as a brake. The pressure produced by these imprisoned gases is called back pressure.

Baffle.—A baffle plate is a plate to deflect the flow of fluids—generally gases. The general use of a baffle plate is found in a two-stroke engine for deflecting the entering charge upwards to the combustion chamber and so avoiding, as far as possible, its exit with the exhaust gases through the exhaust port, before the piston has covered over the latter.

Balance Gear is the more correct term for what is usually called the differential gear, mechanism which permits the driving wheels of a car to turn proportionately to requirements. Thus, when rounding a curve, the outer wheel of a car must travel a greater distance than the wheel on the inside curve, and while the balance gear permits this to occur, it yet obliges each wheel to perform its proportionate share of the drive, by very ingeniously balancing the resistance of the road wheels. In vehicles driven by side-chains, the balance gear is on the chain sprocket counter-shaft, but in live-axle cars it is nearly always contained within the back axle. Balance gears are either of what is known as "bevel" or "parallel pinion" type.

Balance Weight.—When the crank shaft of an engine rotates, especially at high speeds, the rapidly moving parts tend to cause vibration if their weight is not balanced. Accordingly the webs of the crank throws are sometimes extended on the side of the shaft opposite to the crank pin, and so formed as to constitute weights to balance this movement. Usually, however, in multi-cylindered engines the crank pins for adjacent cylinders are placed diametrically opposite each other (on the circle described by the crank.

pin) so that the weight of the one with its moving parts balances that of its neighbour. This practically gives correct balance in a plane transverse to the engine, but introduces a disturbing couple in the longitudinal plane, a point that has not, in the writer's opinion, yet received the attention it requires. As a general rule these balance weights on the rotating crank shaft may be about half the weight of the reciprocating parts. It is practically impossible to obtain perfect balance at all speeds, but this makes a very fair compromise.

Ball and Socket Joint.—When it is necessary to join two rods together so that the one shall be capable of moving in practically any direction from the other, a ball and socket joint is frequently employed. Its name describes it, the nearest analogy to it being the articulation of a thigh bone in its socket: in fact it is sometimes called an "articulate" joint. Good examples of the ball and socket principle may usually be seen in car steering connections which enable the connecting rods to move in any direction, rendered necessary by the movement of the car springs or the operation of the steering gear.

Ball Bearing.—There is obviously less friction when a cylindrical body, like a shaft, rolls over a surface than when it slides, but when a shaft is rotating in a plain bearing, its surface is only sliding relatively to the surface of the bearing. To obviate this sliding action and obtain rolling contact the shaft may be carried on steel balls which roll round on the outer ring fixed in the stationary housing. The principle is the same in roller or anti-friction bearings—that of transforming sliding contact into rolling contact.

Ball Cage.—The frame employed to retain the balls in a bearing apart from each other, for, as the front of one ball is naturally rotating in a direct direction from the back of its neighbour, contact of the two balls, if it were allowed, would entail an unnecessary amount of sliding contact and friction.

Ball Race.—The balls of a bearing being of hardened steel, roll around on the outer circumference of a hardened steel ring on the shaft and on the inner circumference of an outer ring of hardened steel placed in the housing. These are the outer and inner ball races respectively, and, generally speaking, to allow the bearing to adjust itself, it is advisable to leave one of these rings loose in its seating; whether it is the outer or inner race depends on circumstances.

Ball Thrust.—The ordinary ball bearing previously considered is taking the rolling load of a shaft, but in some bearings there is also a heavy end load, along the axis of the shaft. In ordinary bearings this is taken by collars on the shafts, running in grooves in the bearing, the end thrust being transmitted from the sides of the collars to the sides of the grooves against which they press. When the ball bearing principle is adapted to end thrust, balls are placed between the collars, the shaft and the bearing. The bearing surfaces rather the sides of the grooves in the bearing are substituted by hardened steel rings, held in the housing, so that the balls travel round along the faces of these rings. Generally speaking, a ball thrust is very much better than a plain thrust bearing.

Band Brake.—A band brake is a form of brake in which a drum (preferably of cast iron, owing to the greater frictional properties of that metal) is secured to the shaft which has to be braked, and the rotation of the drum is arrested by a steel strap passing around its outer circumference, and so arranged that, by means of levers, it can be contracted so as to grip the drum more or less tightly, and so arrest rotation. The strap is made of a strip of flexible steel, and the mechanism ought to be arranged so that the pull at one end of the strap is equalised by that at the other. Sometimes the band is provided with fibre pads which grip on to the drum surface instead of the steel. One or two modifications of this principle of brake are much used in testing engines for brake horse power (for which see **Brake Horse Power**) by registering the work absorbed by the brake at known speeds.

Bar.—This is a term commercially applied to those varieties of manufactured iron and steel made up in rods and bars. Steel or iron bars are made in many sections, among which round, square, rectangular,

flat rectangular, and channel section are the most usual. Bars are made by passing wrought iron or steel between the hardened rolls of powerful rolling mills, the rolls being formed with grooves arranged to afford a graduated series of shaping media, so that passing the red hot wrought metal first between one pair of grooves on the rolls, then another, and so on, finally reduces the material to the requisite section. In this process the metal is of course elongated, and so finally the resulting bars have to be cut off into requisite standard lengths.

Barrel.—Besides the more common use of the word barrel for both wooden and metal receptacles for holding liquids, the word is also used to denote the cylindrical front part of boilers of the locomotive type frequently found in steam waggon. This part of the boiler, as many readers probably know, is more or less filled with water through which pass tubes carrying the hot gases from the fire-box to the smoke-box before passing up the chimney.

Bath.—The word bath is sometimes used in motor parlance in connection with casings for transmission machinery (as for engines, chains, or gear wheels), which also serve as a receptacle for oil to enable the machinery to run in the lubricant.

Battery.—A battery is a collection of two or more cells capable of giving off electric currents. They may be regarded as of two sorts, primary, and secondary or storage batteries. For motor-car work the primary battery, when used at all, is nearly always found in its "dry" form. One form of dry battery is used for charging accumulators of a more portable nature, but for this purpose a type of cell capable of giving a constant voltage has to be used. A storage battery is the same as an accumulator, which see.

Beam.—The idea of a beam is so well-known that a definition is hardly necessary, but it should be pointed out that a beam may be supported at either one or both ends, and in engineering the term is not confined to girders or wooden joists, but embraces any structure or member subject to a load tending to cause bending stress; for instance the frames and the parts of the crank case that support the case of the engine constitute beams, so also does the frame of the chassis. It is immaterial whether the member is loaded for its whole length or at one point only, or whether the load is stationary or moving. Beams may take many shapes. For further particulars see **Bending Stress and Deflection**.

Bearing.—Besides the ball and roller bearings, described under their respective headings, there is the plain bearing. This is the rigid seating upon which a shaft rotates, and being stationary is naturally and practically invariably incorporated in the construction of the gearbox, engine, or whatever the detail to which it belongs. In a plain bearing the contact of the shaft against the bearing is pure sliding contact, and therefore it is necessary to render both shaft and bearing surfaces as smooth as possible. The surfaces must also be sufficiently large to withstand ample wear, and be of a suitable material for the shaft to run in. With shafts of steel the material usually employed is gun metal, and if the shaft be not hardened the bearing is generally lined with Babbitt or other suitable white metal, comparatively soft. For shafts of hardened and ground steel, gun metal by itself can be employed (it is in fact used with some soft steel shafts), while hardened and ground steel bearings or chilled cast iron bearings have also been used in conjunction with hardened steel shafts.

Beau de Rochas Cycle.—See "**Four-cycle Engine**."

Bell Crank Lever.—A bell crank lever is a device often used for transmitting a simple push or pull round a corner, so to speak. From the point at which the power is supplied, an arm runs to the fulcrum, and from the fulcrum another arm transmitting the movement projects at a suitable angle. Bell crank levers are considerably used in engine controlling devices.

Belt.—The simple and well-known means of transmitting power is made in various forms and of various materials. The best known—the flat belt—has not obtained much success for automobile work, and no flat belt cars are made to-day. For motor-cycle work,

also, it has not obtained, but in this branch a belt of "V" or wedged-shaped section has proved very successful. In the earliest days of the motor-cycle belts were made of raw hide twisted round ropewise so as to afford approximately a round section, but, except for the lightest machines, the round belt has been entirely superseded by the "V" sectioned variety, which should be made with its sides sloping at an angle of about 25° to the vertical. For a long time practically all belts for motor-cycle work were of leather, but the objection to this material is its tendency to stretch, and consequent need for constant adjustment. Accordingly, of late years, belts made of a mixture of canvas and rubber have been extensively used.

Bending Moment.—When a bending force comes into action on a beam, it acts at a certain distance from the support or supports of that beam, and, therefore, works with a leverage. For instance, a force of 200 lb. on the end of a beam 10 ft. long has exactly twice the effect than a force of 500 lb. on the end of a beam 1 ft. long. To obtain relative values for such influences, the term called the "bending moment" is used, the bending moment merely being the force causing bending, multiplied by the mean distance of that force from the support or supports of the beam upon which it is acting.

Bending Stress.—When a beam is loaded at a distance from its point of support (or supports), the load has a tendency to bend the beam, and the force which bends this beam is known as "bending stress." Bending stress is a compound of tension and compression. When applied to a beam, the beam tends to bend, and the lower fibres consequently to stretch while the upper fibres tend to shorten. In other words, the lower fibres are in tension, the upper in compression. Midway between there is a line all along the beam which is neither in tension nor compression; in fact, it is subjected to no stress at all. This is known as the "neutral axis," and the further the fibres are from the neutral axis the more pronounced is the stress, and the better position is the fibre in to resist such stress. This accounts for the shape of beams and girders which have their material cut away to a great extent all along the middle line, where it would be comparatively useless, and massed as far as possible at the upper and lower edges.

Bench Test.—See **Testing**.
Benzene or Benzol.—A by-product of gas manufacture, and at the present time is used to quite a considerable extent as a fuel for internal combustion engines. When used as a fuel it is most essential to ensure that the benzol becomes thoroughly mixed with the air. Its chemical composition is represented by C_6H_6 . Its property of dissolving indiarubber also renders it useful in tyre manufacture, repair, etc.

Bevel Gear.—The ordinary spur wheels with their teeth parallel with the axis are used for transmitting power between two shafts parallel to each other, but for transmitting power to shafts at an angle to each other bevel gearing is employed, especially between two shafts at right angles to each other. Bevel gear wheels have their outer or circumferential faces cut at an angle to the axis, the angle depending on the relative angle of the two shafts and on the ratio of the gearing. Good examples of bevel transmission between shafts at right angles to each other are seen in the back axles of many cars, though at present there is a tendency for worm transmission to supersede it, for though the bevel is perhaps slightly more efficient when new (it can reasonably show an efficiency of 85 per cent. to 90 per cent.), the worm transmission is the quieter in action.

Big End.—The lower part of the connecting rod where the bearings for the crank pin are accommodated.

Block Casting.—When all the cylinders of an engine are formed in one casting the result is said to be a block casting, or the cylinders are cast *en bloc*. With modern methods of casting this system has a good deal to recommend it notably lightness, compactness, and simplicity in machining. The system has, however, been somewhat abused by forming complete passages for the hot exhaust gases all along the casting. In any case, in designing block castings great care should be taken to allow for contraction and expansion when

working. Increased knowledge on the subject of engine balance and the possible adoption of a bearing between every crank throw may conceivably lessen the popularity of cylinders cast *en bloc*.

Block Chain.—Roughly speaking the ordinary chain for transmission purposes is a series of cross-bars, each connected to its neighbour by side links so that the teeth of the chain-wheel can work in between the side links, and thus the power can be transmitted between the cross-bars and the wheel teeth. In a block chain the cross-bars constitute the blocks, which are suitably shaped to engage with the teeth of the chain wheels and at the same time to connect with a pair of links at each end. The action between the block and the chain-wheel teeth is one of sliding. The block chain is, generally speaking, somewhat old-fashioned, having been superseded by the improved roller and inverted tooth types of chain.

Block Tyre.—A solid rubber tyre, in which the rubber tread, instead of being formed in a continuous band of rubber, is made up of a series of rubber pads or blocks secured to the wheel rim. In some cases, however, the tread is formed of blocks of hardened wood with the grain placed "end on" to the road surface.

Blowhole.—When the molten metal for a casting is poured into the mould, gases are given off both by the metal and by the mould under the action of heat, and in certain cases these gases may form bubbles in the metal which, when the metal has cooled, are not generally visible. These defects are called blowholes, and they may cause fracture of the casting.

Boiler.—A steam engine, of course, derives its power from the pressure of steam acting in its cylinders, and this steam is derived from water in a boiler. For road work there are several types of boiler. Broadly speaking, they may be classified into two groups—saturated steam boilers on the one hand and flash and semi-flash boilers on the other. The saturated steam boiler are the ones with which the public are most familiar, and they take several shapes, the locomotive type seen on tractors and many types of steam waggon being the best known. Then there are the vertical fire-tube types, in which a cylindrical vertical boiler contains the water, while the fire-box is at the bottom, and the gases from the fire-box are carried by vertical fire-tubes to the smoke-box at the top. Most boilers of steam waggon are on one or the other broad lines, but the water-tube boiler has also been occasionally and successfully used. In this the fire surrounds the water instead of *vice versa* as in the more ordinary types. In all these boilers a comparatively large volume of water is constantly being converted into a comparatively large volume of steam, which forms an ever-ready supply for the engine to draw upon. The flash and semi-flash boilers work on a totally different principle, and only generate sufficient steam for immediate needs. In fact, they may be said to live from hand to mouth. The engine operates a small pump which at each stroke injects into the boiler a spray of water just sufficient for the next stroke, and since the boiler is little more than a coil of tubing kept at practically red hot temperature this water is flashed into steam in an instant—hence the name. Of course the pressures employed under this flash system are very much higher than those with saturated steam, for not only does the boiler structure permit of higher pressures but the temperatures necessarily tend in the same direction. While the pressures in saturated steam boilers may go as high as 500 lb. to the sq. in., the pressure in flash boilers ranges anywhere from 500 lb. to 2,000 lb. to the sq. in.

Body.—This is a term used to describe the carriage portion of a motor car built for the accommodation of its passengers. Bodies are divided into various types—open or touring bodies, single and double landaulets, single and double limousines and cabriolets. The open, or touring-car body, is now generally of the torpedo pattern; that is to say, it has flush high sides with low wide seats, a scuttle dash-board fitted with a suitable screen and a Cape car hood which, with its side curtains, affords the passengers excellent protection in the worst of weather. Landaulets are bodies the

rear portion of which is made to open or close after the manner of a hood, leaving at times a permanent canopy over the driver's head; upon this luggage can be carried. This canopy is occasionally made to collapse with the hood of the body so as to give an open car when desired. Limousines are bodies entirely enclosed in rear of the driving seat, and affording accommodation for four or five passengers. When the latter is the case, they are described as double limousines. Roofs of these carriages are made suitable for the carriage of baggage. Of late years designs wholly enclosing the body space have been turned out, both for large and small cars, giving equal shelter and protection to the driver and occupants of the front seats as to those in the rear of the vehicle. Cabriolet bodies are the modification of the landaulettes, but with heads of cabriolet form. Two-seated bodies are made in great variety, but the generality of them take the single torpedo or cabriolet form, and at times are built on the wholly enclosed principle, when they are eminently suitable for medical and business men.

Bolt.—There are many types of bolts, the ordinary variety for engineering work having a hexagonal head. There is the cheese-headed bolt with a round, flat head; and as this head usually fits into a counter-sunk hole and entails the use of a screwdriver, the head is slotted across. Some bolts have cup-shaped heads like a rivet, and when used for wood work the shank is made square in section below the head to prevent turning round.

Bonnet.—The casing beneath which the engine is usually enclosed—we say "usually," because on some vehicles on which the engine is not placed in the front of the chassis, a dummy bonnet is occasionally provided. The bonnet is made of sheet metal, and is a sort of box, each side of which is hinged and can be lifted up to expose the engine for inspection or repair.

Boot.—The space at the back of a car body underneath the back seat, chiefly used for the storage of tools and car requisites.

Bore.—The lumen of an engine is the internal diameter of the cylinder. The word is also used as a verb to describe the process of machining the cylindrical inside of any details, as for example cylinders. Boring is akin to drilling on a large scale.

Brace.—A tool used for drilling when the tool has to be brought to the work rather than the work to the tool. It is usually provided with a ratchet mechanism, to rotate the drill. The same word is sometimes used to denote a stay holding, say, two parts of the frame together, or as a verb to the same effect.

Bracket.—In motor-car parlance the fittings for carrying the lamp are most generally called "brackets," but besides the lamp brackets there may be others in the shape of spring hanger brackets and so forth. The term is somewhat loosely used.

Brake.—A device for retarding a car by retarding the rotations of certain shafts. In practice brakes are usually applied either to the wheels or to the driving shaft of the gear box. In the former case they are usually of the internally expanding type covered in, and very like an expanding clutch. The other type of brake, exactly opposite in principle, is known as the external contracting type (see **Band Brake**).

Brake Block, equally frequently known as "Brake Shoe" is the part that is brought into action to press forcibly on the brake drum and so retard its rotation.

Brake Horse Power.—In an engine worked entirely without friction, the pressures in the cylinders would have their full effect (apart from their losses by cooling, etc.), but the friction on the several parts may absorb a good deal of the power, so that the amount actually given off at the engine shaft is materially less than that exerted in the engine cylinders. It is, therefore, the power at the engine shaft that is the practical measure of the capacity of an engine, and as this factor is usually measured by an instrument that is really a brake capable of measuring the work given off by the engine at any given speed, it is known as "Brake Horse Power."

Brake Shoe.—See **Brake Block**.

Brass.—Brass is an alloy composed, roughly speaking, of two parts of copper to one of zinc, although the proportions may be varied considerably. These alloys containing more than 80 per cent. of copper exhibit a reddish-yellow colour, while if the amount of copper falls below 30 per cent., the alloy is no longer yellow. Its average weight is 505 lb. per cub. ft., and specific gravity 8.10. Brass can be cast or rolled, but it is not a very strong metal, being preferably used for the more ornamental parts that are not subject to great stress. It must not be confounded with bronze or gun-metal. The word brass is also used frequently to designate the two halves of a plain bearing, since these parts used to be made of brass, though now usually of gun-metal.

Brazing.—Brazing means the process by which brass is melted, so as to act as a medium for joining one piece of metal to another. Its most usual application is for joining steel tubes to their lugs or sockets, and the process consists of heating with a blowpipe a certain amount of soft brass or "spelter" with flux (usually composed of powdered borax) until the brass melts and flows into the joints to be connected. The flux makes the molten brass flow into the joints, and when cool it adheres to both surfaces so strongly as to constitute a very strong joint. Care should be taken, however, in brazing to avoid overheating the metal. Considerable heat is required, but only just sufficient heat should be used.

Bridge.—Sometimes a port has to be divided into two or more openings to avoid piston rings, etc., to work past it without catching on its edges. The metal from either side is then turned across the port at materials, and the metal which thus divides the port is known as a bridge.

Bridge (or Bridge Piece) is a term sometimes used to designate the yoke pieces used for holding down the valve-chamber caps in certain designs of engine. It is also used largely to designate any clamping-down device in which the clamp is of bridge shape, and also for the piece that carries the contact screw with which the trembler on an ignition coil makes contact, since this bridge piece strides the trembler like a bridge.

Bronze.—Generally speaking, bronze is regarded as the same as gun-metal. It is an alloy of copper and tin, although for special purposes small quantities of lead or zinc are added. It is very widely used for bearings, a good mixture for this purpose being copper 80 per cent., tin 18 per cent., zinc 2 per cent. The word bronze is also applied to various mixtures of copper with other metals. The best known of these alloys is phosphor bronze, very widely used for bearings, while aluminium and manganese bronze are other compounds possessing considerably greater strength than the ordinary gun-metal—especially the manganese bronze. The weight of gun-metal varies slightly according to its composition, but 534 lb. to the cubic ft., and a specific gravity of 8.56, are fair averages.

Brush.—This term is usually applied to a device fitted to electrical machines, such as dynamos or generators, and employed for collecting the current from the rotating armature or commutator of the machine, and delivering it to the stationary wires which conduct the electricity where required. Such a brush is usually made of carbon and should bear as lightly as possible, but quite firmly, on the rotating part from which it collects the current.

Brush-Holder is the fitting for holding the brush in position.

Buckle.—This word is usually applied to the clip that binds the plates of laminated springs together, and at the same time attaches the springs to the axles. It is also used as a compound word (see **Turn-buckle**).

Bucket Seat.—A small round-backed seat for a single passenger. It is the style of seat usually fitted on racing cars, and is generally made of aluminium.

Bush or Bushing.—Is usually a gunmetal tubular bearing, but in many cases the word is applied to any form of liner in a hole of comparatively small size.

Butterfly Nuts.—See **Nut**.

Butterfly Throttle.—A form of throttle consisting of a circular plate pivoted across its centre, so

that when shut it blocks up the induction pipe, and, when open, lies along the axis of the pipe.

By-Pass.—When a fixed volume of fluid as, for example, fuel to an engine, is delivered positively and forcibly in a given time, the requirements might be adjusted by regulating valve, but if the amount delivered and the force with which it is delivered remain constant, and the valve were shut down, a breakage might result from the pent-up pressure of the fluid. To avoid such a result a by-pass is very useful. It is merely a tube or passage so arranged as to carry all superfluous fluid (over and above requirements) back to its source of supply.

Cabriolet.—A type of car body which can be entirely opened or entirely closed at will, the upper part consisting practically of a folding leather hood and the side windows or lights.

Cage.—The withdrawable seating surrounding a valve with its walls constitutes the "cage." The word is also applied to the frame for separating the rollers or balls of a bearing.

Calcium Carbide (CaC_2) is the material which, in combination with water, gives off acetylene gas.

Cam.—A cam is a projection on a rotating shaft, the duty of which is to move a lever or tappet as it comes into contact with the cam. The cam is the part of the shaft. Cams are most generally employed for operating engine valves, and are pieces of hardened steel (secured to or made in one with the shaft) having the profile of their circumference circular for part of the way round, the projection which lifts the valve rocker or tappet extending around the rest of the circumference. As the tappets are held against the circumference of the cam indirectly by spring pressure, sometimes, though rarely, a depression is formed on the cam circumference instead of a projection, in which case the movement of the valve is obtained by the spring being allowed to force the tappet into the depression, the valve being replaced as soon as the circular part of the cam comes to bear against the tappet. These are the two most usual varieties, but cams with sideways action are sometimes made having the projection or depression on the side. For operating engine valves the efficiency of the engine greatly depends on the profile of the cam projection, which has to be shaped so that the tappet or rocker passes easily from the curved part of the circumference on to the projection or depression and back again. Cams are also used for operating pumps, etc.

Camber is the amount of vertical curve or bend in such things as frames or car springs.

Camshaft.—The shaft to which cams are secured. In the ordinary four-cycle internal combustion engine the camshaft revolves once for every two revolutions of the main engine shaft, and is driven through spur, skew, or bevel gears—or even inverted tooth chain drive, to give the correct speed. As it runs at a slower speed than the engine shaft, the camshaft is often used to drive the magneto, water and oil pumps.

Canopy.—A canopy is a light roof supported on pillars, sometimes fitted on cars. It has been displaced in late years by the type car hood. Side curtains were usually used in conjunction with these canopies.

Capc Car Hood.—A light hood used on cars with open bodies and extending completely from back to front of the body. It is built up on two systems of hoop sticks, the one radiating from a centre towards the front, the other from the back. Of late, however, this type has been superseded by one that can be folded by one man. In this the front hoopsticks are supported on a lazytongs arrangement, the back hoopsticks only working from a pivoted centre. Capc car hoods are generally provided with side curtains, which can be brought into use or not, as required.

Carbide.—See Calcium Carbide.

Carbon.—The deposit found on the inside walls of cylinder combustion chambers. It is caused by the use of too much lubricating oil which, on working in the combustion space, gets burnt and is deposited in the form of carbon. The word carbon is also applied to the carbon brushes or carbon contacts in magnetos or other electrical details.

Carburetted Alcohol is alcohol in an exceed-

ingly fine state of division, and mixed with air in such proportions as to render the mixture explosive.

Carburettor.—Even the most inflammable of liquid fuels will not burn without air, but with air mixed in the right proportions they will burn so exceedingly rapidly that the burning constitutes an explosion. The more perfect the mixture the more forcible the explosion, and the carburettor is a device for mixing together the air and fuel before admission to the engine cylinders. The simplest form of carburettor—the surface carburettor—is designed to expose a sufficiently large surface of petrol to the air to enable the latter, on its way to the engine, to take up a sufficient amount of petrol vapour. Surface types of carburettors, however, have fallen into disuse, in favour of the float feed carburettor. In this petrol flows into a chamber containing a float, and when sufficient has entered to raise the float to a certain level, the float by rising moves a valve which cuts off further supply; consequently the petrol is retained at a constant level in the float chamber, whence it is sucked by the engine through a jet tube having a tiny spray hole. As it issues from the jet, the air, which the engine is also sucking in, mixes with the petrol, and, laden with petrol vapour, passes to the engine. As the suck on the petrol is proportionately less at low engine speeds or at starting, less air at starting or at slow speeds should be admitted, and these variable relative proportions of air and petrol are obtained in different ways. They may be arranged either by varying the petrol or the air supply. The petrol supply is frequently varied by having multiple jets which are brought, first one then another, into action according to engine requirements, while variable air supply is usually obtained by designing a carburettor to deliver a very strong mixture and adding additional air, which latter, as it is more or less proportioned to the engine speed and suction, is obtained through a nicely adjusted suction valve, or one operated by a diaphragm moved by the suction.

Carburation.—The charging of air with a proper proportion of petrol vapour to render the mixture efficiently explosive.

Cardan Joint.—See Universal Joint.

Cardan Shaft.—See Propeller Shaft.

Case Hardening.—Iron or mild steel, which are comparatively soft metals, may be case hardened when a hard surface is required. Since steel is, roughly speaking, only iron combined chemically with a certain amount of carbon, if the external surfaces of the piece to be treated can be made to combine with a certain additional amount of carbon, we shall have steel of a surface capable of being made sufficiently hard. Hardening is usually effected by heating the pieces to be treated in contact with horn, bone dust, or anything that can be converted in the process into animal charcoal. Prussiate of potash can also be used. The metal then combines the toughness of the softer metal with the hardness of iron and steel. The depth of the hardening is varied by the length of time allowed for heating, this varying from one or two to twenty-four hours. When taken out of the case hardening furnace the pieces should be allowed to cool to a suitable temperature—usually dull red heat—then plunged into water or oil.

Castellated Shaft.—A shaft formed with keys or feathers solid with the material of the shaft, so that any sleeve fitted on to it is bound to rotate with the shaft though it may be free to slide along it. Castellated shafts are most frequently employed in gear boxes, to enable the change speed gears to be slid into engagement along them.

Casting.—A casting is made from metal that has been melted, and run into a mould to obtain the correct shape. Castings are used where the shapes are too complicated for forging, as, for example, in the case of water jacketed cylinders. Castings can be made in many metals; aluminium, brass, gun-metal, iron and steel being those most usually employed in motor work.

Cast Iron is a variety of iron that can only be worked by melting, and is used for many details in construction, especially of such complicated shapes as cylinders, etc. It is somewhat brittle. Its specific gravity is 7.11 and a cubic foot weighs 445 lb.

Cast Steel.—See **Steel**.

Cell.—A single element of an electric battery.

Celluloid.—Often used for accumulator and other accessory details, is essentially compressed cellulose, cotton, and so is highly inflammable, though at the time of writing a non-inflammable celluloid has been announced. Celluloid accumulator cases, etc., may be patched with sheet celluloid treated with amyl-acetate.

Centrifugal Pump is one which forces liquid as required by the centrifugal action of vanes secured to a shaft and whirling round in a casing containing the liquid. This whirling action tends to throw the liquid outwards, and so it is discharged through pipes leading from the casing.

Chain.—The various types of chains will be found under the headings of "Block," "Silent," and "Roller Chains." It is enough here if we compare the different types. The block chain, is now comparatively old-fashioned and gone out of use for motor work, having been superseded by the roller chain, which is considerably more efficient. The roller chain, however, stretches and then makes a crackling noise, caused by the fact that, owing to the general stretch, the rollers encounter the teeth of the chain wheel too much on the top and consequently finally spring down into their place with a jump instead of quietly rolling over them. To obviate this, the inverted tooth type of chain has been introduced, for this type is practically independent of alterations of the pitch, within reason.

Chain Adjuster.—A device by which the centres of the chain driving and driven wheels may be altered relatively to each other to allow for the stretch of the chain.

Chain Pitch.—The pitch of a chain is the distance from the centre of one link to the centre of the next, and the pitch chain wheel is the distance from a point on one tooth to the corresponding point on its neighbour.

Chain Sprocket.—The toothed wheel by which the power and motion of the engine is transmitted to the chain.

Chain Transmission.—Used to be very largely employed in car design, but the introduction of the live axle has largely put it out of court, except for heavy utility vehicles, and even here it is losing ground. The most usual form of chain transmission was by side-chains. In this arrangement the engine, through the usual gear-box economy, drove a cross counter shaft fitted with balance or differential gear, so that each end of the counter shaft could move independently of the other. Each end was fitted with chain sprockets, and from these the power was separately conveyed to chain-wheels on each of the back road wheels of the car. Sometimes chain transmission is employed with a live axle, the driven chain wheel being secured to the casing or spider of the balance gear. In certain cars, too, it is adopted to transmit the power from the engine to the gear box while in the latest type of omnibus each separate speed in the gear box is driven by a very short inverted tooth type of chain. Chains of the inverted tooth type are also coming into growing use for the driving of engine camshafts and magnetos.

Chain Wheel.—A toothed wheel that is driven by a chain. These chain wheels are generally secured to the road wheels.

Change Speed Gear.—See **Gear Box**.

Change Speed Lever.—The lever by which the change from one gear to another is operated. This is usually placed at the side of the car close to the brake hand lever, but on certain cars it is placed on the steering column beneath the steering wheel.

Channel Iron or Steel is so called when rolled to a sort of trough section. The various parts of the ordinary pressed steel frames on cars are of this section.

Charge.—The supply of air and fuel for the cylinders of an engine. To charge accumulators with electricity they should be charged at a ten-hour rate, suitable resistance being interposed in the circuit, if necessary, to give this rate of charging.

Chassis.—There is no absolutely hard and fast definition of Chassis. Some makers seem to think a chassis includes the wings or mudguards and foot-

boards; others take a less liberal view; but for general purposes it may be defined as the complete mechanical department of a car as distinct from the body.

Check Valve.—A valve which will only allow of flow in one direction—A non-return valve.

Choke.—Where the petrol issues from the carburettor let it is desirable to bring the air for the charge into contact with it, and therefore the passage by which the air passes is generally contracted at about this point, which is accordingly called the choke.

Chrome Steel and Chrome Nickel Steel are materials which have come to be a good deal used for car construction, in such details as the gears, crank shafts, etc., as both these materials are exceedingly strong and tough, and do not suffer from fatigue, or what is popularly described as "crystallisation of the metal," in the same way as steel or iron.

Circular Pitch.—The distance from the centre of one tooth to the centre of the next in gear or chain wheels.

Circulation.—Complete and uninterrupted flow in a circuit. The word is generally applied either to the flow of the cooling water from the cylinders or to the flow of lubricating oil—more generally the former.

Clearance.—When there is room for one moving part of mechanism to move past another, or past a structural part of the mechanism, there is said to be clearance between the two parts is known as clearance.

Clinometer.—An instrument for measuring the steepness of a gradient or hill.

Clip.—A spring fastening used in rubber pipe connections, especially for those on the water circulating system.

Clutch.—A device by which the power of the engine may be transmitted at will to the gear box and car wheels. If we except one or two unusual types, such as magnetic clutches, the clutch invariably depends on friction. One part of the clutch is secured to the engine shaft and rotates with it, the other part (which is free when the clutch is out of action) being capable of being slid longitudinally along its shaft into such hard and close contact with it that the two parts grip together, so to speak. There are conical, plate and expanding types of clutches, for which see under these headings.

Clutch Stop.—When a clutch is taken out for change of gear, it often happens that the clutch shaft and with it the primary shaft of the gear box is revolving too rapidly, owing to the momentum already imparted to it by the engine; accordingly, a clutch stop is often fitted to cope with this difficulty. It is in fact a small brake which, when the clutch is pulled far out of engagement, reduces its rotation speed and that of the clutch shaft to one more suitable for gear changing.

Coach Work.—See **Body**.

Cook.—Another word for tap.

Coli.—A coil is a transformer for increasing the voltage of current, or rather for inducing higher voltage. This increase of voltage depends on the windings of the coil and is proportionate to the number of the windings of the secondary coil relatively to those of the primary. If a current of 4 volts on the primary circuit is passed through a coil in which there are one thousand turns or windings of the secondary coil to every one of the primary, a current will be induced on the secondary circuit equal to 4,000 volts, and so on. The word "coil" is also used in connection with springs such as are used for valves (ordinary helical springs) while tubes are sometimes made up in coils for radiators, burners, or boilers.

Collar.—A projecting ridge, either formed solid on a shaft or by a ring on the shaft. It may really be described as the reverse of a groove in a shaft.

Combustible Mixture.—When inflammable fuel and air are mixed in correct proportions they will burn, and will burn so rapidly that their burning constitutes an explosion—which is after all only extremely rapid combustion. For practical purposes the best mixture with petrol is 1 volume of petrol to 12 of air.

Combustion.—In an ordinary steam engine combustion means the burning of the fuel in the fire box. In internal combustion engines it refers to the explosion of the fuel in the cylinder.

Combustion Chamber.—The space in the cylin-

der above the piston in which the explosion takes place.

Commutator.—Reference to "Alternating Current" will show that the natural tendency for a dynamo is to give an alternating current, with impulses first in one direction and then in the other. To obtain a continuous current, every other impulse should be reversed, and to this end a commutator is fitted. The word has got somewhat misused, and is often applied to the contact maker and breaker for the ignition.

Compensating Mechanism.—It is desirable that the braking force of the wheels on each side of a car be equal, and to ensure this the braking power is frequently transmitted through compensating mechanism. This is usually effected through a compensating lever, which is similar in principle to the beam of a balance. The pull of the driver's brake lever is transmitted to a point at the middle of the compensating beam, which may lie transversely across the car, and from each end connection is made to the brakes on one of the wheels. Sometimes a mechanism similar to that of a balance gear (see under this heading) is employed for the same result.

Components.—The larger parts, such as axles, springs, etc., that go to the making up of a car.

Compound Engine.—A compound engine is fitted with two sizes of cylinder. There is the high pressure cylinder of comparatively small size, and the low pressure cylinder of about double that capacity. Its principle is this:—after the steam has done its work in the high pressure cylinder, instead of exhausting into air as in the ordinary engine, it exhausts into the low pressure cylinder. As the steam (for at present the system is practically confined to steam) has to fill more space, it has a certain amount of freedom in exhausting into the larger cylinder, where it works at a very much lower pressure; but as it works on a much larger area of piston, the power results in each cylinder being roughly speaking, much about the same. It must not be thought that the steam is used twice over. That is a misleading way of putting it. The compound engine only enables the steam to be worked more expansively than would be possible in a non-compound engine.

Compression.—When the mixture of fuel vapour and air, which by its explosion drives the engine, is at the moment of explosion compressed, it results in an explosion of considerably more force. Consequently, in ordinary practice it is customary to compress the charge before firing it. Though a lot of the engine energy is wasted by thus compressing the charge, the gain of extra power from a compressed charge explosion exceeds the work lost in compression.

Condenser.—In a steam engine a condenser is a device whereby the exhaust steam, instead of being allowed to pass out into the atmosphere and be wasted, is cooled and transformed back again into water which can again be used in the boiler. A condenser, therefore, enables a car to travel much further distances without the necessity for stopping to take in fresh water supplies. The condensing action may be obtained either by air-cooling as with a radiator, or by exhausting the steam on surfaces cooled by water. In the latter case the water supply carried by the car can be used and thus a condenser may, to a limited extent, also be made to heat the feed water, and thus economise heat. In electrical ignition we also find condensers. Here a condenser is the equivalent of an air vessel on a water pump. It gives a stronger spark at the plug, and prevents sparking at the contact maker points.

Conduction.—When one particle of a substance has more heat than its neighbour, the heat tends to equalise matters and to flow from the one to the other, and even when two bodies of different temperatures are placed in contact the same thing happens. This process goes on from particle to particle until the whole substance is at a uniform temperature. Conduction is in fact the transferring by contact of heat, due to difference of temperature.

Compound Wound.—When the windings of the magnets on a dynamo are formed by both series and shunt circuits, the machine is said to be compound wound. See **Series Wound** and **Shunt Wound**.

Cone Clutch.—In this type of clutch—the most

common—a large diameter circular cone, usually leather covered, is made to slide axially at will into engagement with a hollowed out conical cavity in the fly wheel, the friction being obtained between the sloping walls of the cavity and those of the cone. The angle of these surfaces should be at about 12° or 13° with the axis of the engine shaft.

Conical Valve.—Valves of the poppet or mushroom type (the latter name best describes them) are generally chamfered or bevelled off all round their lower circumference where they fit on their seatings, the seating being chamfered at a corresponding angle. The seating thus tends to centre the valve dead true on to it. An angle of about 45° is the most suitable for the bevel or chamfer in such cases.

Connecting Rod.—The connecting rod is that part of an engine which transforms the reciprocating, or up and down movement, of the piston into the circular motion of the crank shaft. The end which is secured to the piston and moves up and down with it, is free to swing, and thus enables the other end to follow the circular path of the crank pin, which is provided with bearings, enabling the rod to grip the crank pin loosely enough for the crank pin to turn in the bearings, and tightly enough to prevent any shake or "knock." Owing to balancing requirements the weight of the connecting rod should be kept as low as possible consistent with strength, and that is why connecting rods are usually made of hollow tubular form or of H section.

Contact Blade.—The spring blade of the contact maker.

Contact Maker.—Contact makers are of two sorts, the "make and break" and the "wipe." In the former a rapidly revolving cam on the half-time shaft, acting on a plate spring, moves the latter against a contact screw, so that the circuit is quickly made. The projection or depression in the cam rapidly passing on, then leaves the spring free to jump away quickly and break contact. This rapid make and break is essential to get a good spark. The plate is shod with steel where it bears on the cam, and fitted with a little piece of platinum where it makes contact. In the wipe contact a steel-shod spring wiper bears on a circular contact maker. This is of insulating material except at one point, where a metal plate, connected metallically to the frame, is let in. When the shaft on which the contact maker, in revolving, brings the wiper into contact with this place, the circuit is joined up, but it is necessary to break it to get a good spark at the plug, and therefore the coil in wipe systems is fitted with a trembler, for which see under this heading. On a magneto a contact maker is also fitted.

Contact Platinum or Point.—The platinum point on contact screws, or the platinum on the blade. These should be kept clean and free from pitting to ensure their making good contact.

Continuous Current.—An electrical current is continuous when it flows entirely in one direction—the reverse of an alternating current—and when taken from a dynamo the continuity is assured by means of the commutator.

Control.—Broadly applied to all the means of regulating the car when in action, but to some extent it is narrowed down to apply merely to the levers by which such regulation is carried out, especially those that regulate the engine.

Convection.—When fluid is heated locally, the part heated has a tendency to rise above the rest, this tendency being in general proportionate to the heat applied. This can be seen by boiling fluid in a test-tube, when that at the bottom, which is most strongly heated, rises rapidly to the top. This is known as "convection." When the fluid rises, its place is filled by cooler fluid, and this state of affairs, constantly going on, results in currents being set up which are known as "convection currents." The principle of the convection current is being largely used for circulating the water that cools the engine cylinders, the details of which will be found explained under the heading of "Cooling System."

Cooling System.—The heat generated in the cylinders of an explosion engine is such that, unless it

were counteracted it would burn all the oil, and result in the piston sticking tight in the cylinder. Means are taken to reduce this heat either by cooling the cylinders with a rush of air, or by surrounding the cylinder barrels with water that, as fast as it becomes heated, is taken away to be cooled and replaced by already cooled water. Water cooling may be carried out either by forcing the water through the cylinder jackets with a pump, or by using the natural circulation that the convection currents set up. This last is called the thermosiphon system.

Copper.—A metal that chemically is an element and known by the symbol Cu. In motor work it is usually used in sheet or tubes. Copper is also very useful in plating, for to get the best effect, silver and nickel should be deposited on a film of copper, with which the object to be plated is first covered.

Cotter.—Usually applied to a tapered pin, either flattened or round in section, chiefly used for fixing collars, levers, etc., to shafts.

Counterbore.—When a hole is driven for the accommodation of a rivet or bolt, and it is undesirable that the head of the rivet or bolt should project above the surface, the hole is counterbored; that is to say, at the end of the hole a cavity is made to accommodate the head of the rivet or bolt.

Coupe.—An entirely enclosed type of body. The term is often applied to two-wheeled enclosed bodies, either of the cabriolet or limousine type.

Couple.—When two forces act around a point the one on one side acting in one direction, the other on the other side of the point acting in the other, the two, if acting in connection together, or acting on the same body, would tend to twist that body around the point. This is called a couple, an excellent illustration of which is afforded by the action of a driver at his steering wheel: when he turns his wheel, on one side of the centre the one hand pulls in one direction, on the other side of the centre he pushes in the opposite direction with the other hand, the whole turning the wheel round.

Coupling.—See Joint.

Crank.—If a shaft, intended to rotate, is bent in such a way that the bend affords an arm which acts as a lever for turning the shaft round, it constitutes a crank. The bend may be at the end of the shaft or in the middle—it is still a crank. A good example of the principle of a crank at the end of a shaft is found in the starting handle, but in engine shafts, as they usually have to be supported on both sides of the bend, the shaft is formed with a bend or "throw" in it so that the length of shaft on one side of the throw is in alignment with that on the other. Also, as the connecting rods have to work at right angles to the shaft these throws must be formed with a bearing along their middle part that is parallel to the shafts. The throw of the crank, that is to say, the total diameter of the circle traversed by the crank bend in a single revolution of the shaft, equals the stroke of the cylinder, a factor upon which the power of the engine largely depends. A crank shaft should be of tough steel, and requires to be most carefully made to obtain good results. In motor-cycle engines where only a single throw is required the crank is formed of two flywheels joined by a crank pin, and with concentric steel journals that correspond to the shaft journals.

Crank Bearing.—The main bearings of a crank shaft sometimes placed intermediately between the crank throws and at each end. On many engines a bearing is only placed between each pair of crank throws, and some crank shafts of four-cylinder engines only have bearings at the ends, although this involves a very massive crank shaft.

Crank Case or Chamber.—The enclosing part or the casing in which the crank shaft revolves.

Crank Cheek, or Crank Web.—The side of the crank throw between the crank shaft and the crank pin.

Crank Effort.—See Torque.

Crank Handle.—A term sometimes applied to the starting handle, but equally applicable to any handle on the crank system.

Crank Pin.—The journal that rotates in the big end bearings of the connecting rod, and is usually placed between the crank cheeks.

Crosshead.—In double acting steam engines, in

which a piston rod carried through a gland in the front cylinder cover has to be used, a special forward connection is fitted to enable the connecting rod and piston to be suitably connected together. Also, the crosshead not only serves as a connecting link between the piston rod and connecting rod, but also offers convenient surfaces for applying to the guide rails which ensure perfectly straight motion for the piston rod.

Cross Member.—A term usually applied to the tubes or lengths of pressed steel lying across the frame.

Crown Wheel.—The large bevel wheel secured to the differential casing of a counter shaft, or back axle, which is driven by a bevel pinion from the propeller shaft.

Crucible Steel.—Another name for tool steel, which is made of blister steel melted in a crucible.

Curve.—See Diagram.

Cushioning.—In a steam engine, with a piston moving backwards and forwards rapidly, it is desirable at high speeds to admit steam for, say, the outward stroke, before the piston has quite finished its inward stroke, and this has an effect on the rapidly reversing piston, described as "cushioning."

Cut Off.—In the cylinder of a steam engine the steam is not usually supplied from the boiler during the whole of the stroke, for it is found much more economical (considering the amount of power obtained for the amount of steam used) to cut off the supply when the piston has traversed only a part of the stroke ranging anywhere from 15 per cent to 75 per cent. of the total stroke. (See *Expansive Working*.)

Cut-Out.—In car electric lighting systems the dynamo, if driven at a suitable speed, can charge the accumulators, but when the car, and consequently the dynamo, runs very slowly, the latter does not generate enough electricity to charge the accumulators. If nothing were to prevent it, the current would then flow out from the accumulators to the dynamo instead of the other way, with damage to the dynamo windings. To prevent this a device known as a "cut-out" is employed, automatically to disconnect the dynamo and accumulators as soon as the speed of the former falls below a certain point.

Cycle of Operations.—In internal combustion engines at present either of two principles is adopted. These are known as the four-cycle and the two-cycle. In the cylinder of a four-cycle explosion takes place only every fourth stroke, or every two revolutions. In a two-stroke engine an explosion is given every two strokes, in other words, in every revolution. (See *Four Cycle Engine* and *Two Cycle Engine*.)

Cylinder.—The tubular shaped part of the engine in which the piston is driven up and down.

Cylinder Capacity. is the amount of volume of gas that a cylinder can hold. It is made up of the cubic capacity of the combustion chamber together with the volume swept by the piston in its stroke.

Damping.—Damping is the process of deadening the shock of sudden movement. Dampers are often used on the springs of cars to check their rebound.

Dashboard.—The board or panel in front of the driver. It is a term borrowed from the horse vehicle, but on the motor car affords accommodation for the various gauges and many of the fittings such as lubricators, etc.

Dashpot.—A dashpot is a means of damping sudden motion, the usual form consisting of a piston, moving in a cylinder and checked in that movement owing to the fact that fluid, allowed into the cylinder, can only escape at a certain rate. The presence of the fluid acts as a brake on sudden piston movement.

Dead Centre.—When the crank pin is at a point nearest to or furthest from the cylinder, and the centre line of the crank web is in line with the centre line of the connecting rod, any thrust transmitted through the latter from the piston exercises no useful turning effect, since the thrust is purely radial without any tangential tendency. When at either of these points the crank is said to be on one of its dead centres.

Declutch.—To take the clutch out of engagement.

Deflection.—The deformation due to bending stress.

Deflector.—Another name for a baffle plate.

Delivery Valve.—A valve which allows fluid to pass the supply opening from a pump.

Demagnetise.—In the process of time and use the magnetism of a dynamo or magneto magnet becomes weaker and weaker, and this process is known as demagnetisation. When they become too weak they have to be re-magnetised by passing an electric current around them.

Denaturise.—To render undrinkable. The word is used particularly in connection with the manufacture of alcohol for industrial purposes.

Densimeter.—Sometimes known as hydrometer, is an instrument for measuring the density of liquids, and used to be much employed by motorists for testing the density of their petrol.

Detachable Rim.—An ordinary artillery wheel is made up of the hub, spokes, felloe, and rim, which latter holds the tyre. To facilitate tyre repairs, the rim is sometimes made quickly and easily detachable from the rest of the wheel, if the whole wheel is not made detachable.

Detachable Wheel.—A wheel specially designed and made to be quickly and easily detachable. The possibility of tyre troubles are chiefly responsible for the advent of the detachable wheel which is now largely used.

Diagonal.—Some frames besides being provided with the ordinary longitudinal and transverse members are also made with diagonal braces or struts joining the end transverse members with the longitudinals. This is to guard against the frame being pulled out of square.

Diagram.—The curves on a diagram often afford a very useful means of showing a mechanical action graphically. These curves are quite simple to read. The actions they represent are usually made up of two main factors. We will take, for example, the action of gases in the cylinder. From moment to moment their pressure varies as from moment to moment they move the piston and so alter their volume in the cylinder. In other words we want to show the continuous change going on between pressure and volume. In a curve for this purpose, therefore, the horizontal distance usually represents the length of stroke, in other words, the volume that the gases have to fill—while the vertical height represents the pressure. If one wants to find the pressure at any point during the stroke one has only to take the vertical height of the curve at that point on the stroke as represented in the diagram.

Diametral Pitch is the unit form of measurement used for spur wheels and their teeth. The diametral pitch is the number of teeth to every inch of the diameter of the spur wheel.

Diaphragm.—A thin plate of flexible metal sometimes employed for regulating the flow of additional air to the engine. In such a case it is placed so that when the suction of the engine acts on it it bends, and this movement of the diaphragm is generally transmitted to a lever designed greatly to magnify the action, which when magnified is used for opening the additional air valve.

Differential.—See **Balance Gear**.

Direct Drive.—When the engine power is being transmitted direct to the gearing by which the back axle is directly driven, without the intervention of any other gear wheel, the drive is said to be direct. The term is not, strictly speaking, accurate, since the gearing of the live axle is interposed between the engine and the back wheels.

Dirigibility.—The capacity to be steered.

Discharge is the flow of electric current from accumulators, which has the effect of lowering the voltage. Great care should be taken that accumulators are not discharged too rapidly, for too rapid discharge tends to buckle the lead plates.

Disengage.—Usually applied to the clutch, when it means to take out of engagement. It is sometimes also applied to gear wheels when it means to take one gear wheel out of mesh with another.

Distributor.—A device arranged to enable a single-cylinder coil to be used on multi-cylinder engines. As the contact maker acts for each separate cylinder the current ordinarily has to be transmitted to each separate coil, whence it is carried to each separate plug. With a distributor high tension current is supplied from a single coil straight to the distributor, which, with its revolving part then makes contact so as to pass the current first to one sparking plug then to another, and so on in due rotation.

Distribution Gear.—Comprises the shafts that operate the valves and ignition of an engine, together with the gear wheels through which they are driven.

Dog Clutch.—With a dog clutch the one member is put into engagement with the other by sliding it up against the other so that jaws or arms (projecting longitudinally along the axis from the end faces of both members) engage with each other.

Double Acting.—A double acting engine is an engine in which the power is applied first to one side, and then to the other of the piston. At present the internal combustion engine has not reached the stage of being double acting for road transport, but the principle is commonly applied to steam engines.

Drain Cock.—A tap usually at the bottom of the crank case to draw off superfluous oil as required, but the word is also applied to cocks leading from the bottom of steam cylinders and steam valves to enable water to be drained from these parts.

Drive.—Signifying transmission or power.

Dual Ignition gives the use of two forms of ignition. It is usually used to facilitate starting, in which case the ordinary accumulator ignition is employed in conjunction with magneto; the former enabling an engine to be started better than on the magneto. Sometimes, however, where exceedingly great reliability is required, dual magneto ignition is adopted.

Drum.—The rotating part of a brake, against which the shoes are pressed to retard the car.

Dry Cells are used in primary batteries to supply electricity, in cases when it is desirable that the batteries should be made up of components that do not spill.

Duct.—Another word for a passage for petrol, etc.

Ductility is the capacity of a metal to be drawn out under a hammer, or in the rolling mills.

Dumb Iron.—The pieces of metal, usually forgings, that form an extension of the frame longitudinally and at the same time act as a bracket to carry the front ends of the springs at the back or front.

Dynamo.—A machine for producing electricity, which it does by means of an armature driven round between the poles of a magnet or magnets. Each time each coil in the armature cuts across the magnetic lines of force between the poles of each magnet electrical current is set up. Broadly speaking, dynamos are of two sorts—alternating and continuous current—for which see under these headings.

Dynamometer.—An instrument for measuring power. The dynamometer as we know it to-day is usually employed for measuring the brake horse-power of engines, and is virtually a brake for absorbing by friction, and measuring the power given by the engine.

Dynamos.—An electric motor is merely a dynamo reversed. As the former, it can produce by the rotation of its armature a flow of current along a circuit, but if the process be reversed, and current be passed along the circuit, it can rotate the armature and thus convert the dynamo into an electric motor. Each type of machine is generally specially designed for its own purpose, but in a "dynamotor" we find the two functions combined, usually as a dynamo for lighting and a motor for engine starting.

Earth.—In certain ignition systems the current is, at one point on its journey, taken through the frame of the vehicle, and as far as motorists are concerned, that part of the circuit represented by the frame of the machine is the earth, for it is supposed to pass through the earth on its return. The phrase is somewhat of a misnomer.

Ebonite is a non-conducting substance used in electrical work for insulating purposes. It is black and capable of taking a high polish, but, though tough up to a point, will not bear any great heat.

Eccentric.—An eccentric is a device for converting the rotary motion of a shaft into the reciprocating motion of such things as pump pistons, etc. It is in reality a crank with the crank pin diameter so enlarged as to surround even the shaft the centre of which, of course, does not coincide with that of the exaggerated crank pin or eccentric; hence the name. An eccentric is composed of two essential parts; the sheath and strap—the sheath being the equivalent of the exaggerated crank

pin, and the strap corresponding to the bearing of the big end of the connecting rod, for the eccentric rod is rigidly connected to the strap. The shaft rotates in the strap, and in so doing imparts a reciprocating movement to the eccentric rod. The strap is usually formed with lips on each side fitting into corresponding grooves on the shaft, to obviate sideways motion.

Efficiency is the ratio between the ideal and the actual in certain qualifications, such as the capacity for converting heat into work, speed into power, and so on. Among the usual efficiencies, to be dealt with in motor work, is thermo-dynamic efficiency, which means the ratio of heat as represented by work, given out by the engine compared with the heat primarily supplied to it. Mechanical efficiency is another typical case. This, of course, applies to the mechanism of the engine and represents the amount of power actually given off usefully by the engine at the crank shaft, as compared with the actual power indicated in the cylinders; in other words, it gives an indication of the loss caused by the mechanism intervening between the crank shaft and the cylinder. Transmission efficiency is another frequent example. More power has to be put in at the driven end of a transmission system than comes out at the driving end, a certain amount always being wasted in friction, etc., and efficiency then becomes a measure of the power lost. Efficiency is usually stated by giving the percentage of the real in terms of the theoretic maximum.

Electric Car.—A road car driven exclusively by electricity. This always means a car driven by electric motors supplied with electricity from batteries carried on the car, and changed every 40 miles or so as a rule, although vehicles have been known to run more than 200 miles on a single charge. For heavy work such as motor omnibuses, however, electric vehicles are occasionally used in which the current for the dynamo is supplied from a central station through an overhead wire and swivelling trolley pole, as in tram-car practice.

Electric Ignition.—See **Ignition**.
Electric Lighting System.—Usually in the main made up of a dynamo and accumulators, with an automatic cut-out (see **Cut-out**) to disconnect dynamo as soon as its speed falls below a certain point. The electric light system also includes a means of checking the dynamo output above certain speeds, so as to maintain a constant output in spite of varying car speeds. This regulation of mechanism output is usually effected by the arrangement of the windings of the dynamo.

Electrolyte.—The acid contained within the cell of an electric battery.

Electro-Magnet is a magnet in which the magnetising force is generated or greatly intensified by an electric current passing around the magnet.

Elliptical Springs.—See **Springs**.

E.M.F.—The same as voltage or difference of potential.

Engine.—For motor work two media are used for driving purposes, steam and explosive pressure of gases, the latter being primarily obtained within the cylinders of the engine, which are therefore called internal combustion engines. Steam engines may be double or single acting, that is, the steam may act on one side of the piston or alternately on both sides, each double acting cylinder having twice the frequency of impulse of a single acting. Also steam engines may be non-compound or compound (see latter heading). Internal combustion engines for car work usually obtain their power by the explosion of petrol with air, but some use paraffin, and a few run on alcohol or benzine. At present they may be either of the two or four cycle type (see these headings).

Engine Brake.—A device by which the compressive power of the engine cylinders can be used for retarding the progress of the vehicle.

Engine Starter.—See **Self-Starter**.

Epicyclo Gear.—A form of transmission in which speed variation is obtained through driven gears arranged to rotate or travel around the driving gear, whence the revolutions of the gear are again transmitted to a shaft in alignment with the driving shaft. On its high speed the gear is usually arranged so that the driving effort is balanced in two opposite directions and thus the gear locks itself and revolves as a solid mass giving direct gear. The changes are usually

effected by bringing into action brakes or clutches affecting the different gear variations.

Evaporate.—To convert a liquid from its liquid form into vapour or gas.

Exhaust.—The waste gases from an engine.

Exhaust Pipe.—The pipe by which the exhaust gases flow from the cylinder.

Exhaust Port.—The passage by which the gases flow from the cylinder to the exhaust valve chamber.

Exhaust Stroke.—The half-revolution in an engine during which the exhaust valve is held open and the piston on its stroke is sweeping out the products of combustion past the exhaust valve.

Exhaust Valve.—The valve to regulate the flow of exhaust gases from the cylinder.

Exhaust Valve Lifter.—A device, generally employed on motor cycles, for holding the exhaust valve more or less open, and so relieving the compression in the cylinder. It can be used to overcome the compression and facilitate starting, or to regulate the speed of the engine by weakening the explosion effect, although for this latter purpose the throttle and spark variation lever are preferable.

Expanding Clutch.—A friction clutch in which shoes, by means of toggle joints or other mechanism, are made to press tightly against the inner circumference of a drum, whence the movement is transmitted to the shaft to which the shoes are secured.

Expansion.—The tendency to increase in volume.

Expansive Working.—When a certain volume of gas is in a cylinder fitted with a piston, it tends to push the piston outwards, which in turn leaves a larger space for the gases to fill. If no more gases are allowed to enter, those already in the cylinder, having to fill a larger space, will fall in pressure as they continue to push the piston out. The principle is most evident in steam working. Suppose steam from the boiler is admitted into the cylinder freely until the piston has completed a quarter of its stroke, and steam supply is then cut off. By the time the half stroke is reached the steam will have to fill twice the space, and therefore, roughly speaking, will be at half the pressure; by the time the full stroke is reached, the steam will be at about a quarter of its original pressure. Although a cylinder working like this does not give off as much power as one in which full boiler pressure is supplied throughout the stroke, it can be shown that by this expansive working very much more power can be obtained for the amount of steam employed. In fact without the possibility of expansive working the steam engine would not be a commercial proposition.

Explosion.—Explosion is really only burning in a very sudden form, and consequent sudden expansion of gases. In motoring, the word is invariably applied to the combustion taking place in the engine cylinders, although if the inlet valve does not shut quickly enough, these explosions may spread to the carburettor on the one hand, while if the engine is missing fire and so sending unburnt charges into the silencer, an explosion from the engine, flashing into the silencer, may ignite the hitherto unburnt charges in the silencer and cause an explosion therein.

Fan.—A device similar to the ventilating fans (with which all are familiar) is often placed behind the radiators to encourage the flow of cooling air by rotating at high speed. These fans are usually driven by belt from the engine, but in some cases the fly wheels of the engine are formed with spokes shaped so as to take the place of the vanes of the fan.

Faucet, the same as **Spigot**, which see.

Feather.—A key, usually a long one, but so arranged as to permit the wheel or other fitting that it secures to the shaft being slid along, at the same time compelling it to rotate with the shaft. Sometimes the feather is secured to the sliding fitting and slides in a long groove cut in the shaft.

Feed.—The supply of oil, fuel, or water. It may be fed from the tank to the carburettor by gravity or by pressure obtained from an engine driven pump, or from the exhaust to the engine. The same applies also to the oil. The term water-feed is used in connection with steam engines in which the water is supplied to the boiler by a pump or by an injector.

Felloe.—The wooden rim of a wheel into which the

outer ends of the spokes butt, which in turn is surrounded by the steel rim, which constitutes the tyre in the case of hard tyre vehicles and which accommodates the tyre in the case of indiarubber shod vehicles.

Fibre.—A hard material produced by secret manufacture from vegetable fibre, and used chiefly for insulating purposes, although it has been used for clutch surfaces and brake shoes. Fibre can be cut by tools suitable either for wood or iron. It is usually of a reddish colour, although black and even grey fibre can be obtained.

Filter.—An arrangement for arresting the passage of foreign matter that may be in the oil or petrol. Filters are usually placed in the inflow of a tank and are composed of fine wire gauze. In many systems of lubrication, however, the filter is located at the bottom of the engine crank case. In such instances the filter should be withdrawable without letting any of the oil out of the crank case. In the writer's opinion the single filter usually used is not sufficient, and two or three might with advantage be introduced in the circuit followed by the oil or petrol.

Fire Box is that part of a boiler in which is the fire that raises the steam.

First Speed.—The lowest forward gear on a car.

Flanged Joint.—When the ends of pipes or other similar parts are provided with annular discs, the bases of which, butting up against each other, are clamped together by screws (thus securing the pipes together), the joint is described as a flanged joint. The flange may also be used to secure the pipe to any flat surface. Note, for instance, the way in which exhaust or inlet pipes are held to the cylinders of many engines.

Flexible Shaft.—For very light work, as for example the driving of a speedometer, a flexible shaft is used. It is often joined on the same system as that used by dentists for their drills, and is more or less an encased coil of wire or strip metal, which, while capable of bending, will transmit rotary movement.

Fifth Plate is a deep flat plate of metal bolted to the side of wooden frame members to strengthen them. The wooden frame and fifth plate is seldom, if ever, made now.

Floot Chamber.—See Carburettor.

Floot Spindle.—The spindle which is moved by the float when it rises, and which shuts off the petrol supply.

Flooding.—To ensure that the engine shall get a proper supply of fuel at starting, it is sometimes customary to hold the float spindle off its seating in order to fill the carburettor with fuel. Sometimes the spindle is "joggled" up and down; this is known as "tickling" the carburettor.

Flush Sided Body.—A body in which the sides are without any sudden projections or depressions.

Flux.—See Brazing and Welding.

Fly Wheel.—A heavy wheel or at any rate a wheel with a heavy rim—secured to the crank shaft of the engine. The weight of the wheel or its rim, once the engine is moving, tends to keep it moving, and thus by the momentum of its mass keeps the shaft rotating during the intervals between the impulses.

Fore-car.—The front two-wheeled attachment fitted to motor cycles for carrying passengers, etc.

Forced Circulation.—When lubrication & the cooling water is circulated by a pump or other means of pressure, the circulation is called forced.

Four Cycle Engine.—An explosive charge if compressed—although that compression, by the resistance it causes, takes up a certain amount of the engine's energy—yields more additional force in its explosion than is lost in the power necessary for compression. Consequently it is desirable to work the internal combustion engine with a compressed charge if possible. This discovery, which is ascribed by some to Beau de Rochas and by others to Otto, involves each cylinder having an explosion once in every two revolutions, or every four strokes; whence the name. On the outward stroke of the piston the explosive charge is sucked in, on the return stroke it is compressed, and when the piston is just at the top

of that stroke the charge is fired. The resulting explosion drives the piston outwards to the end of its stroke, and as these strokes of the piston are continually turning the crank round, and the crank is fitted with a flywheel, the momentum of this flywheel keeps the crank and pistons moving while the latter are doing their unprofitable strokes. Before the bottom of the explosion stroke the exhaust valve opens, and the burnt gas escapes, being completely swept out on the upward exhaust stroke. The cycle of operations is then repeated.

Forged Metal.—Metal that has been shaped by heating and then put under the hammer or hydraulic press.

Frame.—The structural part of the car which carries the mechanism and body. It is usually an arrangement of longitudinally and transversely arranged pressed steel members, but steel tubes are still used, though not so much as in the past. At one time wood, strengthened by steel ditch plates, was employed.

Friction Clutch.—See Clutch.

Friction Gear.—A form of change speed transmission depending on the friction between two wheels, instead of on the teeth of gear wheels; the idea underlying the use of friction gearing being to obtain an infinite variation of speed within certain limits. In the ordinary friction gear a flat cast iron disc of large diameter is driven by the engine, and bearing hard against its face is the rim of a leather-covered wheel, the friction between the cast iron and the leather circumference transmitting the power. Provision is made to alter the position of the leather-rimmed wheel to any point between the centre of the wheel (at the centre of the disc obviously no motion is transmitted) to the outer edge of the disc face, where the maximum speed is obtainable. From the shaft on which the leather-rimmed wheel is secured the power is transmitted for driving the car.

Front Brakes.—In order to obviate side slip there is still a tendency at present to brake the front wheels, but, as they have to be free to be swivelled for steering purposes, the problem is not an easy one. The difficulty is, however, overcome by passing the rod that operates the brake shoes through the centre of the steering pivot around which the entire wheel swivels.

Fuel Consumption.—Usually this is regarded as the number of miles that a car will travel for each gallon of fuel consumed, amounting in the case of a 15-gal car to about 20 miles a gallon on an average. The system of basing fuel consumption on car mileage is, however, not altogether scientific, a better method being to calculate the number of tons—miles, or tons moved over a given number of miles, by a gallon of fuel.

Fulcrum.—The point around which a lever or any part acted upon by a couple (see Couple) tends to turn. The same as a pivot.

Gallery Pipe.—In some forced lubrication systems the oil is led along a pipe in the crank case, having small holes in it just opposite the cams or big end bearings so that the oil is squirted from these holes on to the parts that require oil. Such a pipe is sometimes known as a gallery pipe.

Garage.—A French word meaning a dock, borrowed in this country to apply to a shed for housing motors, and frequently extended to embrace an establishment where motors are housed and repaired.

Gas.—A term sometimes applied to the explosive mixture for the engine.

Gate Change.—In the ordinary gear box mechanism, the various gear striking rods, operating the gears in the gear box by sliding them, lie horizontally and parallel with each other, and are formed with a cross groove near the end along which the selector can pass, if the selector has to reach another gear, or in which the selector can remain if that particular gear is to be used. The gear is then changed by a fore and aft movement of the lever and the striking rod. It is therefore clear that the change speed lever has to rock in a transverse direction to operate the selector, and then in a fore and aft direction to change the gear and thereby regulate the movements of this lever. A

specially shaped quadrant is fitted with slots into which the lever fits, and in which it is held for the respective changes of speed. Another gear fitted with this system of change speed mechanism are said to be fitted with a gate change.

Gauge.—An instrument for testing measurements: usually in motors gauges are for testing measurements of pressures such as air or steam boiler pressure. This type of gauge is usually provided with a calibrated dial on which the actual pressure at the moment is indicated by a deflecting needle. Another sort of gauge is used in workshop use for measurements of machine parts, as the diameter of wire, the thickness of sheet metal, etc. Some of these gauges for machining—known as "limit" gauges—afford a maximum and a minimum measurement beyond which the dimensions of the article to be machined must not pass in either direction.

Gauge Glass.—A glass tube fitted between brass mountings to enable it to be secured to the boiler of a steam vehicle in such a position as to show the level of the water in the boiler through the glass. The brass mountings are also provided with cocks by which the water and steam pressure can be shut off in case of the glass breaking, and to guard against this latter eventuality a guard of very thick glass or of wire woven glass is also sometimes provided.

Gear.—Strictly speaking the word is applied to mechanism for transmitting rotary motion from one to another shaft, and for converting speed into power more or less, or *vice versa*. Also sometimes used to indicate mechanism generally. (See **Gear Change**.)

Gear Box.—The casing in which the gear mechanism for converting the high rotation speed of the engine into lower speed and greater turning power for the propeller shaft is contained. It also holds lubricant for the gear wheels, which are almost invariably of the ordinary toothed type.

Gear Change.—Every wheel may be regarded as an endless lever usually working at a disadvantage, the leverage at which the power is applied being represented by the radius of the driving shaft while the leverage at which it is given out is represented by the radius of the wheel itself. Therefore, if the mean turning force of the driving shaft is, say, 5 lbs. acting at a radius of 1 inch, the power given off by a wheel of 5 inches radius, in mesh with the smaller wheel, is 1 lb. Obviously, therefore, a large diameter wheel on a driving shaft is at a disadvantage, while if driven it enables the power to be applied with a big leverage and therefore offers an advantage. In other words, if a large gear wheel drives a small one the driving force acting on the shaft of the small wheel is less than on the driving shaft of the large one, but the small one makes many more revolutions than the larger in proportion to its size. *Per contra*, if we have a small wheel of a diameter of 1 inch driving a larger wheel of 6 inch diameter, we obtain a very much slower speed from the driven shaft (the), but it is driven round with six times the power. Thus gear wheels can be used for converting speed into power or *vice versa*. Now the power of the car falls off disproportionately as the engine revolution speed drops. Consequently in going up hill, as the engine slows down, its power weakens. But this is just when the power is wanted; consequently a device for maintaining the engine speed on hills and under heavy work is desirable. The difficulty is got over by arranging gear wheels in the gear box, so that, on coming to a hill that slows the car down, gear wheels of suitable radius can be slid into engagement with each other. These gear wheels afford fewer revolutions of the propeller shaft relatively to the engine shaft than the higher gears used for driving on the level, thus enabling the engine's revolution-speed to be maintained with fewer revolutions of the road wheels, at the same time ensuring the road wheels being rotated with a power increased proportionately as the speed is decreased. This, roughly speaking, is the principle of gear change.

Gear Pump.—A gear pump is one in which the fluid to be pumped is forced through to the pump by the action of two rotary sets of vanes, which are practically nothing more or less than gear wheels, the

teeth of which, meshing with each other, act as the vanes of the pump, and force the oil through.

Gear Wheel.—A toothed wheel, whether of the parallel spur, the skew, the bevel, or worm variety.

Generator.—Another name applied to boilers, especially to those of the flash or semi-flash type. It is also applied to the vessel in which acetylene gas is generated from calcium carbide by the application of water to the latter.

Gilled Radiator.—A radiator made up of tubes which depend for their cooling upon a large number of very thin metal fins placed around the tubes in such a way as to conduct the heat rapidly away to the air from the tube and the hot water contained therein.

Gland.—A gland is, practically speaking, a little box formed around a rotating, or sliding rod, in such a way as to permit it to continue to rotate or slide, but at the same time to afford around the rod a perfectly gas, water, or oil tight joint, as the case may be. Glands are used around piston rods on the cylinders of steam engines to allow the piston rod to work in and out without any escape of steam. They are also used on the rotating shafts of water and oil circulating pumps to permit the shaft to rotate without the water escaping from the pump. They are usually formed with a circular cavity containing the fluid-tight packing. This can be forced as tightly as required against the rod all round by pressing it up (by screwing up the water end of the gland so that it is forced along the rod).

Governor.—A mechanical means of preventing the rotation speed of an engine from exceeding a certain set maximum. This is usually effected by weights, which are so arranged that, when rotated above a certain speed by the engine, they fly so far outward by centrifugal force as to slide a spring-controlled sleeve sufficiently far along the shaft to which they are secured, as to slow the engine by shutting or tending to shut the throttle.

Graphite is a form of carbon, a good deal used as a lubricant for surfaces exposed to great heat. Asbestos washers can also with advantage be painted over with graphite to prevent them sticking to their joints.

Gravity Feed.—When the supply of petrol, or oil, depends on the weight of these fluids flowing from a tank placed at a higher level than the point at which it has to be fed, the liquid is said to be "gravity fed."

Grease Cup.—A more or less cup-shaped lubricator to hold and supply grease to parts of the mechanism. Grease cups are provided with covers which screw down and so force the grease through the opening at the bottom of the cup to that part of the mechanism requiring it.

Grinding in Valves.—When an engine has been running a long time the seatings of the valves tend to become worn and pitted, and it is then necessary to "grind the valves in" on their seatings. This is done by putting a mixture of the finest emery or crocus powder, with a little oil, on the seating of the valve, and then turning the valve round and round so that the emery grinds out all imperfections on the valve and seating surfaces. If the valve only rotated on its seating, the particles of emery would cover it over, or less to take the same circular path on each turn of the valve, and the grinding would, through a microscope, resemble a series of concentric grooves on the valve and its seating. To avoid this the valve should be lifted off its seating at every few turns to obtain a different disposition of the emery particles.

Grub Screw.—A small screw without any head but merely with a slot for a screwdriver cut at its end. Grub screws are used where it is necessary to have the screw flush with the surface without countersinking for a screw head.

Gudgeon or Gudgeon Pin.—The pin in the piston, on which the connecting rod at its small end is free to swing. It is generally secured immovably in the piston by taper locking bolts, or by having the gudgeon pin ends and the piston grooved to accommodate a locking ring, which passes around the piston and by its fit in the groove and the gudgeon pin ends prevents the latter from rotating. Sometimes the gudgeon swings with the connecting rod, and rotates in bearing surfaces in the walls of the piston.

Guide.—In a steam engine guides are usually bars of

steel to which the crosshead is secured as a sliding fit, and along which it slides. In internal combustion engines the guides are usually practically tubes in which the valve spindles and tappet rods slide.

Gun-Metal or Bronze.—An alloy used especially for bearings of shafts or bearing surfaces, such as guides, etc. It is composed essentially of copper and tin, sometimes with a little zinc, a typical mixture being 90 per cent. copper, 9 per cent. tin, and 1 per cent. zinc.

Gusset Plate.—A flat plate, usually triangular, riveted at the corners of motor frames to strengthen them and to guard the right-angled corners of the frame from distortion.

Hackney Carriage.—A Hackney Carriage, under British law, is a vehicle employed solely for the transport of passengers for its owner's business and profit, provided that the vehicle is not let for a term exceeding three months. There may be said to be two varieties of Hackney motor vehicle, the one a cab the other corresponding to the old horse-drawn fly. A cab is a Hackney carriage but a Hackney carriage is not necessarily a cab.

Half Time Shaft.—Usually the camshaft or distribution shaft. A shaft rotating once to every two revolutions of the crankshaft.

Half Speed Shaft.—A shaft geared to rotate at half the number of revolutions of the crankshaft. A term usually applied to the camshaft.

Hand Brake.—A brake worked by a hand lever, which usually operates on drums on the back wheels.

Head Lamp.—See **Lamps.**

Helical Gearing.—See **Skew Gear.**

Hemispherical Bearings.—To allow for the unavoidable "whip" in the frame of a car, some bearings, as, for example, those of the countershaft, are sometimes shaped outwardly to the curve of a circle, their housing being correspondingly shaped to accommodate them, so that the bearings may be allowed a certain amount of rocking motion, or "play," when the frame deflects.

High Pressure Cylinder.—See **Compound Engine.**

High-Pressure Engine.—A term sometimes applied to the ordinary non-compound steam engine.

High Tension Circuit.—When a circuit of low voltage on the primary circuit has been transformed through a coil or transformer into a high voltage current on the secondary circuit, it is called a high tension current, and the circuit along which it passes is called the "high tension circuit."

Hit-and-Miss System.—In some old cars the governor, instead of regulating the throttle, acts on a wedge-shaped sort of knife blade, which, at the critical speed, was forced forward by the governor to move the tappet rod of the inlet valve so that it did not come into contact with the valve spindle, and consequently the valve was not opened. This, of course, resulted in a fall in the speed.

Honeycomb Radiator.—Strictly speaking, the honeycomb radiator is made up of hexagonal tubes placed so closely together as only to leave room for very thin films of water flowing between their outer walls, while the air rushes through the tubes, cooling them from the inside. The term, however, is now applied to any type of radiator in which tubes are arranged horizontally so that the air passes through their interior and the water over their exterior surfaces.

Hook (or Hooke's) Joint.—The same as **Universal Joint.**

Horn Block, or Horn Plate.—Horn plates are brackets which act as guides in which the back axle may move up and down on its springs, the horn blocks being made in pairs for this purpose, and the axle moving up and down between the two. Obviously, horn plates prevent free and ad movement of the axle, and so obviate the use of radius rods.

Horse Power.—Power is the unit of measuring capacity of an engine for doing work, since it is necessary to institute comparisons in this direction between various engines. For this purpose the horse power, as founded by James Watt, is still used. In establishing this unit Watt calculated the work that could be performed continuously by the largest dray horses, and to be on the safe side, added 50 per cent. to his estimate.

Accordingly, a horse power is the capacity for doing 33,000 foot lbs. of work in a minute. It does not matter whether 1 lb. is raised 33,000 feet, or 33,000 lbs. are raised 1 foot in a minute; in either case a horse power is expended. Therefore, the total number of foot lbs. of work that an engine can perform in a minute divided by 33,000 is its total horse power.

Housing.—A cavity for the accommodation of a ball, or roller, bearing in the stationary structural part surrounding the shaft to which the bearing is applied.

Hub.—The centre of a wheel; more especially applied to wire wheels.

Hunting.—With some governors, an engine, when free from its load, tends to race round and attains a high speed before ever the governor can come into action. When, however, the governor does act, its action is so pronounced as to slow the engine below the speed for which the governor is set, and it is only after a series of speed oscillations, so to speak, that the engine is set to work at its governed speed. This belated and exaggerated action of the governor is known as "hunting."

Hydrocarbon.—A term used in connection with fuels, which are chemical compounds of carbon and hydrogen.

Hydrometer.—The same as **Densimeter.**

Ignition.—The kindling of the explosive charge in the cylinder, and for practical purposes it is carried out by one or two broad systems. Ignition is either by battery or magneto. In the battery system either accumulators or primary batteries can be used, four volts being the usual pressure at which the primary circuit is worked. In either case this circuit is transformed up by means of a coil, as the igniting spark between the sparking plug points has to occur at a voltage of 4000 or so. (See **Coil**.) Current is made to flow, at the required moment, by the contact maker. (See **Contact Maker**.) The circuit has to be suddenly broken as well as made, to get a good spark at the plug, and so contact makers are made on either one of two principles. Either they may be so designed with a spring to make and break contact very suddenly, or they may depend for the sudden make or break on a trembler on the coil. (See **Trembler**.) In magneto ignition too we have two broad varieties—the low and high tension. In the low tension an armature with only low tension winding is provided, and consequently the circuit has to be broken. As the spark is produced at the point where it is broken, this break has to occur inside the cylinder among the explosive gases. This is effected by a trip tappet mechanism worked from the cam shaft in such a way as to cause the break to occur at the correct moment. In the high tension magneto system the armature is also provided with secondary or high tension windings which enable the magneto directly to give off high tension current that will jump between the poles of an ordinary shaped sparking plug, the timing of the passing of the spark being regulated by a contact breaker fitted to the armature shaft of the magneto, and much on the lines of that used with accumulator ignition.

Incrustation is formed in boilers, radiators and water pipes, owing to the salts that are deposited by any but absolutely pure waters. They are chiefly sulphates and carbonates of lime. A useful remedy to lessen and get rid of such incrustation is ordinary soda.

Indicated Horse-Power.—Horse-power that is actually being expended on the piston by the gases in the cylinder, as distinct from brake horse-power, which see. Measurement of this power can be obtained by an indicator, an instrument which takes diagrammatic readings of the power so that the pressure at any point during the stroke of the piston can be ascertained, and, consequently, the whole of the work being performed in the cylinder can be calculated.

Induced Current.—A current obtained in a circuit by induction from another circuit in the same way as the primary ignition circuit through the coil induces a high tension current in the secondary winding.

Induction Coil.—See **Coil.**

Induction Pipe.—The pipe by which the gases are led from the carburettor to the cylinder.

Induction Valve.—The valve by which the flow of gases from the carburettor to the cylinder is timed

and regulated. It is usually in modern engines operated positively from the cam shaft, but sometimes is still merely a spring loaded valve opened by the suction of the engine.

Injector.—An instrument in which, by utilising the momentum of water when made to move extremely rapidly, the boiler is supplied with water forced into it despite the boiler pressure opposing the supply. To do this steam is passed at high velocity through a series of jets around which the water lies. The paradox of the injector is generally explained by the fact that, when the steam picks up the water and carries it through the injector, it induces a very high speed in that water. Consequently, the water has a lot of momentum which overcomes the pressure of the boiler opposed to its entry.

Inlet Pipe.—See **Induction Pipe**.
Inlet Valve.—See **Induction Valve**.
Inner Tube.—The rubber air tube of a pneumatic tyre.

Inspection Door.—A light metal lid fitting over a hole in a cover, such as a crank case, and easily removable so as to render the mechanism in the interior of the casing available for inspection.

Inspection Lamp.—See **Lamps**.

Insulation.—Is material such as rubber, etc., which will not conduct electricity, and so is wound round electric conductors in order to protect them. Insulation may mean the act of protecting such circuits by insulating material.

Insulating Tape.—A tape made of indiarubber and gutta-percha so that it insulates any electric connections round which it is wound. It is so sticky that the end can be cut off and stuck down to prevent it coming unwound.

Intensity Coil.—See **Coil**.

Internal Combustion Engine.—An engine in which the fuel is consumed directly in the cylinder, and the expansion caused by the burning of that fuel is made to act directly on the piston. The internal combustion engine in motor work may be regarded as the alternative to the steam engine, in which the fuel is used more indirectly (see **Steam Engine**). Internal combustion engines act on one of two principles—either four cycle or two cycle—for which see under these headings.

Iron.—A metal used more than any other in car construction. Known chemically under the symbol of Fe, there are practically two varieties of iron, widely different from each other, the one cast, the other wrought iron, for which see under these respective headings.

Irreversible Steering.—Steering so designed that while the driver, by turning the steering wheel, can turn or swivel the front wheels, the front wheels cannot turn the steering wheel; consequently the car with irreversible steering tends to run on in the direction for which the steering wheel is set. Irreversible steering is usually obtained by a worm on the steering column in mesh with a toothed sector, the rocking lever which moves the rod connecting to the lever arm by which the front wheels are swivelled. The worm is cut at such an angle that, while it can move the sector, the sector cannot rotate the worm. Hence the name.

Isothermal Expansion.—When a gas at a given pressure in a cylinder moves the piston of that cylinder outwards so as to allow the volume of the gas to expand, the pressure of the gas would fall proportionately to the increase of its volume, neglecting the heat lost in work, the consequent fall in temperature, and the losses of condensation, etc. This law of the pressure of a gas varying in inverse proportion to the volume it has to fill is known as Boyle's law. Of course expansion on these lines is only possible in theory; it is known as Isothermal Expansion.

Jack.—An implement for lifting heavy weights, especially cars. Car jacks almost invariably depend for their action on the mechanical advantage obtained from a lever rotating a screw, thus giving a double mechanical advantage. The casing of the jack stands firmly on the ground, and contains a rotatable sleeve which is threaded for the accommodation of the lifting screw. When this sleeve is turned in one direction the lifting screw is worked upwards out of the sleeve, and thus is

lifting action obtained. Sometimes for convenience a ratchet action is employed with the lever for turning the sleeve.

Jackets.—The word generally applies to water jackets surrounding the cylinders of internal combustion engines, but in some steam engines the cylinders are surrounded with steam jackets to maintain the temperature in the cylinder, and thus avoid the power losses that would otherwise be caused by the condensation due to cylinder surfaces not sufficiently warm.

Jet.—The spray nozzle, through which the fuel in an internal combustion engine is delivered from the carburettor to the engine. The word may also be applied to liquid fuel burners employed in steam engines.

Jockey Pulley.—A pulley rotating on a centre, the position of which can be adjusted to requirements by fixing it on one end of a lever arm. A jockey pulley is generally used to take up slack in a belt.

Joint.—Joints are of many sorts, and for many purposes. There is the expansion joint, to permit pipes to expand under heat without causing leakage to the joints; such joints usually obtain their effect by allowing a certain amount of spring action on the pipe. Then there is the flanged joint used for either pipes or shafts, in which the flanges are connected by bolts or studs and nuts. There is the ordinary face joint where the surfaces of metal are screwed together and frequently to render them gas tight are treated with red lead, or have some material like sheet asbestos interposed between them. The union joint applies only to smaller pipes and is formed of the well-known union nut which presses a flange on the pipe against the connection by screwing them on to that connection. A universal joint exclusively applies to rotating shafts, which are required to transmit movement more or less flexibly, while a ball and socket joint is usually found on such parts as steering connections.

Journal.—The part of a shaft running in a bearing.

Key.—A small piece of metal of varying lengths—usually rectangular in section—which is employed to connect moving members such as shafts, etc., to parts such as wheels which have to be rigidly secured thereto. A key ordinarily is fitted in a groove cut on the shaft and into a corresponding groove cut in the boss of the wheel, so that the shaft cannot rotate without the wheel following suit, unless indeed the key were to be sheared in two. Keys usually taper very faintly along their length, so that when driven up they secure the wheel tightly to the shaft.

Key-Seat.—The same as **Key-Way**.

Key-Way.—The groove made for the accommodation of the key.

Knock or Knocking.is a peculiar and unmistakable noise in an engine. Since it is usually caused by the mechanism between the crank and piston, it generally sounds as if it were coming from the cylinders. It may be due to worn bearings, to insufficient or unsuitable mixture in the cylinder, to improper ignition timing, or to overloading in the cylinder. In any case steps should be taken to stop it as soon as possible.

Knuckle Joint.is the joint usually seen on engine control rods, and sometimes on steering rods, radius rods, etc. In a knuckle joint (sometimes called a double eye joint) at one part the knuckle is slotted out so as practically to constitute the fork, between the cheeks of which the other connection is accommodated. A hole passes through this connection and both sides of the fork, and through this hole a bolt, which forms the connection, is passed, the bolt sometimes being locked with a nut on its end, but sometimes with a split pin or other device.

Knurling.—The mechanical roughening of a metal surface, which gives an appearance somewhat similar to the engine turning seen on a watch. Frequently found on the edges of the heads of fine adjustment screws, etc.

Lamps.—The most that can be done is to review the different methods of car lighting at present available. A car in Great Britain has to carry several sorts of lamps. There is the tail lamp, which must illuminate the back number and show a red light behind. In the front, carried on forked brackets, are the head lamps, usually powerful lights. One of these may be carried

on either side of the car, or a large one in the centre, and in addition to this, side lights are also sometimes carried. These are less powerful lamps, generally placed on either side of the front seat of the car. At present there is a tendency to make the head lights swivel with the steering so as always to show the light in the direction in which the car is travelling, and authorities in the motoring world are also endeavouring to arrange that lamps shall be placed as far as possible at the outermost points on the sides so as to indicate to others the width limits of the car. As regards the various forms of illuminating, the most sophisticated undoubtedly is the electric light, generally obtained from a small dynamo worked off the engine in conjunction with accumulators, that can be brought into action when the engine is not at work. There are many forms, however, of electric lighting systems, many of them of the highest ingenuity, but acetylene is another medium, giving, if anything, a more powerful light, and with a completely carried out acetylene instalment only one generator is necessary for all the lamps on a car. Oil lamps and paraffin lighting are hardly sufficient to depend on, but are frequently used for the side or tail lamps, or both. An inspection lamp is another type that every car ought to possess. It should be electric to avoid risk of petrol explosion.

Landaulet.—A car in which the upper back part of the body, which consists of a folded hood, can be opened or closed at will, while the front part remains permanently standing.

Lap.—Lap is a term applied to the side valves of steam engines, and means the amount by which the end of the valve overlaps the outer edge of the corresponding steam port when it is in the middle of its stroke. It must overlap the outside edge of the steam port, and may overlap the inside edge. Sometimes, however, the valve in its middle position not only fails to overlap the outside edge, but leaves an opening along this edge. This is known as negative inside lap. Engines with negative inside lap would be very free running but wasteful. It is the ordinary outside lap that renders possible the expansive working of the steam.

Lateral Thrust is sideways stress.

Lay Shaft.—A lay shaft is in reality an intermediate shaft for transmitting motion through gearing. It is usually applied either to the shaft transmitting movement from the engine crank shaft to the cam shaft when the latter lies along the tops of the cylinders, or it may be the intermediate shaft in the gear box which transmits the motion from the primary shaft to the final drive from the gear box.

Lead is a term used to denote the amount of advance in opening of a valve ahead of the piston before the latter is at the end of its stroke. The word is also applied to any electrical wire.

Lever.—A long handle turning on a pivot or fulcrum and used for many purposes, especially for controlling engine and change speed gear and brakes on a car. Levers have sometimes to be designed to increase the power applied through them in which case the length of the actuating arm is longer than the arm taking the force from the fulcrum to its point of application. These forces vary directly with the length of the arm. Take a lever with the force applied at 2 ft. from the centre of fulcrum and giving off the force again at a point 1 ft. away from the fulcrum, the force given off will be just twice that applied.

Lifter.—See Exhaust Valve Lifter.

Limousine.—A permanently enclosed car.

Limousine—Landaulet.—See Three-Quarter Landaulet.

Liner.—A liner is almost invariably cylindrical and is fitted into cylindrical holes, either to diminish the size of the original hole, or when applied to cylinders and wearing parts, to afford renewed wearing surfaces.

Link.—In car work is a form of connection used for coupling two members together. It may be used to couple up two brake connections, or two levers. A good example of the link is to be seen in the spring hanger swing links, connecting the ends of the link with the spring hangers of the frame. It is also used for the swinging quadrant in steam engine valve gear.

Linking Up.—See Valve Motion.

Link Motion.—See Valve Motion.

Liquid Fuel.—Apart from the liquid fuel in internal combustion engines, fuel is generally used in a liquid form for heating the boilers on steam cars, for which purpose it is more compact than the ordinary coal or coke. It is usually applied either through an injector or spray, or else through a heated coil, whence it issues in the form of vapour, which is ignited at the burner orifice.

Live Axle.—See Axle.

Live Steam.—Steam at pressure, direct from the boiler.

Load may apply either to the actual load carried by the car, or to the resistance put *on* to the engine, against which it has to work.

Lock.—See Steering Lock.

Locking Nut.—Locking devices are used to prevent bolts and nuts from slacking back.

Low Pressure Cylinder.—See Compound Engine.

Lubrication.—The medium used to reduce friction between two surfaces working relatively to each other. For motor work lubricants nearly always take the form of grease or oil, which works in as a film between the surfaces. Lubrication should be chosen to enable this film to be retained under the load on the particular bearings, etc., for which it is used.

Lubrication System.—The system of lubrication of car mechanism, especially of the engine and gears, is all-important. The gears in general are fairly simply lubricated by filling the gear box up to the required amount from time to time. The engine, however, demands more than this, and may be lubricated on the splash system, in which oil is simply supplied to the crank case and all bearings and surfaces depend on the lubricant splashed up by the rapidly rotating cranks as they churn through the oil. In another system oil is carried in a tank above the engine, generally on the dash board, and its flow to the engine is regulated by the amount of pressure in the tank, such pressure being usually obtained either from the exhaust or from a small air pump driven by the engine. The most generally adopted system in modern cars is the force feed in which oil is forced under pressure by a small engine-driven pump (either a gear pump, a rotary or reciprocating pump) to all the bearings and moving parts of the engine that require lubrication. For this purpose very often the crank shaft is made hollow and utilised to conduct the oil to all the crank bearings, and up the connecting rods to the gudgeon pins. Sometimes oil is forced through a gallery tube with little holes in it just opposite the bearings requiring lubrication.

Lubricator.—A device for feeding lubricant to mechanisms. Some are designed so that the amount of oil supplied can be seen passing through sight-feed glasses.

Magnetic Clutch.—A clutch in which the driving and driven parts are connected together by magnetism. They are practically never used except in special designs of electric and petrol electric vehicles.

Magnetic Field.—The space through which the magnetic lines of force, between the poles of a magnet, pass. It might be better described as the field of magnetic influence.

Magnetic Lines of Force.—The forces of attraction between the poles of two magnets are, for convenience, conventionally supposed to follow or to be represented by certain definite lines known as "lines of force," and when a bar of iron, or iron wire, cuts these lines of force it causes an electric current to be set up in the iron.

Magneto.—A compact and specialised form of dynamo fitted on car engines, and so designed that, when driven by the engine, it shall supply electricity for the ignition of the charges in the cylinders, and ensure that the sparking for this purpose is passed between the points of the sparking plug in the cylinder at the right moment.

Main Bearing.—A bearing of the crank shaft.

Make and Break.—The mechanism to regulate the flow of current in the primary circuit in ignition systems that are not fitted with trembler coils.

Manometer.—A pressure gauge.

Mechanical Efficiency.—See Efficiency.

Mechanically Operated Valve.—An inlet valve positively opened and shut by the mechanism of the engine, as opposed to the automatic inlet valve opened merely by the engine suction.

Metal to Metal Clutch.—A clutch in which the contacting surfaces are both of bare metal.

Micrometer.—An instrument for measuring extremely accurately to very small fractions of an inch.

Mild Steel.—See **Steel**.

Mileometer.—An instrument for measuring distance by mileage.

Milled Nut.—A nut the edges of which are formed with serrations similar in appearance to those found on the edge of a shilling. This is done to afford a better grip.

Mis-Fire.—Sometimes owing to the charge of air and vapour momentarily not being in explosive proportions, or because of defective ignition, a charge may enter the cylinder and leave it without being exploded. This is known as a mis-fire. When anything causes mis-firing, these mis-fires are usually intermittent.

Mixing Chamber.—That part of the carburetter in which the fuel and air for the engine are brought together.

Mixture.—The mixture is a combination of air and vapourised or gasified fuel, to be exploded in the cylinder.

M.O.V.—Short for "mechanically operated valve."
Mud Guards.—The protective coverings placed over the wheels of a car to prevent mud being splashed over the vehicle.

Muffler.—Another word for the silencer.

Multiple Disc Clutch or Multiple Plate Clutch.—A form of clutch in which the friction for transmission of power is obtained through frictional contact between two or more plates or discs.

Nail Catcher.—A device, usually consisting of a short length of chain like a curb chain, resting lightly across a pneumatic tyre, from which it extracts nails and such like things as the wheel revolves.

Natural Circulation.—See **Cooling System**.

Naphtha.—A hydrocarbon liquid sometimes used as a fuel for internal combustion engines. Naphtha can be distilled from coal, wood, or crude oil. Its chief drawbacks lie in a tendency to mess up the cylinders, and in the extremely unpleasant smell of the exhaust. It is more generally suited for comparatively slow running engines.

Nave.—The hub of a wooden wheel.
Needle Valve.—The spindle in the float chamber of a carburetter usually ends in a point, which is forced by the action of the float on to a corresponding seating as soon as the petrol reaches a certain level in the float chamber. This is the needle valve. The term can be applied to any very fine pointed small valve.

Negative Pole.—See **Accumulator**.

Nickel (Ni).—Chemically speaking, an elemental metal, at present much used for alloying with steel, to which in certain proportions it gives great strength and toughness, the most usual proportions being up to three or five per cent nickel. For special purposes, as, for instance, valves, however, the proportion of nickel may go as high as 25 per cent. One of the great properties of nickel steel is its capacity to resist what is known to engineers as "fatigue," and what is sometimes erroneously called the tendency for the metal to "crystallise."

Nipple.—The same as jet. (See **Carburetter**.)

Non-Return Valve.—The same as **Check Valve**. See **Valve**.

Non-Skid.—A device applied to tyres to prevent side-slip of vehicle. These, at present, usually consist of bands studded with hardened steel studs which grip the surface of the road, but sometimes mere chains loosely passed round and round the tyre and wheel rim, are used. Many attempts, too, have been made to produce mechanical non-skids as part and parcel of the car mechanism, but hitherto they have not met with much success.

Normal to.—At right-angles to.

Notching-up.—The same as **Linking-up**. See also **Valve Motion**.

Nozzle.—Usually applied to the carburetter jet.

Nut.—The ordinary nut is too well known to need description, but it is found in many varieties besides the usual hexagonal form. There are various forms of hexagonal locking nuts, as for instance, castle locking nuts (see under separate heading), and helicoil nuts (the latter made from coiled steel, so that the coils spring slightly and so bind on the thread). There are also milled and knurled nuts, merely circular, and since they are to be turned only by hand, are made with their circumferential edge rough, so as to afford a grip. The wing nut is another form of hand nut, with wings formed on it to give more power for screwing up; this is sometimes known as the butterfly nut; while the union nut is employed for joining up pipes to their fittings.

Odometer.—An instrument for measuring the distance run.

Offset.—Ordinarily the centre line of a cylinder, if produced, would fall dead on to a line drawn through the centre of the crank shaft, but when cylinders are placed so that their centre line is parallel but somewhat to the side of this line, they are said to be *offset* or *décalé*. With this arrangement there is no dead centre.

Oil Gauge.—A device by which the level of oil in a tank can be shown. It may be in the form of a glass tube on the same principle as a water gauge of a boiler, or it may be arranged to show the level by means of a needle on a dial.

Oil Pump.—See **Lubrication System**.

Oldham Coupling.—A form of flexible shaft coupling in which the end of each shaft to be connected is formed with a flange, each having a groove, like that of a key-way, right across its face. Interposed between these two flanges is a floating disc with projecting tongues at each side to fit into the grooves on the flange faces, but these projecting tongues are arranged so that the one on the one side lies at right-angles to that on the other side. Thus, while allowing the floating coupling to move in one plane relatively to the driving shaft, it allows the driving shaft to move in another plane, at right-angles to that allowed to the coupling itself. The driven shaft can thus move in two dimensions, similarly to a universally jointed shaft.

Otto Cycle.—See **Four Cycle Engine**.

Overheating.—When the supply of lubrication is insufficient to counteract the friction in a bearing, or between quickly moving or heavily loaded surfaces, the friction generates heat, and if the action continues, this overheating may cause serious damage by the metal becoming abraded and particles consequently working in between the moving parts and cutting them. Lack of lubrication also causes overheating of pistons in engines, but engines may also overheat owing to causes arising from the combustion of the fuel, as for instance improper mixture, or defective water circulation.

Packing.—The word packing may refer to thin strips of metal placed underneath a bearing or any part to raise it to the required height, or it may refer to the relatively soft material inserted between the two metal surfaces of a face joint, or the word may be applied to the material put into glands to render them steam or fluid tight. For face joints, red lead, or rubber and canvas insertion, are frequently employed, and sometimes corrugated plates of thin soft sheet metal, while for glands, either soft metallic packing enclosing the rod and spindle, or hemp saturated with tallow or grease, may be used.

Packing Ring.—A piston ring is a packing ring, but the principle may be applied equally well to cylindrical sliding valves.

Panne.—**En Panne.**—A term borrowed from the French, meaning a break down of the car. In English we say "huig up."

Paraffin is sometimes used as a fuel for steam engine driven cars and sometimes for internal combustion engines, in which latter case the fuel should be split up into as small particles as possible and vapourised or heated.

Parallel.—When all the positive poles of the cells in a battery are connected up to one side of the circuit, and all the negative poles to the other, the battery is

said to be connected up "in parallel," as opposed to being connected "in series." (See *Series*.)

Pawl.—A pawl may be likened to a door which will permit rotary motion to pass only in one direction. It is used in connection with a ratchet. The pawl, which is merely a catch, is hinged on the driving member that is rotated in one direction, and it falls, or is pressed by a spring, down on to the faces of the teeth of the circular ratchet, which transmit the movement to the driven member. If the pawl tends to rotate faster than the ratchet (in the same direction) it catches against the saw-shaped ratchet teeth, and driving pawl and driven ratchet revolve as one. If, however, the pawl is rotating more slowly than the ratchet, or is moving in the opposite direction, the ratchet, owing to the saw-like shape of its teeth, overruns the pawl, which merely drags along over the tooth faces without connecting driving and driven members. One of the best examples of a ratchet and pawl mechanism is seen in the free wheel of a bicycle.

Pedal.—In car work a pedal is that part of a control mechanism on which the foot is placed to operate it, but it is now usually applied to the entire lever when operated by foot. They are used for operating the brakes, clutches, accelerators, and on some cars for gear change economy. Some motor cycles are fitted with pedals similar to those on ordinary cycles, to be used in starting the machine by pedalling it along.

Pest Gook.—Small tap used to indicate the level of water in a boiler.

Petrol.—The spirit most generally used for motor work. It is a comparatively light hydrocarbon distillate of mineral oil, ranging in weight from about 6.8 to 7.6 lbs. to the gallon (680 to 760 sp. g.). Needless to say it is highly inflammable and therefore stringent by-laws regulate the storage of it in any quantity. In America it is called gasoline, in France, *essence*. As it is very volatile at ordinary temperatures, it mixes easily with air, so as to form an explosive mixture for internal combustion engines.

Phetion.—An ordinary open touring car.

Pinion.—A word applied to the smaller of any two gear wheels that are in mesh together.

Pins.—Pins are of many sorts, and apart from cases in which the word has been applied to important parts of the mechanism, as for instance a gudgeon and crank pin, it generally implies some sort of fastening or means of securing a fastening, the most general examples being cotter pins which are tapered pins used for locking nuts, or, similar connections held in position with a nut. A taper pin is very similar to a cotter pin, but depends upon its taper fitting to remain in position, since it has no securing medium. Then there are split pins which are passed through holes, and while the head of the pin prevents it moving in one direction the other end that is split is splayed apart to prevent it from falling out of the hole in the other direction.

Pipe Union.—See *Joints and Nuts*.

Piston.—A piston is really a plunger fitting pressure tightly, but a sliding fit, in the cylinder to transmit the working pressure of the gas in the cylinder to a connecting rod. As its motion is purely reciprocating, the connecting rod translates the reciprocating movement of its one end into the rotary movement of the crank at its other end. In double acting engines, such as steam engines the piston is a metal disc (with its circumference grooved for the accommodation of the packing rings), formed at its centre with a boss in which the piston rod end is secured, but in internal combustion and other single acting engines no piston rod is necessary, and consequently the piston is made somewhat in the shape of an inverted bucket, the top transmitting the pressure, while the walls accommodate gas tight packing rings, and the inside, underneath the top, accommodates the gudgeon pin, enabling the connecting rod to be secured directly to the piston.

Piston Ring.—A split metal ring fitting in grooves in the piston, and so proportioned as to spring upwards against the walls of the cylinder or barrel so as to ensure that the piston or plunger shall be a gas tight but sliding fit.

Piston Rod.—The rod connecting the piston with the cross-head, and so indirectly with the connecting rod. It is practically only used in double acting engines.

Piston Speed.—The speed at which the piston travels along the walls of the cylinder is calculated in feet per minute. It is found by multiplying the length of the stroke by twice the number of revolutions per minute of the engine (twice, because the piston makes two strokes—one up and one down—to each revolution of the engine). Formerly 1000 ft. per minute was regarded as the maximum permissible piston speed, but now the tendency is towards far higher speeds in internal combustion engines, in fact over 4,000 feet per minute has been known, for it appears that the limiting factor of such speeds is the number of reversals of stress—first in one, then in the opposite direction—that can take place in the time, rather than the mere rubbing speed between piston and wall.

Piston Valve.—See *Valve*.

Pitch.—When several holes are drilled at regular intervals in, say, a plate, the distance from the centre of one hole to the centre of the next is the pitch. The same word also applies to the distance made by the thread of a screw in a single turn. In gear wheels the pitch may be calculated on the circular or diametral bases, for which see *Circular Pitch* and *Diametral Pitch*.

Pitch Circle.—When two gear wheels are in mesh, there is a plane passing exactly midway between the roots of the teeth of one wheel and the roots of those on the other, and if circles were drawn from the centre of both wheels so as to touch this plane, the circles would themselves just touch each other. These circles show the mean diameter for gear calculating purposes.

Pitting.Is the uneven wearing away of surfaces, nearly always due to corrosion. It is most noticeable on the seating of valves, for here a very little makes a difference, and here it shows itself in tiny hollows and depressions on the surfaces of the seatings. It is due to corrosion from the gases passing over the seating.

Pivot.—The centre on which a lever rotates or oscillates. The same as fulcrum.

Plain Bearings.—Bearings offering sliding contact, as opposed to bearings that depend on rollers contact, like ball or roller bearings.

Planetary Gear.—See *Epi-cyclic Gear*.

Plate.—This word has a fairly wide application. It may be applied to the lead plates or grids in accumulators, to angle plates used in the construction of car frames, to baffle plates, to flitch plates on frames, to friction plates in clutches, or to number or identification plates; or, again, in cab or public service vehicles, to license plates.

Plate Clutch.—A clutch depending for its action on friction applied to the surface of plates. These plates are usually secured to both driving and driven parts of the clutch, and are so arranged that those on the driving can be slid into contact, as required, with those on the driven shaft. The plates are often made of sheet metal if many are used in a clutch.

Platinum.—A rare and extremely refractory metal under heat; consequently it is much used for contact makers and tremblers at the point where the circuit is made and broken and where it is subjected to the great heat of the spark. A great deal depends on keeping the surface of these platins clean and level, to ensure that they give good contact.

Platinum Tipped Screws.—See *Contact and Platinum*.

Plug. (See *Sparking Plug*).—The word is also used for the wash-out plugs in boilers of steam wagons.

Plunger Pump.—A pump from which fluid is forcibly delivered by the action of a plunger working in a barrel into which the fluid is drawn through a non-return inlet valve.

Pneumatic Tyre.—See *Tyres*.

Poppet Valve.—The same as a mushroom valve, a name given it on account of its shape. This is the usual type of valve used on the internal combustion engines of cars. The lower side of the mushroom head, all round near the circumference, fits on the seating, and may be flat or bevelled according to the shape of the seating.

Popping.—When the inlet valve does not close quickly enough before the explosion the beginning of the explosion may tend to escape through the still open

inlet valve, in which case part of the explosion passes through the inlet pipe to the carburettor, causing a "popping" noise in the carburettor.

Port.—A passage formed in the body of the part to which it belongs. More especially applied to the inlet and exhaust passages in cylinders.

Port Bar.—The strip of metal dividing one port from its neighbour. Usually in steam engines.

Port Faces.—The surface in the steam chest through which the opening of the ports occur.

Positive Action.—Action obtained through the medium of solid mechanism. When a valve is lifted bodily by a solid cam bearing against it, it is said to be positively operated—but not if lifted by spring action or suction.

Potential.—Potential may be regarded as the sort of level of electric pressure, and therefore "difference in potential" means "voltage."

Power.—The capacity for doing work. (See **Horse Power**.)

Pre-ignition.—When from any cause ignition occurs too early in the cylinder, it produces an unpleasant knock in the engine, sometimes even stopping it, owing to the explosion occurring too early and tending to drive the piston downwards when it is on its upward stroke, while the engine running in a given direction. Pre-ignition is usually caused by over-heating, which in turn is frequently due to a deposit of burnt carbon on the walls of the cylinder and combustion chamber, such deposit resulting from excess of oil in the cylinder having been burnt and deposited on the walls in the shape of carbon.

Pressure Feed.—See **Feed**.

Primary Battery.—A battery capable of itself generating electric current, as opposed to an accumulator, which is only a medium for storing electricity.

Primary Circuit.—The low tension circuit in an ignition system.

Primary Shaft.—The driving shaft in a gearbox.

Propeller Shaft.—The shaft by which the engine power is transmitted from the gear-box to the live back axle, or to the counter shaft driving the road wheels. Since at its one end the gear-box is secured to the frame which moves up and down on its springs, and at the other the shaft connects with the axle that is supported directly on the road surface without the intervention of springs, there is a tendency for the front end to move up and down relatively to the other. Therefore, owing to the constantly varying angle at which the propeller shaft on a live axle car has to work, universal joints are provided at one or both ends. If only at the front end, provision is made for a slight sliding movement at the other end, as the distance between the driving bevel and the front end of the shaft must vary somewhat with the varying angle of the shaft.

Pusher.—A small wheel designed to drive or be rotated by either flat, V section, or round types of belt for light work, as, for example, in motor-cycle transmission, or for the driving of cooling fans, etc., in car work.

Pump.—In car work pumps are used for the supply of fluid, either water or oil, to the parts requiring it. Broadly speaking, they may be classified as reciprocating and rotary pumps, the reciprocating being of the plunger type (See **Plunger Pump**); while the rotary include centrifugal and the gear pump, for which see under their respective headings. For steam wagons and cars a pump is usually of the plunger variety, and in large wagons sometimes worked directly by a little steam cylinder connected with it. Pumps are also used for the supply of air pressure to tyres or to the oil or petrol tanks. In the latter case they may be driven from the engine, or where exhaust pressure is used, be merely hand pumps to obtain sufficient pressure to start the engine, after which the engine provides the pressure.

Quadrant.—For practical purposes a quadrant in automobile nomenclature means the metal arc which frequently forms the combined rack and index for the operation of control levers, and for holding them in any required position.

Racing of Engine.—Allowing the engine to run over-fast. It sometimes happens when the engine is run-

ning with the clutch out, but engines can be over-driven with the clutch in and the vehicle moving.

Rack.—The word usually given to the serrated quadrant along which the control levers are regulated, the serrations of which hold the levers in any position desired.

Radiator.—An appliance for cooling the circulating water which in being passed through the radiator is split up so as to afford as much contact as possible to the cooling surfaces of the radiator, which obtain their cooling effect from the air.

Radius Rod.—A rod by which the back axle is anchored or held in place more or less in a longitudinal direction, and which also transmits the thrust from the driving wheels to the frame of the car, thus ensuring that the frame and body of the car move with the wheels.

Ratchet.—A wheel with teeth cut in a particular way so as to engage with a pawl only in one direction of motion, and in the other to overrun the pawl. (See **Pawl**.)

Registration.—By law every vehicle running on roads in Great Britain has to be registered and carry an identification number, assigned to it on paying the registration fee.

Regulator.—The throttle. Usually applied to steam cars, in which the word is also applied to the device which governs the amount of air pressure to the burner.

Resistance.—A device to oppose the flow of electrical current. Resistances are usually made variable, and thus can be used as a means of regulating the flow of electrical current. As a resistance in the circuit results in the production of heat, such resistances may also be for warming apparatus, etc.

Retard.—When the timing variation of the spark in the cylinder is so placed as to cause the spark to take place late in the engine cycle of events, it is said to be retarded. With a spark fully retarded, the piston is somewhere on its way along its working stroke before ignition, and consequently explosion takes place.

Reverse Gear.—The mechanism for enabling the car to travel backwards. If a driving gear wheel is rotating in a clockwise direction, the driven shaft will revolve in an anti-clockwise direction, but if the drive be transmitted with an intermediate gear interposed between the driving and the driven shaft, the latter will rotate in a clockwise direction—exactly the opposite to what it did when in direct gear with the driving shaft. It is on this principle—by the introduction of a third gear—that the reverse is obtained in the gear box of a petrol car, and in some steam cars, though, in general, backward movement of the steam car is obtained by reversing the engine through the medium of the valve motion.

Rheostat.—Another name for an electrical resistance.

Rim.—The metal ring or band of flanged section steel that surrounds a wheel and accommodates the tyre. Many of these rims are now made detachable, so that when a tyre failure occurs, the tyre and rim can easily be removed bodily from the wheel, and substituted by another tyre and rim.

Ring Lubrication.—Some bearings, which are designed with a trough of oil underneath but not touching the journal, are provided with flat metal rings hanging from the shaft and dipping into the oil. The rotation of the shaft journal causes the rings to revolve, and thus oil gets carried on to the journal.

Rings.—See **Packing Ring** and **Piston Ring**.

Rivet.—A metal pin connection usually employed for joining metal plates together. The rivet is formed with a head on one side, and is forced through the holes in the plates. The projecting end is then hammered until it also is formed into a head, and between the two heads the plates are tightly gripped. The heads may vary widely in shape. Rivetting may be done either hot or cold. In the former case, the rivet is cooling tends to contract and grip the plates very tightly.

Rocking.—See **Rocking Lever**.

Rocking Lever.—A rocking lever is a lever made with a shaft as a fulcrum, and around this shaft it

oscillates, or, if made in one with the shaft, it oscillates with the shaft in bearings around the latter.

Roller Bearings.—Are bearings in which the sliding action of the ordinary plain bearing is supplanted by the rolling action of rollers, in a way exactly similar to that of ball bearings, but whereas each ball gives little more than a point of contact, every roller affords a contact line of appreciable breadth.

Roller Chain.—In a block chain the metal blocks that come in between the teeth of the chain wheel, when working, involve a more or less sliding contact against the surfaces of the chain wheel teeth. To overcome this, the roller chain has been introduced. In this, hardened steel rollers capable of easy rotation on steel bushes are substituted for the blocks, and the teeth of the chain wheel are modified accordingly. Thus the working contact between the chain and the teeth is one of rolling, not sliding contact.

Rotary Pump.—A pump in which the fluid is pumped by rotary action.

Rotary Valve.—A type of valve of which we may see more in the future. It is usually employed for regulating the supply and escape of gases for the cylinder, and this is effected by revolving in a cylindrical chamber in which ports are cast. As the valve itself also has ports which register for those in the chamber at the proper moments, it is enabled by its rotation to regulate the passage of gases to and from the cylinder.

Rubber Tyres.—Solid rubber tyres as opposed to pneumatics are used largely on industrial vehicles of all sorts, especially on the heavier types. It is worth noting that vehicles above 2 tons in weight, if fitted with rubber tyres, are still allowed a speed of 22 miles an hour, which is considerably more than that permitted with hard tyres. The law here makes a practical difference between rubber and metal tyres.

Runabout.—A small type of car generally intended for light touring work.

Safety Valve.—A fitting applied to boilers to enable superfluous steam to be discharged as soon as the pressure exceeds a certain working maximum, at which the valve is set. This setting is obtained in the case of motor vehicles by calibrated springs which hold the valve on its seating until the maximum boiler pressure is reached.

Saloon Limousine.—A limousine in which all the seats are enclosed.

Saturated Steam.—Steam that is not superheated. (See **Superheated Steam**.)

Screen.—A glass protection placed in front of the driver, and usually nowadays so devised as to be put at any required angle. Wind screens are often made in two pieces, each of which can be set at any angle to the other. They are also sometimes employed to protect the occupants of the back seats of a car from the weather.

Screw.—A screw is too well known to need description, but it may be pointed out that its principle is absolutely only that of the inclined plane or wedge, following a circular path instead of a straight one. There are various sorts of screws, as, for example, the adjusting screw (the purpose of which is obvious from its name); counter-sunk head screw, which has its head fitted in a counter-sunk recess so as to leave it flush with the surface; the cone screw, the grub screw, the set screw, and many others.

Screw Thread.—The thread of a screw is the outstanding part in the shape of a coil, which fits into a correspondingly shaped helical recess in the hole that accommodates the screw. Into this it threads.

Scuttle Dash.—A term applied to the type of dash board which more or less merges into the bonnet at the front, and in being carried backward practically follows the lines of the car body.

Seating.—See **Valve Seating**.

Secondary Battery.—An accumulator.

Secondary Circuit.—High tension circuit.

Sectional Tyre.—See **Block Tyre**.

Selector.—The word is sometimes applied in the same sense as the word "quadrant," but at other times, as when used of a reversible steering gear, it is really a section of a gear wheel acting as a lever with teeth suitably cut.

Seize.—When a piston or bearing is overheated

from any cause, so that it binds tightly in its cylinder or bearings, it is said to have seized.

Selector.—In modern change speed gear each change in speed is generally obtained by sliding one or other pair of gears into mesh with each other, each separate slide being effected by its own separate fork. The sliding guide or selector rods, which usually lie horizontally, are slotted at their outer ends, and these slots are so arranged as to lie in a line, and thus the selector (worked by the driver from the change speed lever) is free to slide into the slot in any required rod as desired. Sometimes the selector rods are substituted by levers which have slotted or forked ends.

Self Starter.—A device for turning the engine crankshaft to start the engine, instead of by the usual crank handle. Engine starters may be either mechanical, using the stored energy of a spring compressed by foot; they may depend upon compressed air admitted to the engine cylinders, or to the cylinders of a little subsidiary starting engine (usually with a pinion on its shaft in mesh with the gear ring on the engine fly-wheel), or they may be electrically worked, in which case they usually also act through a pinion in mesh with a gear ring on the fly-wheel circumference. For power, they depend on accumulators, and consequently the electric starter is often combined with the electric light equipment of the car.

Series.—When a battery is connected up with the positive pole of one to the negative pole of the next cell and so on, the battery is said to be connected up in series, as opposed to being connected in parallel.

Series Wound.—Electricity is produced if an iron bar be passed between the poles of a magnet. The stronger the magnet the more work has to be done in passing the bar between the poles, and the more electricity is produced. Magnets are of two sorts, permanent or electro magnets, and the latter, which are much the stronger, depend on a current of electricity being passed along an insulated circuit or winding passing round and round them. When this winding is made part and parcel of the main circuit of the dynamo, the machine is known as a series wound dynamo.

Set Screw.—See **Screw**.

Shackle.—A shackle is a double link joint like the connection of a spring to the frame.

Shaft.—There are many types of shaft in motor work. There is the cam shaft (see under that heading) driven from the crank shaft, which in turn drives the shaft upon which the clutch is mounted—the clutch shaft. This occasionally is the one with the primary shaft in the gear box, whence the power is taken through gears to the secondary shaft or lay shaft. On leaving the gear box it may be carried either to the counter-shaft, which lies across the frame of the car and is provided with a balance gear (to enable the power to be transmitted by side chains to the rear wheels), or the propeller shaft—otherwise known as the cardan shaft—may take the drive to the shafts of the rear live axle, which latter are usually connected up by the casing of the balance gear.

Shaft.—See **Eccentric**.

Shock Absorber.—A device usually of the dash pot variety (See **Dash Pot**) to deaden the action of the axle springs in their recoil. It is most desirable that the springs should act over road inequalities as quickly as possible, but it is also most desirable that they should return to their position quietly.

Short Circuit.—When a current of electricity, instead of traversing the entire circuit intended, leaks at some point and so returns by a short cut, it is called a "short circuit," or "short" for brevity. The terminal may become loose, touch the frame and short circuit the current, or the wire may fray and a strand touch part of the frame or engine. Or, again, a short circuit may be caused by rain falling on the sparking plug and acting as a path for the electricity. Short circuits usually show themselves by irregular misfiring in the cylinder affected thereby, but sometimes one gets intermittent shorts, which is evidenced only by occasional fits of misfiring and again, or by a solitary misfire at considerable intervals.

Shunt.—A shunt is a loop line, as it were, from off the main electric circuit. One most generally comes across it in connection with the term "shunt-wound."

Shunt Wound.—When the windings round the poles of the magnets in a dynamo consist of a shunt from the main circuit, the dynamo is said to be shunt wound. (See **Series Wound**.)

Side Slip.—This takes place when the tendency to sideways movement of the car is greater than the adhesion of the wheels on the road surface. Consequently it takes place on slippery surfaces, and can be counteracted to a considerable extent by roughening the surface of the tyre to enable it to obtain a better grip on the road, also by careful braking.

Sight Feed.—A device generally used in conjunction with lubricants to show that the supply of oil is being duly passed to the engine and bearings. It usually takes the form of a glass tube. As it is let into the pipe line, as it were, one can see the oil passing to its destination drop by drop. Sight feeds are often provided with fine adjustment for regulating the oil flow.

Silencer.—The metal box into which the exhaust gases from the engine are passed and expanded before going out into the atmosphere. Some silencers merely depend for their silencing action on allowing the gases to expand in them, so that they can then take their own time more or less in flowing out into the air, while others depend upon baffling them, while others combine both these systems.

Silent Chain.—The more correct term for the silent chains that have recently come into so much favour is "inverted tooth chains." In these chains the links are made up of metal plates, shaped at each end with tooth projections facing inwards towards the centre of the chain wheel when in action. These toothed plate links are threaded on steel bushings or rockers which minimise friction, and are so arranged that they alternate in direction; that is to say, if one plate stretches to the right, that next to it stretches to the left, and these plates being similar at both ends, the same arrangement occurs at each end of the links, and so on until the chain is completed. Now as these links swing on their bushings, or rockers, with any movement of the chain, they adjust themselves to the pull of the chain or to the surfaces on which they bear; thus when wear occurs to the chain wheel they are, by this facility of self-adjustment, to some extent independent of any consequent loss of pitch.

Single Cabriolet.—A cabriolet with no light or window in the quarter behind the door.

Single Landulet.—A landulet with no light or window in the quarter behind the door.

Skew Gear.—Skew gear is an arrangement of spur wheels in mesh with each other, the spur wheels having their teeth cut diagonally across the face of the wheel circumference, so that each tooth comes gradually into engagement with its companion tooth on the other wheel instead of coming suddenly into action all along its length, as in the case of the ordinary straight-cut teeth of gears. If the teeth are cut at a sufficiently acute angle across the face of the circumference, or the circumference face is sufficiently broad, each tooth amounts to a screw thread.

Skid.—Another word for side-slip.

Sleeve.—A casing, usually surrounding a shaft and generally capable of sliding along that shaft. The best examples of sleeves are found in gear boxes.

Sleeve Valve.—Besides the ordinary steam slide valve, which is well known, recent years have brought us slide valves for internal combustion engines, and the best known of these is the system in which the valves constitute sliding liners in the cylinder and surrounding the piston. These valves are made to slide up and down, and are formed with ports cut in them in such positions that at the right moments in the valve movement these ports register with passages, permitting the inlet or escape of gas, as the case may be. Slide valves may also be arranged to work in separate chambers. (See **Valve**.)

Slip.—Sometimes when a clutch is put in very violently and the surface of the road is slippery the driving wheels momentarily revolve without biting the road; they are then said to be slipping. The word is also used loosely for side-slip. When the friction in a clutch is from any cause inefficient and the surfaces of the driven member do not grip, conditions also result in what is known as "slipping of the clutch." Sometimes

in changing gear it is desirable to slip one's clutch slightly, and this can be done by almost taking it out of engagement, or holding it in very light engagement.

Snug.—A small projection sometimes fitted on bolts to prevent their turning round in their holes.

Soap Stone.—An insulating material at one time considerably used to form the bearing upon which the rocking shaft for the igniter passed through the walls of the cylinder in low tension systems of magneto ignition.

Socket.—See **Ball and Socket**.

Solder.—A mixture of 66 parts of lead to 34 of tin used for joining metals together where no particular strength is required, but where an easy and quick process is desirable. A flux is necessary in connection with this process, the flux varying with the metal to be joined up. Spirits of salt, "killed" by dissolving as much zinc therein as the spirits will hold in solution, is used for soldering iron and brass; sal ammoniac for copper; but when iron is soldered it must first be tinned. In any case absolute freedom from dirt and grease is necessary where the solder is to be applied. Only quite a moderate temperature is required.

Soldering Bit or Soldering Iron.—Somewhat of a misnomer, as it is usually of copper, of sufficient mass to hold a considerable amount of heat for soldering purposes.

Soldering Lamp.—The blow-lamp used for soldering.

Solution.—A word usually applied to rubber in more or less liquid form. It was formerly much used for applying patches, but for this it has been generally superseded by the vulcanising process. It consists of pure rubber dissolved in spirits.

Sooting.—The deposit of carbon in the cylinder, owing to impurities such as too much oil, etc. Its presence is particularly felt when the sooting is deposited on the sparking plug and affects the regularity of the firing.

Sparking Plug.—A sparking plug is the device by which the electric current for the ignition is carried from the outside to the inside of the cylinder (leaving the latter gas-tight) and also affords the point at which the spark is produced. Ordinary sparking plugs afford a connection for the high tension wire at its outside end, where a central insulated wire carries the current to the inside of the cylinder. The insulation is unusually very thick and very refractory under heat, for with the continuous explosions in the cylinder the sparking plug becomes extremely hot. The insulating material is held in a metal body which screws into the cylinder metal, making with the aid of a copper and asbestos washer on the face of the metal a gas-tight joint, and, as the heat to which the plug is subjected causes expansion of the insulation, provision also has to be made for this in the design of the sparking plug.

Spark Timing Variation.—At its full speed the internal combustion engine is running so fast that the crank pin and piston have travelled quite an appreciable distance in the interval between the passing of the spark and the time that the explosion begins to take full effect. Consequently, at high speeds the spark should occur in the cylinder earlier in the cycle of engine events than at slow speeds. Now the contact maker is practically made up of two main parts, the one rotating with the cam-shaft, the other fixed. If, therefore, the fixed part can be made so that it can be rocked slightly in order that the fixed and rotating parts make the contact earlier or later as required in the revolution of the engine, this variable timing will have been achieved, and this is exactly how it is effected.

Specific Gravity is the basis of relative weight. We take the weight of water as the standard unit, calling it 1, and if a good bulk of any substance weighs half as much as the same bulk of water, then its specific gravity will be half (0.5), if a quarter, 0.25, and so on.

Speed.—In the United Kingdom cars are restricted by law to a maximum speed of twenty miles an hour for cars up to two tons in weight. Above that weight up to five tons, twelve miles per hour has to be observed if the tyres are of rubber or soft material, whilst, if of hard material, eight miles per hour is

permitted to vehicles of from two to three tons weight unladen, and five miles per hour for three to five-ton cars. All vehicles hauling trailers are restricted to five miles per hour.

Speedometer.—An instrument for measuring, and often for recording, the speed of a car. It should preferably be worked from the propeller shaft, as the back wheels may give a certain amount of slip, and the front wheels are objectionable for the purpose owing to the necessity for them to swivel.

Spigot.—When the end of one pipe fits inside the beginning of another pipe, as in ordinary water mains, etc., it is called a spigot joint, and when one shaft at its end is hollowed out to provide accommodation for a bearing in which the end of another shaft shall rotate in alignment with it, it is called a spigot bearing. Spigot bearings are often found in gear boxes between the driving and driven ends of the divided gear box shaft.

Spiral Gear.—A misnomer frequently used for skew or helical gear.

Spiral Spring.—A spring the shape of the main spring of a watch.

Splash Lubrication.—See Lubrication.

Split Pin.—See Pin.

Sprag.—A device for preventing a car from running backwards down hill. In the older designs of cars the sprag was a stout steel rod that could be let down at will so as to dig into the road if the car ran backwards, but nowadays a ratchet mechanism is more generally favoured, in which a pawl can be let down at will on to the teeth of a ratchet, which latter, if the car attempts to run backwards, is prevented by the pawl from rotating backwards, and thus any movement is stopped.

Spraying Chamber.—The same as the mixing chamber of a carburettor.

Spring.—Springs are of many sorts. Firstly, there are springs for supporting the frame and carriage on the axles. These may represent a single arc of a circle, in which case they are called half elliptic springs, or there may be two half elliptics opposed to each other and meeting in a knuckle joint at each end; they are then called full elliptic springs, while, if instead of a dumb iron a short spring of approximately the same shape as the dumb iron is substituted therefor and connected with a half elliptic spring the result is a three-quarter elliptic spring. See springs are so called from their similarity to the letter "C," the body being suspended from the upper end of the C. For carriage suspension and mechanism helical, volute, and spiral springs may be used, the volute spring being like a helical spring, the coils towards one end becoming smaller and smaller in diameter. This form of spring has much to recommend it for some purposes, for the larger coils are the first to deflect and it is only as the load increases that the smaller coils come into action; thus a well graduated effect is obtained. The term spiral spring is often used to denote a helical spring, but it should in reality be confined to those springs similar in shape to the mainspring of a watch. Helical and volute springs of round section steel are most generally employed for the important purpose of bringing the valves back to their seatings after the cam or engine suction has lifted them.

Spring Drive.—In some cars the power from the engine, instead of being transmitted through more or less rigid mechanism to the wheels of the car, is taken up by interposing springs which somewhat reduce the shock of any sudden application of power. This, it is claimed, prolongs the life of the tyres.

Spring Washer.—A washer designed so as to exercise a spring effect on the nut or bolt to which it is fitted, so that the nut is pressed hard against the sides of the thread and so prevented from working loose.

Spur Gear.—Wheels for this purpose are known to a good many as cog wheels.

Staggered.—Spokes are said to be staggered when they are alternately sloped or inclined in opposite directions to each other, the one tending to lean over from right to left, its neighbour from left to right and so on.

Starter.—See Self Starter.

Stauffer Lubricator.—The caps fitted to bearings for the supply of grease. The tops of these caps are made so that they can be screwed down and so squeeze the grease into the bearing.

Stay.—A member used to hold or steady any one part of construction relatively to another part. The word should be confined to those staying members only that are in tension. See Strut.

Steam Chest.—The sort of box, attached to the cylinder, in which the slide valve works.

Steam Engine.—See Engine.

Steam Pump.—See Pump.

Steel.—A metal widely used in motor car construction owing to its strength. Ordinary steel is iron chemically combined with carbon which has a hardening effect, but as the proportion of carbon is only a matter of degree, steels vary enormously, from mild steel, which is practically little more than wrought iron and is comparatively soft and tough, to high carbon steels used for tools which are extremely hard, and though possessed of great strength have not the toughness of the milder metal (see **Crucible Steel**). This last sometimes is called cast steel, but there is also another form of steel which is cast in much the same way as iron to obtain complicated shapes. To differentiate, it is most convenient to call this last material steel casting as opposed to cast, crucible, or tool steel. Such steel castings are different in their nature from iron castings, being much tougher and capable of being bent. Tool steel is made by melting down comparatively high carbon blister steel in a crucible. Mild steels are usually made by the Bessemer or Siemens process, the latter being more general. Between the mild and high carbon steels is an infinite range of carbon contents with consequent variety of strengths and elasticities.

Steel Castings.—See Steel.

Steering Column.—The hollow column carrying the steering wheel at its top, and incidentally also generally accommodating the levers for operating the engine.

Steering Connecting Rod.—The rod connecting the lever arm on one of the steering rod wheels with the lever operated by the movement of the steering wheel on top of the column.

Steering Coupling Rod.—The rod connecting the lever arms on each of the two steered rod wheels.

Steering Gear.—The mechanism used for directing the car as required. For lighter cars it is practically invariably of the Ackermann type with the centre part of the axle rigidly secured to the springs and only the stub ends of the axle, secured to the centre part by enlarged and exceeding strong knuckle joints, capable of movement. In the theoretically correct steering gear a line prolonged through the centre of the axis of the pivot on which the steering axle swings should coincide at the ground with the vertical axis of the wheel (see also **Irreversible Steering**). In many heavy steam wagons and tractors the whole front axle pivots on a centre pin, movement around this centre being controlled by the driver through chains wound round a drum so that when the chain on the one side is slack the chain to the other side of the axle is correspondingly tightened.

Steering Lock.—The maximum angular amount that the front or steered wheels can swivel round from side to side. It is sometimes indicated by the minimum circle in which the vehicle can turn.

Steering Wheel.—The wheel at the top of the steering column, by the rotation of which the driver controls the direction of the car.

Stop Valve.—A screw down valve for shutting off steam supply.

Strainer.—See Filter.

Striker.—A name sometimes given to the selector arm or lever. Also the arm of the rocking lever through which in many valve systems, the valve is actuated from the cam. The word also applies in low tension magneto ignition to the arm of the rocking lever which breaks the contact inside the cylinder.

Striking Fork.—The forked lever or rod that slides the gears in or out of action.

Striking Rod.—The same as a selector rod.

Stroke.—The full travel of the piston. It equals the diameter of the circle described by the crank pin. The ratio between stroke and bore is one of great importance in engine design. Of late years the tendency has been to make the stroke longer and longer relatively to the bore, and this has certainly led to an extremely efficient engine.

Strut.—A constructional member used to hold and steady one part of a construction relatively to another. The word, however, should only be applied to those steadying members that are in compression. (See **Stay**.)

Stub Axle.—The short swivelling axle on which each steering-goad wheel runs.

Stud.—A headless bolt screwed into a casting or main construction and left with a considerable length projecting, this length being screwed. The part secured by the studs is drilled so that it can be passed over the stud, and nuts screwed on to the projecting ends of the studs, holds it in place.

Stuffing Box.—See **Gland**.

Sub Frame.—See **Under Frame**.

Surface Carburettor.—See **Carburettor**.

Suspension.—Generally the supporting of the frame and body on the axles. In automobiles this is invariably carried out through springs, which may be arranged to support the frame either at three or four points. The three point suspension was at one time greatly in vogue, but is now not so widely used. The word is also used to designate the manner of securing engines or gear boxes to the car frames. As it is impossible to make a frame absolutely rigid some makers secure these details to their frames at three points only to allow the frame its inevitable "whip" without unduly stressing gear box or engine. This three point suspension is, however, only used for engines up to a moderate size.

Sulphating.—The action that takes place in the plates of an accumulator when ill-used or neglected. It is evidenced by white, either in spots or in a film on the plates. In such case the accumulators should be run out, and any loose pieces removed, then filled with fresh acid solution and charged at a low rate until the plates resume their normal appearance.

Sump.—A word in the bottom of the crank case.

Superheated Steam.—Ordinary steam at any given pressure has its corresponding temperature, and if the steam falls below this temperature, condensation begins; consequently pressure falls. If therefore such steam does any work, that work absorbs heat, the temperature drops, the pressure falls and a certain amount of condensation takes place leading to further losses. To avoid this, it is possible to impart to the steam a surplus amount of heat, raising its temperature to considerably above the normal point. Such steam in working has a margin of heat in hand and will not condense as easily as ordinary saturated steam. It is therefore more economical if the additional heat can be supplied economically.

Superheater.—A device for superheating the steam, sometimes found in the smoke box of large capacity boilers on road vehicles.

Tail Light.—A light that has to be carried by law on machines in this country at night, and lighted with the other lamps, within an hour after sunset. It must be so arranged as to illuminate the back number plate, and also to show a red light at the back.

Tappet.—The mechanism conveying to the valve spindle the movement imparted by the rotation of the cam. It is usually a plunger rod, with a roller bearing on the cam surface, and is generally made of adjustable length so as to leave as little space as necessary between its face and the bottom of the valve spindle. It works in tubular guides made as long as possible, and a good deal of the quiet running of the engine depends on the tappet design. Many are fitted with springs inside so as to come into contact more gently with the bottom of the valve spindle, and where the latter comes in contact are frequently provided with fibre surfaces to reduce noise.

Tare.—The weight of a vehicle when empty. It really represents the non-profitable but unavoidable load.

Tension is a direct pulling stress.—The words also apply to what we may call electric pressure, in other words, voltage.

Terminals.—The metal attachments fitted to the end of electrical wires to connect them.

Testing.—The verification of the correctness of every adjustment in a car. Also to a lesser extent the determination as to whether any of the material used is faulty. In manufacturing, testing usually is divided into engine testing and chassis testing. The engine when assembled is bolted to a stand and run some hours under its own power and slowly. This is known as "running in" and smooths down the lesser inequalities of the bearings, pistons and cylinders. Then the fly wheel is coupled to any convenient mechanism for absorbing a measurable amount of power. This may consist of a dynamo, the electrical output from which can be measured, a frictional brake in which the power absorbed is measured by springs or weights, an air brake (in which a fan is used that is known from previous determinations to absorb a given amount of power when driven at a particular speed), or, lastly, an hydraulic brake may be used, though this is unusual. The horse power developed at different speeds is then measured to see if it is satisfactory, and should it not be so adjustments will be made until it is considered right. Often there is then a run of several hours under full power, this being intended, if possible, to develop any weakness which may be latent in the engine but undiscovered during the "running in." Then when the engine is in the chassis and the latter has been fitted with a rough body a road run is taken to see whether the other parts of the car perform properly, whether all the control levers work smoothly and without difficulty and whether the gears are reasonably quiet in action, whether the steering is as free and accurate as it should be, and so on. This road test, of course, also is liable to develop latent weaknesses due to bad material. Usually considerable adjustment is made during the road test to one part and another and the manufacturer commonly employs quite a small staff of experienced men who take every car for a short road run to pass it before it leaves the factory.

Thermal Efficiency.—The thermal efficiency of an engine or system is the proportion of the total amount of work got out of it compared to the total amount of work put into it as represented by the thermal value of the fuel put into it. For instance, suppose an engine burning 1 lb. of coal per minute develops 33 horse-power, and the value of the coal represents 14,000 British Thermal Units (nearly 11,000,000 foot pounds of work, or nearly 330 horse power) the thermal efficiency is 10 per cent.

Thermo-Dynamics.—Heat and work are mutually convertible. The work done by a brake block in retarding a vehicle generates heat which may leave the brake block almost red hot; on the other hand, the heat in a fire box is, through the medium of expanding steam, converted into work by the engine. These are only two familiar examples of a universal law. But we know the exact quantity at which heat and work can be exchanged; 772 foot pounds of work will generate sufficient heat to raise one pound of water 1° F. temperature. This capacity to make a pound of water one degree is taken as the unit of thermo-dynamics, and is known as the British Thermal Unit, otherwise B.T.U. Now a horse-power represents the capacity for doing 33,000 foot pounds of work in a minute; therefore the capacity to impart about 43 B.T.U.'s per minute represents the equivalent of a horse-power. If all the heat in a pound of coal could be used up it would amount to about 14,000 B.T.U., and a single pound of coal represents the capacity for doing nearly 11,000,000 foot pounds of work, and if burnt in one minute, nearly 330 horse-power.

Thermo-Syphon.—See **Cooling System**.

Thread.—See **Screw-Thread**.

Three-Quarter Cabriolet.—A cabriolet with a window in each quarter behind the doors.

Three-Quarter Landaulet.—A landauet with a window in each quarter behind the doors. Sometimes called a limousine-landauet.

Three-Quarter Limousine.—A limousine with a window in each quarter behind the doors.

Throttle, or Throttle Valve.—The regulator

of an engine. It is usually either a flap rotated on its axis, and so in one position blocking the pipe while in the extreme opposite position it only presents its edge to the inflowing gases, or it may be a piston sliding in a tubular passage, longitudinally or rotatorily, and uncovering ports therein as required.

Thrust.—Some shafts are subjected to a force acting along their length, as, for instance, is usually the case with the clutch shaft. This is known as thrust.

Timing.—This word is applied either to the ignition of the valve mechanism. As regards ignition, see **Spark Timing Variation.**—The timing of valves differs on different engines. As a rough general rule the exhaust valve should begin to open when the crank pin is at about 45 degrees from its bottom dead centre, and should shut over the top stroke, while the inlet valve should open just after the exhaust valve has shut and should close at the bottom of the stroke. By drawing full sized a diagram of the circle described by the crank pin, the position of the piston in the cylinder at any of these points can be obtained, and by inserting a wire spoke through the compression cock in the top of the cylinder the piston position can be shown from outside. Then by altering the timing of the gear wheels driving the cam shaft the valves can be arranged to lift at the right moment.

Toggle Joint.—A toggle joint is a device used where considerable power is required, as, for instance, in applying brake shoes to their drum surfaces. It consists of two short and strong rods hinged together at one end. In the case of brake blocks the outer ends connect one to each block. The toggle links are at an angle to each other, and when the power is applied it tends to force them into a straight line. The result is that the ends tend to move further apart and are moved outwards with great force, thus pressing the brake shoes against the drum. The whole principle depends on straightening out two links originally at an angle to each other.

Tool Steel.—The same as crucible steel, and capable of being tempered and rendered very hard. —See **Steel.**

Torque.—This is the turning effort on the shaft or rotating part. It is a factor in which the distance at which the force is applied from the centre—in other words, the leverage—is an important influence; in fact, torque is made up by the turning force applied, and the distance at which it is applied from the centre of rotation.

Torque Rod.—In a live axle there is a tendency for the drive to twist the axle round with the driving shaft, in the direction of the latter's rotation; that is to say, to whirl the axle transversely around across the car, like the hands of a clock. To avoid this, torque rods are fitted. Usually they are led through the top and bottom of the balance gear casing to a pivot of one of the cross members, a spring being frequently employed to ease the stresses.

Torque Tube.—Sometimes, instead of a rod, a neat tube encasing the propeller shaft is employed, although to call it torque tube is generally somewhat of a misnomer, for the ordinary torque tube, although it acts as a distance piece similarly to a radius rod, does not usually do much to counteract torque.

Touring Car.—A term generally denoting a car with an open body, usually fitted with a cape cart hood.

Tractive Resistance.—The resistance which the road wheels of cars experience from the surface of the road. The tractive resistance for solid tyres is about 3 per cent. more than that for pneumatics. As the diameter of the wheel increases so the resistance decreases, and up to certain limits the resistance also decreases with increase of breadth of tread.

Trembler.—The device used for breaking the circuit. With contact makers of the make and break type (see **Contact Maker**), the trembler is the contact maker, but with wipe contacts the trembler is placed on the coil where its action is as follows:—When the wipe makes contact, the current passes in the coil and magnetises the core. The trembler is then pulled down against the core and so breaks the circuit. When the circuit breaks, the core ceases to be magnetic; the trembler then springs away from the core, and by making contact joins the circuit up

again with the result that the core is again magnetised, and the whole process repeated. All this happens tremendously rapidly so that the coil in breaking from contact to core and back again, does so so quickly as to emit a continuous buzz, the note of which affords a gauge of the efficiency of the trembler's working. When working well, the trembler should emit a fairly high note.

Trip Rod.—The rod in certain forms of low tension magneto ignition, by which the movement of a cam is transmitted to the rocking lever inside the cylinder so as to move the lever and by thus breaking the circuit to cause a spark.

Trunnion.—A Journal secured to a part to enable it to be swung or oscillated on the centre of that journal.

Tube Ignition.—In the early days of the automobile, the charge from the cylinder was exploded, in most cars, by means of a tube kept red hot by a lamp placed at the side of the cylinder. To resist the heat these tubes were of platinum, and consequently very expensive. Tube ignition is now obsolete.

Tuning Up.—Adjusting a car, more or less by trial and error in running it, so as to get the best possible results on the road.

Turn Buckle.—A device for tightening up wires or any thin diameter rods that are merely acting in tension, as, for example, the brake pull rods. Into each end one of the halves of the rod is screwed, but a right hand screw is used for one, and a left hand screw for the other, rotating the turn buckle in one direction forces them apart, whilst if the other it pulls them together, and so tightens them as required.

Two-Cycle Engine.—In a two-stroke engine an explosion occurs in each cylinder once for every revolution of the crank shaft; consequently the engine cannot have a suction and compression stroke, as in the four cycle type. In this engine compression usually in part takes place in the crank chamber, or by a separate compression pump, and as the piston is forced down by the explosion the exhaust port is uncovered by the piston, while almost immediately after the inlet connecting the crank chamber with the cylinder above the piston is uncovered. A baffle plate, however, prevents the inflowing gases from reaching the exhaust port at first, and before any serious loss could take place, the exhaust port is covered up by the piston moving on its up stroke.

Two to One Gear.—The same as **Distribution Gear.**

Two Way Cock.—A cock or tap enabling fluid passing through it to be made to flow in either of two directions at will, or to shut it off entirely.

Tyre.—One of the most important features of motoring. Rubber tyres are pneumatic or solid, but in some cases, on heavy utility vehicles, iron or steel tyres are used. In the heavy vehicle class, the speed may depend on the sort of tyre usually the rubber tyre is fitted to any vehicle up to the final weight limit of five tons, it may run at the maximum twelve miles an hour, whilst if steel or very hard tyres are used, the speed has to be kept down to five miles per hour, for vehicles of three to five tons unladen weight, and eight miles for machines of from two to three tons weight unladen. On heavy wagons and lorries, if fitted with strokes the latter must comply with the regulations as to distance apart, &c.—Amongst the solid rubber tyres there is a considerable variety: there are single and twin tyres, the latter for heavy loads on back wheels (twins are seldom used on front wheels). Then there are the sectional, or block tyres (see under that heading), and others in which the tyre consists merely of a series of rubber section pads projecting through the steel of the rim.—The pneumatic tyre is composed of an inner tube with valve, which latter when in position passes through the felloe of the wheel, and the outer cover which is of rubber and fabric thickened at the edges so as to form a beading fitting into corresponding grooves in the rim of the wheel. The arrangement of the beading is such that the pressure of the tyre tends to hold it in position in the rim, and the higher the pressure, the tighter the tyre holds. The fabric is introduced into these outer covers particularly for protection, but partly to render

them inextensible. The inner tube is usually only of rubber, and would stretch to bursting point when pumped up, if not restricted within the outer casing. In fact, if there is a large hole in the outer casing there is a risk of the inner tube bursting through this. To guard against such contingencies of late years some inner tubes are reinforced with fabric all along the outer part of their circumference, so that whilst the fabric does not prevent their being fully blown up, it prevents the tube being stretched beyond a given degree.

Under-Frame.—A small sub-frame placed in between the main longitudinals, and usually carrying the engine and gear-box, but sometimes only taking one of these details.

Under-Shield.—A sheet metal protection, in some cars made in one with the metal from which the frames are hydraulically pressed, to guard the engine and gear-box from underneath against stones, mud, and wet from the road.

Union.—See Joint.

Universal Joint.—A joint to impart flexibility to a rotating shaft. It is, in fact, a double-angle joint, similar in principle to gimballs of a compass. The shaft is connected to a pin in such a way that it can swing around the pin in one plane—say in a plane, for the moment, horizontally transverse to the car—whilst the pin itself is free to turn in a vertical plane at right angles to the other. Thus the shaft is doubly jointed to allow it to swing sideways, both right and left, and up and down—in fact, in any direction required. An important point about a theoretically perfect universal joint is that the axes of these two joint pins should lie in the same vertical plane.

Valve.—There are many kinds of valve. Valves in general are for regulating the flow of fluid, whether liquid or gaseous, the simplest being the non-return or check valve, which is simply on the principle of a door, only opening one way, and so only allowing flow in one direction. Such valves are usually pushed open when the pressure exceeds a certain amount, and shut down on their seating as soon as any fluid tends to flow back. They may be adjusted to open at a given pressure either by making them of a certain weight or by controlling them with a spring. There are several sorts of these valves. The flap valve actually is a door, only opening one way. Then there is the ball valve, frequently falling back on to its seating by its own weight, and the mushroom valve, either working by weight or by a spring. The name is most frequently given, however, to the valves which regulate the supply of gases to the engine, enabling it to work. In an internal combustion engine they are usually of the poppet type, lifted at the required moment by cam action, and returned to their seating (which is either conical or flat) by a spring. For inlet valves, however, the automatic type is still sometimes used. It is provided with a much weaker spring, to enable the valve to be opened by the suction of the engine. Of late years, slide and piston valves have also been introduced in internal combustion engines. The slide valves are usually made to slide up and down between the cylinder walls and the piston, by eccentric rods working off the distribution shaft in such a way as to uncover inlet and exhaust ports at the required moment, the ports or passages being shaped so as to maintain the opening for the required interval. Piston valves (which are nothing more than pistons uncovering passages at the required moments), are also worked in the same manner in some engines, the pistons sliding in their chambers. Then there are rotary valves, which continually revolve in one direction, and at the correct time allow passages cast in them to register with passages in the cylinder so that the gases flow into the cylinder or escape out of it as required.—In steam engine practice we get rather different kinds of valves, the usual being the "D" valve, made to slide on flat surfaces in which are passages for the flow of the steam, the valve regulating the supply and exhaust at the required moment. In some steam engines piston valves are employed, the idea in this case being merely an elaboration of the "D" valve, for the piston valve is made round with passages formed in it to give the required openings to inlet and exhaust at the correct times and for the

correct intervals. The ordinary "D" valve is exposed to the full pressure of the steam, and has to work with this full pressure upon it. It is, however, sometimes balanced or made to press against faces on both sides to avoid this. The piston valve has the pressure equally all round it and at both ends, so that it is self-neutralised, or balanced, and from this point of view is preferable to the "D" valve.

Valve Face.—That part of a valve which comes in contact with the seating and which does the actual cutting off of the supply of fluid. Usually applied to "D" valves in steam engines. It virtually corresponds to the seating of poppet valves.

Valve Chamber.—The cavity in which the valve is placed; usually applied to internal combustion engines.

Valve Chest.—The kind of box in which the valve of a steam engine works, and from whence it distributes the steam to the cylinder. Also called the steam chest.

Valve Lift.—A term applied to mushroom valves to indicate the maximum amount by which they are raised from their seating when at work. With round valves this lift multiplied by the circumference represents the maximum opening given by the valve.

Valve Motion.—This term is usually applied to steam engines to designate mechanism actuating the slide valves for distributing steam to the cylinders.

The most simple means of doing this is by a single eccentric and rod so placed on the crank shaft as to give the valve correct timing. Such an arrangement does not allow the engine to be reversed unless the eccentric sheaf (see **Eccentric**) is made so that its angular position on the crank can be altered, to enable it to be regulated into a position suitable for the engine when running in reverse direction. Such an arrangement is known as a "shifting eccentric."

The ordinary reversing valve motion, commonly known as the "Stephenson link motion," is provided with two eccentrics and rods, the one affording full forward motion, the other full reverse motion. The rods at their ends are connected to a quadrant shaped link, which is connected with the valve spindle in such a way that the link can be moved so as to bring either one or other eccentric rod directly into line with the valve spindle, in which case that particular rod is exerting its full influence. Suppose the quadrant link is positioned so that the reverse eccentric rod is in line with the valve spindle: the engine is then in full reverse gear. Now if the link is raised so as to take the reverse rod more and more out of line with the valve spindle, and the forward eccentric rod more and more into line with the valve spindle, the influence of the reverse becomes less and less, and that of the forward gear more and more. When in full reverse steam was not being cut off in the cylinder until near the end of the stroke, but as the link is "notched up," as it is called, and the reverse actuating rod left less and less in action, the cut-off of steam takes place earlier, thus permitting more expansive working of the steam. When the link is moved, so that the valve spindle end is at a point on it midway between the two rods, the engine is said to be in mid-gear, and steam is then being cut off at the very beginning of the stroke—in other words, the engine gets no steam at all. From midstroke as the gear is shifted towards full "forward" motion, the cut-off becomes later and later in the stroke until in full forward gear it is being cut-off only when about three-quarters of the entire stroke has been completed. This will serve to explain the rather difficult problem of the ordinary link motion. The only other motion at all largely used is Joy's motion, in which the valve is actuated by a series of links, moving a slipper block up and down in a steel guide. The valve spindle is connected to this slipper block and the guide is so shaped as to give the requisite motion, the reverse being obtained by swinging the guides round to an opposite angle. For instance, if in forward gear the bottom corner of the guide is at 45° behind the top corner, in reverse the guide will be swung on its trunnion so that the top corner comes about 45° behind the bottom corner.

Valve Rod corresponds in steam practice to valve spindle.

Valve Seating.—The part with which the face of the valve is in working contact when shut.

Valve Spindle.—The stem of the valve.

Vaporiser.—A device to reduce liquid to a vapour. In internal combustion engines, the vaporiser is usually used for the less volatile fuels, such as paraffin, in which case it usually depends for its action on heat, often in conjunction with some device for mechanically splitting the fuel up into very small particles. In oil-fired steam engines, it is also applied to that part of the burner which beats up the liquid fuel into vapour or gas before it emerges from the burner.

Variable Expansion.—See **Expansive Working.**

Volts.—A word imported from the French, meaning a small car, generally a two-seater.

Volt.—The unit of electro-motive force, or electric pressure, as it may be called. It is the E.M.F. that will cause a current of one ampere to flow in a circuit having a resistance of one ohm.

Voltmeter.—An instrument for measuring voltage.

Volts Springs.—See **Springe.**

Vulcanising.—The process of vulcanising has revolutionised tyre repair. Raw rubber, which is very plastic and has little elasticity, could not be used alone for tyres: it has to be mixed with other ingredients, more especially sulphur, and subjected to great heat and pressure. The process of vulcanising for a repair consists of applying this plastic rubber and sulphur in correct proportions to the tyre, and subjecting it to suitable heat and pressure. Many of the convenient vulcanisers at present supplied can be carried on a car.

Vulcanite.—An insulating material used in the electrical equipment of a car.

Washer.—A suitably shaped piece of material placed between the two faces of a joint. For the ordinary nut joint a washer is a flat metal ring placed between the nut and the part against which the nut presses; it, to some extent, prevents the nut from working round. Locking washers, which entirely prevent this, are also made so as to hold the nut against the sides of its thread by their spring action. Sometimes, where great heat has to be encountered, and a gas-tight joint has to be made, the washers are of asbestos wrapped in a ring of sheet copper, while for union pipe joints leather washers are frequently employed to render the joint airtight. For electrical work, when required, washers are made of fibre or mica for insulating reasons. For flanged joints, sheet copper or sheet asbestos may be used, the latter especially where heat has to be encountered.

Water Circulation.—See **Circulation.**

Water Jacket.—A chamber formed round an engine cylinder to contain the water for cooling the cylinder.

Watt.—The electrical unit of energy obtained by multiplying the current by the pressure at which the current works—in other words, volts by amperes. It represents a certain amount of electrical energy, which means the capacity for doing work. In fact 750 Watts are equivalent to a horse power.

Welding.—The process of heating two metals until they are in a plastic state, and then with the help of a flux, used to prevent the formation of oxide, hammering the two plastic parts together so that they join and become a homogeneous mass.

Wet Steam.—See **Saturated Steam.**

Wheel.—Wheels are of many sorts. For private car work the wooden artillery wheel with metal hub, the wire spoke wheel, and the pressed steel wheel (similar in appearance to the artillery wheel) are those mostly used. In the wire wheel, the weight of the hub is taken by the tension or pull on the wire spokes from

the upper half of the wheel rim; in the more solid spoked wheels it is taken by the lower spokes in compression. To facilitate tyre repairs, wheels are now often made with rims that with the pneumatic tyres are quickly and easily detachable. For heavy utility motors wheels are made much heavier, usually of wood, though nowadays frequently of steel castings, while for steam wagons and tractors they are often built up of strips of metal plate and T section iron secured to a cast-iron hub. As regards wheels, fly wheels, see under respective headings. Oak and ash are the woods usually employed for these heavy lorry wheels when wood is used, while hickory is generally adopted for the lighter artillery wheels of the private car. There are signs, however, that the supply of this wood (which comes from America) is not what it was, and it is becoming increasingly difficult to get hickory of the best quality.

White Metal.—Is Babbitt or any kindred soft white metal used for lining bearings.

Wick Carburettor.—A carburettor of the surface type in which petrol in a tank is drawn upwards by a capillary attraction so as to saturate a series of wicks, over which the air supplied to the engine is passed. In passing over these wicks the air takes up the necessary amount of petrol vapour.

Wing Nut.—Same as Butterfly Nut. (See **Nut.**)

Wings.—A word sometimes applied to the sides of front wheel mudguards.

Wipe Contact Maker.—A species of contact maker in which the contact is made by a brush or spring-held contact coming smoothly into contact with a metal sector on the insulated circle of the contact maker. As such an arrangement allows for no sharp break of the spark, the break is obtained from a trembler, fitted on every coil using this system of contact making.

Wiper.—A brush, or spring contact bearing, on a wipe contact maker.

Worm Drive or Worm Gearing.—A modification, or elaboration, of helical gearing. In this the smaller gear wheel is represented by a shaft with one or more worms, or threads, cut on it, often at such an angle as practically to constitute a skew gear, the teeth or thread of which meshes with teeth on the larger gear. And here we find the real point of difference from ordinary skew gearing, for the circumference of the larger gear, or worm wheel, instead of being flat as in skew gear, is made concave to shroud the worm pinion. Generally speaking, the best angle at which the thread of the worm should lie along the shaft is 45°, but anywhere between 20° and 45° it can be rotated by the worm when running down hill with the engine shut off. At the present time worm gearing is being very extensively adopted for the final drive transmission, between the propeller shaft and the balance gear of the back axle. It is generally speaking quieter than a bevel drive, though the latter is probably just slightly more efficient, at least when new.

Worm and Segment.—See **Irreversible Steering.**

Wrist Pin.—Another name for the gudgeon pin.

Wrought Iron.—Iron that can be forged. It is made from the harder varieties of cast iron puddled and worked up under the hammer. It is far less liable to unforeseen and sudden fracture than cast iron or cast steel.

Yoke.—Practically a clamp, the ends of which hold down the parts that have to be secured, while the pressure is usually applied by a nut working on a stud or bolt passing through the centre of the yoke. The most familiar application of the yoke is seen in the arrangements for holding the pipes or the valve chamber caps to the cylinder castings, although it is not as frequently used as formerly.

PEARS' DICTIONARY
OF DOMESTIC PETS.



BY THE EDITOR AND EXPERTS OF
The Bazaar, Exchange, and Mart. 975

Pears' Dictionary of Domestic Pets .

INTRODUCTION.

By the Editor and Experts of
"THE BAZAAR, EXCHANGE AND MART."

Comprehended under the popular designation of "pets" is a fairly large number of animals differing markedly in structure, habits, and as regards their general environment, and not a little in respect of their popularity. It is attempted here to consider in as concise and practical a manner as possible the various units composing this divergent group, and to give sufficient information concerning each one discussed as will enable anyone not merely to identify any individual, but also to keep it in health or to treat it when afflicted with at any rate the minor ailments to which it is subject.

Some of the principal families are made up of so many individuals, and the details connected with their successful management are so numerous, that only the very briefest survey is possible in the space at our disposal. Especially is this the case with the dogs and the cats, while even more restricted is the information on rabbits, caviés (guinea-pigs), mice, and rats, all of which are popular with pet-keepers. Then, too, there are others, which, if less popular—monkeys, dormice, and squirrels, for example—need great care and a special environment if their lives are to be pleasant and if they are to afford real enjoyment to those responsible for their well-being.

Though the enumeration foreshadowed may be said to embrace the most popular of all the animals kept purely as "pets," so elastic is the term that it is practically impossible to define its extent. Thus it is necessary so to widen the field of our survey as to take in the strictly utilitarian goat, the smaller reptiles like the lizards, and the tortoises; these last being still more briefly touched upon.

We commence with the dogs, and continue with the other subjects in the order of their enumeration. Still, even with the dogs we do not treat of all the varieties met with in domesticity, but rather with a selection of those which in our opinion are best entitled to be regarded as "pets," for it is possible, we know, to make a pet of any dog whether giant or pigmy. Breeds like Foxhounds, Pointers, Setters, Retrievers, the majority of the Spaniels, and a few other varieties are not included. The whole of the Terrier group (notwithstanding the fact that they are mainly classed as sporting dogs) are dealt with, except the Bull Terrier, Bedlington Terrier, and the Sealyham, whose mission—at any rate for the present—is strictly confined to the realms of sport.

VARIETIES OF DOGS.

Aberdeen Terrier.—An erroneous name often applied to untypical representatives of the Scottish Terrier. The origin of the prefix cannot be traced, but there is not, nor has there ever been, a terrier peculiar to Aberdeen city. (See **Scottish Terrier**.)

Alredale Terrier.—With the exception of the Bull Terrier this is the largest of the group. Though this dog is too big for the work of a terrier proper, it makes a splendid guard, companion, and defender of person or property. Game it certainly is, but its disposition is of the best, and the Terrier is readily controlled; while it is hardy to a degree and one of the best water-dogs. In colour it is an admixture of black or dark grizzle and tan, with a hard, wiry, straight and close-lying coat. A peculiarity of the

breed is that puppies when born are more like Black and Tan Terriers. An Alredale Terrier weighs 40 lb. to 45 lb., bitches being slightly lighter than dogs. The tail is docked about one-half.

Black and Tan Terrier.—A Terrier at one time fairly numerous, but now correspondingly scarce. It is a sleek-coated animal, having excellent claims to be considered a first-rate house-dog and ratter. Not so hardy as some terrier breeds, it is best kept indoors. For town life it is well suited as its coat does not readily show dirt, and it will thrive with a minimum of exercise if judiciously fed. For the coat to possess the glossy appearance liked, regular grooming must be given, and hand-rubbing, using just a suspicion of oil in the palm, should complete the operation. A nicely proportioned dog, weighing from 26 lb. to 30 lb., and sometimes described as the Manchester Terrier.

Black and Tan Terrier (Miniature).—A pocket edition of the Black and Tan Terrier, and the smaller it is the better. There is, however, a difficulty in producing typical specimens. Many are round instead of flat skulled, and the ears often are carried "pricked." Another difficulty is a deficiency of coat in this smart little dog. When this is the case a little lanolin rubbed in after the daily brush has a beneficial effect. Smart, active, and small, this terrier is a favourite in flat-land. Occasionally it "sports" in colour, liver and tans and blue and tans being found.

Bobtail Sheepdog.—By nature a worker this picturesque and essentially English dog has gradually become a fashionable beauty, kept largely as a pet and companion dog. In intelligence the variety is second to none, as it is in docility and strong attachment to its owner. On account of its long, shaggy jacket, however, it is not a general favourite with housewives, though if a long-handled brush be kept where it with to wash it down on wet days, and care is afterwards taken to dry it thoroughly before allowing it indoors, little trouble should be given. We have kept the dogs for many years and they have always proved splendid house-guards and devoted companions. Despite its bear-like gait (when viewed behind) and general appearance it is a most active dog, galloping very fast. Any shade of grey, grizzle, blue, or blue-mixed with or without markings are liked; while in the greyish or blue dogs a pearl, wall, or china eye is a characteristic. The Bobtail is a strongly made muscular dog, standing 22 inches and upwards, with a profuse shaggy outer coat and a waterproof undercoat. Though popularly believed to be born tailless, in nine cases out of ten the tail is removed during the first week of puppyhood—an operation that mutilates somewhat against the more extended keeping of the dog.

Borzoi or Russian Wolfhound.—This hound is the most beautiful and symmetrical of the Great Greyhound group and a very popular dog with both men and women. Though big it is not bulky, and like the Scottish Deerhound and the Irish Wolfhound it will curl up into a comparatively small space indoors, an obvious advantage. As its name unmistakably proclaims, this hound in its native country is used against the wolf, and a brace will render an excellent account of themselves against that formidable animal. Alike as a companion and personal guard the Borzoi may be recommended, while it is no mean watchdog, though it cannot be classed as a noisy variety. Boasting an excellent temperament and a dignified demeanour generally, the dog may be taken out without fear of ill consequences once it has been trained. With this breed as with the Deerhound and the Irish Wolfhound it is best to start with puppies six months old or even rather more, as when young nearly all the Greyhounds seem to be somewhat susceptible to distemper and other ills, but they soon outgrow this if properly fed and housed. Damp is the great enemy; cold they can endure with impunity. Being light-coloured this hound needs to be washed occasionally and to be brushed and combed daily, the tail and feathering requiring extra attention. In height a male Borzoi should measure from girth upwards, and a female two inches less. The skull should be flat and narrow and the head generally so fine that the shape and direction of the bones and principal veins are clearly visible; while viewed in profile it should appear as if Roman-nosed. Generally the dog is built on Greyhound lines. White is the prevailing colour, with or without fawn, lemon, grey, brindle, blue or black markings. Occasionally self-colours are met with. Light-eyed, short-headed, heavy-eared and heavy-shouldered specimens are to be avoided; as are also those having eyes wide apart, or that are barrel-ribbed or cow-hocked. On no account should this variety be chained to a kennel, or a misshapen, broken-spirited animal will undoubtedly result. Care too must be taken in regard to any punishment inflicted on a puppy, as no breed of dog is more sensitive or more readily spoiled by harsh treatment.

Bouledogue Français.—(See Foreign Dogs.) **Bulldog.**—At one time employed in the sport of bull-baiting, the bulldog is now kept as a fashionable canine beauty. It is undoubtedly an ugly dog, but its

disposition altogether belies its appearance. The head is very massive and the face extremely short, with a broad blunt muzzle inclined upwards. Altogether it combines strength and determination with activity. In general the Bulldog may be regarded as well-mannered, and though it makes a good personal guard, in the house its value is not great. Contrary to the opinion usually entertained in regard to the dog it must be classed as delicate. About 50 lb. is the weight of the best specimens, and the hindquarters are always lighter than the forequarters, with a distinct arch of the back. The coat is smooth and fine in texture, and variable as to colour. Whole colours and smuts are most esteemed—brindles, red, white with their varieties, as whole fawns, fallows, etc., while the pied and mixed colours stand next in order of merit.

Bulldog (Miniature).—Even more in favour as a pet is the miniature edition of the larger animal, described above. Formerly this dog was not bred very true to type, it having been tainted with a cross of the French Bulldog; but this has now been altered, and a typical miniature Bulldog is a small edition of its larger relative. This dog should go to scale at 30 lb. or less.

Calpa Terrier.—(See Skye Terrier.) **Chow Chow.**—Thus, the subtle dog of the East, enigmatised, and deservedly, a great reputation as a pet. Though decidedly "stand-offish" to strangers, to its master or mistress it is a most devoted companion, and has a wide and increasing following; while as a house dog it has few superiors. It is one of the prick-eared varieties, and has a flat and broad skull, black tongue and mouth-roof, short and straight back, and a tail carried well over the back. There are two kinds of coat—rough and smooth. The former is preferable, and is coarse, straight, and rather coarse in texture, with a soft and woolly undercoat. In the neck vicinity it is prolonged into a frill. For this reason a collar is undesirable, but if one is necessary it should be of the round or rein type. Black and red are the most favoured colours, though yellow, blue, and white specimens are found. The weight of a Chow Chow is from 40 lb. to 50 lb.

Clydesdale Terrier.—A breed of many names, it having been known as Silkie, Paisley, and Glasgow Terrier, as well as the one now given. Judge by its coat and general appearance the breed is evidently a near relative of the Skye Terrier. It is, however, smaller, silkier as to jacket, higher on the leg, more compact as to body, and more heavily feathered or ear. Kept under natural conditions the coat of this dog should not develop to such an extent as to make the animal a nuisance when kept as a house pet; while its constitution should be improved. The coat in colour is bright steel blue and golden tan, the latter being restricted to the head, legs, and feet; while the tail is deep blue or black. The Clydesdale Terrier is an active and alert dog, and is deserving of extended patronage.

Collie.—So far as the general public is concerned there are two distinct varieties—the rough and the smooth; but fanciers acknowledge a third—the Bearded Collie, a modified Old English Sheepdog that is allowed to possess the whole of its tail. All are most intelligent dogs, and make the finest of companions, house dogs, and protectors. It is frequently asserted that Collies are treacherous, but this is a libel on the breed generally. The rough is more popular than the smooth, but its coat requires far more labour to keep it in nice trim. No collars should be worn by Collies; as this tends to spoil the coat, especially the frill of the rough variety. Sable and white and black, tan and white are the colours most liked, but the blue marle (marbled) is rapidly making headway. A Collie should scale from 45 lb. to 55 lb., and should measure at shoulder 24 in. to 26 in.

Dachshund.—In its native country this dog, as its name suggests, is used against the badger. Here it is but a fashionable pet with a very large circle of admirers despite *Punch's* description. It is a long, low dog with a long and narrow skull showing a decided "peak," short and strong forelegs and higher and lighter-boned hindlegs, a deep chest with prominent breast-bone, and a muscular, arched loin. Colour is of minor import,

but black and tan, liver, liver and tan, red, and dappled are preferred. A typical Dachshund stands from 7 in. to 9 in. at shoulder, and weighs from 15 lb. to 25 lb., and there are both rough and smooth haired specimens. As house dogs and pets the variety may be recommended, being alike alert and intelligent to a degree.

Dandie Dimont Terrier.—Prior to the issue of Sir Walter Scott's *Guy Mannering*, this long-bodied, low-legged terrier was a dog valued purely for its "varmint" qualities. Since shows have popularised it a change has come over the scene, and Dandie has, according to sportsmen, degenerated into a pet. For all that it is a distinctive Terrier with its donned forehead and top-knotted skull, full, round, wide apart eyes, muscular neck, arched loin, short crisp-feeling coat, and short jaily earned tail. Pepper and mustard are the two colours by which the breed is differentiated, and these vary considerably. About 18 lb. is the average weight of the best Dandie Dimont Terriers; while at shoulder they should measure from 8 in. to 10 in. They are hardy, plucky, but not self-willed dogs, most capable guards, and splendid companions. Puppies when whelped differ materially in colour from adults. Peppers are black at birth, or perhaps black with tan legs, while mustards are tan colour with much black down the back.

Foreign Dogs.—Of the breeds falling under the designation of pet dogs, and classed by the Kennel Club as foreign, the chief are the *Bouledogue Français* and the *Samoyede*. The former is an active, intelligent dog, cobby of build, muscular, and heavy as to bone. The skull is massive with a square and massive forehead, large eyes, deep stoop (indentation between the eyes), small neat bat (upright) ears, and short, broad, upturned muzzle. Though on distinct Bulldog lines the variety has not the exaggerated front of its English relative, and is altogether more active and terrier like. Its weight is in the vicinity of 20 lb. Black and black and tan are not admissible as colours for this variety.

The *Samoyede* is a breed that has come rapidly to the front. It is one of the Northern varieties, and a relative, therefore, of the *Pomeranian*, the *Elkhound*, and the *Eskimo*, and like them, used in its native country as a utilitarian animal. In general appearance it is *Pomeranian*-like, and possesses the foxy type of head common to that group, has a short back, well-curved tail, thick coat that stands well out, and a nice frill. As is the case with this group generally, the *Samoyede* is hardy, very alert, and intelligent, while its temperament is of the best. White is the colour most in favour, and the dog measures about 20 in. to 25 in. at shoulder.

Fox Terrier.—These (for there are two varieties—smooth and wire-haired) are the most popular of all domestic dogs, and are too well known in regard to general conformation to need more than a brief description. Formerly they were the "Kennel Terriers" of the sportsman, but within the last half century they have become fashionable companions, pet, and show animals. There is nothing to choose between the two varieties, whose only points of differentiation are in the coat. The rough dog, however, requires a little more grooming to keep him in nice condition than the smooth. Contrary to the general belief, colour is of little importance so long as white predominates, and neither brindle, red, nor liver markings should obtain. Fox Terriers are handy, smart little dogs, as much at home in the water as on land, and among the best of all house guards. Both varieties require to be docked, rather more than half the tail being allowed to remain.

Great Dane.—Some may cavil at this breed being included as a pet dog, but as a matter of fact quite a number of ladies keep the noble Great Dane in this capacity and also as a companion and guard. It may be said to combine immense strength with great activity (we have seen one easily clear a five-barred gate) and a conformation that could scarcely be excelled. As a rule a pure-bred specimen that has been properly brought up is a dog most amenable to discipline and with a sweet temper. Conscious of his immense strength, unless unduly provoked, he seldom uses it, and for these reasons may be trusted in any company. Again, his sleek coat commands him as an indoor dog,

big though he be. Damp and draught are the great enemies to be avoided when keeping this lovely hound, which may be taught indoor manners as easily as can a toy animal. In appearance the Great Dane should be intermediate as it were between the Mastiff and the Greyhound, possessing neither the massive proportions of the one nor the slenderness of the other. The head and neck should always be carried high. Thirty inches is the minimum height of a dog and 28 inches that of a bitch; while the minimum weight of the former should be 200 lb. and that of the latter 200 lb. Brindle, fawn, blue, black and harlequin are the colours most admired. As in the case of the Borzoi, Deerhound, and Irish Wolfhound, the Great Dane must never be chained.

Griffon Bruxellois.—A Belgian toy dog that has gained many friends in this country. It is probably a compound of the *Affenpinscher*, *Irish Terrier*, *Yorkshire Terrier*, and *Rufy Spaniel*, but breeds true to type, and there are both roughs and smooths, the former being preferred. The Belgian dogs are cropped and docked, but the former is not allowed here. For a small dog this variety has a large head, rounded and covered with coarse hair, the lips being edged with black and carrying a moustache, the eyes large, black, or nearly so, and having long eye-lashes; the chin is prominent and has a beard. These dogs, which carry a red, harsh, wiry coat, weigh from 10 lb. or two up to 20 lb. They are engaging pets, very alert and active, but need to be kept indoors.

Irish Terrier.—Another deservedly popular member of the terrier group and one that on account of its hardness, gameness, and fine house-dog qualities has a very large circle of admirers. It makes a first-class town dog, its wheaten-red coat not showing signs of soiling. From 22 lb. to 24 lb. is the average weight of the best specimens. No special attention is needed to keep the dog in good condition. Occasionally an otherwise good dog shows a faint trace of white on chest. For a pet this of course does not detract from its value, though in the show dog it would. In outline the Irish Terrier is a graceful-looking not to say racy animal, and it should not be modelled on Fox Terrier lines.

Irish Wolfhound.—Though in reality a breed of modern manufacture that we owe largely to the work of the late Captain Graham, it is one which breeds very true to type. The constituents used in its making were no doubt Great Dane, Deerhound and Borzoi, with all that remained of the original Irish Wolfhound. The hound as we know it to-day is a monument to the skill of the breeder after over half a century of hard work. Endowed with great strength and activity, the Irish Wolfhound makes a splendid defender, while its amicable and quiet manner are proverbial. To the average person it does not attract the eye in the same manner as the Borzoi or even the Scottish Deerhound does, but for all that it is a variety that has quite as many good qualities as either, though it is not so athletic and a great measure of popularity. A typical dog should measure at least 31 inches at shoulder and go to scale at 200 lb.; and a typical bitch 28 inches and 90 lb. In general appearance this hound is heavier in build than the Deerhound, but not so heavy as the Great Dane—in fact it is strongly though symmetrically built. The colours are those met with in the Deerhound. The coat should be harsh on body, legs and head, and over the eyes and under the jaw very wiry and long.

Italian Greyhound.—One of the daintiest and most refined of all pet dogs. It may be described as a pocket edition of the Whippet, with a high-stepping free action, fine and supple skin, and a coat that shines like satin. The most desirable-sized specimens are those from 5 lb. to 7 lb. in weight, self-coloured fawn being the favourite colour. Brindled and pied hounds are not considered desirable. This little hound is too delicate to be allowed outside except in favourable weather, and it is usual to "sheet" it when giving it a run outside in winter and spring. To have this dog in nice trim it needs to be carefully fed and groomed. My lady's boudoir seems more suited to this aristocratic little hound than any other part of the house.

Japanese Spaniel.—An Eastern toy dog of

great beauty, the smallest specimens being called "sleeve dogs" from the fact that they are readily carried in the spacious sleeves of the Chinese. At one time it was regarded in this country as a rarity, but of recent years it has been bred in large numbers. Though still retaining a measure of popularity the breed has been to a certain extent depopulated from its high place by the introduction of its Pekinese relative. Fanclers set most store on the very small Japanese, and it is this craze which has largely proved the breed's undoing. Again, it is a variety which seems more than ordinarily susceptible to distemper. As pets the largest and the smallest animals are best suited, as they may be readily bred from; with the very small ones the risk is far too great to allow bitches to exercise their maternal instinct. Except that it is usually black and white and has a tail carried over the back, the Japanese in many features resembles the historic Blenheim Spaniel, though it differs from that dog in having the eyes set farther apart, in the face being broader, and in the skull being less rounded. Like the Italian Greyhound it has a distinctive high foot action. The weight may be anything from 2½ lb. to 1½ lb., and although black and white is the favourite colour, red and white is also possible. Whatever the colour it should be evenly distributed over the body, cheeks, and ears.

Maltese.—By some this is regarded as the oldest of all dogs. At one time it was classed as a terrier, but this of recent years has been altered simply to Maltese. Handsome in appearance, with a long coat that in whiteness rivals driven snow, and an engaging manner, it is little wonder that its admirers are many. Beautiful, however, as it undoubtedly is when kept in nice coat, it is far too delicate for most people, and is in reality a glass-case variety like the very long coated Yorkshire Terriers. The trouble of keeping these dogs in the peak of coat condition is too great for most people. Frequent washing, brushing, and occasional combing are necessary to the dog's well-being, and soap is considered injurious to the coat; beaten-up egg is far better for the purpose. These dogs weigh from 4 lb. to 9 lb., and the coat is parted down the centre from the eyes to the root of the tail.

Newfoundland.—No breed except perhaps the St. Bernard is so well known as the Newfoundland which Landseer has immortalised. It is, however, the white and black dog that the great animal painter selected for his famous picture, and this in respect of type is scarcely the equal of the more popular black. Originally introduced from Newfoundland the breed has been improved considerably by English fanciers and to-day it has a considerable number of followers. In its native home it was and is a worker; here it is merely used as a companion and guard. A characteristic of the breed is that it makes one, if not the, finest of all water-dogs, and it is a pity that this characteristic is not often developed. The Newfoundland is one of the breeds that in the past was given a bad name, being regarded as bad tempered. This, however, was an unjust aspersion and usually those specimens responsible for the circulation of an unfounded charge were mongrels. The general lines on which the dog is built are very well known; broad, massive head and flat skull, broad back, well-ribbed body and muscular hindquarters, and deep broad chest. In height 27 inches would be an average for a dog and 25 inches for a bitch; while in weight from 140 lb. to 250 lb. for dogs, and 120 lb. to 180 lb. for bitches, would represent about the means. Being a heavy dog, walking exercise only should be given. More than two years are taken by this dog to build up its huge framework, and a good deal of care has to be exercised if the forelegs are to be muscular, well-boned and quite straight.

Painley Terrier. (See *Glyndale Terrier*.)
Pekinese.—A very Eastern variety, which its name proclaims has its origin at Pekin, though not restricted thereto. With the Pomeranian it shares the honour of being the most popular toy dog known in this country. From 5 lb. to 10 lb. is the most desirable weight for one of these dogs, which are heavy in front and fall away on-like behind. Unlike the English Toy Spaniel, the Pekinese Spaniel has a flat skull,

and the tail is carried curled over the loins. The dog has a distinctly high action when walking; short, heavy, bowed fore-legs and lighter hind ones, hump-shaped drooping ears, and a very short and broad muzzle. The coat is long, with a thick under coat, and the thighs, legs, tail, and feet are profusely covered with feathering, while there is a full round the neck extending beyond the shoulder blades. Colour is unimportant. This is quite one of the most expensive of all dogs.

Pomeranian.—A foxy-haired, prick-eared, thick-coated dog, which of recent years has been dwarfed, the Toy specimens being those most in demand. Formerly the Pomeranian went to scale at 20 lb. or more; to-day 2½ lb. to 5 lb. specimens are those which fashion demands. Colours are very numerous—black, brown, fawn, blue, sable, red, orange, and parti-coloured, and prices for typical dogs rule high. The late Queen Victoria greatly helped to popularise these smart, active, toy dogs, whose chief drawbacks are that they are somewhat "yappy" and not as hardy as they might be. Their temperament, however, is of the best, and a marked improvement upon that of their progenitors, whose snapiness was proverbial. The Pomeranian of to-day is a compactly made, sleek dog with a well-knit frame and a profusion of straight coat that is prolonged into a frill at the neck and extends over the shoulders. This dog requires to be specially groomed: after brushing the coat in the ordinary way it should be finished the wrong way of the wool. Now and again a hair stimulant is desirable.

Poodle.—Second to none in intelligence Poodles both corded and curly have a very fair following. Generally speaking, however, the immense amount of labour and special knowledge required to keep them in nice order militates against their greater popularity. As pet dogs the Toy Poodles, weighing some 4 lb. or 5 lb. are those best suited. Though at one time it was considered that the corded and curly Poodles were two distinct varieties, it has been conclusively proved that they are one and the same, and that, according to the treatment it receives, the coat may be either corded or curly. The latter is the more popular dog. A typical Poodle presents a very symmetrical whole. The body is of a well-knit, compact straight and fine, with a slight peak to the skull. Black, white, red, and blue are the colours.

Pug.—Two distinct colour varieties of this pet-dog exist—the Black and the Fawn; the latter is a modern introduction (1886) that we owe largely to the late Lady Brassey. For a long time the Blacks ill-compared with the Fawns in quality, but now-a-days they are their equal in that respect. In build the Fawn pug is square and cobby, with a black face mask, large and deep wrinkles, a line (trace) extending from occiput to tail, a massive head without "stop," and weighs from 13 lb. to 27 lb. As house-dogs pugs do not excel.

St. Bernard.—As in the case of the Newfoundland there are two varieties, but these are differentiated not by colour but by the nature of the coat—Rough and Smooth. Contrary to the generally entertained opinion the lighter is the true mountain-dog though the former is the more admired. About the breed, generally, however, a halo of romance centres, and this adds to the interest. To Albert Smith, the traveller-lecturer, we are indebted for the introduction here of the breed which, though like most others has had its ups and downs, has always enjoyed a large measure of popularity. On several occasions £1,000 has been paid for a typical specimen, and even now the variety is not a cheap one to purchase. Nobility, strength, benevolence, intelligence and dignity are all to be seen in the St. Bernard, whose massive, broad, slightly rounded skull, short face, deep lips, small, dark eyes with the lower eyelid drooping, disclosing the "red" broad and straight back, well-boned ribs, and very muscular hindquarters are very well known. Standing at least 30 inches at shoulder and heavy in proportion, a St. Bernard is a most formidable dog when aroused, but generally speaking as quiet as the proverbial lamb. In the Rough variety the coat should be dense and flat and prolonged at the neck and ribs, and with well-feathered thighs; in the Smooth the

feathering on tail and thighs should be slighter and the coat generally bound-like. The markings of a typical dog add considerably to its beauty. They are—white muzzle, white blaze up face, white collar round neck, white chest, white fore-legs, feet and tail-tip, with black shadings on face and ears.

Belgian Sheepdog.—A forty-headed, prick-eared dog, from Belgium; tailless (but not naturally so); coat black. It is quite the smartest of all housedogs, though a trifle noisy by reason of its harsh "yap, yap." A distinctive feature is (or should be) the rounded guinea-pig rump. Its weight is about 12 lb.

Scottish Deerhound.—As is the case with the Borzoi this hound makes a very desirable companion and guard, while its temperament is of the best and its personal attachment remarkable. In reality the Scottish Deerhound is a Greyhound with a wiry coat, some three or four inches in length, but the body is larger than that of its smooth relative. Dogs measure at shoulder 29 inches to 33 inches and bitches 27 inches to 30 inches, while the former go to scale at from 8½ lb. to 105 lb, and the latter from 65 lb. to 60 lb. Dark blue-grey, dark and light grey and brindle are the colours most liked. Contrary, too, to what usually obtains, bitches of this variety are frequently of finer quality than dogs.

Scottish Terrier.—A powerfully built, sharp and active Terrier of from 15 lb. to 20 lb. weight, with a rather short, hard, dry jacket of steel-grey, iron-grey, black-brindle, grey-brindle, black, sandy, or wheaten colour, a fairly long, slightly domed head, carrying small prick ears, a flat-sided, moderately long body, and a tail disposed somewhat gaily. Though slightly headstrong and stand-offish in manner, this Terrier is nevertheless most affectionate and extremely intelligent, while as a housedog he is one of the best. Soundly conditioned he will thrive whether kept indoors for outside, and on the plainest of fare, but he is especially fond of plenty of exercise.

Shetland Sheepdog.—A comparatively new breed of pet-dog modelled on the lines of a Collie, but as yet showing no particular fixity of type. From 7 lb. to 10 lb. is about the weight, and the colours are those found in the Collie proper. It is, in fact, a Collie in miniature with a reputation for being one of the best of toy dogs in regard to amiability and alertness. In its native home it is employed as a worker.

Silkie Terrier.—(See *Clydesdale Terrier*.)

Skye Terrier.—A long and low Terrier carrying a double coat, the outer one long and covering body and face, and the under one short, soft and woolly. It is a charming dog for a pet, intelligent, and a first-class guard; while if kept purely for that purpose the abnormally long coat seen in the show animal is not required. The breed may be either prick- or drop-eared. The coat is either dark or light blue, or grey, or sometimes (though rarely) fawn with black points, but when born the puppies are black, or perhaps grizzly about the face. This dogs stands about 9 inches at shoulder, and weighs from 14 lb. to 18 lb. There is a short-coated offshoot of the dog known as the Cairn Terrier, which is likely to become fashionable at present it is in few lands. It is far more readily kept in condition than the Skye Terrier proper.

Toy Spaniels.—(English.)—These are four in number, Blenheim, Ruby, King Charles, and Tricolour. All have the same family characteristics—domed head, wide-apart eyes, well-marked "stop," *retrousse* nose with wide-open nostrils, and ears that nearly touch the ground. The only point of difference is the colour. In the King Charles it is glossy black and deep tan over the eyes and cheeks; in the Ruby, chestnut-red; in the Blenheim, white with chestnut-red markings evenly distributed and a white blaze extending from nose to forehead, in the centre of which is a red "spot"; in the Tricolour or Prince Charles Spaniel it is black, white and tan, the black and white well broken over the body and the tan distributed over the face, the lining of the ears, and tail. On account of the short face all the Toy Spaniels make a snuffling noise that is objectionable to many. They are not very good housedogs, and are somewhat delicately constituted. Against this must be set the fact that they are beautiful as to colouring and most affectionate in disposition.

Welsh Terrier.—A comparatively little-known member of the Terrier group, but one that makes a first-class pet and companion dog, while it is alert in the house, active outside, and very plucky. Though built somewhat on Wire-haired Fox Terrier lines the great width of skull between the ears, the deeper jaw, and the altogether stronger head, differentiates the Welsh Terrier from the more popular Fox Terrier named. In weight it is about 20 lb., and its shoulder height 15 inches in the case of dogs, bitches being correspondingly smaller and lighter. The coat—black-and-tan or black grizzle and tan—is hard, close and wiry, and does not show signs of soiling even in smoky towns, while the dog is hardy to a degree.

West Highland White Terrier.—In reality this is a working Terrier, but of late years it has been much popularised. It is the genuine working Skye Terrier, but white and short-coated and with a different muzzle from the Scottish Terrier proper. Still, since it has been popularised it is gradually becoming merged as regards type with the last-named dogs.

Yorkshire Terrier.—To keep this dog for show it really needs a glass case; but as a pet it may be allowed to run about the house. In that case the long coat, which is the glory of the show animal, must not be looked for, nor do we think it is desirable. The variety is one of the smallest of all dogs (we have seen 2 lb. dogs exhibited, and have owned them a trifle under this weight), but the minute 2 lb. to 5 lb. specimens are delicate; one 7 lb. in weight is far better. The body-coat is steely-blue, glossy and silk-like in texture, but that on the head and chest is a rich, bright tan. A peculiarity of the breed is that the puppies are born black and tan.

DOG MANAGEMENT.

Accommodation.—Dogs that are kept as pets may be allowed the run of the house, and even if they are placed in a kennel for a portion of the day, should always come indoors at night, where they are of three times the service they would be in a kennel. They should be provided with a definite sleeping place which they will quickly recognise, but which should never be on the ground level, where draughts are most prevalent. Baskets, boxes, and indoor kennels are to be had in variety, and these may readily be raised out of the way of draughts. Even a chair on which a special cushion is placed will make a snug and comfortable sleeping place. By way of "bedding" a rug, of material varying with the weather and the breed, will be quite sufficient for even the more delicate breeds. Still, if bedding as ordinarily understood be prepared, Elastene is hygienic, warm, and does not flatten like hay. In all long-coated breeds, however, a cushion, which must be kept clean and well beaten, is better than bedding. The covering should be of some cheap and washable material. So far as the harder terriers are concerned, these require little by way of bedding. The toy breeds when not kept in a special kennel should have a lined basket or box with a cushion for them to lie upon. Still, whatever sleeping place and material are used they should be exposed to sun and air in the daytime, and it is especially desirable periodically to treat them to an insecticide and to keep them free from dust, in which latter flea-larvæ thrive.

Appliances.—For the most part these will consist of brushes and combs, scissors, nail cutters, collars, chains, leads, and food and milk vessels. These latter must be kept scrupulously clean and wholesome, while brushes should be cleansed and disinfected periodically.

Breeding.—Where bitches are kept—and in many respects they are superior to dogs—they should always be allowed to breed. Once in two years is often enough. If they are prohibited from breeding they usually become very fat and are liable to lacteal tumours. It is not desirable to breed at the first "heat" which may occur at any time after about the seventh month, and spring is preferable to any other season. Twice a year bitches are available, there

being an interval of six months between the periods of oestrus or heat. The signs of this functional disturbance are a swelling of the parts accompanied by a reddish discharge. The time to mate the bitch is just as this ceases. The "heat" lasts from a fortnight to three weeks, and during that time the bitch must be watched, or she will leave the house and seek a mate for herself. The period of gestation is sixty-three days, more or less. For the greater part of the time no change in a bitch's daily life need be made—say for the first four or five weeks. After that care must be exercised that she is not over excited or allowed to exert herself too much, and especially to jump. A fortnight before her time she should have her whelping place appointed, and be allowed to go there each day until near her time. This will be heralded by a change in her behaviour, by a constant desire to go outside, and a general restlessness. Except with big-headed breeds like Bulldogs, healthy bitches require no help as a rule, though often small dogs when whelping like to have their mistresses by them. The event over, no attempt must be made to count or even to look after puppies. A little lukewarm arrowroot should be given her, and she should not be disturbed for going out until the next day, when she should be allowed out to relieve herself, and any soiled bedding should be removed. For three days soft food only should be given the nursing mother, after which a dietary on more generous lines than ordinarily given should be provided.

Docking, and Removal of Dew-Claws.—

These are two of the minor operations that even a pet dog breeder is called upon to perform unless he is prepared to seek the services of a veterinary surgeon. Quite a large number of the breeds enumerated are docked—Irish, Fox, Welsh, Alredale, and Yorkshire Terriers, English Toy Spaniels, Schipperkes, and Poodles. The operation is best performed during the first week of a puppy's life, it then inflicts a minimum of pain on the individuals on which it is practised. Having pushed back the skin and hair, the required length of tail may be removed with a pair of nippers or else with a sharp knife. In the case of the Schipperke only the veriest stump is allowed to remain, but in the other breeds, not quite half is taken off the terriers, and a little more than half off the Toy Spaniels, etc.

The removal of the dew-claws from the hind legs is a very necessary operation as such, if left, often cause the dog considerable pain should they get lacerated; their removal also gives him a more finished appearance about the leg. They may be removed about the same time as the tail is docked, using a pair of special scissors (obtainable from dealers in fanciers' appliances) and severing them in an upward direction.

Feeding.—An adult dog in health requires but two meals a day—a very light one of hard, dry biscuits in the morning, and a more substantial one late in the afternoon. If fed very late the dog will be asleep when most of its services are needed. The dietary should be varied—cooked lean meat, houndmeal, well boiled oatmeal or rice, any vegetables from the table but not too many potatoes, cooked fish freed from bones, and biscuits either broken up and given dry or covered with gravy, etc., and allowed to cool. The meals must be at regular intervals, and the dog given as much as he can comfortably eat. There must be no long fasts and no great feasts. After that the food vessel should be taken away, cleansed, and put aside until the next meal-time is due. The changes on the food should be rung as often as possible. Very occasionally, if a dog appears out of sorts, a little raw lean meat finely cut up will work wonders. Shy feeders and greedy ones need alike to be watched at feeding times. Large bones should always be provided after a meal, but not in place of one. Fish, game, poultry, and rabbit bones should never be fed to dogs.

Puppies require to be fed on the "little and often" principle. At the age of three weeks they may be taught to lap soft food from the mother's dish. Weaning (about seven weeks), however, is the most critical period in their lives, as the change from the mother's milk to that of the cow (far less nutritious) which is the general substitute, causes them to fall

away considerably. The best foods are Malt Milk or Lactol; while Benger's and Ridge's Foods with a little Plasmon are also excellent. Five or six meals a day are none too many for the weaned pup for the next two or three months. After the fifth month they may be reduced by two, as more sustaining food will gradually be given, until at the tenth only two meals will be necessary. Vegetables are not good for very young puppies, as they have a tendency to promote flatulency.

Exercise.—All dogs require exercise to keep them in health, the amount varying with breeds and even individuals thereof. With delicate toys this is often difficult to provide on account of weather conditions. In such cases then the little animals must be induced to run after a ball inside. Pugs and Bulldogs like slow walking exercise; the hardier terriers something more arduous, and two or three hours daily are not too many for a healthy adult. Exercise must never be given directly after a meal or in the heat of the day; nor must a dog be allowed to enter the water for a swim just after feeding. To allow any of the breeds enumerated to run after a cycle, trap, or motor, would be cruelly refined.

Grooming.—Regular grooming is as important as regular food; it keeps the skin and coat in nice condition and tends to prevent fleas and lice from affecting a lodgment. Brushing is better than combing for most breeds, and special brushes are sold for special breeds. Grooming should be performed before feeding. Sleek-coated breeds like Bulldogs, Black and Tan Terriers, etc., are best finished off with a chamomile leather and a good hand rubbing.

Training.—Pet dogs stand as much in need of training as the sporting dog used with the gun, though it is necessarily of a different kind. The first lesson must be obedience to name or whistle. The lessons must never be too prolonged or the puppy will weary. The fourth month will be early enough to commence. To collar and chain the animal must also be accustomed. Naturally he will resist both. If, however, they are put on when there is a prospect of a run out or a coup, and the chain be allowed to drag, the puppy will soon forget that they are restrictive agents. Indoor manners must be early inculcated. Every time the puppy offends he should have the soiled place pointed out and be put outside in disgrace. On no account thrash him or the fault will be intensified—not cured. Having expiated his offence let him again return indoors and do not scold him unless he again offends, when the process of ejection may be repeated. Outdoor manners will consist of thorough obedience to call or whistle, to come to heel when told, and to respect domestic and other stock. This last may be brought about by taking the puppy where cattle, horses, sheep, and poultry are. At first he will be on a lead or chain, but later this may be dispensed with. Any attempt to break away must be checked by warning voice, but severer measures must not be resorted to until every other means have failed. With some dogs it is quite sufficient to put them on the lead at the first sign of breaking away and allowing them to cover the remainder of the journey restricted and in disgrace. Puppies should never be fed from the table or allowed to take anything from strangers, otherwise they grow up intolerable nuisances. Again they must never be allowed to jump up, say, when an owner meets a friend, or to bark at horses, cattle, or other stock. Any attempt to do so must be nipped in the bud, or a well-mannered adult will never result.

COMMON DISEASES AND PARASITES.

The diseases and parasites affecting dogs are exceedingly numerous—so numerous that to deal with all would require a volume. All that can be dealt with, and these very briefly, are such as are commonly met with, and that will yield usually to home treatment.

Anæmia.—Dogs that are badly fed and housed, or which suffer from worms, are often anæmic, and in that condition Blotch or Surfeit—characterised by the appearance of reddish patches and finally by sores—

results. With anæmia the gums and mucous membranes are pale and bloodless, and the animal sometimes falls away considerably. Good nourishing food and a healthy environment are very beneficial. Occasionally a little fresh, raw meat, finely chopped, will do a lot of good. An excellent drug is reduced iron (tasteless), 1 gr. to 3 gr. in the food twice a day.

Scotch or Surfeit.—Really a phase of Eczema in which there are inflamed patches and large sores. It may be due to poorness of blood (Anæmia) or to an overcharged system. A remedy in the former case has been suggested under **Anæmia**; while in the latter a brisk purge is called for until the bowels are moving freely. To the sores themselves boracic acid ointment should be applied.

Canker of the Ear.—An exceedingly common disease of the dog that manifests itself in two forms—internal and external. The internal form may be due to a Symbiotic parasite that sets up great irritation, or to some injury or foreign substance in the inside ear with suppuration and an objectionable smell. The external form affects the ear-flap. The symptoms are a shaking of the head and a pawing at the ear, with, of course, a redness inside the ear or inflammation, and perhaps ulcers outside. For the external canker it is just necessary to cleanse the ear by means of Condy's Fluid (a light red solution), and afterwards to apply, when thoroughly dry, oil of sweet almond of Peru. In internal canker the ear should be gently syringed with spirits of wine and lukewarm water (one in twenty). After that well dry with successive pieces of cotton-wool rolled round the pointed end of a penholder, and finally blow through a quill or glass tube equal parts of finely-powdered iodoform and subnitrate of bismuth. Feed lightly and keep the bowels well moved.

Cough.—A symptom and not a disease proper; often due to derangement of the organs of respiration, but occasionally to worms and indigestion. Where in addition to the cough there is a rapid rise of temperature, quick, laboured breathing and expectoration, bronchitis may be suspected, and skilled aid should be sought. In the other two cases the cause must be removed, when the cough will cease.

Deafness.—With white dogs especially this is a fairly common disease. Usually with them it is congenital and incurable. The condition may, however, arise from a secretion of wax, and in that case gentle syringing with lukewarm water, careful drying of the ear, and the insertion therein of a little almond oil, warmed in a spoon held over a spirit flame, will give relief.

Diarrhoea.—An extremely common ailment with dogs and puppies, and one that must never go unchecked; on the other hand, it must not be stopped directly a looseness of the bowels is noted, as that is Nature's way of getting rid of some undesirable matter. A good plan is to give a dessertspoonful or a teaspoonful of castor oil. Worms and unsuitable food are commonly responsible for the trouble, while an injudicious use of flowers of sulphur may now and then be the cause. Still, whatever the cause, the oil suggested will do good, and this may be followed by 5 gr. to 10 gr. of subnitrate of bismuth dry on the back of the tongue. The food, too, must consist chiefly of arrowroot and milk or of peptonised milk. Well-boiled rice, with which some shredded raw lean beef or mutton has been mixed, may also be given; but the rice must be *thoroughly cooked*, or further trouble may result. Young puppies with the dam should not have drugs; they should be treated through the mother, but older ones may have half a teaspoonful of ordinary chalk mixture.

Distemper.—The commonest and most fatal of all dog diseases. Though usually a disease of puppyhood it also attacks adult dogs. One attack of the disease does not render an animal immune, but second and third attacks are as a rule lighter. All dogs do not have distemper, though the number which escape is relatively small. It is a many-phased disease that runs a specific course, and though certain drugs are helpful, the patient depends for recovery still more upon good nursing. The great thing is to treat the disease directly it is recognised. The usual form is characterised by running of the eyes and nostrils, a hot nose, and a decided rise in temperature. The

first thing to be done is to remove the dog to warm, airy quarters, where he will receive constant attention. It is very essential that the discharge from the eyes and nose be kept removed. Once the nose gets clogged with the mucus, complications are sure to arise (the lungs and the bronchi may become involved), and the case is not then amenable to home treatment. If ordinary invalid food is refused—as it frequently will be—the following must be given three or four times daily:—Bovril one teaspoonful, milk 2 oz., and half an egg. In addition a fresh egg should be beaten up in a little milk; this is sustaining and will also help to moisten the patient's mouth. These preparations must be given quite fresh. Still better fare if the dog will take it consists of a sheep's head boiled and the meat therefrom cut up finely and mixed with stale bread—the whole covered with the liquor in which the head was boiled. St. Vitus Dance (Chorea) often follows a distemper attack, and is incurable. Those whose business it is to wait on distemper patients should not be allowed access to healthy dogs, cats, or even ferrets. After the patient becomes convalescent he will be so debilitated that a generous, readily-digested dietary must be provided for a time.

Eczema.—Another disease with many phases and difficult in bad cases for a layman to differentiate from Sarcopic Mange. There are both wet and dry forms of eczema, and both are characterised by considerable skin irritation. The cause of disease in any individual may be very obscure. It may be due to a lack of food or from a surfeit thereof, or even from an unsuitable dietary, or from worm infestation. Contrary to the opinion often entertained, Eczema is not due to a parasite (as Mange in both forms is), but is really a blood disorder and therefore non-contagious. The skin often presents a very red appearance, especially in the thigh region, when the disease is known as Red Itch; or in addition to the inflamed condition there may be bladder-like eruptions which, when discharging their contents, form scabs and coalesce. To attempt to allay the irritation (the effect) without attacking the cause is not of any permanent use. The cause must be diagnosed and efforts made to remove it and to bring about a healthier condition of the blood. For this, from a dessertspoonful to a tablespoonful of the following should be tried:—Liquor arsenicalis, 1 dr., tincture of ginger 4 dr., Epsom salts 2 oz., water 6 oz. To allay the skin irritation use one part of flowers of sulphur to six parts of olive oil. Scottish and several other Terriers seem particularly susceptible to a form of wet eczema between the toes. For this boracic acid is excellent.

Fits.—Those most commonly met with are due either to teething or to epilepsy. The former are not of great moment, and usually an aperient at the time the permanent teeth are erupted will prevent them. Epileptic fits are more serious. The dog when seized seems to tremble violently, staggers, and falls down, but he attempts to move. They are usually accompanied by a frothing at the mouth, clamping of the jaws, violent convulsions, and a moaning cry. Beyond removing the animal to a quiet spot little can be done. When the fit is over the animal will collect himself, and will get up apparently all right. Bromide of Potassium in 2 gr. doses, twice a day, will have a quieting effect on the nervous system; but care must be taken not unduly to excite a dog showing a predisposition to these fits, or to give exercise on a full meal. Worms, too, are a cause of fits in both puppies and adults. The remedy is to expel the parasites.

Fleas.—Dogs that are neglected (ungroomed) on whose sleeping-places are not looked after, are very liable to flea attacks. These are found on the dog as perfect insects only, the larval (grub) and chrysalis stage being passed in dust and other debris. There are plenty of soaps on the market that will kill fleas; while Jeyes' Fluid in solution will also be equally useful. In the smaller dogs (toys) a spraying with camphor spirit, followed by a combing, should get rid of the vermin; but care must be taken that the spirit does not get into the eyes. Baskets, cushions, and rugs should be periodically cleansed and treated to an insecticide.

Indigestion.—Another common ailment generally,

the result of improper feeding and lack of exercise and fresh air. The chief symptoms are an unhealthy appetite (craving for cinders and coal), diarrhoea, bad breath, vomiting and constipation. A compound rhubarb pill—or two in the case of the larger dogs—given on alternate nights for a week, will soon work an improvement if at the same time attention be given to dietary and exercise.

Lice.—Two kinds of lice are found on the dog—a biting and a sucking kind. They are usually more difficult to get rid of than fleas by reason of the fact that not only have the insects themselves to be taken into account, but also the unhatched generations in the egg-cases ("nits") attached to the hair-shafts. All hair-combings should be burned directly after grooming, and the dog dressed with one part paraffin and two parts olive oil. The egg-cases may also be dissolved by means of vinegar. "Jeyes' Fluid (one in fifty)" is also a good insecticide. Lice are debilitating to their host, and are, moreover, the intermediaries of Tapeworm and thus doubly objectionable.

Mange.—Though often spoken of in connection with dogs, Mange cannot be regarded as a common disease in either the Sarcopic or the Follicular form. As it is communicable to man—at least in the Sarcopic form—home treatment is not advisable. Again, at the outset it is difficult to differentiate it from Eczema. Later, however, the shedding of the coat and the unwholesome appearance due to the bursting of the pustules, the exudation of a fluid, and the coalescing of the scabs, should be sufficient to warn the owner. Mange is due entirely to parasites, the one burrowing under the cuticle, and the other beneath the hair follicles. It is highly contagious, and a kennel or other sleeping-place used by a mangy patient should not be occupied by a healthy dog until it has been thoroughly disinfected, and then only on the advice of a veterinary surgeon.

Rickets.—Puppies bred from rickety parents, or reared under unhealthy conditions, or fed on an unsuitable diet, are liable to contract this deforming disease. It is caused by a deficiency of earthy matter in the limbs chiefly, and the result is that they are unable to support the body-weight and become misshapen. Moreover, once the limbs are crooked the deformity is permanent. The great thing to aim at is prevention. This is best brought about by finding a good substitute for the dam's milk at weaning time

(see *Feeding*). Ten grains of phosphate of calcium given in the food twice a day should also prove of great benefit.

Ringworm.—Two varieties of Ringworm are found on the dog—honeycomb and circular. The fungus responsible therefor is easily introduced into an otherwise healthy area by means of cats, cattle, etc. Affected animals should be isolated directly the disease is noticed, and dressed with yellow mercuric oxide ointment. Ringworm is very contagious and transmissible to man.

Ticks.—Pet-dogs that have the run of the country are almost certain to pick up Ticks—animals which approach the spiders in form. They are very irritating as well as debilitating to their host. When first they attach themselves they are quite small, but gradually assume goodly proportions, and when full fed are not unlike a plump horse bean. They should never be picked off, as in doing so the mouth-parts of the creature are invariably left, and these cause nasty sores. If not very numerous they should just be touched with a camel-hair pencil dipped in turpentine. This will cause them to relax their hold, and they may then be readily detached and crushed. Washing with soap is of no avail against Ticks. Several firms of repute sell efficacious lotions to be used against the pests.

Worms.—Round, Tape, and Thread-worms affect the dog and are the cause of much trouble. Puppies nearly always harbour the kind first mentioned, and they are detrimental to their health. Pot-bellied individuals should always be suspected, and a vermifuge be given. Sherley's Worm Capsules are safe and effectual. For Tapeworms (usually passed in flat segments with the *feces*) oil of male fern in capsule form and in doses suited to the different breeds is almost a specific. All vermifuges should be given after fasting the dog twelve hours, and should be followed in half-an-hour with a dose of castor-oil—a dessertspoonful to a tablespoonful. So long as the head of the creature remains, however, the worm will continue to increase by budding off segments from the head. By way of prevention all dogs should be kept free from fleas and lice, and on no account should they have access to uncured rabbits' livers or sheep's heads, either of which may be the means of infesting the dog with Tapeworms of a most injurious kind.

Thread-worms may be ousted by similar means.

CATS.

The cat may be truthfully classed as amongst the most beautiful, elegant, and graceful of all carnivorous mammals, while its agility is nothing short of remarkable. It is, moreover, an animal of great utility, and assists materially in holding in check two of the most destructive of all vermin—the rat and the mouse. In the days of Julius Caesar, although our forests were plentifully supplied with cats, not a single "mouse" existed in any British town or village. And further, it is recorded that the domestic cat was a rarity even a thousand years after. Cats have been kept as pets though for hundreds of years now, and once having proved their value to man as destroyers of vermin became greatly valued.

VARIETIES.

In a general way Domestic Cats are divided into two classes—Long-haired, and Short-haired. As exhibition specimens the Long-haired are much the more popular, but the latter are much the more numerous, and largely kept as household pets.

Long-Haired Cats.—Not many years ago these were judged for coat and size only, and the colours were few; now there are many—Black, Blue, White, Orange, and Cream in Self; Brown, Silver, Orange, and Blue in Tabbies; Tortoiseshell, Tortoiseshell-and-White, and Blue-and-Cream in Broken Colours. The most valuable and highly-prized colour of all is, that known as Chinchilla. The Chinchilla is a cat that is practically a silver, but its fur is just flecked or tipped very faintly with grey. The Smoke possesses an under coat of pure silver, whilst its top coat is a rich black. A sound-coloured Smoke must not show any barring or tabby marking. Its under colour must be as clear and pure as its top coat is bright and sparkling. Although springing from one common ancestry, the Smoke and the Chinchilla have nothing in common

except the colour of under coat. The top coat of the one must be as light as possible, and that of the other as black as possible. The Chinchilla has a green eye, peculiarly beautiful and lovely, but the eye of the Smoke has been improved into a rich amber of a coppery hue.

The most popular of colours is that known as blue, but strictly speaking the colour is more of a French grey than a blue, although there is one family of Blues which possesses a warm and deeper tone, and is more of a plum blue. This particular strain has been in great request of recent years, and one of its members, known as Champion Sir Archie II. of Arrandale, has produced more winning cats and kittens than any cat ever bred. The eye of the Blue must be deep amber or copper coloured if it is to be accounted of value on the show bench. Blacks, Brown Tabbies, Orange Selfs and Tabbies, Smokes, Creams, Tortoiseshells, Tortoiseshell-and-Whites, Blue-and-Creams, and Blue Tabbies should all have orange or amber coloured eyes. Silver Tabbies should possess a dark hazel eye. All the best authorities are agreed on this point, although of late years one or two prominent judges have stated their preference for the green eye, but

their opinion has not been shared by the leading breeders. Whites have blue eyes.

As the Tabbies are named after the ground colour of their coats—Brown, Silver, Blue, and Orange. The stripes of the first three must be black, whilst those of the Orange are of a richer and deeper hue than the ground colour, and a good description to apply to them would be red. In fact some people speak of Orange Tabbies as Red Tabbies, but that is hardly accurate. Orange and Cream Selves have one common ancestry, and have come from the crossing of Blue Selves and Orange Tabbies; then inter-breeding the progeny, and making careful selection from each succeeding generation, until now the two colours are established and breed fairly true. An occasional cross between the Orange and the Cream is beneficial to both, but particularly so to the Cream, because it keeps up the colour without any further admixture of blue. Blacks must be as deep rich and bright in colour as possible. It is somewhat remarkable that the best coloured black cats are usually very rusty and brownish in their top coat as kittens. Therefore a kitten should not be rejected on account of its colour until it has shed its kitten fur, and rejoices in the possession of its full adult coat. Tortoiseshells are tri-coloured, having distinct patches of black, red, and yellow, and the richer, deeper, and clearer these three colours are so much more valuable the animal. Thus far the Tortoiseshell Tom is the *seignior* of the Cat Fancy, only two or three specimens having made their appearance. Tortoiseshells are bred from the crossing of Blacks and Oranges, and from either of these colours with Tortoiseshell. At one time Orange females were as rare as Tortoiseshell males, but now they are fairly common. The writer was, we believe, the first breeder to produce Orange females. Whites are very handsome and are highly esteemed on the show bench.

The chief points of the Long-Haired Cat apart from colour, which is a very weighty consideration, and a point of great value, are—Head, round and compact as possible, bold in the forehead, short in face, full and round in the cheeks and lower jaw; the nose should be short and wide, and have a slight upward tilt; the eyes should be round, full, bold, and bright; a lustreless eye is a great drawback, and ears should be short, neat, well tufted, and widely set in the forehead. Body, compact, cobby, and firm. Legs, stout, strong in bone, well covered with fur. Feet, broad, well padded and nicely tufted. Ears, collar, long, full, and flowing. Tail, short, wide and bushy, and carrying a profusion of fur, hence the cognomen "brush" so often applied.

Short-Haired Cats.—In coat and structure the Short-Haired Cats differ very materially, not only from the Long-Haired but also from each other. All the Long-Hairs are alike in shape, coat, and carriage. Not so the Short-Hairs. There is only one variety of Long-Haired, but there are five varieties of Short-Haired—British, Manx, Abyssinian, Russian, and Siamese. Another variety is sometimes spoken of as the Maltese, but it is not recognised by English breeders.

We will speak of the British first. The ordinary household cat or family mouser. It is more elongated in body, legs and tail than the Long-Haired Cat. The head, although full and round, is not so short in face and nose as that of the Long-Haired. It is free in its movements, and possesses a more vigorous and swinging gait than does the Long-Haired. The colours are—Black, Blue, White, Orange, and Cream in Selves. Brown, Silver, Grey, and Orange in Tabbies. In eye colour they are the same as the various Long-Hairs, as are the two other colours, Tortoiseshell and Tortoiseshell-White. The coat of all British cats is soft, fine, sleek, and velvety.

Manx Cats are tailless. They are not so elongated in body as the British, the hindquarters having a sort of chopped-off appearance; they are not square, but rounded; the hind legs are unusually long, thus the body slopes towards the shoulders, instead of from them as in the British cats. The Manx cats are devoid of the graceful carriage of the British, and have a kind of louncing gait, something like that of a rabbit.

Abyssinian Cats.—These bear a close resemblance to the Egyptian cats, and many believe them to be direct descendants of the original Egyptians. The name Abyssinian suggests a connection with Egypt,

and the fact that they are quite distinct in colour from any other cats known to English breeders also lends colour to the Egyptian theory. The body is long and slim, as are the legs and tail. The face is more wedge-shaped than that of the British. The ears are rather long and fine and tipped with black. In colour it is brown, and is evenly ticked with black. Silvers have been produced, but the best authorities say they are not pure, and are the result of being crossed with the British Tabbies. This contention may be correct, but we are inclined to dispute it. In our opinion the Silvers are sports from the Browns, and are the result of a failure or weakness of the colouring pigment.

Russian Cats.—These are beautiful rich lavender-blue in colour, a brighter and more metallic hue than the blue of the British Cat, which they resemble in body shape but not in head, the head being longer and not so massive as that of the British. The coat of the Russian is altogether different to that of the British, it is not so soft and velvety, but is closer and firmer, and possesses a plush-like appearance and feeling. The eyes are not so deep in colour as those of the British Blue, and often show a shade of green. English breeders like the deep coloured eye, but the paler shade is more in keeping with the colour and texture of the coat of the Russian.

Siamese Cats.—As the name indicates these are the Royal Cats of Siam, and they are most distinctive in shape of body than any of the other breeds. The British Cats are more delicately formed, are finer in bone, and somewhat shorter in limb. The head is fine, but not so long nor so wedge-shaped as that of the Abyssinian. When young the Royal Cat of Siam is of a clear cream colour, but as it ages the colour darkens to fawn, and from fawn to chocolate. It has clear china blue eyes, and its face, ears, paws and tail have rich seal-brown markings. They are hardly if kept under proper conditions. There is a blue variety, but only a few have been imported into England.

MANAGEMENT.

Breeding.—No better place for the early home of kittens can be desired than a cheese tub. One of these will only cost a few pence from the local grocer, and when scrubbed and cleaned needs nothing more than a piece of old blanket or flannel laid in the bottom to make a very comfortable bed for a breeding queen. Pussy should be introduced to her quarters about a week before the kittens are expected, and she will soon understand and appreciate them. The blanket or flannel should be changed every few days, then no trouble will be experienced from fleas, especially if the bottom of the tub is wiped out with a cloth and dusted with pyrethrum insect powder each time the blanket is changed. The welfare of a litter of kittens depends in great measure upon the cleanliness of their bed, as it is impossible for them to thrive if a colony of fleas are sucking their life blood from them. It is not advisable to mate a queen before she is twelve months of age, nor to allow her to have more than two litters in a season if it is desired to have strong, robust, healthy kittens. When a queen shows signs of becoming restless, she should be shut up until arrangements can be made to send her away to be mated, so that she may not contract a misalliance. Nine weeks from the time of mating kittens may be expected.

Feeding.—For the first seven or eight weeks the kittens will do well enough with their mother's milk. Then they may be given a little cow's milk, thin gruel made with oatmeal and milk, and a Benger's or Ridge's Food. At nine weeks they should be given porridge made from milk and rolled oats such as Quaker, Provost, or Waverley. At twelve weeks they may have a little minced beef cooked with their porridge; as change of food they should be given pithy, or dog, biscuits broken up and cooked as porridge. This diet may be continued until the kittens are seven or eight months old. Many give kittens raw minced or scraped beef from the age of three months, but it is not needful; in fact, our experience leads us to the conclusion that young kittens do better without, than with, raw meat. Young kittens when weaned need to be fed five or six times a day, say, every two

hours; when three months, every three hours; from six to eight months, four times a day; after that age, twice a day. For adult cats the diet should be varied, and may consist of fish, meat (cooked or raw), gravy, vegetables, boiled tripe, table scraps, bread-crumbs, and any of the ordinary household meals, and dog biscuits which may be scalded and mixed with meat and vegetables or fish, or fed alone. Milk we do not care for as a food for cats after early kittenhood; we long ago came to the conclusion that they do far better without it. There is one thing, however, which should never be forgotten, and that is a dish of clean cold water renewed twice a day. With this, and care and cleanliness, there will not be much illness. Kittens will learn the use of the sanitary pan from their mother, and will use it regularly from the earliest days of kittenhood if permitted. Finely sifted ashes are the best material for the pan, but powdered peat moss or dry earth are efficient substitutes.

Grooming.—The health and general well-being of depend greatly upon the way in which their bodies as well as their beds and resting places are cleansed. Every day the coats of long-haired cats should be well brushed with a long-bristled brush such as ladies use for brushing their tresses. Combs should never be used unless absolutely necessary, as they tear the coat and destroy its beauty. If the coat should become matted and cutted, the cats should be teased out with a long drawing needle, then gently combed, and afterwards brushed out. If neglected, the coats will soon become matted; therefore, the daily use of the brush should not be neglected. Before showing, the coats of Blues, Blacks, Browns, Creams and Oranges should be dry-cleaned with warm bran, which should be well rubbed into the coat with the hands and then carefully brushed out. Whites, Silvers and Chinchillas should be cleansed with baked flour or with Pears' Prepared White Fuller's Earth, rubbed in the same all brushed out. It must be remembered that the daily grooming does more than add to the cat's outward appearance; it keeps it in good health by preventing the loose fur from entering the cat's stomach and causing fur balling. In connection with this, we may say that cats who are able to eat long coarse grass are seldom affected in this manner, the grass preventing the balling by reason of its power as a natural emetic.

DISEASES AND PARASITES.

Canker of the Ear.—A disease that might be treated on the general lines suggested for dogs.

Cold in the Head.—Sneezing, coughing, and eye and nose discharge are the symptoms. The treatment consists in keeping the cat warm and giving light, easily-digested food. Should the discharge close the nostrils, the cat's head should be held over a vessel of hot water containing a little Eucalypti Oil or else a decoction of Poppy Heads. This complaint is very contagious.

Diarhoea.—Symptoms too well known to need description. (Observe the same general rules as are detailed for dogs.)

Distemper.—A highly contagious disease characterised by loss of appetite and weight, and a hot nose; it is usually followed by diarrhoea, or it may be by vomiting, discharge from the eyes and nose, coughing, and sneezing. Another phase of the disease shows the cat as a most emaciated animal, with a dry, staring coat and cold skin; death usually soon puts an end to its sufferings. Pneumonia, again, often follows on distemper, and is very fatal. The best thing to be done is to send for a Veterinary Surgeon.

Eczema.—A non-contagious skin trouble in which there is great irritation, causing the cat to scratch itself and scabs to form, especially on the back. In certain cases where there is no inflammation present, arsenic is the best drug to employ, but in infinitesimal doses, and only under the advice of a Veterinary Surgeon. A little lean, raw meat cut up in good, and the bowels should be kept gently moved. To relieve the inflamed skin apply three times a day: Goulard's Extract, 1 part; Glycerine, 4 parts; Rectified Spirit, 4 parts; Water, 75 parts.

Fits.—Epileptic fits are common. Adopt general

treatment advised for dogs. Three-grain Bromide of Potassium tablets should be dissolved in a little water and given as a sedative.

Fleas.—These are especially troublesome in the case of long-haired cats. They are best got rid of by spraying with spirit of camphor from tail to neck (taking care that none gets in the eyes), and then combing the cat over a vessel of hot water.

Fur-balling.—This is not a disease although it often gives rise to one, and is not infrequently the cause of a cat's death. Usually the cat owner resorts to castor-oil, and thus makes matters worse. The best thing to be done is to get a pigeon and to give a wing—feathers and all—to the cat. This will usually dislodge the fur "ball" without much trouble.

Gastro-Enteritis.—Perhaps the most fatal of all cat diseases, and usually due to erroneous feeding, or the cat eating garbage. The "stools" are greenish and most offensive; there is much fever accompanied by a swelling and tenderness of the stomach. It is infectious and the aid of a Veterinary Surgeon should at once be enlisted.

Lice.—A biting louse is found on the cat. It does not seem to cause much irritation. It may be destroyed by using creolin 1 part, water 200 parts twice a week. Fatty food is called for, and cod-liver oil will be found of benefit in such cases.

Mange.—A somewhat intractable disease not amenable generally to home treatment.

Milk Tumours.—These unsightly swellings are due to unthanking people destroying the whole of a litter of kittens and not attempting to disperse the milk. When all the kittens are taken away from the mother while she has plenty of milk, the latter should first be drawn off and the milk-glands rubbed with camphorated oil.

Ringworm.—An irritating skin condition due to a fungus, and as the complaint is communicable to man, it is best treated by a Veterinary Surgeon.

Worms.—Both Round and Tape-worms are found in the cat. For the first give to an adult: area nut, 6 grams, santonin, 1 gram, followed in an hour by 1 dessert-spoonful of castor-oil. For the Tape-worms Oil of Male Fern (obtainable in capsules) is excellent. After the expulsion of the parasites the cat will need to be generously fed.

GOATS.

Disposition and Tractability.—Goats are capable of being made as companionable as dogs. They should be taken in hand when quite young, a well-bred kid being far easier to procure than a full-grown goat, which may cost anything between £5 and £10, whereas a kid may be had for a pound or thirty shillings.

Rearing Kids.—Our advice to beginners is to write to some of the principal breeders of the British Goat Society, and endeavour to purchase a female kid from parents possessing a milking pedigree, which means one whose dam or grand dam has won a milking prize, showing that the progeny are likely to inherit this quality.

Many goats produce three kids at a birth, but it is better to rear two well than three indifferently, and therefore breeders may often be willing to part with the third at a reasonable price, and this is the chance for the novice. The sooner the kid is taken from its mother after birth the easier it is to rear by hand, and artificial feeding is easily managed if the following conditions are observed:—The first and most important is to pay the greatest attention to cleanliness in the utensils used. The feeding-bottle should be one of those having a teat fixed to one end and not one connected by a long tube which accumulates sour milk and is difficult to clean. It must be rinsed out with scalding water once a day at least, and occasionally left soaking in soda water. The best milk of course is goat's milk, but as this is not often obtainable where a goat is not kept on the premises, the cow's milk may be substituted, a quarter of a pint at a time, repeated several times a day for the first week. Afterwards the meal may approximate to half a pint and be repeated less often. At a week old a quart a day may be given

and this may be gradually increased afterwards. At the end of a month, if economy has to be considered, soft calf-meal gruel may be given mixed with the cow's milk, and continued in larger proportion as the animal grows, till at two months old this artificial food may be supplied alone or at least with only a small proportion of milk. At ten weeks the kid may, if desired, be gradually weaned from the bottle and encouraged to eat hay—which it will have already nibbled freely if offered—and crushed oats mixed with bran. It will be found beneficial, however, to continue the liquid nourishment night and morning for another month or longer.

Goatlings.—Technically speaking a kid is a young goat up to twelve months old; from that age to two years it is known as a goatling, which corresponds to a heifer amongst cows. Now a goat is the most precocious of probably all domestic animals, and if allowed the opportunity it will mate even before it is fully weaned, and bring forth a kid before it is itself out of its kidhood. This must be carefully guarded against by anyone wishing to rear a fine goat, for this early breeding arrests growth, and the animal never attains afterwards its proper development. Sex kids and goatlings must therefore be kept quite away from male kids or goats.

Assuming the kid to have been born in March, it should not be mated until the September of the year following. As the period of gestation is five months it will then come into profit the following February or March, when it has practically done growing.

Training a Goat for Domestication.—It will be during the goatling stage, and in fact, as soon as it is no longer a kid, that the animal should be trained for drawing a carriage if such be desired. The first thing to be done is to accustom the animal to a bridle and bit, and then to drive it about with a pair of reins but without being attached to any vehicle. This is to teach it the use of the bit and to get it to answer to the rein, turning to right or left and stopping as required. The goat is then attached to a light cart, being at first led by hand, and afterwards driven until it understands what is expected of it.

Feeding.—Grass is by no means a necessity. The animal enjoys pasture naturally, but the grass must be clean and sweet; trimmings of hedges and prunings of trees form admirable food. There is, indeed, nothing in a vegetable garden, from such weeds as thistles and docks to peashum and potato tops, stalks of greens, etc., that comes amiss to these animals.

When the time of the year arrives in which garden produce is no longer available, recourse must be had to hay and oats, with swedes or mangolds as green food, and such scraps as the kitchen affords in the way of pieces of bread, apple and potato parings, the scrapings of the porridge-pot, and such like. It is out of waste material of this kind that the pet goat provides the household with the most nourishing and digestible of milks—a milk which gives a creamy taste to your tea and coffee, and the puddings that are made with it.

RABBITS.

England has long bred the lead so far as the breeding of high-class exhibition rabbits is concerned, but on the utility side is a long way behind the Continent so far as the production of rabbit-meat and valuable skins are concerned. This reproach is likely to be swept away in the near future, as quite recently two associations have been started to promote the cultivation of rabbit-breeding solely for the sake of the skins and meat. When we consider that all domesticated rabbits are descended from the brown, or grey, rabbit (*Lepus cuniculus*), so familiar to us all, we are led to realise how great has been the ingenuity and perseverance of fanciers in the production and perfecting of the many varieties which now grace the benches of our shows. This work has been greatly assisted by the many specialist clubs devoted to the culture of Fancy Rabbits. If, by the influence of the new utilitarian societies we are led to consider the commercial value of rabbit-breeding, England will quickly beat the Continent in the production of valuable, beautiful skins, if not as far as table-meat is concerned.

Varieties.—(1) Angora: points—long fleecy coats,

heavily tufted ears and feet; colours—white, black, blue, fawn and grey, the first the most common. (2) Belgian Hare (bred to the type of the wild hare): points—length of body, fine head, fineness of bone, and rich silvery red colour. (3) Dutch: points—smart cobby body, close fine coat; markings—white blaze collar and feet stops; colours—black, blue, light and dark grey, tortoiseshell, yellow; weight 5 lb. to 5½ lb. (4) English: shape, size, full close coat; markings—butterfly, nose, eyes, ears, cheeks, saddles, body, legs and belly; colours—black, blue, grey, tortoiseshell. (5) Flemish Giant: points—size, massive bone, squareness of body, firmness of flesh; colour—steel-grey; weight 15 lb. to 20 lb. (6) Havana: points—fineness of bone, racy appearance, fineness of coat; colour—chocolate-brown, like a choice Havana cigar. (7) Himalayan: points—small cobby body, pink eyes, close fine coat; colours—white, with black nose, ears, feet and tail. (8) Imperial: points—medium size, short fine silky coat, blue eyes; colour—medium blue; weight 5 lb. to 6 lb. (9) Lop: points—length, width, substance, and carriage of ears, size of body, straightness of limbs; colours—black, black and white, blue, blue and white, fawn, fawn and white, grey, grey and white, sooty fawn, and tortoiseshell; the ears of first-class specimens measure 27 to 28 inches from tip to tip, and 7 to 8 inches across. (10) Polish: points—neat cobby body, short ears, pink eyes, short fine coat; colour—white. (11) Silvers: points—short cobby bodies, but larger than Polish or Himalayan, evenness and silveriness of colour, brightness and sharpness of silvery ticking, short fine coats, fine bone, neat ears; colours—grey, fawn, brown, blue, divided into shades known as light, medium, and dark in each of the four colours; weight 5½ lb. to 6 lb. (12) Tans: points—shape of body, fineness of bone, sharp, alert expression like unto the wild rabbit; colours—black, and blue with tan markings like unto black and tan dogs.

Housing.—There are two forms of housing, outdoor and indoor. In the former the hutches are ranged in stacks out of doors, under a roof of tarred felt or corrugated iron; in the latter, a shed or properly built rabbitry is used for housing the hutches. The latter form is much the best if full attention is paid to the ventilation. The outside of all hutches should be painted. The floors should be very firmly and closely built, all joints should be well puttied, and the floors then tarred to prevent the moisture soaking through. Where a large number of rabbits are kept it is necessary to stack the hutches, and when this is done the lowest tier should be at least 18 inches off the floor or ground. Bricks or posts may be used for this purpose, but they should be covered with tin to prevent rats and mice getting into the hutches. When fixing hutches it is wise to let them slant a little to the back. This will keep the moisture from spreading all over the hutches and facilitate cleaning operations. Outdoor hutches should also be protected with shutters, which may be fixed with hinges, or held in position with bolts or Laton fasteners. Hutches for single rabbits should be about a 6 ft. square. Breeding hutches should be from 3 ft. 6 in. to 4 ft. 6 in. in length according to the size of the variety kept. Lops, Belgian Hares, and Flemish need the largest size. These hutches should be fitted with a door at either end, the two meeting in the middle, or the whole of the front may be made to open. In the larger sized hutches the double doors are much to be preferred. The fronts of all hutches should be of wood for the bottom half, and fine-mesh wire netting for the upper half. Separate breeding compartments are not advisable. The does usually make their nests in one of the corners, and if an open hutch is used one can easily and quickly examine the young, if such is needed. If cash is short, most excellent hutches can be made out of strong cases which may be bought from drapers, ironmongers, or provision dealers. Rabbits are inclined to gnaw the projecting points of woodwork in their hutches, but if it is occasionally brushed over with paraffin oil there will not be much trouble in this direction.

Feeding.—Rabbits need feeding at least twice a day—morning and night, and if convenient a third meal at mid-day will do much good to suckling does and

growing young stock. To keep them in good health and condition, variety and change of food is needed. The dietary should consist of good clean sound oats, wheat, bran, pollard, barley-meal, hay, green food and roots. In the summer time ordinary pet rabbits will do well upon a handful of bran, a few oats, and a handful of green food in the morning, with hay and green food at night, and the night feed should be a generous one. In the winter, oats, bran, wheat, with hay and roots, such as carrots or swedes, may be given. When fattening, barley meal and pollard mixed into a crumbly mass should be given morning and night in addition to other foods.

High-class exhibition stock will require more careful feeding. The morning meal should consist of oats and bran, wheat and bran, or bran and pollard, with a little hay and green food; at mid-day a handful of green food should be given; at night a plentiful supply of hay should be given, some green food or roots according to the season of the year, whilst the more substantial part of the meal may be wheat or oats, or a mash made of pollard, bran, and barley meal mixed in the proportion of two-fifths of each of the former to one-fifth of the barley meal. When does are suckling young a dish of bread and milk given in the morning will prove most beneficial. Meadow grass, clover, lucerne, chicory, green peas, green wheat, sow thistle, dandelion, groundsel, chickweed, lettuce, cabbage, cauliflower leaves, celery tops, carrot tops, pea and bean haulm, in fact any ordinary domestic green vegetable or garden refuse will be welcomed by bunny.

No hard and fast rule can be laid down as to how much food a rabbit should eat. Rabbits, like human beings, vary in their needs. The small breeds must be fed with a careful hand, the larger ones more generously. Experience will soon teach how much food is needed either for single specimens, breeding does, or a hutch full of young growing stock. A pan of clean fresh water should be given every morning.

General Management.—The hutches should be bedded with sawdust or finely ground peat moss to the depth of one or one and a half inches, and this should be covered with soft straw or hay. When a number of rabbits are kept together the hutches should be cleaned out every day, single hutches twice or thrice a week. It is not necessary to remove the whole of the bedding, but only those portions which are soiled. Once a week the whole should be removed, and the floors of the hutches thoroughly scraped and brushed.

Exhibition stock will require grooming every day. The coats should be brushed with a fairly soft brush, and then be rubbed over with a wisp of hay or a dry duster. When lifting rabbits, grasp them boldly in the middle of the back, and place one hand underneath to share the weight. If lifted by the ears, the left hand should hold the ears whilst the right hand should be placed under the hindquarters to support the weight.

The small varieties may be bred with when six or seven months, but the larger breeds should not be allowed to do so until they are eight or ten months old, that is if strong healthy progeny are desired. Early breeding, if persisted in, shortens the lives of the breeding stock and weakens the progeny. The stud buck should be kept in a hutch by himself, and does that are to be mated should be placed in his hutch. Never put the buck into the hutch of the doe. The period of gestation is thirty days. Sometimes does may kindle a day before, or a day or two later. About a week before the young make their appearance the doe will be seen carrying bits of hay and straw about the hutch, and tearing the fur from her chest. It is not wise to interfere with the young unless the doe is of a very kind and friendly disposition. A hasty glance may be taken whilst the doe is feeding, or you may remove her from the hutch for a moment, but great care is needed not to disturb the nest. Just pull the edge of it back, look quickly to see if the young are all right, and then place the nest edge back as you found it. Should there be a dead youngster in the nest remove it. If all goes on well the youngsters will begin peeping out of the nest at the end of a fortnight, and at three weeks will be found nibbling at their mother's provender. At five weeks they may be removed, but if they are valuable, the longer you have them with the

doe the stronger and finer they will be. At nine weeks they should be taken away so as to give the doe time to recuperate before she is again mated. The young may be kept together until three months old, when the sexes should be divided. As the bucks approach breeding age they will need separate hutches, or they will fight and damage each other.

COMMON ILLNESSES.

Snuffles.—Cause: A parasite which invades the nasal passages. Highly contagious. Commonest in debilitated stock kept under damp, insanitary surroundings. Symptoms: Loss of appetite, dullness. A peculiar sneezing and coughing accompanied by profuse nasal discharge and salivation, which wets the chest and feet; often mistaken for a common cold. Treatment: Isolate the rabbit and disinfect the hutch. As the disease is almost incurable, destroy all affected animals of no great value. Feed very liberally on bread and milk, corn, etc. Blow powdered borax up the nostrils, or drop in a few drops of equal parts of eucalyptus, oil and glycerine twice daily.

Diarrhoea.—Causes: Poisoning due to giving too great a quantity continuously of one kind of green food; indigestion from unsuitable food; a too sudden change of dietary, heated (fermented) food, etc. Treatment: Change the dietary. Give meadow grass if possible. A feed of shepherd's purse, or some water to drink, sometimes checks active symptoms. In young rabbits try feeding on bread and milk only for a few days.

Fleas.—These pests may be kept in check by constant dustings of insect powder into the fur, and attention to securing thorough cleanliness.

CAVIES.

A quarter of a century since the word Cavy was not at all common. In those days people talked of Guinea-pigs, but since the little squeaker of our boyhoods' days was elevated into the position of a show animal it has rejoined in the more high sounding and dignified appellation of Cavy. It is descended from the wild *Cavia porcellus* ("Restless Cavy"), and is a native of South America. Cavies make most pleasing and attractive pets for children, as they are most docile and tractable. Seldom, indeed, does one hear of a Cavy proving savage or vicious. During the summer months they may be given a hut, with a long wired run which may be placed in a convenient spot on the lawn, being moved to a fresh spot each day. They will clip the grass as close as any mowing machine, whilst their manure acts beneficially as a fertiliser. When out on the lawn they should be given clean fresh water to drink at least twice a day, and a few oats once a day. Their bed should consist of hay or soft straw. Common Guinea-pigs may be bought when young at from 1s. to 2s. 6d. each. Show specimens fetch anything from 5s. or 7s. to 25s.

Varieties.—There are three varieties cultivated by British fanciers:—(1) *Peruvian* or Long-haired: points—size, shape, length, density and fineness of coat, colour, the coat should completely envelope the body and hide the head; these trees have an extra good specimen reached the wonderful length of 18 inches from the root to the end of the hair; colours—black, blue, fawn, cream, white, and agouti, with combinations of these in bi-coloured and tri-coloured pigs. (2) *Abyssinians*: points—size, shape, colour, harshness of coat, rosetting; the coat should be like put-wire, about 1½ inches in length, and full of well-defined rosettes; colours—black, red, white, agouti, tortoiseshell, tortoiseshell and white, and other bi-coloured and tri-coloured combinations. (3) *English*, or Smooth-haired: points—size, shape, colour, fineness of coat, and markings. Sub-varieties:—(1) *Pointis*: silver and gold, the ground colours are silver grey and rich golden red intermixed with black ticking. (2) *Brindles*: intermixed black and red, hair for hair, being the standard of perfection. (3) *Cinnamon*: very light fawn or buff with faint ticking. (4) *Dutch*: marked like the Dutch rabbits; colours—agouti, black, red. (5) *Himalayan*: white with black noses, ears, and feet. (6) *Sels*: black, blue, chocolate, cream, red, white. (7) *Tortoiseshell*, bi-

coloured, red and black in distinct patches. (8) Tortoise-shell and white, tri-coloured, red black, and white in distinct patches. (9) Tri-colours; agouti fawn and white, chocolate fawn and white, and other combinations of above colours.

Housing.—If a stable or an outbuilding with an impervious floor is available, guinea-pigs may be kept in pens separated by boards, about a foot high, over which they will not climb. They should be given warm boxes to lie in. If kept in hutchies no division or sleeping box is necessary. The fronts may be covered with 4-inch mesh wire netting, which need not be carried more than about a foot up. It is, however, necessary to afford perfect protection from the possible onslaught of rats, cats, dogs, &c. Minimum size of pen or hutch for a trio and their unweaned progeny: 3 ft. long, 18 in. wide; allow an extra foot in length and 3 in. in width for every extra cavy. Outdoor pens on the comp and run principle, but so constructed that vermin cannot burrow their way in, form suitable abodes if placed in a sheltered and sunny position. They should be stood on a concrete floor if intended to remain as permanencies. The general principles of housing given in the chapter on rabbits are equally suitable in the management of cavies.

Breeding.—Cavies are gregarious, and live in communities of a boar and several sows. Two strange adult boars must be kept apart; but an adult will generally accept the company of, and settle down with, small boars of three weeks or a month old. Sows resent the introduction of strange members of their own sex to their pen.

When breeding high-class exhibition stock, the usual practice is to run one boar with three or four sows, and when the sows are seen to be in young to remove the boar to a hutch by himself. The period of gestation is seventy days. The young are born fully haired, and begin to run about and feed almost at once. It is not safe to leave the young with their mother after they are six weeks old, as there are instances on record of their breeding at this early age. When the young are removed from the breeding pen the sexes must be divided. It is advisable to let sows have a hutch to themselves at the time of kindling so as to be able to keep correct pedigrees, but if this is not essential then the sows may remain in the breeding pen. They will not interfere with each other's progeny, but on the contrary the sows will all suckle the young indiscriminately. As soon as the young are taken away from the sow the boar may be introduced again.

Feeding.—The general principles given in the chapter on rabbits are applicable to the feeding of cavies.

COMMON AILMENTS.

Cavies are singularly free from all kinds of diseases if housed and fed in a suitable manner. There are two diseases that attack them—consumption and dropsy. We have never heard of anyone curing the former, and very seldom the latter.

Skin Troubles.—When fed on a diet that is too dry, or too heating, Cavies are apt to suffer from irritation of the skin, and they commence to bite themselves and thus spoil their career as show specimens. As soon as a Cavy is seen to be biting itself a sprinkling of flowers of sulphur should be mixed in its meal mash, all dry corn should be removed from its dietary and bread and milk substituted, and in this a pinch of carbonate of magnesia may be mixed. If a sore should appear anywhere on the skin it should be washed each morning with warm water in which a few drops of Jeyes' Fluid has been sprinkled; it should then be dried carefully, and touched with a little zinc ointment.

Vermin.—If their hutches are kept scrupulously clean and their bodies groomed regularly each day, no vermin will ever be found upon Cavies, unless they come in contact with other Cavies, or boxes, which have been infected with either lice or fleas. Cavies sent away to prospective buyers are sometimes put into hutches that are not quite clean, and sometimes at shows fleas or lice are picked up. The safest and quickest remedy is to mix a little of Jeyes' Fluid in good water, dip a sponge in it, and give the Cavy a good rub over with the sponge; dry the coat with the

sponge and a dry duster. One dressing is sometimes enough, but there are occasions when the sponging will have to be repeated for several days.

MICE.

Origin.—Fancy mice are descended from the common grey house mouse (*Mus musculus*). They may cost from sixpence to a sovereign or more per pair according to colour, strain, and individual quality. The males only make an offensive smell.

Varieties.—Fancy mice may be divided into the following more or less well-defined varieties: (1) Agouti (wild colour); (2) Sable; (3) Black and tan; (4) Chinchon; (5) Self black; (6) Self chocolate; (7) Self red or yellow; (8) Albino (the "white mouse"); (9) Blue; (10) Lilac; (11) Silver; (12) Cream; (13) Dutch-marked; (14) Broken or spotted; (15) Black-eyed white; (16) Variegated; (17) Even-marked.

Japanese waltzing mice are thought to owe their peculiar habit of spinning round after the tail until exhausted to a diseased or malformed condition of the auditory labyrinth.

Egyptian Spiny Mice (*Acomys cahirrensis*) are sometimes bred in captivity in this country.

Housing.—Mice thrive if kept in pairs in the ordinary flat dealers' cage if a sufficiently large size (12 in.) is selected. These cages will not stack. A nice commercial cage (22, 62) in which the animals can be watched has a glass front, and the nest-boxes in an upper story. Home-made cages may be made from small boxes, air being obtained through a hole cut in the lid and covered with perforated zinc, a view of the animals being ensured through another hole cut in the front and covered with a sheet of glass—a cleaned photographic negative makes a good window. Mouse cages require careful construction, as the animals gnaw wooden projections. A little paraffin oil brushed on the wood helps to prevent this. Where several mice are kept together (such as a buck and two or three does) a large cage with a separate nest for each animal should be provided. Damp is fatal to these animals.

Feeding.—Feed once or twice daily. As stock food mix equal quantities of canary seed, millet seed, and oats, and give about a small teaspoonful per head daily on the floor of the cage. In addition, a piece of bread soaked in milk the size of a walnut, or as a change a little soaked dog food. The pan must be kept scrupulously clean. Dry bread or biscuit crumbs give variety to the dietary now and then.

A little vegetable food, such as flowering and seedling grass heads, groundsel, dandelion, or lettuce leaves, or a tiny piece of apple, carrot, swede, or mangold, may be given daily. No sour or decomposing fragments of moist food must be left about the cages.

General Management.—The cages must be kept thickly covered with dry sawdust. Some fanciers sprinkle Sanitas over the sawdust before use, or mix equal parts of Sanitas sawdust and ordinary sawdust to mitigate the unpleasant smell made by the bucks. If the cages are kept scrupulously clean, and as few bucks as possible retained, then the presence of mice in a building need not be unduly obvious. The contents of the cages should be changed at least three times a week, care being taken to scrape well into the corners. The nest should be changed once or twice a week.

Mice should always be kept in couples or several together, as one animal does not thrive alone. Males brought up together from birth will live contentedly; but two adult bucks will fight and injure one another if an attempt is made to keep them together.

Mice breed very early and will produce from four to six litters in a year. The period of gestation is 20 days, and the young will probably average about five in a litter. The buck and doe may be left together always; or if it is desired to keep only one buck and several does the animals can all run together, each doe being removed to a separate cage when she is seen to be in young. The doe will make her own nest out of clean hay provided a few days before the litter is expected. The young are born blind and naked. About five or six days after birth the young can be looked at, the prettiest selected to rear, and the remainder destroyed.

The young should be taken away from the mother and the sexes separated when they are four weeks old. It is not advisable to allow them to breed until they are three or four months old, though they will do so much sooner when well fed.

Mice may be lifted by grasping the tail firmly about half way up. No attempt must be made to pick them up by the extreme tip.

COMMON AILMENTS.

Skin Trouble.—Symptoms: Small irritating pustules form on the skin and are quickly scratched into sores. Cause: Too heating a class of food. Treatment: Rub in sulphur ointment (flowers of sulphur mixed with vaseline). Sprinkle a pinch of sulphur on the bread and milk three times a week, or dissolve a little Epsom salts in water and give to drink, withholding all moist food. Increase the daily allowance of grass and vegetable food.

Mice occasionally die of fits, or are carried off in a few hours by pneumonia. Nothing can be done for a sick patient beyond keeping it warm and dry.

RATS.

Origin.—Some doubt exists as to whether fancy rats are the descendants of the Brown Rat (*Rattus norvegicus*) or the old English Black Rat (*Mus rattus*). Young white or piebald rats can usually be purchased from an animal dealer for about 6d. apiece, and the females, tamed while young, make interesting and attractive pets. The males have an unpleasant smell. Sexes called buck and doe.

Varieties.—Fanciers divide rats into the following varieties: (1) The Pink-eyed Albino (which is most admired when pure white and free from a yellow tinge); (2) Agouti (the grey or brown wild colour, with or without a white ventral surface); (3) Self Black; (4) the Hooded Rat (which is white with black or agouti head, shoulders, forelegs and dorsal stripe); (5) the "Irish" (which is black with a more or less white ventral surface); (6) Self Fawn or Yellow (specimens of which have recently come into the possession of several breeders).

Housing.—A cube sugar-box or an empty tea-chest makes a most suitable abode. The front should be closed in with a frame covered with 1-in. mesh wire-netting, and should be hinged to form a door. Inside this it is convenient to have a thin board of hard wood, 3 in. or 4 in. high, run across the front of the hutch, and let into grooves at each side, to prevent the sawdust, husks, etc., from being scattered about. A small lidded box, with a hole bored in one end, should be placed inside the hutch as a sleeping-box. Bird travelling box-cages, of parrot size, procurable at most dealers, also make nice small, if not very convenient, cages for one pet rat.

Feeding.—Rats thrive best on a great variety of food, which must not be of too heating a character. Bread and milk, soaked (dog food occasionally, boiled rice, or, in fact, any plain farinaceous pudding, are suitable and appreciated, and if a little moist food of this class is given daily together with some vegetable food the animals will require no water.

A heavy non-upsettable feeding-pot must be provided, and no more food given than is eaten up at once, as the remainder will be carried away to decompose in the nest. Grass heads in flower and seed, dandelion, chicory, lettuce leaves, etc., in summer, and a slice of apple, carrot, mangold, swede or parsnip in winter, will provide the necessary vegetable food. One or two tablespoonfuls of grain should be thrown into the hutch daily. A mixture made of equal parts of wheat, maize and oats is useful as a stock mixture; and a second made of equal parts of canary seed, hemp seed, sunflower seed, linseed, buckwheat, millet and oat can be made and given occasionally as a change. Feed once or twice daily.

General Management.—Dry sawdust should be sprinkled on the floor of the hutch, and the nest-box filled with hay when the hutch is cleaned out. This

should be at least twice weekly during the winter, and three times weekly during the summer months.

Rats are very prolific. The period of gestation is about twenty-eight days, and the animals will commence to breed at five or six months old, or even earlier. The number of young at a birth varies from four to twelve (nineteen is not unknown); in favourable circumstances a female may have from four to six litters in the year. The young are born blind and naked. The animals may be palmed, or one buck kept successively with several does for a period not exceeding three weeks.

No particular attention is required when the young are due beyond seeing that the nest-box is free from stale food, and provided with clean soft hay. The parents may be left together; but the nest should not be disturbed nor the young examined until they are at least a week old. The young can be weaned when six weeks old by removal to a new hutch. It is advisable at this stage to separate the sexes, as the bucks will then live peacefully together if undisturbed until fully grown.

As regards ailments, etc., treat skin trouble as recommended under this heading for Mice. Fleas will not give trouble if the animals are kept in clean surroundings and prevented from mixing with flea-infested specimens.

SQUIRRELS.

Squirrels are very generally distributed over the whole of the habitable world with the exception of the Australian region and Madagascar. Of the sixty or seventy species known, there are about a dozen which can be kept in a state of captivity, provided that proper accommodation is provided for them.

Varieties.—Even foreign squirrels are not expensive pets: Chipmunks cost from 10s. per pair; Flying Squirrels from 15s.; Grey Squirrels from 20s.; Dorsal Squirrels from 25s.; Prevost's Squirrel from 40s.; the Common Squirrel only about 4s. 6d. or 5s. The most expensive are the Malabar Squirrel, which cost from £3 to £5 per pair.

Common Squirrel (*Sciurus vulgaris*).—In colour this species is brownish-red, the chest and ventral parts being a drab-white. During the late autumn and winter months the ears are densely tufted with hair, but during the spring and summer this growth gradually disappears, until about the end of June the ear-tips are almost naked. When born they are both naked and blind, and when the fur makes its appearance is the best time to take them if hand-reared specimens are required. Adult caught squirrels seldom get tame or even reconciled to captivity, and after a longer or shorter period usually pine away unless kept in large enclosures.

Grey Squirrel (*Sciurus carolinensis*).—A very pretty and attractive animal of a silver grey colour; but there is considerable variation in the coloration of all these animals, and some grey squirrels are nearly black and others nearly as red as our common species. They are the cheekiest and most confiding of all, and as pets are pre-eminent.

American Flying Squirrel (*Sciuropterus hudsonius*).—This is a dusky brown tint above and creamy-white beneath. It thrives well in captivity, and gets tame more quickly than any of the other kinds.

Dorsal Squirrel (*Sciurus dorsalis*).—A handsome animal, brownish-red above and whitish-fawn beneath; but like the others is very variable in coloration. Prevost's Squirrel is an allied form.

Malabar Squirrel.—A very large and beautiful creature of rich dark chestnut colour above, with cream underparts; it is about 2 feet in length.

Chipmunk (*Tamias striatus*).—This species belongs to the Ground Squirrels. It is smaller than its relations and prettily striped with black and white on a ground colour of black and fawn.

Indian Palm Squirrel is not so frequently imported as the other foreign squirrels owing to its capture being attended with some amount of difficulty, but it is a very handsome creature, with beautiful

markings and a delightfully soft fur. It gets tame very quickly but is somewhat delicate in confinement.

Any of the above-named squirrels are well worth the attention of any pet keeper, as they are much more interesting to keep and show one's friends than the common European example. They are all amusing and intelligent pets, and when tame are really delightful little companions when let out in a room. It is better not to take them out of doors where trees abound in case the love of freedom asserts itself too strongly and they get out of bounds.

Cages.—The cage for squirrels ought to be at least 4 feet square and solidly put together of tin, material, all projecting edges being protected with tin, as these animals, being true rogues, have a knack of gnawing their way out of a cage. The wire front is best of half-inch mesh galvanised wire netting. A retiring-box about a foot square should be attached to the back of the cage near the top just below the roof. This box should be accessible from the outside, by means of a small door cut in the frame of the main cage, so that it can be quickly got at to clean out when necessary and put in a new one. It is a mistake to have the doors of a squirrel's cage too large, as these animals are very lively and quick in their movements, and would slip through the moment the door was opened unless it were only just big enough to admit the arm. The floor of the cage should be strewn with fresh sawdust and on top of this a layer of hay or straw; straw is the better of the two, as it encourages insects, and once these have made a foothold it is difficult to get rid of them. The cage for the ground squirrel need not be so large, and the hay for the sleeping box should be as fine and soft as possible, for the Chipmunk spends most of its time curled up therein. Those species other than the Chipmunk ought to have part of a tree branch fixed diagonally in their cage from a lower corner to an opposite upper one so that they can play about upon it. Earthenware food and water vessels are better than iron or metal ones, as they are more quickly cleaned, merely requiring to be dipped in hot water and wiped dry with a towel, besides being free from the likelihood of rust; the only advantage of a metal food dish is that it is less liable to be overturned. The cage must be cleaned out once a day and not less than every week should be scrubbed over with boiling water and some brand of disinfectant soap. If this be regularly done the interior of the cage will always be clean and free from any objectionable odour.

The Grey Squirrel is quite hardy and can be kept out of doors all the year round if it has a large enclosure or aviary to get plenty of exercise in, and will breed if a pair have the place entirely to themselves. As they are extremely jealous and pugnacious in disposition, different species cannot be kept together; if they were, it would be nothing less than one continual round of quarrelling, often resulting in the infliction of severe injuries on one another.

Feeding and Management.—Nuts form the principal portion of the dietary and are an absolute necessity. Almost any kinds are relished, but Brazils and filberts seem the greatest favourites. Plenty of fresh water is necessary, as squirrels drink a little and often. The fruits may be oranges, dates, apples, pears and grapes. Grain food in the shape of Indian corn and oats forms an agreeable supplementary diet. Carrots and greens are also useful as a change. Bread is also useful but should not be given in the form of bread and milk, but is better if dry or merely dipped in milk sufficiently to just moisten the outside. The Dorsal Squirrel is very fond of grapes, and as these can be got very cleanly at the grocery, the extra cost of feeding entailed by giving these does not make an undue burden on the pocket, as it only amounts to a few pence per week. Although nuts are the principal form of food, squirrels ought not to be fed solely or for any length of time upon them without the addition of other forms of diet, as internal troubles arise if this be done; change of food and variety is always beneficial. Inflammation of the lungs appears to be the prevailing illness which is fatal to the foreign species of squirrels, and unfortunately there is no cure and nothing can be done to relieve the sufferer, which as a

rule only lives a very few days after being seized with this complaint. They also suffer from worms, which can be got rid of by the use of the time honoured *areca nut*. As the incisors grow rather rapidly some coconut shell or other similarly hard substance should be provided for them to gnaw at to keep their teeth in proper trim.

MONKEYS.

As pets monkeys have always had a peculiar fascination for most people, although it must be admitted that usually the anticipation has proved more delightful than the realisation, the aftermath—as it were—of the desire being a trying period and the time that these pets were kept a continual round of worry and vexation, often culminating in disagreeable interviews with the neighbours and estrangements in the household. This has often been due entirely to ignorance and carelessness; ignorance—in not knowing how properly to care for and look after the animal, and carelessness—in omitting to do some proper thing at some proper time or in some proper manner. As an example—a cage for a monkey—using the word in a wide sense—should always be fastened with either a lock and key or a padlock; the use of an ordinary turn-button or a screw-hook and eye to a cage being nothing short of criminal. A monkey man, if it gains its freedom unobserved, do an enormous amount of damage before its absence is detected and it can be recaptured.

Speaking generally monkeys are all tameable, but are very often extremely capricious in their likes and dislikes for their human friends. Occasionally one that is good-tempered will take a dislike to some person, and will consider it good fun to scratch and bite the fingers of that individual if he (or she) is imprudent or forgetful enough to place them within reach. Some species are endowed with a preternatural cunning, and it takes all the time of their owner to guard against some unpleasant contrivance. One of these monkeys will get an idea into its mind, and weeks may go by before a favourable opportunity occurs to mature it; however, when the chance comes, the long period of waiting is fully made up for, and the gloe of the monkey at circumventing the astuteness of its guardian is most marked, and its pleasure is shown in a vivid manner, chuckling with delight until retribution comes, when poor "Jacko" is transformed into a very forlorn and woe-begone animal.

Usually it is the ladies of the household who object to monkeys, and when one is suggested as a pet, draw very vividly upon their imaginations as to their mischievousness and the amount of damage they are likely to cause. They are often right, too, for naturally, if a monkey is to be allowed the run of the house, such things as the breaking of choice ornaments and pieces of china, and the picking up to bits of antimacassars or portions of delicate needlework, are almost sure to happen. Like many other creatures, monkeys will follow the bent of their own inclinations, and are ever on the alert to "do those things which they ought not to do," and very seldom "do those things that they ought to do," so that they often make their presence known in an unacceptable manner.

When choosing a monkey as a pet, a male should be selected, as the females are often very objectionable besides being less hardy, and for obvious reasons, except for scientific purposes, the latter ought to be separately caged, if kept at all. Care likewise should be taken to obtain a young animal, as they get morose and treacherous as age creeps on them. A monkey which has been kept as a tame pet for years will prove no exception to this rule. When people find that their pet is getting sullen, they generally part with him for a mere song, and the individual who unfortunately speculates in one of these is generally disgusted beyond hope of cure. Cheap monkeys are nearly always either old or else ailing, and it is far better to go to a respectable dealer and pay a reasonable sum for a healthy young animal than to waste money in buying such specimens that are either morose or treacherous.

We have often been asked—"Can monkeys be taught to perform tricks?" Well, the answer is that

that depends in a very great measure on the patience and capabilities of the instructor; whatever tricks are taught, perfect likeness must be maintained the whole time the lessons are going on. A monkey should never be struck, even if it bites, as a blow is never forgotten by one of these creatures; kindness is the great secret with these animals. Given a good healthy young monkey, there are few more interesting and amusing pets.

Varieties.—The most frequently imported monkeys are the Guenons and the Macaques. The Guenons, from their usually rich coloration and their affectionate and interesting ways, are favourites among those people who are making their first essays in monkey-keeping. They are all treated in a similar manner and it is usually either a question of price or else of a personal predilection regarding the colour and appearance of one of the species which decides the choice in the prospective owner's mind. The two species most commonly met with are the Lesser White-nosed Guenon and the Green Guenon.

Lesser White-nosed Guenon (*Cercopithecus paterfamilias*).—This is a very gentle and active monkey, displaying great affection to those who take notice of it and treat it kindly. Some individuals dislike being handled or in any way being interfered with. The head and upper parts of the body and tail are olive-green, speckled with yellow; the underparts are white, as are the whiskers and beard; the face is black; the lower portion of the nose and the upper part of the top lip are white—hence the popular name; there is a black line across the forehead which encircles the crown. The usual price for this monkey is from 5s. upwards.

Green Guenon (*Cercopithecus callitrichus*).—A species very rich in coloration; the head, body, and the outer surface of the limbs are a very beautiful yellowish-green; the hairs being annulated with yellow and black; the under parts of the body, inner surface of the limbs and the throat, white tinged with yellow along the median line. There is an orange tuft at the tip of the tail. From 5s. to 10s. is the price charged for this species.

Macaques.—Of these the commonest are the Bengal Macaque (*Macacus ferus*) and the Bonnet Macaque (*M. sinicus*). The former is a greyish-brown colour with a whitish-white underparts; young examples may be distinguished from their elders by the flesh-colour of the callosities, which reddens with age. The Bonnet Macaque is olivaceous-brown on the body; the exterior surfaces of the limbs are greyish. The coat of either is from 5s. to 10s.

Marmosets.—Some dealers advertise a small "monkey that will go in a pint pot"; a description they give to the Marmoset, the body of which is a trifle smaller than that of a rat. Being extremely quiet and quaint, it is preferred by some people, particularly those of the weaker sex, to the larger monkeys, as the soft woolly fur makes it much resemble a young kitten. The fur is delicately soft and bushy, and is ornamented with blackish-brown stripes upon a ground of deep tawn. The tail is annulated with black and white; the head is black and adorned with two tufts of white hair, one over each ear. Marmosets cost about 15s. Insects and fruit form the diet, both of which are plentiful enough during the summer but in the winter are difficult to maintain a constant supply of. It hardly matters what insects are given, caterpillars (not the hairy kinds), flies, moths, butterflies, mealworms, cockroaches; spiders are also relished. The fruit should be quite ripe. Bread and milk, if not sloppy, may also be given occasionally.

Capuchins.—The Capuchins of South America are analogous to the Guenons of Africa, and the one most commonly imported is the Brown Capuchin, which is a very docile and affectionate monkey of a reddish-brown colour. It is also the hardest as well as the cheapest of the Capuchins, costing, as a rule about 4s. Too liberal a supply of food is harmful. To a great extent these monkeys are flesh-feeders, and a newly-wild marmoset or a newly-bred Capuchin can be given. If it absolutely fresh, are also greatly relished. The Capuchins are more delicate than the Guenons and ought to be kept in a warm room.

Feeding and Management.—The details of feeding Mangabeys are in every respect the same as for the Guenons, but the Macaques are more voracious than their relations and a more liberal supply of food must be given; boiled rice, odd bits of bread and vegetables (carrots, potatoes and onions), pea-flour and meat may be mixed into a kind of pudding and a tinfoil given each day, morning and night; nuts, peas, maize, raw carrots, apples (sliced) are all relished. Dates, figs and grapes may be given as luxuries.

All the Guenons are noted for the extreme development of the cheek-pouches, which, when full, give a very peculiar appearance to the face of the animal. A Guenon on being offered a nut or a portion of fruit from a large bag of food will pouch whatever is given to him until the pouches are full or else that the person ceases giving, and will not commence eating before all chances of receiving further supplies are lost. Most of the Guenons are fairly long-lived in captivity, their span of life averaging some seven or eight years, but instances are known of some individuals having lived double that number of years. They are mostly good-tempered one towards another when several are kept in one cage. Of the two species named the Green is the hardier and it bears our climate very well, rarely, if ever, ailing anything. Both are very playful and engaging during their youth, but, like nearly all other monkeys, become vicious and morose as they get old. If the cage is small it is a good thing to let the monkey out once or twice a day for exercise, but the doors and windows of the room should be kept shut and small ornaments removed, as the long tail of a Guenon is a very awkward weapon when flourished about, and would easily knock a valuable vase off a bracket or the mantelpiece in spite of the monkey trying to be most careful when jumping about. If the cage is long enough at a time for a monkey to be away from its cage, and at such a time it should never be left alone or out of sight for a single instant, as, however quiet and inoffensive it may appear when closely watched, a monkey can never be trusted not to take advantage of any opportunity that may present itself.

The Macaques are not so suitable for the average named pet-keeper as the Guenons, as although they are interesting in many ways and serve to widen one's experience of monkeys, they cannot be relied upon. Their temper and equanimity may be perfect one moment, and the next they are transformed into veritable little fiends. No monkey likes being teased, but these are nearly as resentful as the Baboons, and a bite from them, if they get near enough to their aggressor, is a serious matter. Another reason—more important in many ways—is that they are not suitable pets where young children are, as some of their actions might not be approved. When quite young they are very amusing and can be taught many little tricks—in fact, the performing monkeys seen in circuses are usually trained Macaques.

Cages.—The cage for an ordinary monkey should be at least 4 feet or 5 feet long and correspondingly high and broad. A door should be placed at each end to enable all parts of the interior readily accessible when the cage requires cleaning. Stout galvanised wire netting of 1/4 in. mesh is as good as anything for the front, with a wooden moulding strip nailed over the edges to finish off and improve the general appearance. The internal fittings need not be either complicated or costly; merely two or three food dishes, a sleeping perch, and a looking glass framed in stout wood. If the cage is intended for Marmosets, a swinging-box is an advantage. It can be placed at the top of the cage, a stout bough of a tree connecting it with the floor and thus giving the inmates of the cage a means of getting to the retiring chamber, which should be filled with sweet hay. Many people who keep monkeys cover the floor of the cage with sawdust, and others use only hay; but the latter is by no means the cleaner every day and the cage floor thoroughly brushed down, and once a week scrubbed out with a strong mixture of soda and water.

DORMICE.

Amongst the smaller mammals the different kinds of European Dormice are great favourites not only with children but also with "grown-ups."

Varieties.—There are three species which may, as a rule, be readily obtained from dealers of live stock. These are the Common Dormouse (*Muscardinus*), the Squirrel-tailed Dormouse (*Glis esculentus*) and the Garden Dormouse (*Eliomys quercinus*). All are within reach of the humblest pet-keeper, the first-named costing about 2s. 6d. and the others from 4s. 6d. to 10s. 6d. per pair, according to the number in the market. The Common Dormouse is too well-known to need any description. The Squirrel-tailed Dormouse is a very pretty little creature; the coloration is ash-grey above and white beneath. It is considerably larger than its common relation, being about 6 inches in length without the tail, which is another 5 inches. The Garden Dormouse is not quite so big, being only 8 or 9 inches in total length, of which the tail is between 3 and 4. The colour is brownish rather than ash above, with white underparts; the eyes are ringed with black, which is extended as a stripe below and behind the ears; the tail is tipped with black above and white beneath.

Cages.—Most people make the mistake of keeping dormice in cages which are far too small. A cage for the common species or glt not to be less than 18 inches to 24 inches long, and proportionately high and broad, whilst for the Squirrel-tailed Dormouse it should not be less than 5 feet long by 4 feet high and 3 inches wide from back to front. The latter species, when awake, is a remarkably active creature and is constantly on the move, jumping and running about all over its cage and is quite as lively as the animal from which it takes its popular name. All the Dormice are arboreal in their habits, and provision ought to be made for this; in the small-size cage one small tree branch is sufficient, but in the one for the larger species two or even three may be necessary. The sleeping-box—a most important adjunct for these little mammals—which often spend nearly six out of the twelve months of the year asleep—should be placed at the top of the cage in such a position that it can be readily got at to inspect the interior now and again without disturbing the inmates; this is best done by means of a door in the side or roof of the main cage which opens directly into the sleeping-box. The floor of the cage should be covered with pine sawdust, this need not be thickly spread as dormice are very clean and make hardly any mess at all. The sleeping-box may have a layer of sawdust and then be loosely filled with hay, moss, and wadding. Access to the box is given by having one of the branches so arranged that it leads from the floor to the entrance. With small rodents like these which can squeeze themselves through broken-down toys, there is no necessity to use wires at all and the front of the cage may be glazed with fairly stout glass; if this be done ventilation must be provided by having a 6 inch square cut at the bottom of each side of the cage and another at the top near the centre and these covered with perforated zinc; these, of course, may be made as doors.

Feeding and Management.—Dormice should be fed regularly twice a day on bread-and-milk, nuts, biscuits and fruit. It is best to shell the nuts so as not to give the animals too much practice in nibbling in case they turned their attention to the woodwork of the cage. Hazels, walnuts, acorns and chestnuts may be freely given and the Squirrel-tails are especially fond of chestnuts. Water should be liberally supplied. If kept in a warm room and food abundantly provided the chances are very much in favour of the Dormice not hibernating, but they will get corpulent just as if they were preparing for a long winter sleep. It was in ignorance of this fact that led a pet-keeper, who had recently acquired a solitary male at the latter part of the autumn and who was not aware of the sex of his pet, besides misunderstanding the motive, carefully to prepare a very special nesting-box daintily lined with best white cotton-wool; he then anxiously awaited developments, but, like the followers of Joanna

Southcote, he watched and waited in vain! If more than one pair be kept in one cage quarrels are sure to arise, and an additional advantage in keeping only a pair of the Squirrel-tailed species is that there is every probability that they will freely produce young in a cage of the dimensions given often twice a year. Gentleness is a *virtue qua non* with all Dormice as, although pugnacious, they are extremely nervous creatures, and no one can successfully keep them who is not both gentle and patient. They get very tame and may safely be let out during the evening for a scamper round the room; they will fearlessly climb all over their owner, and jump comparatively big leaps for their size from one article of furniture to another. For young people there are very few of the smaller European animals that are more suitable as pets than these graceful creatures, not only because they are comparatively inexpensive to purchase, but also in that they are so little trouble to look after—a very important matter in such cases where there may be a tendency for the novelty of having them to wear off after a short time. Just a final word of warning; should any of my readers possess an example which commences hibernation in earnest, it should, in no circumstances, be interfered with, or roused from its winter sleep, as such would in all probability prove fatal.

LIZARDS.

Under the popular name of Lizards are classed by naturalists an extremely large number of species and varieties showing great variability, and a very wide geographical range. By the modern classification the Lizards (*Autosauri* or *Lacertiles*) include the ancient Gekkos, which are practically cosmopolitan, and the African Chameleons and several other families. The true Lizards, however, are the *Lacertidae*, and these alone number upwards of a hundred species. It is impossible here to go into the natural history of this gigantic and somewhat unwieldy family, or to point out the differences which exist: nor would it serve any good purpose to do so. All that is proposed is to refer to several species which have proved adaptable to a life of confinement and which, therefore, may be kept as pets.

Even our native Lizards are of considerable interest and some of them make pretty little pets. The Common Lizard of this country is a species with a very wide range—extending, in fact, through Northern and Central Europe and Siberia to the Saghalien Isles. To Ireland it is a specially interesting species inasmuch as it is the only reptile found in that country—another injustice to "Ould Ireland." One of the most curious and interesting things in connection with the *Lacertilla* is the capability of reproducing a tail should this organ, as it very frequently does, get broken or trampled. Naturalists do not, however, regard such a reproduction as a true tail, as it is wanting in several essentials. The marvellous regenerative power is centred in certain cells found in a transverse septum of cartilage and is retained throughout the animal's life. An excellent example of this tail-brittleness is found in the common, useful, and much persecuted Slow-worm (*Anguis fragilis*), which is in reality a legless Lizard and not a Snake as commonly thought, and which through ignorance is killed as being harmful to man, while in reality it is not merely incapable of inflicting harm but is a most useful reptile, destroying vast quantities of insects and slugs, and therefore should be preserved rather than killed.

Varieties.—Some of the common species will do very well in captivity—the Eyed-Lizard for example—and moreover live for ten years and more; others, like the exquisitely coloured Green or Emerald Lizard found in Jersey do not live very long. Most of these reptiles when kept in captivity become remarkably tame and exhibit in some cases an intelligence that one does not as a rule associate with the Reptiles generally.

Lizards, generally speaking, lay white or creamy eggs, having either a hard or a tough soft shell as in our native *Lacerta vivipara* and the exotic Chameleons.

With some species the eggs are not laid until the embryos are absolutely ready to emerge, while yet others—*L. vivipara* and *Anguis fragilis* for instance, two of our native Lizards—are viviparous. In those cases in which the egg containing the embryo is especially hard Nature has provided the embedded reptile with a means of freeing itself. This it does by means of a tooth-like process on the snout. We will now enumerate a few of the species that may be kept in various ways, though some little care is needed in the selection of species to live together, or at least in a case of survival of the fittest.

Blue-Tongued Lizard (*Tiliqua gigas*).—Belonging to the Skink family is a pretty but large Lizard whose chief characteristic is suggested by its popular name. An adult measures 20 inches or so, and therefore a suitable-sized apartment must be provided. Unfortunately this Lizard cannot well be kept in a room whose temperature falls below about 65 degrees. Its case should be located in a sunny place and a retreat, made of a piece of bark or of virgin cork, should be placed in one corner of its apartment. Slugs, snails, with now and again a little raw beef cut up, will be suitable food for the reptile. It should also be supplied with water and a 3-inch layer of sand should cover the apartment floor.

Common Chameleon (*Chamaeleo vulgaris*).—Quite one of the most remarkable of all the Lizards by reason of its ability to change its colour according to varying moods, to dilate its body, and to subside for so long a time without food that it was commonly asserted it lived on air. Another remarkable feature of the Chameleon is the long extensible tongue by means of which it secures its food; while yet another is the eye structure enabling it to see in every direction without moving either its head or its body. Again the long tail is prehensile. Although extremely interesting the Chameleon is somewhat troublesome to keep in winter as its quarters must be warmed. In summer this is unnecessary. The case in which it is kept should have a warm and sunny aspect and at one corner a slight shelter should be afforded the timid reptiles. The food best suited consists of cockroaches, and other small insects, including flies. In size this Lizard measures when full-grown about 1 foot. It should not be kept with other species; and although this reptile will not take water from a vessel it will do so if the fern-case in which it is kept be gently sprayed.

Emerald or Green Lizard (*L. viridis*).—Beautiful though this species undoubtedly is, it cannot generally speaking be recommended as one to be kept in captivity. Emerald green is the prevailing colour of the upper surface of this Lizard, which measures in the case of males 10 inches or 12 inches in length, the majority of it being tail. Beneath it is yellowish, while the throat is blue, or bluish in the case of males in the breeding season. In its native habitat it prefers rocky places. Like many other Lizards it will eat insects of various kinds (including butterflies) snails, and earthworms. It can be called a British species, as it occurs in Jersey.

Eyed-Lizard (*Lacerta ocellata*).—One of the most satisfactory species to keep in confinement, but on account of its voracity it is best placed alone in a greenhouse. After a time this species will get very tame, so tame as to take proffered food from the hand. Mice, earthworms, cockroaches, etc., may be given to this Lizard, which is some 20 inches to 24 inches long. The popular and specific name has been bestowed on account of the ocelli, or eye-spots. In colour this Lizard is green above and often exquisitely reticulated with black. Beneath it is greenish-yellow; while at the sides are numerous blue, black-edged spots, which account for its specific and popular names. The males attain a large size—2 feet and more in length, and assume their most beautiful coloration at the breeding-time. This species retires for the winter, burrowing into the soil in late autumn to emerge with the fine days of the returning spring.

Prickly Lizards.—By this name are popularly known several species which, though of good reptile as pets, are nevertheless unready to look upon by reason of the spine-like processes covering their body. They are, however, less formidable than they seem;

indeed they are classed as gentle reptiles that will bear handling with impunity. To the majority, however, they are not likely to appeal, more especially too as they are somewhat expensive. The Derbian Zonure (*Zonurus derbianus*) is one of the best of the group. Like some other Lizards this species is capable of taking long fasts. The food most acceptable to it consists of mealworms, small beetles, and grubs; while a vessel of water should be supplied in its case. As in the case of the Blue-Tongued, its case should be provided with a snug retreat; the floor of its apartment should also be covered with sand. It may be allowed to hibernate in a box or other receptacle containing leaves, but this must be kept in a room in which there is a fire the night through.

The Slow-Worms (*Anguis fragilis*).—A native species known also as the Blind-Worm. This latter name is a most inappropriate one as the species has excellent eyes. It measures from 10 inches to 1 foot or more in length, and though there is a slight tapering towards the tail it is of almost uniform thickness. On the upper surface it is brownish-grey, with a metallic sheen; beneath it is black, but the colour is variable. The young are silvery-white above with three black lines, and black beneath. Except the gravid females, these reptiles like the shade. They feed on snails, earthworms, and slugs, and hibernate in burrows in the soil. The food should be given alive.

Viviparous Lizard (*L. vivipara*).—A very variable species in which the female is larger than the male. The colour is brown or reddish above, with darker or lighter spots, and occasionally there is a dark yellow-edged band at the sides; beneath the male is orange or even red, and the female very much paler. From 6 inches to 7 inches would represent the length. The young are under 1 inch when born and are left by the parents to slift for themselves. Greenish succulent morsels are provided for them with food until they are capable of taking food similar to that given to the Eyed-Lizard. This species hibernates in autumn.

Wall Lizard (*L. muralis*).—Another very variable species which derives its popular name from the fact that it has in some of its native habitats a partiality for walls. Though resembling the Common Lizard it is 2 in. or 3 in. longer and has a fine tapering tail while that of its relative is for a greater part of its length of equal thickness. It requires similar treatment to the Common Lizard, and is very partial to garden worms. This species also occurs in the Channel Islands.

Housing, etc.—To those who can afford to purchase ready-made one of the delightful little vivaria that are on the market, the problem of how best to accommodate these Lizards which cannot be allowed the run of a warm green house, might be readily solved. Nevertheless, however, these are somewhat expensive, and it is not at all unusual for those who go in for Lizard-keeping to rig up a suitable substitute thereof out of a box, affixing thereto a thick glass front and a door made of perforated zinc. Such a home-made structure would necessarily vary as regards its dimensions with the particular species that it is desired to accommodate. So far as the species dealt with are concerned, a vivarium that would be suited to a reptile of the size of the Eyed or the Blue-Tongued Lizards might very well be 4 feet long, 2 feet high, and 24 feet wide. The bottom should be thickly strewn with small shingle or sand and a retreat at one corner should be fashioned out of cork, bark or something similar. A small tree-branch would also be a useful addition. Generally speaking the Lizards are sun-lovers and therefore the vivarium should be so situated that it gets as much as possible.

Feeding, etc.—As the favourite food of the different Lizards enumerated has been given when dealing with them specifically there is little need to refer to it specially. Still it may be as well to state that clean fresh water should be provided in a pan, for though it is not unusual for these reptiles to abstain from taking it for a long time on end, yet it is a necessity for them.

In the enumeration of species we have not included the locally distributed (in this country) Sand Lizard

(*Lacerta Agilis*), for despite every care and many trials with it, we have not found it a very suitable one for a life of captivity. It is larger and bulkier than *L. vivipara* with which it is sometimes confused and shows considerable colour-variation, the colours of both male and female being more subdued after the breeding season is passed. Vivid green is the ground-colour of the male at that time, especially on the sides, where it is also dotted with black, and has whitish eye-spots. Beneath it is yellow. The female is a combination of grey or dark brown with rows of white centred spots. This Lizard is very common in parts of Surrey and Dorset. It may be stated that those wishing to catch Lizards in their haunts should never attempt to do so by the hand. The proper way is by means of a thread-noose attached to a thin, pliant stick.

TORTOISES.

Nearly everyone in large towns is familiar with certain species of Land Tortoises which are sold by wily itinerant merchants as useful aids to the gardener, who, unless he be something of a naturalist, alas soon finds that he has been imposed upon, and that instead of eating the luscious slugs with which his soil abounds, the tortoise prefers his succulent lettuce and tender cabbage plants, not to mention his strawberries. The Water Tortoises, however, are with few exceptions carnivorous, and this must be borne in mind when making provision for the respective needs of the members of the two families *Testudinidae* (Land Tortoises), and *Emydidae* (Terrapins, or Marsh Tortoises). Generally speaking, it is the former which are favoured by the pet-keeper, and interesting creatures they are in captivity. They are usually on sale in summer, arriving here in vast numbers, though whether they go has long been a problem. In other countries than our own it is the custom to eat them and they are said to form very dainty morsels. It is astonishing the time these Land Tortoises will live in a state of captivity if they are not intelligently treated in the way of food. Nor are they the dull, stupid creatures that at first blush they would seem to be; on the contrary they soon become fairly tame and readily recognise the hands that feed them. The name Tortoise is a peculiarly appropriate one, having been bestowed on the group on account of their twisted legs.

LAND TORTOISES.

Varieties.—Those best suited to a life in captivity are natives of Europe, the most familiar species being *Testudo graeca*, *T. mauritanica*, and *T. marginata*, the first-named two having reference to their country of origin and the last and largest to the extended hind margin of its carapace. The Greek Tortoise may be differentiated from its two allies by its long tail having a claw-like end; while the Moorish Tortoise has like *T. marginata*, but a single plate in the tail vicinity and a plastron which is movable behind, as against the immovable plastron and double tail-plate of the Greek Tortoise.

Management.—If the Tortoises are to be kept in the garden they must be restricted by some means, or they will do a lot of damage. The position assigned them should be a sunny one and preferably bounded by a wall. It is then quite easy to rig up with boards, or a box from which an end has been removed, a comfortable retreat from bad weather, and especially if a framework on which some Willesden Canvas has been stretched well covers the retreat, thus protecting it from rain and scorching sun. Occasionally, one sees the Tortoise restricted by means of a coruscated

through a hole made in the hind margin of the shell. This will not appeal to the majority. Of course if the Tortoises can be allowed the liberty of a warm greenhouse and are fed properly they will not hibernate. Moreover, too, assuming that a pair have been kept (and this is better than keeping a single one), the probability is that eggs will be laid. In that case they should be placed in some moist sand on a frame generating a nice moist heat of 75 deg. to 85 deg. Fahr. In that case they should hatch out in two months or a little more.

In the event of one not having a suitable greenhouse in which the Tortoises, can be housed in winter, they should be allowed in autumn to bury themselves in the ground, marking the spot that they have selected. Or again they may be taken and placed in a box containing soil or leaves and stowed in a cool room until spring, when they will awake from their torpor and soon commence to feed, though not very readily at first.

Food.—The best food for Land Tortoises consists of lettuce, cabbage, grass, dandelion flowers and the flowers of buttercup; while it also exhibits a partiality for strawberries, currants, and many other garden plants.

MARSH TORTOISES.

These are very much flatter than their land congeners, and are, moreover, provided with webbed feet to suit the partial aquatic life that they lead. To keep them wholly in water, however, is cruel for they are also most capable walkers.

Emys Orbicularis (Syn. *E. testaria*), the European Pond Tortoise is the commonest species kept and is variable as to colour; there are two types, radiate and spotted in the former of which the colours radiate from the centre. Adult specimens measure from 5 inches upwards to 9 inches. To watch this Tortoise stalk its prey, whether fish or frog, is most interesting. In a state of nature they feed in the water, but when tame they will take food on land. These Pond Tortoises make a curious shrill noise at breeding time. The eggs are deposited on land, but the young are very difficult to rear. There is an American species—*E. blandingi*—black with yellowish spots, which is smaller than its European representative of the genus, that is said to become very tame, although we have had no experience of it; it prefers land to water and is a very distinctive Tortoise, with head black above and yellow beneath. *Clemmys leprosa* from Morocco has also been successfully kept here, but on account of its "fishy" odour cannot be recommended as a pet.

Food and Management.—As previously suggested these are in the main carnivorous, feeding upon worms, newts, fish, frogs, and various insects; while in captivity they may also be provided with raw meat, small birds and mammals. Generally speaking they do not exhibit the same intelligence as the Land Tortoises, seeming to avoid rather than to seek man. Where one can furnish these creatures with a small, sunny, duck-weed-covered pond, with a bank on which they can land to "sun" themselves, this should be an ideal spot. Such a pond, however, would need to be surrounded with wire-netting or the Tortoises would "stray." Provision should also be made of a suitable place in which they can deposit their eggs should they wish to do so: a nice light, sandy soil would be excellent. They should be allowed to hibernate in a box of moss and then be stored in a cool frost-proof place until the following season. If one can give them plenty of suitable food, and a warm greenhouse having a pond in which the water can be kept chilled, or one of the vivariums making provision for this latter, these Marsh Tortoises will not hibernate.

PEARS'
READY
RECKONER.



Pears' Ready Reckoner

From One-sixteenth of a Penny to
Twenty-one Shillings

In the following tables any number of articles, separate weights or measures, days, weeks, months or years—from 1 to 5,000—are reckoned, at amounts from a sixteenth of one penny to one guinea, in individual sets, each table being complete in itself. Up to 20 each number is worked through progressively in the shorter tables on this page; then follows 25—as a quarter of a hundred, and every multiple of ten next in order, with 52—as the number standing for the weeks in a year, interpolated in its proper place.

In the longer tables—from the next page to the end—every number from 1 to 100 is reckoned out. Beyond the number 100, the figures standing for multiples of dozens up to the gross (144) have a line each, as has also 112, the number of pound. in a cwt.; with an entry for 365, the number of days in the year, breaking the even hundred progression; and one at 2,240—for the purpose of showing at a glance what the cost per ton comes to of anything priced at the amount per pound shown by the table—inserted between the 2,000 and 3,000.

The reckoning for every possible combination of whole numbers can thus be readily arrived at where not expressly given, by adding together the items indicating the values attached to composing numbers. Thus 3,336 articles at one-twelfth of a penny each would come to the total of 3,000+300+60+6, or, as will be seen, £1 os. 10d.+2s. 1d.+5d.+0½d., an aggregate equalling £1 3s. 4½d.

$\frac{1}{16}d$

No.	£	s.	d.	No.	£	s.	d.
1	0	0	0	25	0	0	14
2	0	0	0	30	0	0	18
3	0	0	0	40	0	0	24
4	0	0	0	50	0	0	30
5	0	0	0	60	0	0	36
6	0	0	0	70	0	0	42
7	0	0	0	80	0	0	48
8	0	0	0	90	0	0	54
9	0	0	0	100	0	0	60
10	0	0	0	110	0	0	66
11	0	0	0	120	0	0	72
12	0	0	0	130	0	0	78
13	0	0	0	140	0	0	84
14	0	0	0	150	0	0	90
15	0	0	0	160	0	0	96
16	0	0	0	170	0	0	102
17	0	0	0	180	0	0	108
18	0	0	0	190	0	0	114
19	0	0	0	200	0	0	120
20	0	0	0	210	0	0	126

No.	£	s.	d.	No.	£	s.	d.
1	0	0	0	25	0	0	14
2	0	0	0	30	0	0	18
3	0	0	0	40	0	0	24
4	0	0	0	50	0	0	30
5	0	0	0	60	0	0	36
6	0	0	0	70	0	0	42
7	0	0	0	80	0	0	48
8	0	0	0	90	0	0	54
9	0	0	0	100	0	0	60
10	0	0	0	110	0	0	66
11	0	0	0	120	0	0	72
12	0	0	0	130	0	0	78
13	0	0	0	140	0	0	84
14	0	0	0	150	0	0	90
15	0	0	0	160	0	0	96
16	0	0	0	170	0	0	102
17	0	0	0	180	0	0	108
18	0	0	0	190	0	0	114
19	0	0	0	200	0	0	120
20	0	0	0	210	0	0	126

$\frac{1}{12}d$

No.	£	s.	d.	No.	£	s.	d.
1	0	0	0	25	0	0	2
2	0	0	0	30	0	0	2
3	0	0	0	40	0	0	3
4	0	0	0	50	0	0	4
5	0	0	0	60	0	0	5
6	0	0	0	70	0	0	6
7	0	0	0	80	0	0	7
8	0	0	0	90	0	0	8
9	0	0	0	100	0	0	9
10	0	0	0	110	0	0	10
11	0	0	0	120	0	0	11
12	0	0	0	130	0	0	12
13	0	0	0	140	0	0	13
14	0	0	0	150	0	0	14
15	0	0	0	160	0	0	15
16	0	0	0	170	0	0	16
17	0	0	0	180	0	0	17
18	0	0	0	190	0	0	18
19	0	0	0	200	0	0	19
20	0	0	0	210	0	0	20

No.	£	s.	d.	No.	£	s.	d.
1	0	0	0	25	0	0	8
2	0	0	0	30	0	0	10
3	0	0	0	40	0	0	14
4	0	0	0	50	0	0	18
5	0	0	0	60	0	0	22
6	0	0	0	70	0	0	26
7	0	0	0	80	0	0	30
8	0	0	0	90	0	0	34
9	0	0	0	100	0	0	38
10	0	0	0	110	0	0	42
11	0	0	0	120	0	0	46
12	0	0	0	130	0	0	50
13	0	0	0	140	0	0	54
14	0	0	0	150	0	0	58
15	0	0	0	160	0	0	62
16	0	0	0	170	0	0	66
17	0	0	0	180	0	0	70
18	0	0	0	190	0	0	74
19	0	0	0	200	0	0	78
20	0	0	0	210	0	0	82

$\frac{1}{5}d$

$\frac{1}{3}d$

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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No.	α	β	γ	No.	α	β	γ	No.	α	β	γ
1	0	0	0	44	5	1	0	87	0	3	7 $\frac{1}{2}$
2	0	0	0	45	5	1	1 $\frac{1}{2}$	88	0	3	8
3	0	0	1 $\frac{1}{2}$	46	5	1	1 $\frac{1}{2}$	89	0	3	8 $\frac{1}{2}$
4	0	0	2	47	0	0	0	90	0	3	8 $\frac{1}{2}$
5	0	0	2 $\frac{1}{2}$	48	0	0	0	91	0	3	9
6	0	0	3	49	0	0	2 0 $\frac{1}{2}$	92	0	3	10
7	0	0	3 $\frac{1}{2}$	50	0	0	2	93	0	3	10 $\frac{1}{2}$
8	0	0	4	51	0	0	2	94	0	3	11
9	0	0	4 $\frac{1}{2}$	52	0	0	2 $\frac{1}{2}$	95	0	3	11 $\frac{1}{2}$
10	0	0	5	53	0	0	2 $\frac{1}{2}$	96	0	4	0
11	0	0	5 $\frac{1}{2}$	54	0	0	2 $\frac{1}{2}$	97	0	4	0 $\frac{1}{2}$
12	0	0	6	55	0	0	2 3 $\frac{1}{2}$	98	0	4	1
13	0	0	6 $\frac{1}{2}$	56	0	0	4	99	0	4	1 $\frac{1}{2}$
14	0	0	7	57	0	0	4 $\frac{1}{2}$	100	0	4	2
15	0	0	7 $\frac{1}{2}$	58	0	0	5	101	0	4	2 $\frac{1}{2}$
16	0	0	8	59	0	0	5 $\frac{1}{2}$	102	0	4	3
17	0	0	8 $\frac{1}{2}$	60	0	0	6	110	0	4	8
18	0	0	9	61	0	0	6 $\frac{1}{2}$	120	0	5	5
19	0	0	9 $\frac{1}{2}$	62	0	0	7	130	0	5	5
20	0	0	10	63	0	0	7 $\frac{1}{2}$	132	0	5	6
21	0	0	10 $\frac{1}{2}$	64	0	0	8	144	0	5	10
22	0	0	11	65	0	0	8 $\frac{1}{2}$	146	0	6	0
23	0	0	11 $\frac{1}{2}$	66	0	0	9	150	0	6	3
24	0	0	12	67	0	0	9 $\frac{1}{2}$	175	0	7	3 $\frac{1}{2}$
25	0	0	1 $\frac{1}{2}$	68	0	0	10	200	0	8	4
26	0	0	1 $\frac{1}{2}$	69	0	0	10 $\frac{1}{2}$	250	0	10	6
27	0	0	1 $\frac{1}{2}$	70	0	0	11	300	0	12	2 $\frac{1}{2}$
28	0	0	2	71	0	0	11 $\frac{1}{2}$	355	0	15	2 $\frac{1}{2}$
29	0	0	2 $\frac{1}{2}$	72	0	0	12	400	0	16	8
30	0	0	3	73	0	0	12 $\frac{1}{2}$	500	0	1	10
31	0	0	3 $\frac{1}{2}$	74	0	0	13	600	1	5	0
32	0	0	4	75	0	0	13 $\frac{1}{2}$	700	1	9	2
33	0	0	4 $\frac{1}{2}$	76	0	0	14	800	1	11	3
34	0	0	5	77	0	0	15	900	1	13	4
35	0	0	5 $\frac{1}{2}$	78	0	0	15 $\frac{1}{2}$	900	1	17	8
36	0	0	6	79	0	0	16	1000	2	1	0
37	0	0	6 $\frac{1}{2}$	80	0	0	16 $\frac{1}{2}$	1250	2	12	1
38	0	0	7	81	0	0	17	1500	3	2	6
39	0	0	7 $\frac{1}{2}$	82	0	0	17 $\frac{1}{2}$	1750	3	12	14
40	0	0	8	83	0	0	18	2000	3	3	4
41	0	0	8 $\frac{1}{2}$	84	0	0	18 $\frac{1}{2}$	2250	4	13	4
42	0	0	9	85	0	0	19	3000	6	5	0
43	0	0	9 $\frac{1}{2}$	86	0	0	3	5000	10	8	4

[illegible]

No	♂	♀	♂	♀	No	♂	♀	♂	♀	No	♂	♀	♂	♀
1	0	0	2	3	44	5	8	9	8	7	7	4	5	8
2	0	0	2	3	45	0	3	10	8	8	0	7	4	5
3	0	0	2	3	46	0	3	11	0	8	0	7	4	5
4	0	0	0	5	47	0	3	11	0	8	0	7	4	5
5	0	0	0	5	48	0	4	0	0	8	0	7	4	5
6	0	0	0	5	49	0	4	0	0	8	0	7	4	5
7	0	0	0	7	50	0	4	2	3	8	0	7	4	5
8	0	0	0	8	51	0	4	4	3	8	0	7	4	5
9	0	0	0	10	52	0	4	4	3	8	0	7	4	5
10	0	0	0	10	53	0	4	4	6	8	0	7	4	5
11	0	0	0	11	54	0	4	4	6	8	0	7	4	5
12	0	0	0	11	55	0	4	4	7	8	0	7	4	5
13	0	1	1	2	56	0	5	7	9	8	0	7	4	5
14	0	1	1	2	57	0	5	7	9	8	0	7	4	5
15	0	1	1	3	58	0	5	7	9	8	0	7	4	5
16	0	1	1	3	59	0	5	7	9	8	0	7	4	5
17	0	1	1	5	60	0	5	0	5	0	9	4	0	2
18	0	1	1	5	61	0	5	0	5	0	9	4	0	2
19	0	1	1	7	62	0	5	5	2	3	0	9	4	0
20	0	1	1	8	63	0	5	5	3	3	0	9	4	0
21	0	1	1	8	64	0	5	5	3	3	0	9	4	0
22	0	1	1	10	65	0	5	5	3	3	0	9	4	0
23	0	1	1	11	66	0	5	5	6	0	12	6	0	8
24	0	2	2	0	67	0	5	5	7	175	0	14	7	0
25	0	2	2	1	68	0	5	5	8	250	0	16	8	0
26	0	2	2	2	69	0	5	5	9	250	0	16	8	0
27	0	2	2	3	70	0	5	5	10	300	0	16	8	0
28	0	2	2	4	71	0	5	5	10	300	0	16	8	0
29	0	2	2	5	72	0	5	5	10	300	0	16	8	0
30	0	2	2	6	73	0	6	1	0	400	1	13	4	0
31	0	2	2	7	74	0	6	1	0	500	2	1	8	0
32	0	2	2	7	75	0	6	6	3	700	2	18	4	0
33	0	2	2	8	76	0	6	6	3	750	3	2	6	8
34	0	2	2	10	77	0	6	6	3	850	3	6	8	0
35	0	3	3	11	78	0	6	6	6	800	3	15	0	0
36	0	3	3	0	79	0	6	6	7	1000	4	3	4	0
37	0	3	3	1	80	0	6	6	8	1250	5	4	2	0
38	0	3	3	2	81	0	6	6	8	1500	6	6	0	8
39	0	3	3	3	82	0	6	10	0	1750	6	6	10	8
40	0	3	3	3	83	0	6	11	0	2000	7	6	8	0
41	0	3	3	5	84	0	7	0	0	2250	9	6	6	8
42	0	3	3	6	85	0	7	1	0	5000	12	10	0	0
43	0	3	3	7	86	0	7	2	0	5000	20	16	8	0

2 ^d				3 ^d				4 ^d				5 ^d				6 ^d			
No.	1	2	3	No.	1	2	3	No.	1	2	3	No.	1	2	3	No.	1	2	3
1	0	0	0	44	0	0	0	77	0	0	0	10	0	0	0	13	0	0	0
2	0	0	0	45	0	0	0	78	0	0	0	11	0	0	0	14	0	0	0
3	0	0	0	46	0	0	0	79	0	0	0	12	0	0	0	15	0	0	0
4	0	0	0	47	0	0	0	80	0	0	0	13	0	0	0	16	0	0	0
5	0	0	0	48	0	0	0	81	0	0	0	14	0	0	0	17	0	0	0
6	0	0	0	49	0	0	0	82	0	0	0	15	0	0	0	18	0	0	0
7	0	0	0	50	0	0	0	83	0	0	0	16	0	0	0	19	0	0	0
8	0	0	0	51	0	0	0	84	0	0	0	17	0	0	0	20	0	0	0
9	0	0	0	52	0	0	0	85	0	0	0	18	0	0	0	21	0	0	0
10	0	0	0	53	0	0	0	86	0	0	0	19	0	0	0	22	0	0	0
11	0	0	0	54	0	0	0	87	0	0	0	20	0	0	0	23	0	0	0
12	0	0	0	55	0	0	0	88	0	0	0	21	0	0	0	24	0	0	0
13	0	0	0	56	0	0	0	89	0	0	0	22	0	0	0	25	0	0	0
14	0	0	0	57	0	0	0	90	0	0	0	23	0	0	0	26	0	0	0
15	0	0	0	58	0	0	0	91	0	0	0	24	0	0	0	27	0	0	0
16	0	0	0	59	0	0	0	92	0	0	0	25	0	0	0	28	0	0	0
17	0	0	0	60	0	0	0	93	0	0	0	26	0	0	0	29	0	0	0
18	0	0	0	61	0	0	0	94	0	0	0	27	0	0	0	30	0	0	0
19	0	0	0	62	0	0	0	95	0	0	0	28	0	0	0	31	0	0	0
20	0	0	0	63	0	0	0	96	0	0	0	29	0	0	0	32	0	0	0
21	0	0	0	64	0	0	0	97	0	0	0	30	0	0	0	33	0	0	0
22	0	0	0	65	0	0	0	98	0	0	0	31	0	0	0	34	0	0	0
23	0	0	0	66	0	0	0	99	0	0	0	32	0	0	0	35	0	0	0
24	0	0	0	67	0	0	0	100	0	0	0	33	0	0	0	36	0	0	0
25	0	0	0	68	0	0	0	101	0	0	0	34	0	0	0	37	0	0	0
26	0	0	0	69	0	0	0	102	0	0	0	35	0	0	0	38	0	0	0
27	0	0	0	70	0	0	0	103	0	0	0	36	0	0	0	39	0	0	0
28	0	0	0	71	0	0	0	104	0	0	0	37	0	0	0	40	0	0	0
29	0	0	0	72	0	0	0	105	0	0	0	38	0	0	0	41	0	0	0
30	0	0	0	73	0	0	0	106	0	0	0	39	0	0	0	42	0	0	0
31	0	0	0	74	0	0	0	107	0	0	0	40	0	0	0	43	0	0	0
32	0	0	0	75	0	0	0	108	0	0	0	41	0	0	0	44	0	0	0
33	0	0	0	76	0	0	0	109	0	0	0	42	0	0	0	45	0	0	0
34	0	0	0	77	0	0	0	110	0	0	0	43	0	0	0	46	0	0	0
35	0	0	0	78	0	0	0	111	0	0	0	44	0	0	0	47	0	0	0
36	0	0	0	79	0	0	0	112	0	0	0	45	0	0	0	48	0	0	0
37	0	0	0	80	0	0	0	113	0	0	0	46	0	0	0	49	0	0	0
38	0	0	0	81	0	0	0	114	0	0	0	47	0	0	0	50	0	0	0
39	0	0	0	82	0	0	0	115	0	0	0	48	0	0	0	51	0	0	0
40	0	0	0	83	0	0	0	116	0	0	0	49	0	0	0	52	0	0	0
41	0	0	0	84	0	0	0	117	0	0	0	50	0	0	0	53	0	0	0
42	0	0	0	85	0	0	0	118	0	0	0	51	0	0	0	54	0	0	0
43	0	0	0	86	0	0	0	119	0	0	0	52	0	0	0	55	0	0	0

[illegible][illegible]

No	1	2	3	4	5	No	1	2	3	4	5	No	1	2	3	4	5
1	0	0	0	0	0	44	0	1	1	1	0	87	1	1	1	0	0
2	0	0	0	0	0	45	0	1	1	1	0	88	1	2	2	0	0
3	0	0	0	0	0	46	0	1	1	1	0	89	1	2	2	0	0
4	0	0	0	0	0	47	0	1	1	1	0	90	1	1	2	2	0
5	0	0	0	0	0	48	0	1	1	1	0	91	1	1	2	2	0
6	0	0	0	0	0	49	0	1	1	1	0	92	1	2	2	2	0
7	0	0	0	0	0	50	0	1	1	1	0	93	1	3	3	3	0
8	0	0	0	0	0	51	0	1	1	1	0	94	1	3	3	3	0
9	0	0	0	0	0	52	0	1	1	1	0	95	1	3	3	3	0
10	0	0	0	0	0	53	0	1	1	1	0	96	1	4	4	3	0
11	0	0	0	0	0	54	0	1	1	1	0	97	1	4	4	3	0
12	0	0	0	0	0	55	0	1	1	1	0	98	1	4	4	3	0
13	0	0	0	0	0	56	0	1	1	1	0	99	1	4	4	3	0
14	0	0	0	0	0	57	0	1	1	1	0	100	1	5	5	0	0
15	0	0	0	0	0	58	0	1	1	1	0	101	1	7	7	0	0
16	0	0	0	0	0	59	0	1	1	1	0	110	1	7	7	0	0
17	0	0	0	0	0	60	0	1	1	1	0	112	1	8	8	0	0
18	0	0	0	0	0	61	0	1	1	1	0	120	1	10	10	0	0
19	0	0	0	0	0	62	0	1	1	1	0	130	1	12	12	0	0
20	0	0	0	0	0	63	0	1	1	1	0	140	1	15	15	0	0
21	0	0	0	0	0	64	0	1	1	1	0	144	1	16	16	0	0
22	0	0	0	0	0	65	0	1	1	1	0	150	1	17	17	0	0
23	0	0	0	0	0	66	0	1	1	1	0	160	1	17	6	0	0
24	0	0	0	0	0	67	0	1	1	1	0	176	2	3	9	9	0
25	0	0	0	0	0	68	0	1	1	1	0	200	2	10	0	6	0
26	0	0	0	0	0	69	0	1	1	1	0	200	2	10	0	6	0
27	0	0	0	0	0	70	0	1	1	1	0	200	3	15	0	0	0
28	0	0	0	0	0	71	0	1	1	1	0	365	4	11	3	0	0
29	0	0	0	0	0	72	0	1	1	1	0	400	5	0	0	0	0
30	0	0	0	0	0	73	0	1	1	1	0	500	6	0	0	0	0
31	0	0	0	0	0	74	0	1	1	1	0	600	7	10	0	0	0
32	0	0	0	0	0	75	0	1	1	1	0	700	7	15	0	0	0
33	0	0	0	0	0	76	0	1	1	1	0	755	8	0	0	0	0
34	0	0	0	0	0	77	0	1	1	1	0	800	10	0	0	0	0
35	0	0	0	0	0	78	0	1	1	1	0	900	11	5	0	0	0
36	0	0	0	0	0	79	0	1	1	1	0	1000	12	10	0	0	0
37	0	0	0	0	0	80	0	1	1	1	0	1250	15	12	6	0	0
38	0	0	0	0	0	81	0	1	0	0	0	1500	15	15	15	6	0
39	0	0	0	0	0	82	0	1	0	0	0	1600	16	16	16	6	0
40	0	0	0	0	0	83	0	1	0	0	0	2000	20	25	0	0	0
41	0	0	0	0	0	84	0	1	1	0	0	2240	28	0	0	0	0
42	0	0	0	0	0	85	0	1	3	0	0	3000	37	10	0	0	0
43	0	0	0	0	0	86	0	1	1	6	0	5000	62	10	10	0	0

3_{1d}

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

3_{1d}

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

3_{2d}

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

4d

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

4¹/₂d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	0	44	15	11	87	1	10
2	0	0	45	0	15	88	1	11
3	0	0	46	0	16	89	1	11
4	0	1	47	0	17	90	1	11
5	0	1	48	0	18	91	1	12
6	0	2	49	0	19	92	1	12
7	0	2	50	0	20	93	1	12
8	0	3	51	0	21	94	1	13
9	0	3	52	0	22	95	1	13
10	0	3	53	0	23	96	1	14
11	0	3	54	0	24	97	1	14
12	0	4	55	0	25	98	1	14
13	0	4	56	0	26	99	1	15
14	0	4	57	0	27	100	1	15
15	0	5	58	1	0	101	1	16
16	0	5	59	1	0	102	1	16
17	0	6	60	1	1	103	1	17
18	0	6	61	1	1	104	1	17
19	0	6	62	1	2	105	1	18
20	0	7	63	1	2	106	1	18
21	0	7	64	1	3	107	1	19
22	0	7	65	1	3	108	1	19
23	0	8	66	1	3	109	1	20
24	0	8	67	1	4	110	1	20
25	0	8	68	1	4	111	1	21
26	0	9	69	1	5	112	1	21
27	0	9	70	1	5	113	1	22
28	0	9	71	1	5	114	1	22
29	0	10	72	1	6	115	1	23
30	0	10	73	1	6	116	1	23
31	0	10	74	1	6	117	1	24
32	0	11	75	1	6	118	1	24
33	0	11	76	1	7	119	1	25
34	0	12	77	1	7	120	1	25
35	0	12	78	1	7	121	1	26
36	0	12	79	1	7	122	1	26
37	0	13	80	1	8	123	1	27
38	0	13	81	1	8	124	1	27
39	0	13	82	1	9	125	1	28
40	0	14	83	1	9	126	1	28
41	0	14	84	1	9	127	1	29
42	0	14	85	1	10	128	1	29
43	0	15	86	1	10	129	1	30

4¹/₂d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	0	87	1	10	166	1	16
2	0	0	88	1	11	167	1	16
3	0	1	89	1	11	168	1	17
4	0	1	90	1	12	169	1	17
5	0	1	91	1	12	170	1	18
6	0	2	92	1	12	171	1	18
7	0	2	93	1	13	172	1	19
8	0	2	94	1	13	173	1	19
9	0	3	95	1	14	174	1	20
10	0	3	96	1	14	175	1	20
11	0	3	97	1	14	176	1	21
12	0	4	98	1	15	177	1	21
13	0	4	99	1	15	178	1	22
14	0	5	100	1	16	179	1	22
15	0	5	101	1	16	180	1	23
16	0	5	102	1	17	181	1	23
17	0	6	103	1	17	182	1	24
18	0	6	104	1	18	183	1	24
19	0	6	105	1	18	184	1	25
20	0	7	106	1	19	185	1	25
21	0	7	107	1	19	186	1	26
22	0	7	108	1	20	187	1	26
23	0	8	109	1	20	188	1	27
24	0	8	110	1	21	189	1	27
25	0	9	111	1	21	190	1	28
26	0	9	112	1	22	191	1	28
27	0	9	113	1	22	192	1	29
28	0	10	114	1	23	193	1	29
29	0	10	115	1	23	194	1	30
30	0	10	116	1	24	195	1	30
31	0	11	117	1	24	196	1	31
32	0	11	118	1	25	197	1	31
33	0	11	119	1	25	198	1	32
34	0	12	120	1	26	199	1	32
35	0	12	121	1	26	200	1	33
36	0	13	122	1	27	201	1	33
37	0	13	123	1	27	202	1	34
38	0	14	124	1	28	203	1	34
39	0	14	125	1	28	204	1	35
40	0	15	126	1	29	205	1	35
41	0	15	127	1	29	206	1	36
42	0	15	128	1	30	207	1	36
43	0	16	129	1	30	208	1	37

4¹/₂d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	0	44	0	16	87	1	12
2	0	0	45	0	17	88	1	13
3	0	1	46	0	17	89	1	13
4	0	1	47	0	18	90	1	14
5	0	1	48	0	18	91	1	14
6	0	2	49	0	19	92	1	14
7	0	2	50	0	19	93	1	15
8	0	3	51	0	20	94	1	15
9	0	3	52	0	20	95	1	16
10	0	3	53	0	21	96	1	16
11	0	4	54	0	21	97	1	17
12	0	4	55	0	22	98	1	17
13	0	4	56	0	22	99	1	18
14	0	5	57	0	23	100	1	18
15	0	5	58	0	23	101	1	19
16	0	5	59	0	24	102	1	19
17	0	6	60	0	24	103	1	20
18	0	6	61	0	25	104	1	20
19	0	7	62	0	25	105	1	21
20	0	7	63	0	26	106	1	21
21	0	7	64	0	26	107	1	22
22	0	8	65	0	27	108	1	22
23	0	8	66	0	27	109	1	23
24	0	9	67	0	28	110	1	23
25	0	9	68	0	28	111	1	24
26	0	9	69	0	29	112	1	24
27	0	10	70	0	29	113	1	25
28	0	10	71	0	30	114	1	25
29	0	10	72	0	30	115	1	26
30	0	11	73	0	31	116	1	26
31	0	11	74	0	31	117	1	27
32	0	12	75	0	32	118	1	27
33	0	12	76	0	32	119	1	28
34	0	12	77	0	33	120	1	28
35	0	13	78	0	33	121	1	29
36	0	13	79	0	34	122	1	29
37	0	13	80	0	34	123	1	30
38	0	14	81	0	35	124	1	30
39	0	14	82	0	35	125	1	31
40	0	15	83	0	36	126	1	31
41	0	15	84	0	36	127	1	32
42	0	15	85	0	37	128	1	32
43	0	16	86	0	37	129	1	33

5d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	0	44	0	18	87	1	16
2	0	0	45	0	18	88	1	16
3	0	1	46	0	19	89	1	17
4	0	1	47	0	19	90	1	17
5	0	1	48	0	20	91	1	17
6	0	2	49	0	20	92	1	18
7	0	2	50	0	21	93	1	18
8	0	3	51	0	21	94	1	19
9	0	3	52	0	22	95	1	19
10	0	4	53	0	22	96	1	20
11	0	4	54	0	23	97	1	20
12	0	5	55	0	23	98	1	21
13	0	5	56	0	24	99	1	21
14	0	5	57	0	24	100	1	22
15	0	6	58	0	25	101	1	22
16	0	6	59	0	25	102	1	23
17	0	6	60	0	26	103	1	23
18	0	7	61	0	26	104	1	24
19	0	7	62	0	27	105	1	24
20	0	8	63	0	27	106	1	25
21	0	8	64	0	28	107	1	25
22	0	9	65	0	28	108	1	26
23	0	9	66	0	29	109	1	26
24	0	10	67	0	29	110	1	27
25	0	10	68	0	30	111	1	27
26	0	10	69	0	30	112	1	28
27	0	11	70	0	31	113	1	28
28	0	11	71	0	31	114	1	29
29	0	12	72	0	32	115	1	29
30	0	12	73	0	32	116	1	30
31	0	12	74	0	33	117	1	30
32	0	13	75	0	33	118	1	31
33	0	13	76	0	34	119	1	31
34	0	14	77	0	34	120	1	32
35	0	14	78	0	35	121	1	32
36	0	15	79	0	35	122	1	33
37	0	15	80	0	36	123	1	33
38	0	15	81	0	36	124	1	34
39	0	16	82	0	37	125	1	34
40	0	16	83	0	37	126	1	35
41	0	17	84	0	38	127	1	35
42	0	17	85	0	38	128	1	36
43	0	17	86	0	39	129	1	36

111₄d

No	z	s	d	No	z	s	d	No	z	s	d
1	0	0	111	44	2	2	2	87	4	2	6
2	0	1	104	45	2	2	2	88	4	2	6
3	0	2	103	46	2	2	2	89	4	2	6
4	0	3	98	47	2	2	0	90	4	4	4
5	0	4	84	48	2	5	0	91	4	5	3
6	0	5	67	49	2	6	11	92	4	6	3
7	0	6	50	50	2	7	11	93	4	7	2
8	0	7	33	51	2	8	10	94	4	8	1
9	0	8	16	52	2	9	8	95	4	9	0
10	0	9	0	53	2	9	8	96	4	10	0
11	0	10	33	54	2	10	7	97	4	10	11
12	0	11	3	55	2	11	6	98	4	11	10
13	0	12	24	56	2	12	6	99	4	12	9
14	0	13	14	57	2	13	5	100	4	13	8
15	0	14	0	58	2	14	4	101	5	1	3
16	0	15	0	59	2	15	3	110	5	3	1
17	0	15	11	60	2	16	3	112	5	5	0
18	0	16	10	61	2	17	3	120	5	12	6
19	0	17	9	62	2	18	1	130	6	1	10
20	0	18	9	63	2	19	0	132	6	3	8
21	0	19	8	64	3	0	0	140	6	11	3
22	1	0	7	65	3	0	11	146	6	15	0
23	1	1	6	66	3	1	10	157	7	0	7
24	1	2	6	67	3	2	9	175	8	4	0
25	1	3	5	68	3	3	8	200	9	7	6
26	1	4	4	69	3	4	8	250	11	14	4
27	1	5	3	70	3	5	7	300	14	1	1
28	1	6	3	71	3	6	6	365	17	5	2
29	1	7	2	72	3	7	6	403	18	15	0
30	1	8	1	73	3	8	5	501	23	8	8
31	1	9	0	74	3	9	4	600	28	2	6
32	1	10	0	75	3	10	3	700	32	16	3
33	1	10	11	76	3	11	3	750	35	3	1
34	1	11	10	77	3	12	2	800	37	10	0
35	1	12	9	78	3	13	1	903	42	3	8
36	1	13	8	79	4	14	0	1004	46	17	6
37	1	14	8	80	3	15	0	1250	58	11	10
38	1	15	7	81	3	15	11	1505	70	6	3
39	1	16	6	82	3	16	10	1750	82	0	7
40	1	17	6	83	3	17	9	2000	93	15	0
41	1	18	5	84	3	18	9	2240	105	0	9
42	1	19	4	85	3	19	8	3001	140	12	6
43	2	0	3	86	4	0	7	3500	234	7	6

111₃d

No	z	s	d	No	z	s	d	No	z	s	d
1	0	0	111	44	2	2	2	87	4	2	6
2	0	1	104	45	2	2	2	88	4	2	6
3	0	2	103	46	2	2	0	89	4	2	6
4	0	3	98	47	2	6	0	90	4	4	4
5	0	4	84	48	2	7	0	91	4	5	3
6	0	5	67	49	2	8	11	92	4	6	3
7	0	6	50	50	2	9	11	93	4	7	2
8	0	7	33	51	2	10	10	94	4	8	1
9	0	8	16	52	2	10	9	95	4	9	0
10	0	9	0	53	2	11	8	96	4	10	0
11	0	10	33	54	2	12	10	97	4	14	11
12	0	11	9	55	2	13	10	98	4	15	11
13	0	12	8	56	2	14	10	99	4	16	11
14	0	13	8	57	2	15	9	100	4	17	11
15	0	14	8	58	2	16	9	106	5	5	0
16	0	15	8	59	2	17	9	110	6	7	8
17	0	16	7	60	2	18	9	112	6	9	8
18	0	17	7	61	2	19	8	120	5	17	6
19	0	18	7	62	3	0	8	130	6	7	3
20	0	19	7	63	3	1	8	132	6	9	3
21	1	0	6	64	3	2	8	140	6	17	1
22	1	1	6	65	3	3	7	150	7	1	0
23	1	2	5	66	3	4	7	157	7	6	10
24	1	3	6	67	3	5	7	175	8	11	4
25	1	4	5	68	3	6	7	200	9	15	10
26	1	5	5	69	3	7	6	250	12	4	9
27	1	6	4	70	3	8	6	300	14	15	9
28	1	7	4	71	3	9	5	365	17	11	4
29	1	8	3	72	3	10	6	400	19	14	0
30	1	9	3	73	3	11	5	500	24	9	7
31	1	10	2	74	3	12	5	600	29	7	6
32	1	11	2	75	3	13	5	700	34	5	5
33	1	12	2	76	3	14	5	750	36	14	4
34	1	13	1	77	3	15	4	800	38	3	4
35	1	14	1	78	3	16	4	900	44	1	0
36	1	15	3	79	3	17	4	1000	46	19	2
37	1	16	2	80	3	18	4	1250	61	3	11
38	1	17	2	81	3	19	3	1500	73	8	9
39	1	18	2	82	4	0	3	1750	85	13	6
40	1	19	2	83	4	1	3	2000	97	18	4
41	2	0	1	84	4	2	2	2240	107	6	8
42	2	1	1	85	4	3	2	3000	146	17	6
43	2	2	1	86	4	4	2	3500	244	15	10

111₂d

No	z	s	d	No	z	s	d	No	z	s	d
1	0	0	111	44	2	2	2	87	4	2	6
2	0	1	104	45	2	2	2	88	4	2	6
3	0	2	103	46	2	2	0	89	4	2	6
4	0	3	98	47	2	5	0	90	4	4	4
5	0	4	84	48	2	6	0	91	4	5	3
6	0	5	67	49	2	6	11	92	4	6	3
7	0	6	50	50	2	7	11	93	4	7	2
8	0	7	33	51	2	8	10	94	4	8	1
9	0	8	16	52	2	9	9	95	4	9	0
10	0	9	0	53	2	10	8	96	4	10	0
11	0	10	33	54	2	11	8	97	4	10	11
12	0	11	6	55	2	12	8	98	4	13	11
13	0	12	5	56	2	13	8	99	4	14	10
14	0	13	5	57	2	14	7	100	4	15	10
15	0	14	4	58	2	15	7	106	5	5	0
16	0	15	4	59	2	16	6	110	6	7	8
17	0	16	3	60	2	17	6	112	6	9	8
18	0	17	3	61	2	18	5	120	5	17	6
19	0	18	2	62	2	19	5	130	6	7	3
20	0	19	2	63	3	0	4	132	6	9	3
21	1	0	1	64	3	1	3	140	6	17	1
22	1	1	1	65	3	2	3	150	7	1	0
23	1	2	0	66	3	3	3	157	7	6	10
24	1	3	0	67	3	4	2	175	8	11	4
25	1	3	11	68	3	5	2	200	9	15	10
26	1	4	11	69	3	6	1	250	11	14	4
27	1	5	10	70	3	7	0	300	14	15	9
28	1	6	10	71	3	8	0	365	17	11	4
29	1	7	9	72	3	9	0	400	19	14	0
30	1	8	8	73	3	9	11	500	23	19	2
31	1	9	8	74	3	10	11	600	28	5	0
32	1	10	8	75	3	11	10	700	33	10	10
33	1	11	7	76	3	12	10	750	35	18	9
34	1	12	7	77	3	13	9	800	36	5	8
35	1	13	6	78	3	14	9	900	43	6	8
36	1	14	6	79	3	15	8	1000	47	18	4
37	1	15	5	80	3	16	8	1250	59	17	11
38	1	16	5	81	3	17	7	1500	71	17	6
39	1	17	4	82	3	18	7	1750	83	17	6
40	1	18	4	83	3	19	6	2000	95	16	8
41	1	19	3	84	4	0	6	2240	107	6	8
42	2	0	3	85	4	1	5	3000	143	15	10
43	2	1	2	86	4	2	5	3500	239	11	8

11₂d

No.	z	s	d	No.	z	s	d	No.	z	s	d
1	0	0	111	44	2	2	2	87	4	2	6
2	0	1	104	45	2	2	2	88	4	2	6
3	0	2	103	46	2	2	0	89	4	2	6
4	0	3	98	47	2	5	0	90	4	4	4
5	0	4	84	48	2	6	0	91	4	5	3
6	0	5	67	49	2	6	11	92	4	6	3
7	0	6	50	50	2	7	11	93	4	7	2
8	0	7	33	51	2	8	10	94	4	8	1
9	0	8	16	52	2	9	9	95	4	9	0
10	0	9	0	53	2	10	8	96	4	10	0
11	0	10	33	54	2	11	8	97	4	10	11
12	0	11	6	55	2	12	8	98	4	13	11
13	0	12	5	56	2	13	8	99	4	14	0
14	0	13	0	57	2	14	7	100	5	0	0
15	0	14	0	58	2	17	0	108	5	8	0
16	0	15	0	59	2	18	0	116	5	10	0
17	0	16	0	60	2	19	0	122	6	0	0
18	0	17	0	61	3	1	0	120	6	0	0
19	0	18	0	62	3	2	0	130	6	10	0
20	1	0	0	63	3	2	0	132	6	12	0
21	1	0	0	64	3	4	0	140	7	0	0
22	1	0	0	65	3	4	0	144	7	4	0
23	1	3	0	66	3	6	0	150	7	10	0
24	1	4	0	67	3	7	0	176	8	15	0
25	1	5	0	68	3	8	0	206	10	0	0
26	1	6	0	69	3	8	0	250	12	10	0
27	1	8	0	70	3	10	0	283	13	10	0
28	1	9	0	71	3	11	0	365	18	5	0
29	1	9	0	72	3	12	0	400	20	0	0
30	1	10	0	73	3	13	0	500	26	0	0
31	1	11	0	74	3	14	0	603	30	0	0
32	1	12	0	75	3	15	0	733	36	0	0
33	1	13	0	76	3	16	0	750	37	10	0
34	1	14	0	77	3	17	0	800	40	0	0
35	1	15	0	78	3	18	0	900	45	0	0
36	1	16	0	79	3	18	0	1030	50	0	0
37	1	17	0	80	4	1	0	1100	52	10	0
38	1	18	0	81	4	1	0	1500	75	0	0
39	1	19	0	82	4	2	0	1750	87	10	0
40	2	0	0	83	4	2	0	2000	100	0	0
41	2	0	0	84	4	3	0	2040	112	0	0
42	2	0	0	85	4	3	0	2050	113	0	0
43	2	0	0	86	4	6	0	5000	250	0	0

$1s0\frac{1}{2}$

No	r	a	r	a	No	r	a	r	a
1	0	1	0	1	87	4	10	7	7
2	0	2	0	2	88	4	11	8	8
3	0	3	0	3	89	4	12	8	8
4	0	4	0	4	90	4	11	10	10
5	0	5	0	5	91	4	12	10	10
6	0	6	0	6	92	4	13	11	11
7	0	7	0	7	93	4	14	11	11
8	0	8	0	8	94	4	15	11	11
9	0	9	0	9	95	4	16	12	12
10	0	10	0	10	96	4	17	12	12
11	0	11	0	11	97	4	18	13	13
12	0	12	0	12	98	5	0	0	0
13	0	13	0	13	99	5	1	0	0
14	0	14	0	14	100	5	2	1	1
15	0	15	0	15	101	5	3	1	1
16	0	16	0	16	102	5	4	1	1
17	0	17	0	17	103	5	5	1	1
18	0	18	0	18	104	5	6	1	1
19	0	19	0	19	105	5	7	1	1
20	1	0	0	0	106	5	8	1	1
21	1	1	0	0	107	5	9	1	1
22	1	2	0	0	108	5	10	1	1
23	1	3	0	0	109	5	11	1	1
24	1	4	0	0	110	5	12	1	1
25	1	5	0	0	111	5	13	1	1
26	1	6	0	0	112	5	14	1	1
27	1	7	0	0	113	5	15	1	1
28	1	8	0	0	114	5	16	1	1
29	1	9	0	0	115	5	17	1	1
30	1	10	0	0	116	5	18	1	1
31	1	11	0	0	117	5	19	1	1
32	1	12	0	0	118	5	20	1	1
33	1	13	0	0	119	5	21	1	1
34	1	14	0	0	120	5	22	1	1
35	1	15	0	0	121	5	23	1	1
36	1	16	0	0	122	5	24	1	1
37	1	17	0	0	123	5	25	1	1
38	1	18	0	0	124	5	26	1	1
39	1	19	0	0	125	5	27	1	1
40	2	0	0	0	126	5	28	1	1
41	2	1	0	0	127	5	29	1	1
42	2	2	0	0	128	5	30	1	1
43	2	3	0	0	129	5	31	1	1

 $1s0\frac{3}{2}$

No	r	a	r	a	No	r	a	r	a
1	0	1	0	1	87	4	12	8	8
2	0	2	0	2	88	4	13	9	9
3	0	3	0	3	89	4	14	9	9
4	0	4	0	4	90	4	15	7	7
5	0	5	0	5	91	4	16	8	8
6	0	6	0	6	92	4	17	9	9
7	0	7	0	7	93	4	18	9	9
8	0	8	0	8	94	4	19	10	10
9	0	9	0	9	95	4	20	10	10
10	0	10	0	10	96	4	21	10	10
11	0	11	0	11	97	5	0	0	0
12	0	12	0	12	98	5	1	0	0
13	0	13	0	13	99	5	2	0	0
14	0	14	0	14	100	5	3	0	0
15	0	15	0	15	101	5	4	0	0
16	0	16	0	16	102	5	5	0	0
17	0	17	0	17	103	5	6	0	0
18	0	18	0	18	104	5	7	0	0
19	0	19	0	19	105	5	8	0	0
20	1	0	0	0	106	5	9	0	0
21	1	1	0	0	107	5	10	0	0
22	1	2	0	0	108	5	11	0	0
23	1	3	0	0	109	5	12	0	0
24	1	4	0	0	110	5	13	0	0
25	1	5	0	0	111	5	14	0	0
26	1	6	0	0	112	5	15	0	0
27	1	7	0	0	113	5	16	0	0
28	1	8	0	0	114	5	17	0	0
29	1	9	0	0	115	5	18	0	0
30	1	10	0	0	116	5	19	0	0
31	1	11	0	0	117	5	20	0	0
32	1	12	0	0	118	5	21	0	0
33	1	13	0	0	119	5	22	0	0
34	1	14	0	0	120	5	23	0	0
35	1	15	0	0	121	5	24	0	0
36	1	16	0	0	122	5	25	0	0
37	1	17	0	0	123	5	26	0	0
38	1	18	0	0	124	5	27	0	0
39	1	19	0	0	125	5	28	0	0
40	2	0	0	0	126	5	29	0	0
41	2	1	0	0	127	5	30	0	0
42	2	2	0	0	128	5	31	0	0
43	2	3	0	0	129	5	32	0	0

 $1s0\frac{1}{2}$

No	r	a	r	a	No	r	a	r	a
1	0	1	0	1	87	4	10	7	7
2	0	2	0	2	88	4	11	8	8
3	0	3	0	3	89	4	12	8	8
4	0	4	0	4	90	4	11	10	10
5	0	5	0	5	91	4	12	10	10
6	0	6	0	6	92	4	13	11	11
7	0	7	0	7	93	4	14	11	11
8	0	8	0	8	94	4	15	11	11
9	0	9	0	9	95	4	16	12	12
10	0	10	0	10	96	4	17	12	12
11	0	11	0	11	97	4	18	13	13
12	0	12	0	12	98	5	0	0	0
13	0	13	0	13	99	5	1	0	0
14	0	14	0	14	100	5	2	1	1
15	0	15	0	15	101	5	3	1	1
16	0	16	0	16	102	5	4	1	1
17	0	17	0	17	103	5	5	1	1
18	0	18	0	18	104	5	6	1	1
19	0	19	0	19	105	5	7	1	1
20	1	0	0	0	106	5	8	1	1
21	1	1	0	0	107	5	9	1	1
22	1	2	0	0	108	5	10	1	1
23	1	3	0	0	109	5	11	1	1
24	1	4	0	0	110	5	12	1	1
25	1	5	0	0	111	5	13	1	1
26	1	6	0	0	112	5	14	1	1
27	1	7	0	0	113	5	15	1	1
28	1	8	0	0	114	5	16	1	1
29	1	9	0	0	115	5	17	1	1
30	1	10	0	0	116	5	18	1	1
31	1	11	0	0	117	5	19	1	1
32	1	12	0	0	118	5	20	1	1
33	1	13	0	0	119	5	21	1	1
34	1	14	0	0	120	5	22	1	1
35	1	15	0	0	121	5	23	1	1
36	1	16	0	0	122	5	24	1	1
37	1	17	0	0	123	5	25	1	1
38	1	18	0	0	124	5	26	1	1
39	1	19	0	0	125	5	27	1	1
40	2	0	0	0	126	5	28	1	1
41	2	1	0	0	127	5	29	1	1
42	2	2	0	0	128	5	30	1	1
43	2	3	0	0	129	5	31	1	1

 $1s1\frac{1}{2}$

No	r	a	r	a	No	r	a	r	a
1	0	1	0	1	87	4	14	3	3
2	0	2	0	2	88	4	15	4	4
3	0	3	0	3	89	4	16	5	5
4	0	4	0	4	90	4	17	6	6
5	0	5	0	5	91	4	18	7	7
6	0	6	0	6	92	4	19	8	8
7	0	7	0	7	93	5	0	0	0
8	0	8	0	8	94	5	1	0	1
9	0	9	0	9	95	5	2	1	2
10	0	10	0	10	96	5	3	1	3
11	0	11	0	11	97	5	4	1	4
12	0	12	0	12	98	5	5	2	2
13	0	13	0	13	99	5	6	2	3
14	0	14	1	56	3	0	8	9	8
15	0	15	2	57	3	1	9	10	9
16	0	16	3	58	3	1	10	11	10
17	0	17	4	59	3	1	11	12	11
18	0	18	5	60	3	5	0	12	6
19	0	19	6	61	3	6	0	13	7
20	1	0	7	62	3	6	0	14	8
21	1	1	8	63	3	9	4	15	9
22	1	2	9	64	3	9	4	16	10
23	1	3	10	65	3	10	5	17	11
24	1	4	11	66	3	11	6	18	12
25	1	5	12	67	3	12	7	19	13
26	1	6	13	68	3	12	7	20	14
27	1	7	14	69	3	15	10	21	15
28	1	8	15	70	3	15	10	22	16
29	1	9	16	71	3	16	11	23	17
30	1	10	17	72	3	18	0	24	18
31	1	11	18	73	3	18	0	25	19
32	1	12	19	74	3	0	2	26	20
33	1	13	20	75	4	1	3	27	21
34	1	14	21	76	4	2	4	28	22
35	1	15	22	77	4	3	5	29	23
36	1	16	23	78	4	3	6	30	24
37	1	17	24	79	4	5	8	1	25
38	2	0	1	80	4	6	9	2	26
39	2	1	2	81	4	7	9	3	27
40	2	2	3	82	4	8	10	4	28
41	2	3	4	83	4	11	0	5	29
42	2	4	5	84	4	11	0	6	30
43	2	5	6	85	4	12	1	7	1
44	2	6	7	86	4	13	2	8	2

1s 7¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	74	45	3	10	7	87
2	0	3	24	46	3	12	24	88
3	0	4	94	46	3	13	94	89
4	0	6	5	46	3	15	43	90
5	0	8	7	46	3	17	0	91
6	0	9	74	49	3	18	74	92
7	0	11	24	50	4	0	24	93
8	0	12	10	51	4	1	89	94
9	0	14	54	52	4	3	5	95
10	0	16	04	53	4	5	04	96
11	0	17	74	54	4	8	74	97
12	0	18	9	54	4	9	8	98
13	1	0	104	56	4	9	10	99
14	1	2	64	57	4	11	54	100
15	1	4	04	58	4	13	04	101
16	1	5	8	59	4	14	74	102
17	1	7	34	60	4	16	3	103
18	1	8	104	61	4	17	104	104
19	1	10	54	62	4	19	8	105
20	1	12	1	63	5	2	02	106
21	1	13	81	64	5	2	8	107
22	1	15	34	65	5	4	34	108
23	1	16	104	66	5	5	104	109
24	1	18	6	67	5	7	6	110
25	2	0	14	68	5	8	1	111
26	2	2	8	69	5	10	8	112
27	2	3	34	70	5	12	34	113
28	2	4	11	71	5	13	104	114
29	2	6	61	72	5	15	6	115
30	2	8	11	73	5	17	11	116
31	2	9	84	74	5	18	84	117
32	2	11	4	75	6	0	4	118
33	2	12	111	76	6	1	11	119
34	2	14	64	77	6	3	61	120
35	2	16	14	78	6	5	14	121
36	2	17	8	79	6	6	8	122
37	2	19	44	80	6	8	4	123
38	3	0	114	81	6	9	114	124
39	3	2	64	82	6	11	64	125
40	3	3	2	83	6	13	2	126
41	3	5	84	84	6	14	9	127
42	3	7	4	85	6	16	4	128
43	3	8	112	86	6	17	112	129

1s 7¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	74	45	3	10	7	87
2	0	3	24	46	3	12	24	88
3	0	4	94	46	3	13	94	89
4	0	6	5	46	3	15	43	90
5	0	8	7	46	3	17	0	91
6	0	9	74	49	3	18	74	92
7	0	11	24	50	4	0	24	93
8	0	12	10	51	4	1	89	94
9	0	14	54	52	4	3	5	95
10	0	16	04	53	4	5	04	96
11	0	17	74	54	4	8	74	97
12	0	18	9	54	4	9	8	98
13	1	0	104	56	4	9	10	99
14	1	2	64	57	4	11	54	100
15	1	4	04	58	4	13	04	101
16	1	5	8	59	4	14	74	102
17	1	7	34	60	4	16	3	103
18	1	8	104	61	4	17	104	104
19	1	10	54	62	4	19	8	105
20	1	12	1	63	5	2	02	106
21	1	13	81	64	5	2	8	107
22	1	15	34	65	5	4	34	108
23	1	16	104	66	5	5	104	109
24	1	18	6	67	5	7	6	110
25	2	0	14	68	5	8	1	111
26	2	2	8	69	5	10	8	112
27	2	3	34	70	5	12	34	113
28	2	4	11	71	5	13	104	114
29	2	6	61	72	5	15	6	115
30	2	8	11	73	5	17	11	116
31	2	9	84	74	5	18	84	117
32	2	11	4	75	6	0	4	118
33	2	12	111	76	6	1	11	119
34	2	14	64	77	6	3	61	120
35	2	16	14	78	6	5	14	121
36	2	17	8	79	6	6	8	122
37	2	19	44	80	6	8	4	123
38	3	0	114	81	6	9	114	124
39	3	2	64	82	6	11	64	125
40	3	3	2	83	6	13	2	126
41	3	5	84	84	6	14	9	127
42	3	7	4	85	6	16	4	128
43	3	8	112	86	6	17	112	129

1s 7¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	74	45	3	10	7	87
2	0	3	24	46	3	12	24	88
3	0	4	94	46	3	13	94	89
4	0	6	5	46	3	15	43	90
5	0	8	7	46	3	17	0	91
6	0	9	74	49	3	18	74	92
7	0	11	24	50	4	0	24	93
8	0	12	10	51	4	1	89	94
9	0	14	54	52	4	3	5	95
10	0	16	04	53	4	5	04	96
11	0	17	74	54	4	8	74	97
12	0	18	9	54	4	9	8	98
13	1	0	104	56	4	9	10	99
14	1	2	64	57	4	11	54	100
15	1	4	04	58	4	13	04	101
16	1	5	8	59	4	14	74	102
17	1	7	34	60	4	16	3	103
18	1	8	104	61	4	17	104	104
19	1	10	54	62	4	19	8	105
20	1	12	1	63	5	2	02	106
21	1	13	81	64	5	2	8	107
22	1	15	34	65	5	4	34	108
23	1	16	104	66	5	5	104	109
24	1	18	6	67	5	7	6	110
25	2	0	14	68	5	8	1	111
26	2	2	8	69	5	10	8	112
27	2	3	34	70	5	12	34	113
28	2	4	11	71	5	13	104	114
29	2	6	61	72	5	15	6	115
30	2	8	11	73	5	17	11	116
31	2	9	84	74	5	18	84	117
32	2	11	4	75	6	0	4	118
33	2	12	111	76	6	1	11	119
34	2	14	64	77	6	3	61	120
35	2	16	14	78	6	5	14	121
36	2	17	8	79	6	6	8	122
37	2	19	44	80	6	8	4	123
38	3	0	114	81	6	9	114	124
39	3	2	64	82	6	11	64	125
40	3	3	2	83	6	13	2	126
41	3	5	84	84	6	14	9	127
42	3	7	4	85	6	16	4	128
43	3	8	112	86	6	17	112	129

1s 7¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	74	45	3	10	7	87
2	0	3	24	46	3	12	24	88
3	0	4	94	46	3	13	94	89
4	0	6	5	46	3	15	43	90
5	0	8	7	46	3	17	0	91
6	0	9	74	49	3	18	74	92
7	0	11	24	50	4	0	24	93
8	0	12	10	51	4	1	89	94
9	0	14	54	52	4	3	5	95
10	0	16	04	53	4	5	04	96
11	0	17	74	54	4	8	74	97
12	0	18	9	54	4	9	8	98
13	1	0	104	56	4	9	10	99
14	1	2	64	57	4	11	54	100
15	1	4	04	58	4	13	04	101
16	1	5	8	59	4	14	74	102
17	1	7	34	60	4	16	3	103
18	1	8	104	61	4	17	104	104
19	1	10	54	62	4	19	8	105
20	1	12	1	63	5	2	02	106
21	1	13	81	64	5	2	8	107
22	1	15	34	65	5	4	34	108
23	1	16	104	66	5	5	104	109
24	1	18	6	67	5	7	6	110
25	2	0	14	68	5	8	1	111
26	2	2	8	69	5	10	8	112
27	2	3	34	70	5	12	34	113
28	2	4	11	71	5	13	104	114
29	2	6	61	72	5	15	6	115
30	2	8	11	73	5	17	11	116
31	2	9	84	74	5	18	84	117
32	2	11	4	75	6	0	4	118
33	2	12	111	76	6	1	11	119
34	2	14	64	77	6	3	61	120
35	2	16	14	78	6	5	14	121
36	2	17	8	79	6	6	8	122
37	2	19	44	80	6	8	4	123
38	3	0	114	81	6	9	114	124
39	3	2	64	82	6	11	64	125
40	3	3	2	83	6	13	2	126
41	3	5	84	84	6	14	9	127
42	3	7	4	85	6	16	4	128
43	3	8	112	86	6	17	112	129

1s 7¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	74	45	3	10	7	87
2	0	3	24	46	3	12	24	88
3	0	4	94	46	3	13	94	89
4	0	6	5	46	3	15	43	90
5	0	8	7	46	3	17	0	91
6	0	9	74	49	3	18	74	92
7	0	11	24	50	4	0	24	93
8	0	12	10	51	4	1	89	94
9	0	14	54	52	4	3	5	95
10	0	16	3	53	4	6	96	96
11	0	17	10	54	4	7	97	97
12	0	19	6	55	4	8	98	98
13	1	2	14	56	4	11	7	99
14	1	4	9	57	4	12	0	100
15	1	6	0	58	4	14	100	101
16	1	7	7	59	4	15	10	102
17	1	9	3	60	4	17	6	103
18	1	9	3	61	4	19	0	104
19	1	10	10	62	4	0	9	105
20	1	12	6	63	5	0	9	106
21	1	14	0	64	5	1	132	107
22	1	15	9	65	5	5	144	108
23	1	17	4	66	5	7	150	109
24	1	19	0	67	5	8	175	110
25	2	0	7	68	5	10	200	111
26	2	2	3	69	5	12	250	112
27	2	5	3	70	5	13	300	113
28	2	5	5	71	5	15	400	114
29	2	8	8	72	5	17	500	115
30	2	10	4	73	5	18	600	116
31	2	12	0	74	5	1	700	117
32	2	12	0	75	5	6	750	118
33	2	13	3	76	5	6	800	119
34	2	15	3	77	5	6	850	120
35	2	18	6	78	5	8	900	121
36	3	0	1	79	6	8	1000	122
37	3	0	1	80	6	10	1250	123
38	3	1	9	81	6	11	1500	124
39	3	3	4	82	6	13	1750	125
40	3	5	0	83	6	14	2000	126
41	3	7	4	84	6	16	2250	127
42	3	8	0	85	6	19	2500	128
43	3	9	10	86	6	19	3000	129

1s9¹d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	44	3	17	87	7	14	87	7	14
2	0	1	45	3	18	88	7	15	88	7	15
3	0	1	46	3	19	89	7	16	89	7	16
4	0	1	47	3	20	90	7	17	90	7	17
5	0	1	48	3	21	91	8	1	91	8	1
6	0	1	49	3	22	92	8	2	92	8	2
7	0	1	50	3	23	93	8	3	93	8	3
8	0	1	51	3	24	94	8	4	94	8	4
9	0	1	52	3	25	95	8	5	95	8	5
10	0	1	53	3	26	96	8	6	96	8	6
11	0	1	54	3	27	97	8	7	97	8	7
12	1	1	55	4	1	98	8	8	98	8	8
13	1	1	56	4	2	99	8	9	99	8	9
14	1	1	57	4	3	100	8	10	100	8	10
15	1	1	58	4	4	101	9	1	101	9	1
16	1	1	59	4	5	102	9	2	102	9	2
17	1	1	60	4	6	103	9	3	103	9	3
18	1	1	61	4	7	104	9	4	104	9	4
19	1	1	62	4	8	105	9	5	105	9	5
20	1	1	63	4	9	106	9	6	106	9	6
21	1	1	64	4	10	107	9	7	107	9	7
22	1	1	65	4	11	108	9	8	108	9	8
23	2	1	66	5	1	109	9	9	109	9	9
24	2	1	67	5	2	110	9	10	110	9	10
25	2	1	68	5	3	111	9	11	111	9	11
26	2	1	69	5	4	112	9	12	112	9	12
27	2	1	70	5	5	113	9	1	113	9	1
28	2	1	71	5	6	114	9	2	114	9	2
29	2	1	72	5	7	115	9	3	115	9	3
30	2	1	73	5	8	116	9	4	116	9	4
31	2	1	74	5	9	117	9	5	117	9	5
32	2	1	75	5	10	118	9	6	118	9	6
33	2	1	76	5	11	119	9	7	119	9	7
34	2	1	77	5	12	120	9	8	120	9	8
35	2	1	78	5	1	121	9	9	121	9	9
36	2	1	79	5	2	122	9	10	122	9	10
37	2	1	80	5	3	123	9	11	123	9	11
38	2	1	81	5	4	124	9	12	124	9	12
39	2	1	82	5	5	125	9	1	125	9	1
40	2	1	83	5	6	126	9	2	126	9	2
41	2	1	84	5	7	127	9	3	127	9	3
42	2	1	85	5	8	128	9	4	128	9	4
43	2	1	86	5	9	129	9	5	129	9	5

1s9²d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	44	3	17	87	7	14	87	7	14
2	0	1	45	3	18	88	7	15	88	7	15
3	0	1	46	3	19	89	7	16	89	7	16
4	0	1	47	3	20	90	7	17	90	7	17
5	0	1	48	3	21	91	8	1	91	8	1
6	0	1	49	3	22	92	8	2	92	8	2
7	0	1	50	3	23	93	8	3	93	8	3
8	0	1	51	3	24	94	8	4	94	8	4
9	0	1	52	3	25	95	8	5	95	8	5
10	0	1	53	3	26	96	8	6	96	8	6
11	0	1	54	3	27	97	8	7	97	8	7
12	1	1	55	4	1	98	8	8	98	8	8
13	1	1	56	4	2	99	8	9	99	8	9
14	1	1	57	4	3	100	8	10	100	8	10
15	1	1	58	4	4	101	9	1	101	9	1
16	1	1	59	4	5	102	9	2	102	9	2
17	1	1	60	4	6	103	9	3	103	9	3
18	1	1	61	4	7	104	9	4	104	9	4
19	1	1	62	4	8	105	9	5	105	9	5
20	1	1	63	4	9	106	9	6	106	9	6
21	1	1	64	4	10	107	9	7	107	9	7
22	1	1	65	4	11	108	9	8	108	9	8
23	2	1	66	5	1	109	9	9	109	9	9
24	2	1	67	5	2	110	9	10	110	9	10
25	2	1	68	5	3	111	9	11	111	9	11
26	2	1	69	5	4	112	9	12	112	9	12
27	2	1	70	5	5	113	9	1	113	9	1
28	2	1	71	5	6	114	9	2	114	9	2
29	2	1	72	5	7	115	9	3	115	9	3
30	2	1	73	5	8	116	9	4	116	9	4
31	2	1	74	5	9	117	9	5	117	9	5
32	2	1	75	5	10	118	9	6	118	9	6
33	2	1	76	5	11	119	9	7	119	9	7
34	2	1	77	5	12	120	9	8	120	9	8
35	2	1	78	5	1	121	9	9	121	9	9
36	2	1	79	5	2	122	9	10	122	9	10
37	2	1	80	5	3	123	9	11	123	9	11
38	2	1	81	5	4	124	9	12	124	9	12
39	2	1	82	5	5	125	9	1	125	9	1
40	2	1	83	5	6	126	9	2	126	9	2
41	2	1	84	5	7	127	9	3	127	9	3
42	2	1	85	5	8	128	9	4	128	9	4
43	2	1	86	5	9	129	9	5	129	9	5

1s9³d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	44	3	17	87	7	14	87	7	14
2	0	1	45	3	18	88	7	15	88	7	15
3	0	1	46	3	19	89	7	16	89	7	16
4	0	1	47	3	20	90	7	17	90	7	17
5	0	1	48	3	21	91	8	1	91	8	1
6	0	1	49	3	22	92	8	2	92	8	2
7	0	1	50	3	23	93	8	3	93	8	3
8	0	1	51	3	24	94	8	4	94	8	4
9	0	1	52	3	25	95	8	5	95	8	5
10	0	1	53	3	26	96	8	6	96	8	6
11	0	1	54	3	27	97	8	7	97	8	7
12	1	1	55	4	1	98	8	8	98	8	8
13	1	1	56	4	2	99	8	9	99	8	9
14	1	1	57	4	3	100	8	10	100	8	10
15	1	1	58	4	4	101	9	1	101	9	1
16	1	1	59	4	5	102	9	2	102	9	2
17	1	1	60	4	6	103	9	3	103	9	3
18	1	1	61	4	7	104	9	4	104	9	4
19	1	1	62	4	8	105	9	5	105	9	5
20	1	1	63	4	9	106	9	6	106	9	6
21	1	1	64	4	10	107	9	7	107	9	7
22	1	1	65	4	11	108	9	8	108	9	8
23	2	1	66	5	1	109	9	9	109	9	9
24	2	1	67	5	2	110	9	10	110	9	10
25	2	1	68	5	3	111	9	11	111	9	11
26	2	1	69	5	4	112	9	12	112	9	12
27	2	1	70	5	5	113	9	1	113	9	1
28	2	1	71	5	6	114	9	2	114	9	2
29	2	1	72	5	7	115	9	3	115	9	3
30	2	1	73	5	8	116	9	4	116	9	4
31	2	1	74	5	9	117	9	5	117	9	5
32	2	1	75	5	10	118	9	6	118	9	6
33	2	1	76	5	11	119	9	7	119	9	7
34	2	1	77	5	12	120	9	8	120	9	8
35	2	1	78	5	1	121	9	9	121	9	9
36	2	1	79	5	2	122	9	10	122	9	10
37	2	1	80	5	3	123	9	11	123	9	11
38	2	1	81	5	4	124	9	12	124	9	12
39	2	1	82	5	5	125	9	1	125	9	1
40	2	1	83	5	6	126	9	2	126	9	2
41	2	1	84	5	7	127	9	3	127	9	3
42	2	1	85	5	8	128	9	4	128	9	4
43	2	1	86	5	9	129	9	5	129	9	5

1s10^d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	1	44	3	17	87	7	14	87	7	14
2	0	1	45	3	18	88	7	15	88	7	15
3	0	5	6	4	6	89	8	1	89	8	1
4	0	7	7	4	7	90	8	2	90	8	2
5	0	9	8	4	8	91	8	3	91	8	3
6	0	11	9	4	9	92	8	4	92	8	4
7	0	13	10	4	10	93	8	5	93	8	5
8	0	15	11	4	11	94	8	6	94	8	6
9	0	16	12	4	12	95	8	7	95	8	7
10	0	18	13	4	13	96	8	8	96	8	8
11	0	2	14	5	1	97	8	9	97	8	9
12	1	2	0	5	6	98	9	1	98	9	1
13	1	3	10	5	6	99	9	2	99	9	2
14	1	3	10	5	6	100	9	3	100	9	3
15	1	9	4	5	8	101	9	4	101	9	4
16	1	11	4	5	8	102	9	5	102	9	5
17	1	9	2	6	5	103	9	6	103	9	6
18	1	13	0	6	1	104	9	7	104	9	7
19	1	14	10	6	1	105	9	8	105	9	8
20	1	16	8	6	1	106	9	9	106	9	9
21	1	16	8	6	1	107	9	10	107	9	10
22	2	2	2	6	5	108	10	1	108	10	1
23	2	2	2	6	5	109	10	2	109	10	2
24	2	4	0	6	7	110	10	3	110	10	3
25	2	2	5	6	8	111	10	4	111	10	4
26	2	5	10	6	8	112	10	5	112	10	5
27	2	11	4	6	7	113	10	6	113	10	6
28	2	11	4	6	7	114	10	7	114	10	7
29	2	13	2	7	6	115	10	8	115	10	8
30	2	15	0	7	6	116	10	9	116	10	9
31	2	17	10	7	6	117	10	10	117	10	10
32	2	18	8	7	6	118	10	11	118	10	11
33	3	3	0	7	6	119	10	12	119	10	12
34	3	3	0	7	6	120	10	1	120	10	1
35	3	4	2	7	7	121	10	2	121	10	2
36	3	4	0	7	7	122	10	3	122	10	3
37	3	7	10	8	7	123	10	4	123	10	4
38	3	9	8	8	7	124	10	5	124	10	5
39	3	11	6	8	7	125	10	6	125	10	6
40	3	11	6	8	7	126	10	7	126	10	7
41	3	15	2	8	7	127	10	8	127	10	8
42	3	17	0	8	7	128	10	9	128	10	9
43	3	18	10	8	7	129	10	10	129	10	10

2s 9d

No	2	s	9	d	No	2	s	9	d	No	2	s	9	d
1	0	2	10	44	6	6	10	87	11	19	0	8	8	
2	0	5	8	45	6	6	10	88	12	2	0	9	9	
3	0	11	0	46	6	6	10	89	12	7	6	0	0	
4	0	16	6	47	6	6	10	90	12	13	0	0	0	
5	0	21	3	48	6	6	12	91	12	18	0	0	0	
6	0	26	0	49	6	6	12	92	12	23	0	0	0	
7	0	31	7	50	6	6	17	93	12	28	0	0	0	
8	0	36	4	51	7	7	5	94	12	33	0	0	0	
9	0	41	1	52	7	7	5	95	13	4	0	0	0	
10	0	46	8	53	7	7	5	96	13	9	0	0	0	
11	0	51	5	54	7	7	5	97	13	14	0	0	0	
12	0	56	2	55	7	7	14	98	13	19	0	0	0	
13	0	61	9	56	7	7	16	99	13	24	0	0	0	
14	0	66	6	57	7	7	19	100	14	29	0	0	0	
15	0	71	3	58	8	8	7	101	14	34	0	0	0	
16	0	76	0	59	8	8	7	102	14	39	0	0	0	
17	0	81	7	60	8	8	7	103	14	44	0	0	0	
18	0	86	4	61	8	8	7	104	14	49	0	0	0	
19	0	91	1	62	8	8	13	105	14	54	0	0	0	
20	0	96	8	63	8	8	13	106	14	59	0	0	0	
21	0	101	5	64	8	8	16	107	14	64	0	0	0	
22	0	106	2	65	8	8	16	108	14	69	0	0	0	
23	0	111	9	66	9	9	3	109	14	74	0	0	0	
24	0	116	6	67	9	9	3	110	14	79	0	0	0	
25	0	121	3	68	9	9	7	111	15	2	0	0	0	
26	0	126	0	69	9	9	7	112	15	7	0	0	0	
27	0	131	7	70	9	9	12	113	15	12	0	0	0	
28	0	136	4	71	9	9	15	114	15	17	0	0	0	
29	0	141	1	72	9	9	18	115	15	22	0	0	0	
30	0	146	8	73	10	10	0	116	15	27	0	0	0	
31	0	151	5	74	10	10	3	117	15	32	0	0	0	
32	0	156	2	75	10	10	3	118	15	37	0	0	0	
33	0	161	9	76	10	10	8	119	15	42	0	0	0	
34	0	166	6	77	10	10	11	120	15	47	0	0	0	
35	0	171	3	78	10	10	14	121	15	52	0	0	0	
36	0	176	0	79	10	10	17	122	15	57	0	0	0	
37	0	181	7	80	11	11	2	123	15	62	0	0	0	
38	0	186	4	81	11	11	2	124	15	67	0	0	0	
39	0	191	1	82	11	11	3	125	15	72	0	0	0	
40	0	196	8	83	11	11	3	126	15	77	0	0	0	
41	0	201	5	84	11	11	11	127	15	82	0	0	0	
42	0	206	2	85	11	11	16	128	15	87	0	0	0	
43	0	211	9	86	11	11	16	129	15	92	0	0	0	

2s 11d

No	2	s	11	d	No	2	s	11	d	No	2	s	11	d
1	0	2	11	44	6	6	11	87	12	13	9	8	7	0
2	0	5	13	45	6	6	11	88	12	16	8	7	0	0
3	0	10	8	46	6	6	11	89	12	19	7	0	0	0
4	0	15	3	47	6	6	11	90	12	22	6	0	0	0
5	0	20	0	48	6	6	11	91	12	25	5	0	0	0
6	0	25	7	49	6	6	11	92	12	28	4	0	0	0
7	0	30	4	50	6	6	11	93	12	31	3	0	0	0
8	0	35	1	51	6	6	11	94	12	34	2	0	0	0
9	0	40	8	52	6	6	11	95	12	37	1	0	0	0
10	0	45	5	53	6	6	11	96	12	40	0	0	0	0
11	0	50	2	54	6	6	11	97	12	43	0	0	0	0
12	0	55	9	55	6	6	11	98	12	46	0	0	0	0
13	0	60	6	56	6	6	11	99	12	49	0	0	0	0
14	0	65	3	57	6	6	11	100	12	52	0	0	0	0
15	0	70	0	58	6	6	11	101	12	55	0	0	0	0
16	0	75	7	59	6	6	11	102	12	58	0	0	0	0
17	0	80	4	60	6	6	11	103	12	61	0	0	0	0
18	0	85	1	61	6	6	11	104	12	64	0	0	0	0
19	0	90	8	62	6	6	11	105	12	67	0	0	0	0
20	0	95	5	63	6	6	11	106	12	70	0	0	0	0
21	0	100	2	64	6	6	11	107	12	73	0	0	0	0
22	0	105	9	65	6	6	11	108	12	76	0	0	0	0
23	0	110	6	66	6	6	11	109	12	79	0	0	0	0
24	0	115	3	67	6	6	11	110	12	82	0	0	0	0
25	0	120	0	68	6	6	11	111	12	85	0	0	0	0
26	0	125	7	69	6	6	11	112	12	88	0	0	0	0
27	0	130	4	70	6	6	11	113	12	91	0	0	0	0
28	0	135	1	71	6	6	11	114	12	94	0	0	0	0
29	0	140	8	72	6	6	11	115	12	97	0	0	0	0
30	0	145	5	73	6	6	11	116	12	100	0	0	0	0
31	0	150	2	74	6	6	11	117	12	103	0	0	0	0
32	0	155	9	75	6	6	11	118	12	106	0	0	0	0
33	0	160	6	76	6	6	11	119	12	109	0	0	0	0
34	0	165	3	77	6	6	11	120	12	112	0	0	0	0
35	0	170	0	78	6	6	11	121	12	115	0	0	0	0
36	0	175	7	79	6	6	11	122	12	118	0	0	0	0
37	0	180	4	80	6	6	11	123	12	121	0	0	0	0
38	0	185	1	81	6	6	11	124	12	124	0	0	0	0
39	0	190	8	82	11	19	2	125	155	255	4	2	4	4
40	5	13	8	83	12	2	1	2000	291	13	0	0	0	0
41	5	19	7	84	12	2	1	400	326	13	0	0	0	0
42	5	25	4	85	12	2	1	600	326	13	0	0	0	0
43	6	5	5	86	12	2	1	800	326	13	0	0	0	0

s 10d

No	s	10	d	No	s	10	d	No	s	10	d
1	0	2	10	44	6	6	10	87	12	6	6
2	0	5	8	45	6	6	10	88	12	9	4
3	0	8	6	46	6	6	10	89	12	12	2
4	0	11	4	47	6	6	10	90	12	15	0
5	0	14	2	48	6	6	10	91	12	18	0
6	0	17	0	49	6	6	10	92	12	21	0
7	0	20	8	50	6	6	10	93	13	3	6
8	0	23	5	51	7	4	6	94	91	13	6
9	1	1	5	52	7	7	4	95	86	13	6
10	1	5	4	53	7	10	13	96	13	12	0
11	1	8	2	54	7	10	13	97	13	15	0
12	1	14	0	55	7	15	10	98	13	17	8
13	1	16	10	56	7	18	8	99	14	0	6
14	1	18	8	57	8	1	6	100	14	6	3
15	2	2	2	58	8	4	6	101	15	1	11
16	2	5	0	59	8	10	10	102	15	4	0
17	2	8	2	60	8	10	10	103	15	17	4
18	2	11	0	61	8	12	10	104	120	17	0
19	2	13	10	62	8	15	8	105	130	18	8
20	2	16	8	63	8	18	6	106	132	18	4
21	2	19	6	64	8	21	4	107	134	19	16
22	3	2	2	65	9	7	0	108	144	20	8
23	3	5	0	66	9	7	0	109	150	21	5
24	3	8	0	67	9	10	10	110	175	24	15
25	3	10	10	68	9	12	8	200	28	6	0
26	3	13	8	69	9	15	6	201	28	9	0
27	3	16	6	70	9	18	4	300	42	10	0
28	3	19	4	71	10	1	2	365	51	14	2
29	4	2	2	72	10	4	0	400	56	13	8
30	4	5	10	73	10	6	10	500	70	16	0
31	4	8	8	74	10	9	8	600	84	17	0
32	4	11	6	75	10	12	6	700	99	3	4
33	4	13	6	76	10	15	4	750	106	5	0
34	4	16	2	77	10	18	2	800	113	6	0
35	4	19	0	78	11	1	0	900	127	10	8
36	5	2	8	79	11	4	8	1000	137	13	0
37	5	5	6	80	11	7	6	1250	177	17	8
38	5	7	8	81	11	9	0	1500	212	10	0
39	5	10	6	82	11	12	2	1750	247	18	8
40	5	13	4	83	11	15	0	2000	283	6	0
41	5	16	2	84	11	18	0	2250	318	13	0
42	5	18	0	85	12	1	0	3000	425	6	0
43	6	1	10	86	12	3	8	5000	708	6	8

3s 9d

No	s	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
1	0	3	10	44	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2	0	7	8	45	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3	0	11	9	46	8	12	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
4	0	15	0	47	8	16	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5	0	18	9	48	9	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	1	2	6	49	9	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
7	1	6	3	50	9	7	6	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8	1	10	0	51	9	11	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	1	13	9	52	9	15	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	1	17	6	53	9	18	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
11	2	1	3	54	10	2	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
12	2	5	0	55	10	6	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	2	8	9	56	10	10	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
14	2	12	6	57	10	13	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	2	16	3	58	10	17	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
16	3	0	0	59	11	1	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
17	3	3	9	60	11	5	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
18	3	7	6	61	11	8	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	3	11	3	62	11	12	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
20	3	15	0	63	11	16	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
21	3	18	9	64	12	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
22	4	2	6	65	12	3	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
23	4	6	3	66	12	7	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
24	4	10	0	67	12	11	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
25	4	13	9	68	12	15	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
26	4	17	6	69	12	18	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
27	5	1	3	70	13	2	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
28	5	5	0	71	13	6	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
29	5	8	9	72	13	10	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
30	5	12	6	73	13	13	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
31	5	16	3	74	13	17	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
32	6	0	0	75	14	1	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
33	6	3	9	76	14	5	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
34	6	7	6	77	14	8	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
35	6	11	3	78	14	12	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
36	6	15	0	79	14	16	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
37	6	18	9	80	15	0	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
38	7	2	6	81	15	3	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
39	7	6	3	82	15	7	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
40	7	10	0	83	15	11	3	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
41	7	13	9	84	15	15	0	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
42	7	17	6	85	15	18	9	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
43	8	1	3	86	16	2	6	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

3s 11d

No	s	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
87	17	0	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
88	17	7	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
90	17	12	6	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
81	17	16	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
82	18	0	4	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
83	18	4	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
84	18	8	4	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
95	18	12	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
96	18	16	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
97	18	19	11	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
98	18	19	3	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
99	19	7	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
100	21	11	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
108	21	18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
110	21	18	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
112	21	20	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
120	23	10	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
130	25	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
132	25	17	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
134	26	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
144	28	4	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
150	29	7	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
175	34	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
200	39	3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
250	48	19	2	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
300	55	13	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
350	62	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
400	78	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
500	97	18	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
600	117	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
700	137	1	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
750	146	17	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
800	157	5	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
850	176	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1000	195	15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1250	244	15	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1500	293	15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
1750	342	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2000	391	13	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
2250	440	13	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3000	587	10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3500	879	3	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

4s 1d

No.	s.	d.	s.	d.	No.	s.	d.	s.	d.
1	0	4	44	87	17	15	3		
2	0	8	8	88	17	18	4		
3	0	12	12	89	18	3	5		
4	0	16	16	90	18	15	6		
5	1	0	0	91	18	11	7		
6	1	5	5	92	18	15	8		
7	1	8	7	93	18	18	9		
8	1	12	9	94	19	3	10		
9	1	16	9	95	19	7	11		
10	2	0	10	96	19	13	0		
11	2	5	11	97	19	16	1		
12	2	9	0	98	20	0	2		
13	2	13	1	99	20	4	3		
14	2	17	2	100	20	8	4		
15	3	1	3	108	22	1	0		
16	3	5	4	110	22	5	2		
17	3	9	5	112	22	9	4		
18	3	13	6	120	24	10	0		
19	3	17	7	130	26	10	10		
20	4	1	8	132	26	19	0		
21	4	5	9	140	28	11	8		
22	4	9	10	144	28	8	9		
23	4	13	11	150	30	12	7		
24	4	17	0	155	34	14	7		
25	5	2	1	200	40	16	8		
26	5	6	2	250	51	0	10		
27	5	10	3	300	61	5	0		
28	5	14	4	365	74	10	5		
29	5	18	5	400	81	13	4		
30	6	2	6	500	102	1	8		
31	6	6	7	600	122	10	0		
32	6	10	8	700	142	18	4		
33	6	14	9	750	163	2	6		
34	6	18	10	800	163	6	8		
35	7	2	11	78	15	18	5		
36	7	6	0	1000	204	3	4		
37	7	10	1	1250	255	4	2		
38	7	14	2	1500	306	5	0		
39	7	18	3	1750	357	5	8		
40	8	2	4	2000	408	6	8		
41	8	6	5	2240	457	6	8		
42	8	10	6	2400	518	10	8		
43	8	14	7	2600	569	10	16		

4s 3d

No.	s.	d.	s.	d.	No.	s.	d.	s.	d.
1	0	4	44	87	17	15	3		
2	0	8	8	88	17	18	4		
3	0	12	12	89	18	3	5		
4	0	16	16	90	18	15	6		
5	1	0	0	91	18	11	7		
6	1	5	5	92	18	15	8		
7	1	8	7	93	18	18	9		
8	1	12	9	94	19	3	10		
9	1	16	9	95	19	7	11		
10	2	0	10	96	19	13	0		
11	2	5	11	97	19	16	1		
12	2	9	0	98	20	0	2		
13	2	13	1	99	20	4	3		
14	2	17	2	100	20	8	4		
15	3	1	3	108	22	1	0		
16	3	5	4	110	22	5	2		
17	3	9	5	112	22	9	4		
18	3	13	6	120	24	10	0		
19	3	17	7	130	26	10	10		
20	4	1	8	132	26	19	0		
21	4	5	9	140	28	11	8		
22	4	9	10	144	28	8	9		
23	4	13	11	150	30	12	7		
24	4	17	0	155	34	14	7		
25	5	2	1	200	40	16	8		
26	5	6	2	250	51	0	10		
27	5	10	3	300	61	5	0		
28	5	14	4	365	74	10	5		
29	5	18	5	400	81	13	4		
30	6	2	6	500	102	1	8		
31	6	6	7	600	122	10	0		
32	6	10	8	700	142	18	4		
33	6	14	9	750	163	2	6		
34	6	18	10	800	163	6	8		
35	7	2	11	78	15	18	5		
36	7	6	0	1000	204	3	4		
37	7	10	1	1250	255	4	2		
38	7	14	2	1500	306	5	0		
39	7	18	3	1750	357	5	8		
40	8	2	4	2000	408	6	8		
41	8	6	5	2240	457	6	8		
42	8	10	6	2400	518	10	8		
43	8	14	7	2600	569	10	16		

4s 2d

No.	s.	d.	s.	d.	No.	s.	d.	s.	d.
1	0	4	44	87	17	15	3		
2	0	8	8	88	17	18	4		
3	0	12	12	89	18	3	5		
4	0	16	16	90	18	15	6		
5	1	0	0	91	18	11	7		
6	1	5	5	92	18	15	8		
7	1	8	7	93	18	18	9		
8	1	12	9	94	19	3	10		
9	1	16	9	95	19	7	11		
10	2	0	10	96	19	13	0		
11	2	5	11	97	19	16	1		
12	2	9	0	98	20	0	2		
13	2	13	1	99	20	4	3		
14	2	17	2	100	20	8	4		
15	3	1	3	108	22	1	0		
16	3	5	4	110	22	5	2		
17	3	9	5	112	22	9	4		
18	3	13	6	120	24	10	0		
19	3	17	7	130	26	10	10		
20	4	1	8	132	26	19	0		
21	4	5	9	140	28	11	8		
22	4	9	10	144	28	8	9		
23	4	13	11	150	30	12	7		
24	4	17	0	155	34	14	7		
25	5	2	1	200	40	16	8		
26	5	6	2	250	51	0	10		
27	5	10	3	300	61	5	0		
28	5	14	4	365	74	10	5		
29	5	18	5	400	81	13	4		
30	6	2	6	500	102	1	8		
31	6	6	7	600	122	10	0		
32	6	10	8	700	142	18	4		
33	6	14	9	750	163	2	6		
34	6	18	10	800	163	6	8		
35	7	2	11	78	15	18	5		
36	7	6	0	1000	204	3	4		
37	7	10	1	1250	255	4	2		
38	7	14	2	1500	306	5	0		
39	7	18	3	1750	357	5	8		
40	8	2	4	2000	408	6	8		
41	8	6	5	2240	457	6	8		
42	8	10	6	2400	518	10	8		
43	8	14	7	2600	569	10	16		

4s 4d

No.	s.	d.	s.	d.	No.	s.	d.	s.	d.
1	0	4	44	87	17	15	3		
2	0	8	8	88	17	18	4		
3	0	12	12	89	18	3	5		
4	0	16	16	90	18	15	6		
5	1	0	0	91	18	11	7		
6	1	5	5	92	18	15	8		
7	1	8	7	93	18	18	9		
8	1	12	9	94	19	3	10		
9	1	16	9	95	19	7	11		
10	2	0	10	96	19	13	0		
11	2	5	11	97	19	16	1		
12	2	9	0	98	20	0	2		
13	2	13	1	99	20	4	3		
14	2	17	2	100	20	8	4		
15	3	1	3	108	22	1	0		
16	3	5	4	110	22	5	2		
17	3	9	5	112	22	9	4		
18	3	13	6	120	24	10	0		
19	3	17	7	130	26	10	10		
20	4	1	8	132	26	19	0		
21	4	5	9	140	28	11	8		
22	4	9	10	144	28	8	9		
23	4	13	11	150	30	12	7		
24	4	17	0	155	34	14	7		
25	5	2	1	200	40	16	8		
26	5	6	2	250	51	0	10		
27	5	10	3	300	61	5	0		
28	5	14	4	365	74	10	5		
29	5	18	5	400	81	13	4		
30	6	2	6	500	102	1	8		
31	6	6	7	600	122	10	0		
32	6	10	8	700	142	18	4		
33	6	14	9	750	163	2	6		
34	6	18	10	800	163	6	8		
35	7	2	11	78	15	18	5		
36	7	6	0	1000	204	3	4		
37	7	10	1	1250	255	4	2		
38	7	14	2	1500	306	5	0		
39	7	18	3	1750	357	5	8		
40	8	2	4	2000	408	6	8		
41	8	6	5	2240	457	6	8		
42	8	10	6	2400	518	10	8		
43	8	14	7	2600	569	10	16		

5s 1d

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1231	1232	1233	1234	1235	1236	1237	1238	1239	1240	1241	1242	1243	1244	1245	1246	1247	1248	1249	1250	1251	1252	1253	1254	1255	1256	1257	1258	1259	1260	1261	1262	1263	1264	1265	1266	1267	1268	1269	1270	1271	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282	1283	1284	1285	1286	1287	1288	1289	1290	1291	1292	1293	1294	1295	1296	1297	1298	1299	1300	1301	1302	1303	1304	1305	1306	1307	1308	1309	1310	1311	1312	1313	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323	1324	1325	1326	1327	1328	1329	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366	1367	1368	1369	1370	1371	1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383	1384	1385	1386	1387	1388	1389	1390	1391	1392	1393	1394	1395	1396	1397	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	1427	1428	1429	1430	1431	1432	1433	1434	1435	1436	1437	1438	1439	1440	1441	1442	1443	1444	1445	1446	1447	1448	1449	1450	1451	1452	1453	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465	1466	1467	1468	1469	1470	1471	1472	1473	1474	1475	1476	1477	1478	1479	1480	1481	1482	1483	1484	1485	1486	1487	14
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5s 9d

No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	5	9	44	12	13	0	87
2	0	11	6	45	12	18	8	88
3	0	17	3	46	13	4	6	89
4	1	3	0	47	13	10	8	90
5	1	8	9	48	13	16	0	91
6	1	14	6	49	14	1	9	92
7	2	0	6	50	14	7	6	93
8	2	6	0	51	14	13	9	94
9	2	11	9	52	14	19	0	95
10	2	17	6	53	15	4	9	96
11	3	3	0	54	15	10	6	97
12	3	9	0	55	15	16	3	98
13	3	14	9	56	16	2	0	99
14	4	0	6	57	16	7	9	100
15	4	6	3	58	16	13	6	101
16	4	12	0	59	16	19	3	110
17	4	17	9	60	17	5	0	112
18	5	3	6	61	17	10	6	120
19	5	9	3	62	17	16	6	130
20	6	15	0	63	18	2	3	132
21	6	20	6	64	18	8	0	140
22	6	26	3	65	18	13	9	144
23	6	32	0	66	18	19	6	150
24	6	38	0	67	19	6	3	175
25	7	3	9	68	19	11	0	200
26	7	9	6	69	19	16	9	250
27	7	15	3	70	20	2	6	300
28	7	21	0	71	20	8	3	350
29	8	0	0	72	20	14	0	400
30	8	12	6	73	20	19	9	500
31	8	18	3	74	21	5	6	600
32	9	4	0	75	21	11	3	700
33	9	9	9	76	21	17	0	750
34	9	15	6	77	22	2	3	800
35	10	1	3	78	22	8	6	900
36	10	7	0	79	22	14	3	1000
37	10	12	9	80	23	0	0	1250
38	10	18	6	81	23	5	9	1500
39	11	4	3	82	23	11	6	1750
40	11	10	0	83	23	17	3	2000
41	11	15	9	84	24	3	0	2250
42	12	1	6	85	24	9	9	3000
43	12	7	3	86	24	14	6	3500

5s 11d

No	s	d	No	s	d	No	s	d
1	0	5	11	44	13	6	3	87
2	0	11	10	45	13	12	2	88
3	0	17	9	46	13	18	1	89
4	1	3	8	47	14	4	0	90
5	1	8	7	48	14	10	0	91
6	1	15	1	49	14	16	1	92
7	2	0	6	50	15	2	9	93
8	2	6	3	51	15	8	6	94
9	2	13	3	52	15	13	7	95
10	2	19	2	53	15	19	4	96
11	3	5	1	54	15	25	1	97
12	3	11	0	55	16	1	0	98
13	3	16	11	56	16	7	9	99
14	4	2	10	57	16	13	6	100
15	4	8	9	58	17	3	2	108
16	4	14	8	59	17	9	1	110
17	5	0	7	60	17	15	0	112
18	5	6	6	61	18	0	11	120
19	5	12	5	62	18	6	10	130
20	6	18	4	63	18	12	9	132
21	6	24	3	64	18	18	8	140
22	6	30	0	65	19	0	8	144
23	6	36	10	66	19	6	0	150
24	7	2	0	67	19	16	5	175
25	7	7	11	68	20	2	4	200
26	7	13	10	69	20	8	3	250
27	7	19	9	70	20	14	2	300
28	8	5	8	71	21	0	1	350
29	8	11	7	72	21	6	0	400
30	8	17	6	73	21	11	11	500
31	9	3	5	74	21	17	10	600
32	9	9	4	75	22	3	9	700
33	9	15	3	76	22	9	8	750
34	10	1	2	77	22	15	7	800
35	10	7	1	78	23	1	0	900
36	10	13	0	79	23	7	5	1000
37	10	18	11	80	23	13	4	1250
38	11	4	10	81	23	19	3	1500
39	11	10	9	82	24	5	2	1750
40	11	16	8	83	24	11	1	2000
41	12	2	7	84	24	17	0	2250
42	12	8	6	85	25	2	11	3000
43	12	14	5	86	25	8	10	3500

5s 10d

No.	s.	d.	No.	s.	d.	No.	s.	d.			
1	0	5	10	44	12	16	8	87	25	7	6
2	0	11	8	45	13	2	6	88	25	13	2
3	0	17	6	46	13	8	4	89	25	19	1
4	1	3	4	47	13	14	0	90	26	5	0
5	1	9	2	48	14	0	9	91	26	10	9
6	1	15	0	49	14	5	10	92	26	16	8
7	2	0	10	50	14	11	8	93	27	2	6
8	2	6	8	51	14	17	6	94	27	8	4
9	2	12	6	52	15	3	4	95	27	14	2
10	2	18	4	53	15	9	2	96	28	0	0
11	3	4	2	54	15	15	0	97	28	5	10
12	3	10	0	55	16	0	10	98	28	11	8
13	3	15	10	56	16	6	8	99	28	17	6
14	4	1	8	57	16	12	6	100	29	3	4
15	4	7	4	58	16	18	4	108	31	10	0
16	4	13	4	59	17	4	2	110	32	1	8
17	4	19	2	60	17	10	1	112	33	13	4
18	5	5	0	61	17	16	10	120	35	0	0
19	5	10	10	62	18	1	8	130	37	18	4
20	5	16	8	63	18	7	6	132	38	10	0
21	6	2	6	64	18	13	4	140	40	16	8
22	6	8	4	65	18	19	2	144	42	0	0
23	6	14	2	66	19	0	0	150	44	15	0
24	6	20	0	67	19	6	0	175	51	15	5
25	7	5	10	68	19	16	8	200	59	3	4
26	7	11	8	69	20	2	6	250	73	19	2
27	7	17	6	70	20	8	4	300	88	15	0
28	8	3	4	71	20	14	2	350	107	0	7
29	8	9	2	72	21	0	0	400	118	13	8
30	8	15	0	73	21	6	0	500	146	16	0
31	9	0	10	74	21	11	8	600	177	10	0
32	9	6	8	75	21	17	6	700	207	1	8
33	9	12	6	76	22	3	4	750	221	17	6
34	9	18	4	77	22	9	2	800	236	13	4
35	10	4	2	78	22	15	0	900	265	5	0
36	10	10	0	79	23	1	0	1000	295	1	8
37	10	15	10	80	23	7	8	1250	369	15	10
38	11	1	8	81	23	13	6	1500	443	13	0
39	11	7	6	82	23	19	4	1750	517	14	2
40	11	13	4	83	24	4	2	2000	593	13	4
41	11	19	2	84	24	10	0	2250	667	10	0
42	12	5	0	85	24	16	10	3000	878	6	0
43	12	10	10	86	25	1	8	3500	1093	3	4

6s

No	s	d	No	s	d	No	s	d			
1	0	6	10	44	13	4	0	87	26	2	0
2	0	12	0	45	13	10	0	88	26	8	0
3	0	18	0	46	13	16	0	89	26	14	0
4	1	4	0	47	14	2	0	90	27	6	0
5	1	10	0	48	14	8	0	91	27	12	0
6	1	16	0	49	14	14	0	92	27	18	0
7	2	2	0	50	15	0	0	93	27	18	0
8	2	8	0	51	15	6	0	94	28	4	0
9	2	14	0	52	15	12	0	95	28	10	0
10	3	0	0	53	15	18	0	96	28	16	0
11	3	6	0	54	16	4	0	97	29	0	0
12	3	12	0	55	16	10	0	98	29	8	0
13	3	18	0	56	16	16	0	99	29	14	0
14	4	4	0	57	17	2	0	100	30	0	0
15	4	10	0	58	17	8	0	101	30	6	0
16	4	16	0	59	17	14	0	102	30	12	0
17	5	2	0	60	18	0	0	103	31	0	0
18	5	8	0	61	18	6	0	104	31	6	0
19	5	14	0	62	18	12	0	105	31	12	0
20	6	0	0	63	18	18	0	106	32	0	0
21	6	6	0	64	19	4	0	107	32	6	0
22	6	12	0	65	19	10	0	108	32	12	0
23	6	18	0	66	19	16	0	109	32	18	0
24	7	0	0	67	20	0	0	110	33	0	0
25	7	6	0	68	20	6	0	111	33	6	0
26	7	12	0	69	20	12	0	112	33	12	0
27	7	18	0	70	21	0	0	113	33	18	0
28	8	0	0	71	21	6	0	114	34	0	0
29	8	6	0	72	21	12	0	115	34	6	0
30	8	12	0	73	21	18	0	116	34	12	0
31	8	18	0	74	22	0	0	117	34	18	0
32	9	0	0	75	22	6	0	118	35	0	0
33	9	6	0	76	22	12	0	119	35	6	0
34	9	12	0	77	22	18	0	120	35	12	0
35	10	0	0	78	23	0	0	121	36	0	0
36	10	6	0	79	23	6	0	122	36	6	0
37	10	12	0	80	23	12	0	123	36	12	0
38	10	18	0	81	24	0	0	124	36	18	0
39	11	0	0	82	24	6	0	125	37	0	0
40	11	6	0	83	24	12	0	126	37	6	0
41	11	12	0	84	24	18	0	127	37	12	0
42	11	18	0	85	25	0	0	128	37	18	0
43	12	0	0	86	25	6	0	129	38	0	0
44	12	6	0	87	25	12	0	130	38	6	0
45	12	12	0	88	25	18	0	131	38	12	0
46	12	18	0	89	26	0	0	132	38	18	0
47	13	0	0	90	26	6	0	133	39	0	0
48	13	6	0	91	26	12	0	134	39	6	0
49	13	12	0	92	26	18	0	135	39	12	0
50	13	18	0	93	27	0	0	136	39	18	0
51	14	0	0	94	27	6	0	137	40	0	0
52	14	6	0	95	27	12	0	138	40	6	0
53	14	12	0	96	27	18	0	139	40	12	0
54	14	18	0	97	28	0	0	140	40	18	0
55	15	0	0	98	28	6	0	141	41	0	0
56	15	6	0	99	28	12	0	142	41	6	0
57	15	12	0	100	28	18	0	143	41	12	0
58	15	18	0	101	29	0	0	144	41	18	0
59	16	0	0	102	29	6	0	145	42	0	0
60	16	6	0	103	29	12	0	146	42	6	0
61	16	12	0	104	29	18	0	147	42	12	0
62	16	18	0	105	30	0	0	148	42	18	0
63	17	0	0	106	30	6	0	149	43	0	0
64	17	6	0	107	30	12	0	150	43	6	0
65	17	12	0	108	30	18	0	151	43	12	0
66	17	18	0	109	31	0	0	152	43	18	0
67	18	0	0	110	31	6	0	153	44	0	0
68	18	6	0	111	31	12	0	154	44	6	0
69	18	12	0	112	31	18	0	155	44	12	0
70	18	18	0	113	32	0	0	156	44	18	0
71	19	0	0	114	32	6	0	157	45	0	0
72	19	6	0	115	32	12	0	158	45	6	0
73	19	12	0	116	32	18	0	159	45	12	0
74	19	18	0	117	33	0	0	160	45	18	0
75	20	0	0	118	33	6	0	161	46	0	0
76	20	6	0	119	33	12	0	162	46	6	0
77	20	12	0	120	33	18	0	163	46	12	0
78	20	18	0	121	34	0	0	164	46	18	0
79	21	0	0	122	34	6	0	165	47	0	0
80	21	6	0	123	34	12	0	166	47	6	0
81	21	12	0	124	34	18	0	167	47	12	0
82	21	18	0	125	35	0	0	168	47	18	0
83	22	0	0	126	35	6	0	169	48	0	0
84	22	6	0	127	35	12	0	170	48	6	0
85	22	12	0	128	35	18	0	171	48	12	0
86	22	18	0	129	36	0	0	172	48	18	0
87	23	0	0	130	36	6	0	173	49	0	0
88	23	6	0	131	36	12	0	174	49	6	0
89	23	12	0	132	36	18	0	175	49	12	0
90	23	18	0	133	37	0	0	176	49	18	0
91	24	0	0	134	37	6	0	177	50	0	0
92	24	6	0	135	37	12	0	178	50	6	0
93	24	12	0	136	37	18	0	179	50	12	0
94	24	18	0	137	38	0	0	180	50	18	0
95	25	0	0	138	38	6	0	181	51	0	0
96	25	6	0	139	38	12	0	182	51	6	0
97	25	12	0	140	38	18	0	183	51	12	0
98	25	18	0	141	39	0	0	184	51	18	0
99	26	0	0	142	39	6	0	185	52	0	0
100	26	6	0	143	39	12	0	186	52	6	0
101	26	12	0	144	39	18	0	187	52	12	0
102	26	18	0	145	40	0	0	188	52	18	0
103	27	0	0	146	40	6	0	189	53	0	0
104	27	6	0	147	40	12	0	190	53	6	0
105	27	12	0	148	40	18	0	191	53	12	0
106	27	18	0	149	41	0	0	192	53	18	0
107	28	0	0	150	41	6	0	193	54	0	0
108	28	6	0	151	41	12	0	194	54	6	0
109	28	12	0	152	41	18	0	195	54	12	0
110	28	18	0	153	42	0	0	196	54	18	0
111	29	0	0	154	42	6	0	197	55	0	0
112	29	6	0	155	42	12	0	198	55	6	0
113	29	12	0	156	42	18	0	199	55	12	0
114	29	18	0	157	43	0	0	200	55	18	0
115	30	0	0	158	43	6	0	201	56	0	0
116	30	6	0	159	43	12	0	202	56	6	0
117	30	12	0	160	43	18	0	203	56	12	0
118	30	18	0	161	44	0	0	204	56	18	0
119	31	0	0	162	44	6	0	205	57	0	0
120	31	6	0	163	44	12	0	206	57	6	0
121	31	12	0	164	44	18	0	207	57	12	0
122	31	18	0	165	45	0	0	208	57	18	0
123	32	0	0	166	45	6	0	209	58	0	0
124	32	6	0	167	45	12	0	210	58	6	0
125	32	12	0	168	45	18	0	211	58	12	0
126	32	18	0	169	46	0	0	212	58	18	0
127	33	0	0	170	46	6	0	213	59	0	0
128	33	6	0	171	46	12	0	214	59	6	0
129	33	12	0	172	46	18	0	215	59	12	0
130	33	18	0	173	47	0	0	216	59	18	0
131	34	0	0	174	47	6	0	217	60	0	0
132	34	6	0	175	47	12	0	218	60	6	0
133	34	12	0	176	47	18	0	219	60	12	0
134	34	18	0	177	48	0	0	220	60	18	0
135	35	0	0	178	48	6	0	221	61	0	0
136	35	6	0	179	48	12	0	222	61	6	0
137	35	12	0	180	48	18	0	223	61	12	0
138	35	18	0	181	49	0	0	224	61	18	0
139	36	0	0	182	49	6	0	225	62	0	0
140	36	6	0	183	49	12	0	226	62	6	0
141	36	12	0	184	49	18	0	227	62	12	0
142	36	18	0	185	50	0	0	228	62	18	0
143	37	0	0	186	50	6	0	229	63	0	0
144	37	6	0	187	50	12	0	230	63	6	0
145	37	12	0	188	50	18	0	231	63	12	0

6s 1d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	6	2	1	44	13	7	8	87	26	9
2	0	12	3	2	45	13	8	88	26	15	
3	0	18	4	3	46	13	9	89	27	1	
4	1	4	5	4	47	14	5	90	27	7	
5	1	10	6	5	48	14	12	91	27	13	
6	1	16	7	6	49	14	18	92	27	19	
7	2	2	8	7	50	15	4	93	28	6	
8	2	8	9	8	51	15	10	94	28	11	
9	2	14	10	9	52	15	16	95	28	17	
10	3	0	11	10	53	16	2	96	29	4	
11	3	6	12	11	54	16	8	97	28	10	
12	3	13	13	12	55	16	14	98	29	16	
13	3	19	14	13	56	17	2	99	30	2	
14	4	5	15	14	57	17	8	100	30	8	
15	4	11	16	15	58	17	14	108	32	17	
16	4	17	17	16	59	17	18	110	33	9	
17	5	3	18	17	60	18	5	112	34	1	
18	5	9	19	18	61	18	11	120	36	10	
19	5	15	20	19	62	18	17	130	39	10	
20	6	1	21	20	63	19	3	132	40	3	
21	6	7	22	21	64	19	9	140	42	11	
22	6	13	23	22	65	19	15	144	43	16	
23	6	19	24	23	66	20	1	150	45	12	
24	7	6	25	24	67	20	7	175	53	4	
25	7	12	26	25	68	20	13	200	60	16	
26	7	18	27	26	69	20	19	250	76	0	
27	8	4	28	27	70	21	5	300	91	5	
28	8	10	29	28	71	21	11	355	107	13	
29	8	16	30	29	72	21	17	400	121	13	
30	9	2	31	30	73	22	4	500	152	1	
31	9	8	32	31	74	22	10	600	182	10	
32	9	14	33	32	75	22	16	700	212	18	
33	10	0	34	33	76	23	2	750	228	2	
34	10	6	35	34	77	23	8	800	243	6	
35	10	12	36	35	78	23	14	900	273	15	
36	10	18	37	36	79	24	0	1000	304	3	
37	11	5	38	37	80	24	6	1250	386	4	
38	11	11	39	38	81	24	12	1500	456	5	
39	11	17	40	39	82	24	18	1750	532	10	
40	12	3	41	40	83	25	4	2000	608	6	
41	12	9	42	41	84	25	10	2240	681	6	
42	12	15	43	42	85	25	16	3000	912	10	
43	13	1	44	43	86	26	3	5000	1520	16	

6s 2d

No	s	d	No	s	d	No	s	d	No	s	d
1	0	6	2	1	44	13	7	8	87	26	16
2	0	12	3	2	45	13	8	88	27	2	
3	0	18	4	3	46	14	3	89	27	8	
4	1	4	5	4	47	14	9	90	27	15	
5	1	10	6	5	48	14	16	91	28	1	
6	1	17	7	6	49	15	2	92	28	7	
7	2	3	8	7	50	15	8	93	28	13	
8	2	9	9	8	51	15	14	94	28	19	
9	2	15	10	9	52	16	0	95	29	5	
10	3	1	11	10	53	16	6	96	29	12	
11	3	7	12	11	54	16	12	97	29	18	
12	3	14	13	12	55	16	18	98	30	4	
13	4	0	14	13	56	17	4	99	30	10	
14	4	6	15	14	57	17	10	100	30	16	
15	4	12	16	15	58	17	16	108	33	6	
16	4	18	17	16	59	18	2	110	33	12	
17	5	4	18	17	60	18	8	112	34	18	
18	5	10	19	18	61	18	14	120	37	0	
19	5	17	20	19	62	18	20	130	40	1	
20	6	3	21	20	63	19	2	132	40	7	
21	6	9	22	21	64	19	8	140	42	13	
22	6	15	23	22	65	20	4	144	44	19	
23	6	21	24	23	66	20	10	150	46	25	
24	7	2	25	24	67	20	16	175	53	2	
25	7	8	26	25	68	20	22	200	61	13	
26	7	14	27	26	69	20	28	250	76	19	
27	8	0	28	27	70	21	3	300	91	25	
28	8	6	29	28	71	21	9	355	107	31	
29	8	12	30	29	72	21	15	400	121	37	
30	9	18	31	30	73	22	2	500	152	43	
31	9	24	32	31	74	22	8	600	182	49	
32	10	0	33	32	75	22	14	700	212	55	
33	10	6	34	33	76	23	2	750	228	61	
34	10	12	35	34	77	23	8	800	243	67	
35	10	18	36	35	78	23	14	900	273	73	
36	11	4	37	36	79	24	2	1000	304	79	
37	11	10	38	37	80	24	8	1250	386	85	
38	11	16	39	38	81	24	14	1500	456	91	
39	11	22	40	39	82	24	20	1750	532	97	
40	12	8	41	40	83	25	4	2000	608	103	
41	12	14	42	41	84	25	10	2240	681	109	
42	12	20	43	42	85	25	16	3000	912	115	
43	13	2	44	43	86	26	3	5000	1520	121	

6s 3d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	6	2	1	44	13	7	8	87	27	3
2	0	12	3	2	45	13	8	88	27	9	
3	0	18	4	3	46	14	3	89	27	15	
4	1	4	5	4	47	14	9	90	28	2	
5	1	10	6	5	48	14	15	91	28	8	
6	1	17	7	6	49	15	2	92	28	15	
7	2	3	8	7	50	15	8	93	29	1	
8	2	9	9	8	51	15	14	94	28	7	
9	2	15	10	9	52	16	0	95	28	13	
10	3	1	11	10	53	16	6	96	28	19	
11	3	7	12	11	54	16	12	97	30	6	
12	3	13	13	12	55	17	4	98	30	12	
13	4	0	14	13	56	17	10	99	30	18	
14	4	6	15	14	57	17	16	100	31	5	
15	4	12	16	15	58	18	2	108	33	15	
16	4	18	17	16	59	18	8	110	34	21	
17	5	4	18	17	60	18	14	112	35	0	
18	5	10	19	18	61	19	1	120	37	10	
19	5	16	20	19	62	19	7	130	40	12	
20	6	2	21	20	63	19	13	132	41	5	
21	6	8	22	21	64	20	0	140	43	15	
22	6	14	23	22	65	20	6	144	45	0	
23	6	20	24	23	66	20	12	150	46	17	
24	7	2	25	24	67	20	18	175	54	17	
25	7	8	26	25	68	21	2	200	62	10	
26	7	14	27	26	69	21	8	250	78	2	
27	8	0	28	27	70	21	14	300	93	15	
28	8	6	29	28	71	22	2	355	109	1	
29	8	12	30	29	72	22	8	400	125	11	
30	9	18	31	30	73	22	14	500	156	5	
31	9	24	32	31	74	23	2	600	187	10	
32	10	0	33	32	75	23	8	700	218	15	
33	10	6	34	33	76	23	14	750	234	7	
34	10	12	35	34	77	24	0	800	250	0	
35	11	4	36	35	78	24	6	900	280	10	
36	11	10	37	36	79	24	12	1000	312	10	
37	11	17	38	37	80	25	0	1250	390	12	
38	11	23	39	38	81	25	6	1500	468	15	
39	12	3	40	39	82	25	12	1750	546	17	
40	12	9	41	40	83	25	18	2000	624	20	
41	12	15	42	41	84	26	0	2240	702	0	
42	13	2	43	42	85	26	6	3000	912	7	
43	13	8	44	43	86	27	12	5000	1560	1560	

6s 4d

No.	s.	d.	No.	s.	d.	No.	s.	d.	No.	s.	d.
1	0	6	2	1	44	13	7	8	87	27	11
2	0	12	3	2	45	14	5	0	88	27	17
3	0	18	4	3	46	14	11	4	89	28	23
4	1	5	5	4	47	14	17	4	90	28	29
5	1	10	6	5	48	14	23	0	91	28	35
6	1	17	7	6	49	15	0	8	92	28	41
7	2	3	8	7	50	15	6	8	93	29	47
8	2	9	9	8	51	15	12	4	94	29	53
9	2	15	10	9	52	16	0	8	95	30	59
10	3	1	11	10	53	16	6	8	96	30	65
11	3	7	12	11	54	16	12	8	97	30	71
12	3	13	13	12	55	17	0	8	98	31	0
13	4	0	14	13	56	17	6	8	99	31	7
14	4	6	15	14	57	18	0	8	100	31	13
15	4	12	16	15	58	18	6	8	108	33	19
16	4	18	17	16	59	18	12	8	110	34	25
17	5	4	18	17	60	19	0	8	112	35	8
18	5	10	19	18	61	19	6	4	120	38	0
19	6	0	20	19	62	19	12	5	130	41	0
20	6	6	21	20	63	19	18	5	132	41	6
21	6	12	22	21	64	20	0	8	134	42	12
22	6	18	23	22	65	20	6	8	144	45	12
23	7	0	24	23	66	20	12	8	150	47	10
24	7	6	25	24	67	21	0	8	175	55	8
25	7	12	26	25	68	21	6	8	200	63	6
26	7	18	27	26	69	21	12	8	205	65	8
27	8	0	28	27	70	22	0	8	210	68	0
28	8	6	29	28	71	22	6	4	300	98	0
29	8	12	30	29	72	22	12	8	365	115	11
30	9	0	31	30	73	23	0	8	400	126	13
31	9	6	32	31	74	23	6	4	500	158	6
32	9	12	33	32	75	24	0	8	560	180	0
33	10	0	34	33	76	24	6	8	600	190	13
34	10	6	35	34	77	25	0	8	700	222	13
35	11	0	36	35	78	25	6	8	750	247	4
36	11	6	37	36	79	26	0	8	800	263	6
37	11	12	38	37	80	26	6	8	900	285	0
38	12	0	39	38	81	27	0	8	1000	316	8
39	12	6	40	39	82	27	6	8	1500	475	0
40	12	12	41	40	83	28	0	8	1750	554	3
41	12	18	42	41	84	28	6	8	2000	634	6
42	13	0	43	42	85	29	0	8	2240	719	9
43	13	6	44	43	86	29	6	8	2500	808	13
44	13	12	45	44	87	30	0	8	3000	983	6

6s 9d

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7s 11d

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No.	z	s	d	No.	z	s	d	No.	z	s	d
1	0	9	8	44	20	14	4	87	40	19	3
2	0	18	0	45	21	3	2	88	41	8	8
3	1	17	6	46	22	13	7	89	42	10	1
4	1	17	6	47	22	2	7	90	43	7	6
5	2	16	6	48	22	12	0	91	42	16	11
6	2	16	6	49	23	1	5	92	43	6	4
7	3	15	11	50	23	10	10	93	43	15	9
8	3	15	4	51	24	0	3	94	44	5	2
9	4	14	8	52	24	9	8	95	44	14	7
10	4	14	2	53	24	19	1	96	45	4	0
11	5	13	7	54	25	16	6	97	45	13	4
12	5	13	0	55	26	17	11	98	46	2	10
13	6	12	5	56	26	7	4	99	46	12	3
14	6	11	10	57	26	16	8	100	47	1	8
15	7	1	3	58	27	6	2	108	50	17	0
16	7	10	8	59	27	15	7	110	51	15	10
17	8	0	1	60	28	5	0	112	52	14	0
18	8	18	6	61	28	14	5	120	56	10	0
19	9	13	11	62	29	3	10	130	61	4	2
20	9	8	4	63	29	13	3	132	62	3	0
21	9	17	9	64	30	2	8	140	65	18	4
22	10	7	2	65	30	12	1	144	67	16	0
23	10	16	7	66	31	1	6	150	70	12	6
24	11	6	0	67	31	10	11	175	82	7	11
25	11	15	5	68	32	0	4	200	94	3	4
26	12	4	10	69	32	9	8	300	117	14	0
27	12	14	3	70	32	19	3	300	111	5	0
28	13	3	8	71	33	8	7	365	171	17	1
29	13	13	1	72	33	18	0	400	188	6	8
30	14	2	6	73	34	7	4	500	235	8	4
31	14	11	11	74	34	16	10	600	282	10	0
32	15	1	4	75	35	6	3	700	329	11	8
33	15	10	9	76	35	15	8	750	353	2	6
34	16	0	2	77	36	5	1	800	376	13	4
35	16	9	7	78	36	14	5	900	423	17	0
36	16	19	0	79	37	3	11	1000	470	16	8
37	17	8	5	80	37	13	4	1250	580	10	10
38	17	17	10	81	38	2	9	1500	706	5	0
39	18	7	3	82	38	12	2	1750	823	19	2
40	18	16	8	83	39	1	7	2000	941	13	4
41	19	6	1	84	39	11	0	2240	1054	13	0
42	19	15	6	85	40	0	5	3000	1412	10	0
43	20	4	11	86	40	9	10	5000	2354	3	4

3s6d

No.	z	s	d	No.	z	s	d	No.	z	s	d
1	0	9	8	44	20	14	4	87	41	6	6
2	0	19	0	45	21	7	6	88	41	16	0
3	1	8	6	46	21	17	0	89	42	5	6
4	1	18	0	47	22	6	6	90	42	15	0
5	2	7	6	48	22	16	6	91	43	4	6
6	2	17	0	49	23	5	0	92	43	14	0
7	3	6	6	50	23	15	0	93	44	3	6
8	3	16	0	51	24	4	6	94	44	13	0
9	4	6	6	52	24	14	0	95	45	2	6
10	4	15	0	53	25	3	6	96	45	12	0
11	5	4	6	54	25	13	0	97	46	1	6
12	5	14	0	55	26	2	6	98	46	11	0
13	6	3	6	56	26	12	0	99	47	10	6
14	6	13	0	57	27	1	6	100	47	10	0
15	7	2	6	58	27	11	0	108	51	6	0
16	7	12	0	59	28	0	6	110	52	5	0
17	8	1	6	60	28	10	0	112	53	4	0
18	8	11	0	61	28	19	6	120	57	0	0
19	9	0	6	62	29	8	0	130	61	15	0
20	9	9	6	63	30	18	0	140	66	10	0
21	9	19	6	64	30	8	0	144	67	16	0
22	10	9	0	65	30	17	6	144	68	8	0
23	10	18	6	66	31	7	0	150	71	6	0
24	11	8	0	67	31	16	6	175	83	2	6
25	11	17	6	68	32	6	0	200	95	0	0
26	12	7	0	69	32	15	6	250	118	15	0
27	12	16	0	70	33	14	6	300	142	10	0
28	13	6	0	71	33	14	6	365	173	7	6
29	13	15	6	72	34	4	0	400	190	0	0
30	14	5	0	73	34	13	6	500	237	10	0
31	14	14	6	74	35	3	0	600	285	0	0
32	15	4	0	75	35	12	6	700	339	0	0
33	15	13	6	76	36	2	0	750	356	5	0
34	16	3	0	77	36	11	0	800	386	13	0
35	16	12	6	78	37	1	6	900	423	17	0
36	17	2	0	79	37	10	6	1000	475	0	0
37	17	11	6	80	38	0	0	1250	583	15	0
38	18	1	0	81	38	9	6	1500	712	10	0
39	18	10	6	82	38	19	0	1750	831	5	0
40	19	0	0	83	39	8	6	2000	950	0	0
41	19	9	6	84	39	18	0	2240	1064	0	0
42	19	18	6	85	40	7	6	3000	1425	0	0
43	20	8	6	86	40	17	0	5000	2376	0	0

3s7d

No.	z	s	d	No.	z	s	d	No.	z	s	d
1	0	9	8	44	21	1	8	87	41	13	9
2	0	19	2	45	21	11	3	88	42	3	4
3	1	8	8	46	22	0	10	89	42	12	11
4	1	18	0	47	22	10	6	90	43	1	9
5	2	7	11	48	23	0	0	91	43	12	1
6	2	17	6	49	23	9	7	92	44	1	8
7	3	7	1	50	23	19	2	93	44	11	3
8	3	15	8	51	24	8	8	94	45	0	10
9	4	6	3	52	24	18	4	95	45	10	6
10	4	15	10	53	25	7	11	96	46	0	0
11	5	5	6	54	25	17	6	97	46	9	0
12	5	15	0	55	26	7	1	98	46	19	2
13	6	4	7	56	26	16	8	99	47	8	8
14	6	14	2	57	27	6	3	100	47	18	4
15	7	3	9	58	27	15	10	108	51	15	0
16	7	13	4	59	28	5	5	110	52	14	0
17	8	2	11	60	28	15	0	112	53	4	0
18	8	12	6	61	29	4	7	120	57	10	0
19	9	2	1	62	29	14	2	130	62	5	10
20	9	11	8	63	30	3	9	132	63	5	0
21	10	1	4	64	30	13	4	140	67	1	8
22	10	10	10	65	31	2	11	144	69	0	0
23	11	0	5	66	31	12	6	150	71	17	6
24	11	10	0	67	32	2	1	175	83	17	1
25	11	19	7	68	32	11	8	200	95	16	8
26	12	9	2	69	33	1	3	250	119	12	10
27	12	18	0	70	33	10	0	300	143	15	0
28	13	8	4	71	34	0	5	365	174	17	11
29	13	17	11	72	34	10	0	400	191	13	4
30	14	7	6	73	34	19	7	500	239	11	8
31	14	17	1	74	35	9	2	600	287	10	0
32	15	6	8	75	35	18	9	700	335	8	4
33	15	16	3	76	36	8	4	750	359	7	6
34	16	5	10	77	36	17	11	800	383	15	0
35	16	15	5	78	37	7	6	900	431	6	0
36	17	5	0	79	37	17	1	1000	479	3	4
37	17	14	7	80	38	6	8	1250	598	19	2
38	18	4	2	81	38	16	3	1500	718	16	0
39	18	13	9	82	39	5	10	1750	830	10	10
40	19	3	4	83	39	15	5	2000	958	6	8
41	19	12	11	84	40	5	0	2240	1073	6	8
42	20	2	1	85	40	14	7	3000	1430	15	0
43	20	12	1	86	41	4	2	5000	2395	16	8

3s8d

No.	z	s	d	No.	z	s	d	No.	z	s	d
1	0	9	8	44	21	5	4	87	42	1	0
2	0	19	4	45	21	15	0	88	42	10	8
3	1	9	0	46	22	4	8	89	43	0	0
4	1	18	8	47	22	14	4	90	43	10	0
5	2	8	4	48	23	4	0	91	43	19	0
6	2	18	0	49	23	13	8	92	44	8	8
7	3	7	8	50	24	3	4	93	44	19	4
8	3	17	4	51	24	13	0	94	45	8	8
9	4	7	0	52	25	2	8	95	45	18	4
10	4	16	8	53	25	12	4	96	46	17	0
11	5	6	0	54	26	2	0	97	46	17	8
12	5	16	8	55	26	11	4	98	47	7	0
13	6	5	8	56	27	0	8	99	47	17	0
14	6	15	0	57	27	10	0	100	48	16	8
15	7	14	4	58	28	0	10	110	53	3	0
16	8	14	0	59	29	0	0	112	54	2	8
17	8	4	8	60	29	9	8	120	58	16	8
18	9	3	8	61	30	8	0	132	63	16	8
19	9	15	0	62	30	8	8	142	67	18	0
20	10	12	8	63	31	8	8	154	69	12	0
21	12	2	4	64	31	18	0	150	72	10	0
22	11	2	4	65	32	0	8	175	84	11	8
23	11	12	0	66	32	17	0	200	96	13	8
24	12	1	4	67	33	7	0	250	120	16	8
25	12	11	4	68	33	16	0	265	127	8	8
26	13	10	8	69	34	0	0	300	136	8	8
27	13	14	0	70	34	16	0	500	183	6	8
28	14	10	8	71	35	5	8	600	241	13	4
29	14	10	0	72	34	16	0	800	290	0	0
30	14	10	8	73	35	5	8	1000	338	6	8
31	14	10	0	74	35	15	4	1250	406	10	0
32	15	19	0	75	36	16	4	1500	455	0	0
33	15	19	8	76	36	14	0	1750	566	16	8
34	16	18	4	77	37	14	0	2000	644	16	8
35	16	18	8	78	37	14	0	2250	744	16	8
36	17	8	8	79	38	3	8	2500	835	0	0
37	17	17	8	80	38	13	4	2750	946	3	4
38	18	7	4	81	39	3	8	3000	1066	16	8
39	18	17	0	82	39	12	8	3250	1186	16	8
40	18	16	8	83	40	12	0	3500	1306	16	8
41	19	16	8	84	40	12	0	3750	1426	16	8
42	20	6	8	85	41	1	8	4000	1546	0	0
43	20	15	8	86	41	11	4	4500	2116	13	4

11s3d

No	z	s	d	No	z	s	d	No	z	s	d	No	z	s	d
1	0	11	6	44	26	15	3	87	48	18	0	87	48	18	0
2	1	1	6	45	26	16	3	88	48	19	0	88	48	19	0
3	2	1	6	46	26	17	3	89	50	1	0	89	50	1	0
4	3	1	6	47	26	18	3	90	50	12	6	90	50	12	6
5	4	1	6	48	27	0	0	91	51	3	9	91	51	3	9
6	5	1	6	49	27	11	3	92	51	15	0	92	51	15	0
7	6	1	6	50	28	2	6	93	52	6	3	93	52	6	3
8	7	1	6	51	28	13	9	94	52	17	9	94	52	17	9
9	8	1	6	52	29	5	0	95	53	8	9	95	53	8	9
10	9	1	6	53	29	16	3	96	54	0	0	96	54	0	0
11	10	1	6	54	30	7	3	97	54	11	3	97	54	11	3
12	11	6	15	55	30	18	9	98	55	2	6	98	55	2	6
13	12	7	6	56	31	10	0	99	55	13	9	99	55	13	9
14	13	7	17	57	32	1	3	100	56	5	0	100	56	5	0
15	14	8	8	58	32	12	6	108	60	15	0	108	60	15	0
16	15	9	0	59	33	3	9	110	61	17	6	110	61	17	6
17	16	10	1	60	33	15	0	112	63	0	0	112	63	0	0
18	17	11	6	61	34	6	4	120	67	10	0	120	67	10	0
19	18	12	9	62	34	17	6	130	73	2	6	130	73	2	6
20	19	13	0	63	35	8	9	132	74	6	0	132	74	6	0
21	20	14	6	64	36	0	0	140	78	15	0	140	78	15	0
22	21	15	3	65	36	11	3	141	81	0	0	141	81	0	0
23	22	16	9	66	37	2	6	150	87	6	0	150	87	6	0
24	23	17	0	67	37	13	9	175	98	8	9	175	98	8	9
25	24	18	1	68	38	5	0	200	112	10	0	200	112	10	0
26	25	19	6	69	38	16	3	250	140	12	6	250	140	12	6
27	26	20	3	70	39	7	6	300	168	15	0	300	168	15	0
28	27	21	9	71	39	18	9	365	205	6	3	365	205	6	3
29	28	22	6	72	40	10	0	420	225	6	0	420	225	6	0
30	29	23	3	73	41	1	3	500	281	5	0	500	281	5	0
31	30	24	9	74	41	12	6	600	337	10	0	600	337	10	0
32	31	25	0	75	42	3	9	700	333	15	0	700	333	15	0
33	32	26	6	76	42	15	0	750	421	17	6	750	421	17	6
34	33	27	3	77	43	6	3	800	450	0	0	800	450	0	0
35	34	28	9	78	43	17	6	900	505	6	0	900	505	6	0
36	35	29	6	79	44	8	9	1000	563	10	0	1000	563	10	0
37	36	30	3	80	45	0	0	1250	703	2	6	1250	703	2	6
38	37	31	9	81	45	11	3	1500	843	15	0	1500	843	15	0
39	38	32	6	82	46	2	6	1750	1084	7	6	1750	1084	7	6
40	39	33	3	83	46	13	9	2000	1125	0	0	2000	1125	0	0
41	40	34	9	84	47	5	0	2240	1260	0	0	2240	1260	0	0
42	41	35	6	85	47	16	3	3300	1687	10	0	3300	1687	10	0
43	42	36	3	86	48	7	6	5000	2812	10	0	5000	2812	10	0

11s6d

No	z	s	d	No	z	s	d	No	z	s	d	No	z	s	d
1	0	11	6	44	26	15	3	87	50	0	6	87	50	0	6
2	1	1	6	45	26	16	3	88	50	12	0	88	50	12	0
3	2	1	6	46	26	17	3	89	51	3	6	89	51	3	6
4	3	1	6	47	27	0	0	90	51	15	0	90	51	15	0
5	4	1	6	48	27	11	3	91	52	6	3	91	52	6	3
6	5	1	6	49	28	2	6	92	52	18	0	92	52	18	0
7	6	1	6	50	28	15	0	93	53	9	6	93	53	9	6
8	7	1	6	51	29	6	6	94	54	1	0	94	54	1	0
9	8	1	6	52	29	18	0	95	54	12	6	95	54	12	6
10	9	1	6	53	30	9	6	96	55	4	0	96	55	4	0
11	10	6	15	54	31	1	0	97	55	15	6	97	55	15	6
12	11	7	6	55	31	12	6	98	56	7	0	98	56	7	0
13	12	8	9	56	32	4	0	99	56	18	6	99	56	18	6
14	13	9	0	57	32	15	6	100	57	10	0	100	57	10	0
15	14	10	6	58	33	7	0	106	62	2	0	106	62	2	0
16	15	11	3	59	33	18	6	110	63	5	0	110	63	5	0
17	16	12	9	60	34	10	0	116	64	16	3	116	64	16	3
18	17	13	6	61	35	1	3	120	69	0	0	120	69	0	0
19	18	14	3	62	35	13	9	130	74	15	0	130	74	15	0
20	19	15	0	63	36	4	6	132	75	18	0	132	75	18	0
21	20	16	6	64	36	16	0	140	80	10	0	140	80	10	0
22	21	17	3	65	37	7	6	144	82	16	0	144	82	16	0
23	22	18	9	66	37	18	0	150	86	15	0	150	86	15	0
24	23	19	6	67	38	10	0	175	100	12	6	175	100	12	6
25	24	20	3	68	39	2	0	200	115	0	0	200	115	0	0
26	25	21	9	69	39	13	6	250	143	15	0	250	143	15	0
27	26	22	6	70	40	5	0	300	172	10	0	300	172	10	0
28	27	23	3	71	40	16	6	365	209	17	6	365	209	17	6
29	28	24	9	72	41	8	0	400	230	0	0	400	230	0	0
30	29	25	6	73	41	19	0	500	287	10	0	500	287	10	0
31	30	26	3	74	42	11	0	600	345	0	0	600	345	0	0
32	31	27	9	75	43	2	6	700	402	10	0	700	402	10	0
33	32	28	6	76	43	14	0	750	431	5	0	750	431	5	0
34	33	29	3	77	44	5	0	800	460	0	0	800	460	0	0
35	34	30	9	78	44	17	0	900	517	10	0	900	517	10	0
36	35	31	6	79	45	8	9	1000	578	15	0	1000	578	15	0
37	36	32	3	80	46	0	0	1250	718	15	0	1250	718	15	0
38	37	33	9	81	46	11	6	1500	862	10	0	1500	862	10	0
39	38	34	6	82	47	3	0	1750	1006	5	0	1750	1006	5	0
40	39	35	3	83	47	14	6	2000	1150	0	0	2000	1150	0	0
41	40	36	9	84	48	6	0	2240	1288	0	0	2240	1288	0	0
42	41	37	6	85	48	17	6	3000	1725	0	0	3000	1725	0	0
43	42	38	3	86	49	8	0	3300	1975	0	0	3300	1975	0	0

11s9d

No	z	s	d	No	z	s	d	No	z	s	d	No	z	s	d
1	0	11	6	44	26	15	3	87	51	2	3	87	51	2	3
2	1	1	6	45	26	16	3	88	51	14	0	88	51	14	0
3	2	1	6	46	27	0	0	89	52	6	3	89	52	6	3
4	3	1	6	47	27	11	3	90	52	17	9	90	52	17	9
5	4	2	18	48	28	2	6	91	53	8	9	91	53	8	9
6	5	4	10	49	28	13	9	92	54	1	0	92	54	1	0
7	6	2	6	50	29	5	0	93	54	12	6	93	54	12	6
8	7	4	14	51	29	16	3	94	55	4	6	94	55	4	6
9	8	5	6	52	30	11	0	95	55	16	3	95	55	16	3
10	9	5	17	53	31	2	6	96	56	18	0	96	56	18	0
11	10	6	9	54	31	14	6	97	56	19	0	97	56	19	0
12	11	7	6	55	32	6	3	98	57	11	6	98	57	11	6
13	12	8	9	56	32	18	0	99	58	3	3	99	58	3	3
14	13	9	0	57	33	9	9	100	60	15	0	100	60	15	0
15	14	10	6	58	34	1	6	108	63	9	0	108	63	9	0
16	15	11	3	59	34	13	3	110	64	12	6	110	64	12	6
17	16	12	9	60	35	5	0	112	65	15	0	112	65	15	0
18	17	13	6	61	35	16	3	120	70	10	0	120	70	10	0
19	18	14	3	62	36	8	6	130	76	7	6	130	76	7	6
20	19	15	0	63	37	12	0	132	77	11	0	132	77	11	0
21	20	16	3	64	37	12	0	140	82	15	0	140	82	15	0
22	21	17	3	65	38	15	6	150	88	10	6	150	88	10	6
23	22	18	0	66	38	15	6	150	88	2	6	150	88	2	6
24	23	19	0	67	39	7	3	175	102	16	3	175	102	16	3
25	24	14	3	68	39	7	3	200	117	10	0	200	117	10	0
26	25	15	6	69	40	10	3	250	146	17	0	250	146	17	0
27	26	16	3	70	41	13	0	300	175	10	0	300	175	10	0
28	27	16	9	71	41	14	3	365	214	8	9	365	214	8	9
29	28	17	0	72	42	17	0	400	235	0	0	400	235	0	0
30	29	17	12	73	42	17	9	500	293	15	0	500	293	15	0
31	30	18	4	74	43	9	6	600	352	10	0	600	352	10	0
32	31	18	0	75	44	13	0	700	420	12	6	700	420	12	6
33	32	19	7	76	44	13	0	750	440	12	6	750	440	12	6
34	33	19	18	77	45	4	9	800	470	0	0	800	470	0	0
35	34	20	11	78	45	16	6	900	528	15	0	900	528	15	0
36	35	21	3	79	46	3	3	1000	977	10	0	1000	977	10	0
37	36	22	6	80	47	11	0	1250	1881	5	3	1250	1881	5	3
38	37	22	6	81	47	11	0	1500	881	5	3	1500	881	5	3
39	38	22	18	82	48	3	6	1750	1028	2	6	1750	1028	2	6
40	39	23	10	83	48	15	3	2000	1175	0	0	2000	1175	0	0
41	40	24	3	84	49	7	9	2240	1316	0	0	2240	1316	0	0
42	41	24	13	85	49	17	0	2800	1762	10	0	2800	1762	10	0
43	42	25	15	86	50	8	0	3000	1960	10	0	3000	1960	10	0

12s3d

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	122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13s3d

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1	0	13	6	3	4	45	30	8	16	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2</

13s9d

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	
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13s6d

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	
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14s

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1	0	14	0	44	30	16	0	87	87	60	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4s 3d

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1	0	1	4	8	13	18	23	28	33	38	43	48	53	58	63	68	73	78	83	88	93	98	103	108	113	118	123	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	213	218	223	228	233	238	243	248	253	258	263	268	273	278	283	288	293	298	303	308	313	318	323	328	333	338	343	348	353	358	363	368	373	378	383	388	393	398	403	408	413	418	423	428	433	438	443	448	453	458	463	468	473	478	483	488	493	498	503	508	513	518	523	528	533	538	543	548	553	558	563	568	573	578	583	588	593	598	603	608	613	618	623	628	633	638	643	648	653	658	663	668	673	678	683	688	693	698	703	708	713	718	723	728	733	738	743	748	753	758	763	768	773	778	783	788	793	798	803	808	813	818	823	828	833	838	843	848	853	858	863	868	873	878	883	888	893	898	903	908	913	918	923	928	933	938	943	948	953	958	963	968	973	978	983	988	993	998	1003	1008	1013	1018	1023	1028	1033	1038	1043	1048	1053	1058	1063	1068	1073	1078	1083	1088	1093	1098	1103	1108	1113	1118	1123	1128	1133	1138	1143	1148	1153	1158	1163	1168	1173	1178	1183	1188	1193	1198	1203	1208	1213	1218	1223	1228	1233	1238	1243	1248	1253	1258	1263	1268	1273	1278	1283	1288	1293	1298	1303	1308	1313	1318	1323	1328	1333	1338	1343	1348	1353	1358	1363	1368	1373	1378	1383	1388	1393	1398	1403	1408	1413	1418	1423	1428	1433	1438	1443	1448	1453	1458	1463	1468	1473	1478	1483	1488	1493	1498	1503	1508	1513	1518	1523	1528	1533	1538	1543	1548	1553	1558	1563	1568	1573	1578	1583	1588	1593	1598	1603	1608	1613	1618	1623	1628	1633	1638	1643	1648	1653	1658	1663	1668	1673	1678	1683	1688	1693	1698	1703	1708	1713	1718	1723	1728	1733	1738	1743	1748	1753	1758	1763	1768	1773	1778	1783	1788	1793	1798	1803	1808	1813	1818	1823	1828	1833	1838	1843	1848	1853	1858	1863	1868	1873	1878	1883	1888	1893	1898	1903	1908	1913	1918	1923	1928	1933	1938	1943	1948	1953	1958	1963	1968	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023	2028	2033	2038	2043	2048	2053	2058	2063	2068	2073	2078	2083	2088	2093	2098	2103	2108	2113	2118	2123	2128	2133	2138	2143	2148	2153	2158	2163	2168	2173	2178	2183	2188	2193	2198	2203	2208	2213	2218	2223	2228	2233	2238	2243	2248	2253	2258	2263	2268	2273	2278	2283	2288	2293	2298	2303	2308	2313	2318	2323	2328	2333	2338	2343	2348	2353	2358	2363	2368	2373	2378	2383	2388	2393	2398	2403	2408	2413	2418	2423	2428	2433	2438	2443	2448	2453	2458	2463	2468	2473	2478	2483	2488	2493	2498	2503	2508	2513	2518	2523	2528	2533	2538	2543	2548	2553	2558	2563	2568	2573	2578	2583	2588	2593	2598	2603	2608	2613	2618	2623	2628	2633	2638	2643	2648	2653	2658	2663	2668	2673	2678	2683	2688	2693	2698	2703	2708	2713	2718	2723	2728	2733	2738	2743	2748	2753	2758	2763	2768	2773	2778	2783	2788	2793	2798	2803	2808	2813	2818	2823	2828	2833	2838	2843	2848	2853	2858	2863	2868	2873	2878	2883	2888	2893	2898	2903	2908	2913	2918	2923	2928	2933	2938	2943	2948	2953	2958	2963	2968	2973	2978	2983	2988	2993	2998	3003	3008	3013	3018	3023	3028	3033	3038	3043	3048	3053	3058	3063	3068	3073	3078	3083	3088	3093	3098	3103	3108	3113	3118	3123	3128	3133	3138	3143	3148	3153	3158	3163	3168	3173	3178	3183	3188	3193	3198	3203	3208	3213	3218	3223	3228	3233	3238	3243	3248	3253	3258	3263	3268	3273	3278	3283	3288	3293	3298	3303	3308	3313	3318	3323	3328	3333	3338	3343	3348	3353	3358	3363	3368	3373	3378	3383	3388	3393	3398	3403	3408	3413	3418	3423	3428	3433	3438	3443	3448	3453	3458	3463	3468	3473	3478	3483	3488	3493	3498	3503	3508	3513	3518	3523	3528	3533	3538	3543	3548	3553	3558	3563	3568	3573	3578	3583	3588	3593	3598	3603	3608	3613	3618	3623	3628	3633	3638	3643	3648	3653	3658	3663	3668	3673	3678	3683	3688	3693	3698	3703	3708	3713	3718	3723	3728	3733	3738	3743	3748	3753	3758	3763	3768	3773	3778	3783	3788	3793	3798	3803	3808	3813	3818	3823	3828	3833	3838	3843	3848	3853	3858	3863	3868	3873	3878	3883	3888	3893	3898	3903	3908	3913	3918	3923	3928	3933	3938	3943	3948	3953	3958	3963	3968	3973	3978	3983	3988	3993	3998	4003	4008	4013	4018	4023	4028	4033	4038	4043	4048	4053	4058	4063	4068	4073	4078	4083	4088	4093	4098	4103	4108	4113	4118	4123	4128	4133	4138	4143	4148	4153	4158	4163	4168	4173	4178	4183	4188	4193	4198	4203	4208	4213	4218	4223	4228	4233	4238	4243	4248	4253	4258	4263	4268	4273	4278	4283	4288	4293	4298	4303	4308	4313	4318	4323	4328	4333	4338	4343	4348	4353	4358	4363	4368	4373	4378	4383	4388	4393	4398	4403	4408	4413	4418	4423	4428	4433	4438	4443	4448	4453	4458	4463	4468	4473	4478	4483	4488	4493	4498	4503	4508	4513	4518	4523	4528	4533	4538	4543	4548	4553	4558	4563	4568	4573	4578	4583	4588	4593	4598	4603	4608	4613	4618	4623	4628	4633	4638	4643	4648	4653	4658	4663	4668	4673	4678	4683	4688	4693	4698	4703	4708	4713	4718	4723	4728	4733	4738	4743	4748	4753	4758	4763	4768	4773	4778	4783	4788	4793	4798	4803	4808	4813	4818	4823	4828	4833	4838	4843	4848	4853	4858	4863	4868	4873	4878	4883	4888	4893	4898	4903	4908	4913	4918	4923	4928	4933	4938	4943	4948	4953	4958	4963	4968	4973	4978	4983	4988	4993	4998	5003	5008	5013	5018	5023	5028	5033	5038	5043	5048	5053	5058	5063	5068	5073	5078	5083	5088	5093	5098	5103	5108	5113	5118	5123	5128	5133	5138	5143	5148	5153	5158	5163	5168	5173	5178	5183	5188	5193	5198	5203	5208	5213	5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16s3d

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3	2	8	6	46	37	7	6	89	72	8	6
4	3	6	0	47	38	3	9	90	73	5	6
5	4	1	0	48	39	12	6	91	74	2	6
6	5	17	6	49	40	16	3	92	75	15	0
7	6	13	9	50	40	12	6	93	75	11	3
8	6	10	0	51	41	8	9	94	76	7	6
9	7	6	3	52	42	5	0	95	77	3	9
10	8	2	6	53	43	1	3	96	78	0	0
11	8	18	9	54	43	17	6	97	78	16	3
12	9	0	0	55	44	13	9	98	79	13	9
13	10	11	3	56	45	10	0	99	80	9	6
14	11	7	6	57	46	6	3	100	81	5	0
15	12	3	9	58	47	2	6	108	87	15	0
16	13	0	0	59	47	18	9	110	89	7	6
17	13	16	3	60	48	15	0	112	91	0	0
18	14	12	6	61	49	11	3	120	97	10	0
19	15	6	0	62	50	7	6	130	105	12	6
20	16	5	0	63	51	3	9	132	107	6	0
21	17	1	3	64	52	0	0	140	113	15	0
22	17	17	6	65	52	16	3	144	117	0	0
23	18	13	9	66	53	12	6	150	121	17	6
24	19	10	0	67	54	8	9	175	142	3	9
25	20	6	3	68	55	5	0	203	162	10	0
26	21	2	6	69	56	1	3	250	203	2	6
27	21	18	9	70	56	17	6	300	243	15	0
28	22	15	0	71	57	13	9	345	295	11	3
29	23	11	3	72	58	10	0	400	325	0	0
30	24	7	6	73	59	6	3	500	406	5	0
31	25	3	9	74	60	2	6	600	487	10	0
32	26	0	0	75	60	18	9	700	568	15	0
33	26	16	3	76	61	15	0	750	609	7	6
34	27	12	6	77	61	11	3	800	650	12	6
35	28	8	9	78	62	7	6	900	731	5	0
36	29	4	0	79	63	3	9	1000	812	10	0
37	30	1	3	80	64	0	0	1250	1015	12	6
38	30	17	6	81	65	16	3	1500	1218	15	0
39	31	13	9	82	66	12	6	1750	1421	17	6
40	32	10	0	83	67	8	9	2000	1625	0	0
41	33	6	3	84	68	5	0	2240	1820	0	0
42	34	2	6	85	69	1	3	3000	2437	10	0
43	34	18	9	86	69	17	6	5000	4052	10	0

17s

No	z	s	d	No	z	s	d	No	z	s	d
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3	2	11	0	46	39	2	6	89	75	13	0
4	3	8	0	47	39	19	0	90	76	10	0
5	4	5	0	48	40	16	3	91	77	7	6
6	5	2	0	49	41	13	0	92	78	4	0
7	5	19	0	50	42	10	0	93	79	1	0
8	6	16	0	51	43	7	0	94	79	18	0
9	7	13	0	52	44	4	0	95	80	15	0
10	8	10	0	53	45	1	0	96	81	12	0
11	9	7	0	54	45	18	0	97	82	9	0
12	10	4	0	55	46	15	0	98	83	6	0
13	11	1	0	56	47	12	0	99	84	3	0
14	11	18	0	57	48	9	0	100	85	0	0
15	12	15	0	58	49	6	0	108	91	16	0
16	13	12	0	59	50	3	0	110	93	10	0
17	14	9	0	60	51	0	0	112	95	4	0
18	15	6	0	61	51	17	0	120	102	0	0
19	16	3	0	62	52	14	0	130	110	10	0
20	17	0	0	63	53	11	0	132	112	4	0
21	17	17	0	64	54	8	0	140	119	0	0
22	18	14	0	65	55	5	0	144	122	8	0
23	19	11	0	66	56	2	0	150	127	10	0
24	20	8	0	67	56	19	0	175	148	15	0
25	21	5	0	68	57	16	0	200	170	10	0
26	22	2	0	69	58	13	0	250	212	13	0
27	22	19	0	70	59	10	0	300	255	0	0
28	23	16	0	71	60	7	0	345	311	5	0
29	24	13	0	72	61	4	0	400	340	0	0
30	25	10	0	73	62	1	0	500	425	0	0
31	26	7	0	74	62	18	0	600	510	0	0
32	27	4	0	75	63	15	0	700	595	0	0
33	28	1	0	76	64	12	0	750	637	10	0
34	28	18	0	77	65	9	0	800	680	0	0
35	29	15	0	78	66	6	0	900	764	0	0
36	30	12	0	79	67	3	0	1000	850	0	0
37	31	9	0	80	68	0	0	1250	1062	10	0
38	32	6	0	81	68	17	0	1500	1275	0	0
39	33	3	0	82	69	14	0	1750	1487	10	0
40	34	0	0	83	70	11	0	2000	1700	0	0
41	34	17	0	84	71	8	0	2240	1890	0	0
42	35	14	0	85	72	5	0	3000	2450	0	0
43	36	11	0	86	73	2	0	5000	4250	0	0

16s6d

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3	2	9	0	46	37	19	0	89	73	8	6
4	3	6	0	47	38	15	0	90	74	5	0
5	4	2	0	48	39	12	6	91	75	2	6
6	5	19	0	49	40	8	9	92	75	18	0
7	6	15	6	50	41	5	0	93	76	14	6
8	6	12	0	51	42	1	6	94	77	11	0
9	7	8	0	52	42	18	0	95	78	7	6
10	8	5	0	53	43	14	6	96	79	4	0
11	9	2	0	54	43	11	0	97	80	0	0
12	9	18	0	55	44	7	6	98	80	17	0
13	10	14	0	56	46	4	0	99	81	13	6
14	11	11	0	57	47	0	0	100	82	10	0
15	12	7	0	58	47	17	0	108	89	2	0
16	13	4	0	59	48	13	6	110	90	15	0
17	14	0	0	60	49	10	0	112	92	8	0
18	14	17	0	61	50	6	3	120	99	0	0
19	15	13	6	62	51	3	0	130	107	1	0
20	16	10	0	63	51	19	6	132	108	18	0
21	17	6	0	64	52	16	0	140	115	10	0
22	18	3	0	65	53	12	6	144	118	16	0
23	18	19	6	66	54	9	0	150	123	15	0
24	19	16	0	67	55	5	0	175	144	7	6
25	20	12	6	68	56	2	0	200	165	0	0
26	21	9	0	69	56	19	0	250	206	10	0
27	22	6	0	70	57	15	0	300	247	10	0
28	23	3	0	71	58	11	3	345	301	2	6
29	23	18	0	72	59	8	0	400	330	0	0
30	24	15	0	73	60	4	0	500	412	10	0
31	25	11	0	74	61	1	0	600	495	0	0
32	26	8	0	75	61	17	6	700	577	10	0
33	27	4	0	76	62	14	6	750	618	15	0
34	28	1	0	77	63	10	0	800	660	0	0
35	28	17	6	78	64	7	0	900	742	10	0
36	29	14	0	79	65	3	0	1000	825	0	0
37	30	10	0	80	66	0	0	1250	1031	5	0
38	31	7	0	81	66	16	3	1500	1237	10	0
39	32	3	0	82	67	13	0	1750	1443	15	0
40	33	0	0	83	68	9	6	2000	1650	0	0
41	33	16	0	84	69	6	0	2240	1848	0	0
42	34	13	0	85	70	2	6	3000	2475	0	0
43	35	9	6	86	70	19	0	5000	4125	0	0

17s6d

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3	2	12	6	46	40	4	0	89	77	17	0
4	3	9	0	47	41	2	6	90	78	15	0
5	4	6	0	48	42	0	0	91	79	12	6
6	5	5	0	49	42	17	6	92	80	10	0
7	6	2	6	50	43	15	0	93	81	7	6
8	7	0	0	51	44	12	6	94	82	5	0
9	7	17	6	52	45	10	0	95	83	2	6
10	8	15	0	53	46	7	6	96	84	0	0
11	9	12	6	54	47	5	0	97	85	17	6
12	10	10	0	55	48	3	6	98	85	15	0
13	11	7	0	56	49	0	0	99	86	12	6
14	12	5	6	57	50	15	0	100	87	10	0
15	13	2	6	58	51	12	6	101	88	7	6
16	14	0	0	59	51	12	6	110	85	5	0
17	14	17	6	60	52	10	0	112	88	0	0
18	15	15	0	61	53	7	6	120	100	0	0
19	16	12	6	62	54	5	0	130	113	15	0
20	17	10	0	63	55	2	6	132	115	10	0
21	18	7	0	64	56	0	0	140	126	0	0
22	19	5	6	65	57	15	0	141	126	0	0
23	20	2	6	66	57	15	0	150	131	5	0
24	21	0	0	67	58	12	6	175	153	2	6
25	21	17	6	68	59	10	0	200	218	15	0
26	22	15	0	69	60	7	6	250	275	10	0
27	23	12	6	70	61	5	0	300	362	10	0
28	24	9	0	71	62	3	6	365	518	0	0
29	24	7	6	72	63	0	0	400	560	0	0
30	25	5	0	73	63	15	0	500	637	10	0
31	27	2	6	74	64	15	0	600	525	0	0
32	28	0	0	75	65	12	6	700	612	10	0
33	28	17	6	76	66	10	0	750	656	5	0
34	29	15	0	77	67	7	6	800	700	10	0
35	30	12	6	78	68	5	0	900	787	10	0
36	31	10	0	79	68	2	6	1000	875	0	0
37	32	7	6	80	70	0	0	1250	1083	15	0
38	33	5	0	81	70	17	6	1500	1312	10	0
39	34	2	6	82	71	15	0	1750	1531	5	0
40	35	0	0	83	72	12	6	2000	1750	0	0
41	36	15	0	84	73	10	0	2500	2060	0	0
42	36	15	0	85	74	7	6	3000	2375	0	0
43	37	12	6	86	75	5	0	5000	4375	0	0

18s

No	z	s	d	No	z	s	d	No	z	s	d
1	0	18	0	44	39	12	0	87	78	5	0
2	1	16	0	45	40	10	0	88	79	4	0
3	2	14	0	46	41	8	0	89	80	2	0
4	3	12	0	47	42	6	0	90	81	0	0
5	4	10	0	48	43	4	0	91	81	18	0
6	5	8	0	49	44	2	0	92	82	16	0
7	6	6	0	50	45	0	0	93	83	14	0
8	7	4	0	51	45	18	0	94	84	12	0
9	8	2	0	52	46	16	0	95	85	10	0
10	9	0	0	53	47	14	0	96	86	8	0
11	9	18	0	54	48	12	0	97	87	6	0
12	10	16	0	55	49	10	0	98	88	4	0
13	11	14	0	56	50	8	0	99	89	2	0
14	12	12	0	57	51	6	0	100	90	0	0
15	13	10	0	58	52	4	0	108	97	4	0
16	14	8	0	59	53	2	0	110	99	0	0
17	15	6	0	60	54	0	0	112	100	16	0
18	16	4	0	61	54	18	0	120	108	0	0
19	17	2	0	62	55	16	0	130	117	0	0
20	18	0	0	63	56	14	0	132	118	16	0
21	18	18	0	64	57	12	0	140	126	0	0
22	19	16	0	65	58	10	0	144	129	12	0
23	20	14	0	66	59	8	0	150	135	0	0
24	21	12	0	67	60	6	0	175	157	10	0
25	22	10	0	68	61	4	0	200	180	0	0
26	23	8	0	69	62	2	0	250	225	0	0
27	24	6	0	70	63	0	0	300	270	0	0
28	25	4	0	71	63	18	0	365	328	10	0
29	26	2	0	72	64	16	0	430	360	0	0
30	27	0	0	73	65	14	0	500	450	0	0
31	27	18	0	74	66	12	0	600	540	0	0
32	28	16	0	75	67	10	0	700	630	0	0
33	29	14	0	76	68	8	0	750	675	0	0
34	30	12	0	77	69	6	0	800	720	0	0
35	31	10	0	78	70	4	0	900	810	0	0
36	32	8	0	79	71	2	0	1000	900	0	0
37	33	6	0	80	72	0	0	1250	1125	0	0
38	34	4	0	81	72	18	0	1500	1350	0	0
39	35	2	0	82	73	16	0	1750	1575	0	0
40	36	0	0	83	74	14	0	2000	1800	0	0
41	36	18	0	84	75	12	0	2240	2016	0	0
42	37	16	0	85	76	10	0	3000	2700	0	0
43	38	14	0	86	77	8	0	5000	4500	0	0

19s

No	z	s	d	No	z	s	d	No	z	s	d
1	0	18	0	44	41	16	0	87	82	13	0
2	1	18	0	45	42	15	0	88	83	12	0
3	2	17	0	46	43	14	0	89	84	11	0
4	3	16	0	47	44	13	0	90	85	10	0
5	4	15	0	48	45	12	0	91	86	9	0
6	5	14	0	49	46	11	0	92	87	8	0
7	6	13	0	50	47	10	0	93	88	7	0
8	7	12	0	51	48	9	0	94	89	6	0
9	8	11	0	52	49	8	0	95	90	5	0
10	9	10	0	53	50	7	0	96	91	4	0
11	10	9	0	54	51	6	0	97	92	3	0
12	11	8	0	55	52	5	0	98	93	2	0
13	12	7	0	56	53	4	0	99	94	1	0
14	13	6	0	57	54	3	0	100	95	0	0
15	14	6	0	58	55	2	0	108	102	12	0
16	15	4	0	59	56	1	0	110	104	10	0
17	16	3	0	60	57	0	0	112	106	8	0
18	17	2	0	61	57	18	0	120	114	0	0
19	18	1	0	62	58	16	0	130	123	10	0
20	19	0	0	63	59	14	0	132	125	8	0
21	19	18	0	64	60	12	0	140	133	0	0
22	20	18	0	65	61	10	0	144	136	16	0
23	21	17	0	66	62	8	0	150	142	10	0
24	22	16	0	67	63	6	0	175	166	5	0
25	23	15	0	68	64	4	0	200	190	0	0
26	24	14	0	69	65	2	0	250	237	10	0
27	25	13	0	70	66	0	0	300	285	0	0
28	26	12	0	71	67	18	0	365	327	10	0
29	27	11	0	72	68	16	0	400	380	0	0
30	28	10	0	73	69	14	0	500	475	0	0
31	29	9	0	74	70	12	0	600	570	0	0
32	30	8	0	75	71	10	0	700	665	0	0
33	31	7	0	76	72	8	0	750	712	10	0
34	32	6	0	77	73	6	0	800	760	0	0
35	33	5	0	78	74	4	0	900	855	0	0
36	34	4	0	79	75	2	0	1000	950	0	0
37	35	3	0	80	76	0	0	1250	1187	10	0
38	36	2	0	81	76	18	0	1500	1425	0	0
39	37	1	0	82	77	16	0	1750	1662	10	0
40	38	0	0	83	78	14	0	2000	1900	0	0
41	38	18	0	84	79	12	0	2240	2128	0	0
42	39	16	0	85	80	10	0	3000	2700	0	0
43	40	17	0	86	81	8	0	5000	4750	0	0

18s6d

No	z	s	d	No	z	s	d	No	z	s	d
1	0	18	6	44	40	14	0	87	80	9	6
2	1	17	0	45	41	12	0	88	81	8	6
3	2	15	6	46	42	11	0	89	82	6	6
4	3	14	0	47	43	9	0	90	83	5	0
5	4	12	6	48	44	8	0	91	84	4	0
6	5	11	0	49	45	6	0	92	85	2	0
7	6	9	6	50	46	5	0	93	86	0	6
8	7	8	0	51	47	3	0	94	86	19	0
9	8	6	6	52	48	2	0	95	87	17	6
10	9	5	0	53	49	0	0	96	88	16	0
11	10	3	6	54	49	19	0	97	89	14	6
12	11	2	0	55	50	17	0	98	90	13	0
13	12	0	6	56	51	16	0	99	91	11	6
14	13	19	0	57	52	14	0	100	92	10	0
15	13	17	6	58	53	13	0	108	98	18	0
16	14	16	0	59	54	11	0	110	101	15	0
17	15	14	6	60	55	10	0	112	103	12	0
18	16	13	0	61	56	8	0	120	111	0	0
19	17	11	6	62	57	6	0	130	120	0	0
20	18	10	0	63	58	5	0	132	122	0	0
21	19	8	6	64	59	4	0	140	129	10	0
22	20	7	0	65	60	2	0	144	133	4	0
23	21	5	6	66	61	1	0	150	138	15	0
24	22	4	0	67	61	19	0	175	161	17	6
25	23	3	6	68	62	18	0	200	185	0	0
26	24	1	0	69	63	16	0	250	231	0	0
27	24	19	0	70	64	15	0	300	270	0	0
28	25	18	0	71	65	13	0	365	337	12	6
29	26	16	6	72	66	12	0	400	370	0	0
30	27	15	0	73	67	10	0	500	462	10	0
31	28	13	6	74	68	9	0	600	552	0	0
32	29	12	0	75	69	7	0	700	647	10	0
33	30	10	6	76	70	6	0	750	693	15	0
34	31	9	0	77	71	4	0	800	740	0	0
35	32	7	6	78	72	3	0	900	838	10	0
36	33	6	0	79	73	1	0	1000	925	0	0
37	34	4	6	80	74	0	0	1250	1156	5	0
38	35	3	0	81	74	18	0	1500	1387	10	0
39	36	1	6	82	75	17	0	1750	1618	15	0
40	37	0	0	83	76	15	0	2000	1850	0	0
41	37	18	0	84	77	14	0	2240	2079	0	0
42	38	17	0	85	78	12	0	3000	2775	0	0
43	39	15	6	86	79	11	0	5000	4625	0	0

19s6d

No	z	s	d	No	z	s	d	No	z	s	d
1	0	18	6	44	42	18	0	87	84	16	6
2	1	19	0	45	43	17	0	88	85	15	0
3	2	18	6	46	44	16	0	89	86	15	0
4	3	17	0	47	45	15	0	90	87	15	0
5	4	16	6	48	46	14	0	91	88	14	0
6	5	15	0	49	47	13	0	92	89	14	0
7	6	14	6	50	48	12	0	93	90	13	0
8	7	13	0	51	49	11	0	94	91	12	0
9	8	12	6	52	50	10	0	95	92	12	0</

CALENDAR FOR 1910.

January							February							March							April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
					1	2			1	2	3	4	5	6			1	2	3	4	5	6			1	2	3	4	5	6	7	8	9	10	11	12					
3	4	5	6	7	8	9	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
10	11	12	13	14	15	16	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																	
17	18	19	20	21	22	23	21	22	23	24	25	26	27	28	29	30	31																								
24	25	26	27	28	29	30	28	29	30	31																															
31																																									

July							August							September							October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
					1	2			1	2	3	4	5	6			1	2	3	4	5	6			1	2	3	4	5	6			1	2	3	4	5	6			
8	9	10	11	12	13	14	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31											
15	16	17	18	19	20	21	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																		
22	23	24	25	26	27	28	22	23	24	25	26	27	28	29	30	31																									
29	30	31					29	30	31																																

CALENDAR FOR 1916.

[illegible]**CALENDAR FOR 1917.**

January							February							March							April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6					1	2	3		1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13		1	5	6	7	8	9	10	4	5	6	7	8	9	10	8	9	10	11	12	13		7	8	9	10	11	12		3	4	5	6	7	8	9
14	15	16	17	18	19		11	12	13	14	15	16	17	11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31	29	30						26	27	28	29	30			24	25	26	27	28	29	30

July							August							September							October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6		5	6	7	8	9	10	11	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7	2	3	4	5	6	7	8
8	9	10	11	12	13		12	13	14	15	16	17	18	9	10	11	12	13	14	15	8	9	10	11	12	13		4	5	6	7	8	9	10	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22	15	16	17	18	19	20	21	11	12	13	14	15	16	17	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31		23	24	25	26	27	28	29	22	23	24	25	26	27	28	18	19	20	21	22	23	24	23	24	25	26	27	28	29
29	30	31												30							29	30						25	26	27	28	29	30		30	31					

CALENDAR FOR 1918.

January							February							March							April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
-	1	2	3	4	5	-	-	1	2	3	4	5	1	2	-	-	-	-	-	-	1	2	3	4	5	6	-	1	2	3	4	5	6	7							
6	7	8	9	10	11	12	3	4	5	6	7	8	9	10	11	12	13	14	15	16	7	8	9	10	11	12	13	4	5	6	7	8	9	10							
13	14	15	16	17	18	19	10	11	12	13	14	15	16	13	14	15	16	17	18	19	14	15	16	17	18	19	20	11	12	13	14	15	16								
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23								
27	28	29	30	31	-	-	24	25	26	27	28	-	31	24	25	26	27	28	29	30	28	29	30	-	-	-	25	26	27	28	29	30	31								

July							August							September							October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S							
-	1	2	3	4	5	6	-	1	2	3	4	5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22							
7	8	9	10	11	12	13	6	7	8	9	10	11	12	13	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22								
14	15	16	17	18	19	20	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7							
21	22	23	24	25	26	27	18	19	20	21	22	23	24	25	26	27	28	29	30	31	25	26	27	28	29	30	31	2	3	4	5	6	7	8							
28	29	30	31	-	-	-	25	26	27	28	29	30	31	25	26	27	28	29	30	31	25	26	27	28	29	30	31	2	3	4	5	6	7	8							

THE SCIENCE OF SOAP

AN EXTRACT FROM A LECTURE ON HEALTH.

By ANDREW WILSON,
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Dr. ANDREW WILSON is acknowledged to be a leading authority on the Science of Health. Not only has he studied the science deeply, but he has an almost unequalled knowledge of the subject in its manifold practical bearings, as his numerous lectures and writings effectively testify. Therefore, anything that he may have to say on so important a theme as Soap cannot fail to be worth reading.

"The Great Civiliser." Soap has been termed "The Great Civiliser." In respect of the fact that its use implies freedom from dirt, it might with equal justice be termed the harbinger of Health, seeing that cleanliness sums up in a single word the essential condition which underlies all hygienic practice.

"Cleanliness" of body, of garments, of surroundings, of houses, of drains, of food, of air and of water, represents the aim and end of all health-teaching. In

proportion as we attain and maintain cleanliness universally and abolish dirt, we prevent disease, save life, and promote the happiness of mankind. Clearly soap, as a means of Sanitary grace, is not to be lightly esteemed.

It is the foe of the microbe and the enemy of disease, and the Soapmaker's labours may therefore, in a very real sense, be said to run in parallel lines to those of the sanitarian's work and of the doctor's practice.

The Personal Side of Cleanliness. Leaving the purely domestic and disinfectant uses of soap out of sight, the personal side of the cleanliness question may be said to offer a very interesting study in connection not merely with the preservation of health, but also in respect of the promotion of what one may term the æsthetic side of life. Health implies beauty and cleanliness is the foundation of both. While the care of the skin naturally falls to be considered as an all-important element in health-culture, such care, implying the wise selection of a soap, must naturally include the making of most of what personal attractions we possess. For the relation of skin-health to soap is much closer than is usually supposed.

Soaps to be Avoided. Crude soaps, coarse soaps, or those impregnated with deleterious colouring matters, are too often the cause of skin-troubles often of an intractable kind. Then, we have to distinguish between medicinal soaps intended for the cure of skin-troubles, and those intended for toilet use: a distinction, this, of great importance. Soft soap is an excellent cleanser of woodwork and other things; it would ruin any skin to which it was applied. Medicated soaps are useful in the hands of the physician; the healthy skin requires no drugs applied to it, any more than the healthy stomach demands the continuous administration of drugs. Thus we see there are soaps to be avoided for personal use in health, just as there are others suitable for daily employment by way of promoting the welfare of the skin.

The Relationship of Soap to the Skin. It behoves us, in order fully to comprehend the relationship of soap to the skin, to consider briefly what the skin itself is. No knowledge of any bodily function can be complete or satisfactory which is not founded on an appreciation of the nature of the organ or part with which we are dealing. Popularly regarded, the skin with many people stands simply for a body-covering. It is very much more. It is in truth a somewhat complicated structure or tissue.

It consists of two chief layers, the outer skin, "Scar" skin or "Epidermis," as it is named, and the under skin or "Dermis." There are other layers included in the skin texture, but it will suffice for the present purpose to recognise these two main divisions. Most of us know the difference between the two layers.

Practically, in shaving, a man makes a clear distinction between them. If he keeps to the outer skin all is well; if, however, he allows his razor to descend to the under layer, he soon becomes aware of one difference at least, if not two, between the skin-tissues. For when he cuts himself he draws blood and he feels pain, proving thus that, while the upper skin is destitute of blood-vessels and nerves, the under skin possesses both. We discover on close examination that the outer skin is in fact a production of the more vital under layer. It is composed of microscopic cells which are produced practically on the upper surface of the under skin.

Skin-Renovation. These cells do not survive long. There is a perpetual procession of them passing upwards in layers, getting drier and more scale-like as they ascend, until they arrive at the surface of the outer skin itself. There, as mere dried scales, they are worn off by the friction of our clothes and by washing, their places being taken by other cells produced and pushed upwards in the same manner as were the lost cells.

We might compare this shedding of the outer skin cells to a process of "Moulting." The lower animals exhibit this feature at intervals or periodically; man is always moulting.

If such be the nature of the outer skin, that of the under skin or "dermis" is of a very different kind. The under layer is an organised structure, that is to say, it consists of living cells and is well supplied with blood-vessels, while the ends of the nerve-fibres, through which we exercise the sense of touch, end in little projections of the under skin-layer. When we touch anything, we therefore feel it by the nerve-ends in the under skin, through the upper skin.

The Function of the Skin. The blood supply of the skin is very extensive. So fine are its blood-vessels that even the point of a needle must wound a large number of them. This distribution of blood to the skin leads to another and most important consideration, namely, that which teaches us that part of the skin's duty is to serve as an organ for getting rid of so much of our bodily waste which is the result of our bodily work. In fact, one might well compare the skin to a lung spread all over the body's surface. Physiologists will tell us that the lungs, skin, and kidneys form really a trio of organs performing similar work only in different ways, that work being "excretion," or, as it has already been termed, the getting rid of waste. Very much the same substances, but in different proportions, are excreted from the blood by all three, and it may be said in addition that the skin has a power of absorbing oxygen gas, so that in this respect it shows an approach to the lungs in the nature of its duties.

Miles of Sweat Glands. How the skin acts as a channel for the exit of waste is revealed to us when we discover in the deep layer numerous "sweat glands." Each is a coiled-up tube, the end of which passes upwards to open on the skin-surface in a "pore." Around the glands are dense networks of blood-vessels, and it is easy to conceive how the waste matters can strain through their thin walls and so reaching the sweat-tubes be passed upwards to be discharged on the skin-surface as perspiration. Any interference of a serious kind with the skin-function, just noted results in disease or death. It would be quite possible to "suffocate" an individual by gliding his skin over with an impermeable layer, and this result actually happened in one case in which a child's body was covered with goldleaf, that he might take part in a procession at Rome. It is in the palm of the hand and sole of the foot that sweat glands are most numerous. Each little sweat-tube if uncoiled would measure about one-fourth of an inch, and the late Sir Erasmus Wilson calculated that in a single square inch of the palm, about 731 feet of sweat-tubing is contained. Similarly it has been calculated that in the whole body there exists 20 miles length of such tubes.

There are other glands in the skin called "sebaceous" glands. These supply a fatty matter, the use of which is to keep the skin supple. These glands are found also opening into the sheaths or hairs, and it may be supposed the matter they secrete represents a kind of natural pomade. When the tubes of these latter glands become blocked up with the fatty secretion, and the top of the little plug of fatty matter becomes coated with dust, we get what are called "blackheads" in the skin.

Soap and the Body's Health. All this information has an important bearing on the maintenance of the matter of skin and body alike, and incidentally, on the use of Soap. For the body's health depends to a large extent on the proper discharge of the skin's duties, just as the skin, in turn, sympathises very strongly with different bodily states. The skin is a regulator of the temperature of the body, through the blood, which is ever circulating through it. The production of perspiration and its evaporation implies loss of heat, hence the rapid cooling of the body after copiously perspiring. In cold weather less sweat is produced, the loss of heat is diminished, and the bodily heat is then conserved. These facts enable us to understand what chill implies, with its effects propagated by the nervous system to the lungs or other parts.

The necessity for strict cleanliness in the matter of the skin and for the use of a pure soap becomes clear when we consider the functions of the skin-glands and their constant work in pouring out on the skin-surface so much of our bodily waste. Yet another fact must be borne in mind, namely, that the old skin-cells, which are always being shed, demand equally the acts of washing for their removal, and for this reason also it

may be said, there arises the necessity for frequent change of our undergarments. The exercise of cleanliness all round is therefore more than justified by all we can learn concerning the duty of maintaining the healthy action of the skin, and equally by what we know of the waste products our bodily covering gives forth.

The Absolute Necessity of Soap Purity.

A soap fit to use and such as can exercise no injurious effects on the skin must first of all be of pure quality. It must contain no deleterious ingredients and no objectionable or irritating colouring matter. To please the eye counts for nothing in the matter of soap; the great essential is purity. Next in order comes the matter of economy. Soaps loaded with water represent so much money wasted, whereas a soap in which the quantity of water has been reduced to the minimum must prove economical, because lasting. Crude soaps naturally irritate the skin, and in place of removing the skin-debris literally rasp off the cell-layers which are not yet ready for removal. Hence many cases of tender skins are to be attributed to the use of improper soaps, which as an authority puts it "should only be used for washing floors."

THE SOAP THAT IS ALL PURE SOAP. Many years ago, following the lead of Sir Erasmus Wilson, the late Mr. Startin, the famous skin specialist, Professor Redwood and others, I bore testimony to the purity and excellence of a soap, the name of which has become a suitable household word. I allude to PEAR'S SOAP. For years the excellence of this soap in respect of its unvarying purity has been fully maintained. It owes its fame and reputation to its unchanging character, and to its non-irritating nature, and it is this latter feature which has made it a special favourite for nursery use. The delicate skin of the infant requires a soap of bland character, and PEAR'S SOAP fully justifies the confidence, which mothers and nurses repose in it. Again, it is an excellent detergent and removes dirt particles very easily, while from the point of view of economy, PEAR'S SOAP, as it has been well declared, is all soap and can be used till it has become of the thinness of a sixpence.

THE SOAP FOR THE COMPLEXION. Attention to the complexion is a matter which concerns everyone, and the value of a pure non-irritating soap in preventing the development of blotches is therefore to be regarded as a *sine qua non* for those who desire to maintain a fair skin. PEAR'S SOAP is a necessary to the toilet of the fair, while it is equally adapted to the use of the sterner sex, and makes for shaving an excellent lather, not apt to irritate the skin as do many shaving soaps which contain potash. On these grounds PEAR'S SOAP should continue to enjoy the confidence of the public, for no purer article of its kind has ever been offered to the people.

THE SKIN AND COMPLEXION

WITH SPECIAL REFERENCE TO DIET, CLOTHING,
BATHING, AND COSMETICS.

By JAMES STARTIN

Senior Surgeon and Lecturer to the London Skin Hospital.

The charms of a clear, healthy skin, and its usual accompaniment, a fine complexion, are universally acknowledged. It forms one of the chief elements of beauty, and those who are endowed with these beneficent gifts are indeed favoured; but if they wish to retain this beauty, they should give it their especial care.

From the earliest period to the present time never was there an era when women did not try to make themselves beautiful.

The Care of the Complexion. The care of the complexion is a duty which every woman owes to herself and all parents to their children. Regularity of features and a perfect development of form are of little avail if the complexion is not good.

In fact, the complexion is the chief charm of beauty in our own race, for what finer complexions in the world do we see than those of our own countrywomen?

Many people grow careless of their appearance after a certain time of life; no doubt the cares and troubles and worry in the race for life have something to do with this. We should be, therefore, careful to bear our cares and troubles with a healthy mind, and if we wish to preserve the beauty of our complexion, should take far more care in our modes of life and daily food.

More than 2,000 years ago Xenophon wrote, "Men regarded a genuine complexion as most pleasing."

The Health of the Skin. The conditions of life in which we live, as a highly civilised nation, exert a powerful influence upon the structures which combine to make up our organism, but perhaps their influence is most plainly seen upon the skin. A proper care, therefore, of the skin is an important factor in the prevention of most cutaneous disorders. The health of the skin is much the same as the health of our bodies. We may define health, if we can, but it is indefinable.

It is that state of our bodies in which the functions go on without our notice or observation, and in which existence is felt to be a pleasure; in which it is a kind of joy to see, to touch, and to live. This is health. Yet the skin is apt to be looked upon and attended to by the majority of the community less than any organ of the body. It should not only be considered as a mere covering to defend us from the effects of heat or cold, but as one of the most important organs of our body, without the constant activity and agency of which we must look for neither health nor long life, and the neglect of which in modern times lies the secret source of numberless diseases and evils that tend to shorten our existence. And from whatever cause they result, the morbid phenomena of eruptions of the skin show themselves at all periods of life, in every rank, and in all conditions of civilisation. But it is the working classes of the community who are mostly exposed to

their influence, and consequently it is mostly amongst the poor that the greater number of these diseases are found.

Dust and Dirt. The artisan in his several trades finds a natural source of skin disease in the dust and dirt in which he labours, often very irritating, and from which he cannot, or can very imperfectly, protect himself, unless he gives up that employment which furnishes his daily bread. Not only the artisan, but drapers, grocers, dyers, bakers, skin-dressers, and other traders find that their assistants occasionally suffer by absorbing the dust from their trade into the skin.

Disorders of the Skin. The skin is the greatest medium for purifying our bodies, and every moment of our lives a multitude of useless, corrupted, and worn-out particles evaporate through its numerous small ducts in an insensible manner. This evaporation is inseparably connected with our lives and the circulation of our blood, and by it the greater part of all the impurities of our bodies are removed. If, therefore, it be inactive and its pores be stopped up, an acidity and corruption of the juices will be the inevitable consequence, and most dangerous diseases may ensue. A very common public error is that all disorders of the skin are contagious. Quite commonly servants and workpeople turn aside and avoid any one in the same service if affected in this way.

The Question of Contagion. Numbers of poor girls are thus driven into any asylum to which they can gain admission, and the Union is the only place of refuge from a prejudice most undeserved and unwarrantable. Men-servants also suffer too often by this uncalled-for avoidance. The vicinity or even the bare mention of skin diseases seems to unsettle the equanimity of some people—especially nervous, weak-minded individuals. But let me reassure them; for few eruptions of the skin are really contagious, and even those that are, are hardly ever seen by the public in an actual condition of contagiousness.

If any further inducement were needed to urge us to take consideration of so important a subject as the care of the skin, it might be found in the risks attending an invasion of that terrible and devastating disease, Asiatic cholera. Nothing that we can do is so likely

to preserve us from that dire disease—and indeed, from every disease of an epidemic or contagious kind—as a proper and judicious care of the skin.

Sanitary Precautions. The instructions laid down by our Sanitary Boards for securing our country against cholera are happily so good, and they contain recommendations having reference to the maintenance of the skin in a state of cleanliness, warmth, and health; and it is only by a knowledge of the nature and functions of the skin that we can safely hope to succeed completely in effecting this object. Fortunately, if there is one characteristic which distinguishes an Englishman or woman, it is the almost universal habit of cleanliness—the “love of the tub.” Of this I purpose speaking later on.

Skin Eruptions. It would appear that, at first sight, skin eruptions in ancient times were either more frequent, or that the disgust with which they were regarded had a greater influence on the community at large than is at present the case. At the period of the establishment of our royal hospitals (St. Bartholomew, Bethlem, and Bridewell), the leper, as the unfortunate individual was called who was afflicted with a skin eruption, had a place allotted to himself, “to keep a little of the evil.” He was in a manner confined to a district, beyond the bounds of which he dared not venture under the penalty of death; indeed, so severe was the law in such cases (leprosy having been held one of the five plagues under the Sanitary Code in most European countries, and I believe in our own), that anyone convicted of having had communication with a leper rendered his life a forfeit to the State. Common sense in modern times, however, has long since exploded the belief that the affection called leprosy is contagious in temperate climates. After the Crusades every disease of the skin became an object of suspicion, without discrimination or even a cursory inquiry into its nature. Under the general denomination of lepers thousands of helpless wretches, whose only crime was poverty, were condemned to noisome imprisonment and banishment from all ties of friendship and kinship. At that time the number of leproses in Europe amounted to 21,000, and we read that in Paris, in the façade in such a building, a gibbet was erected for such as dared either to enter or escape without permission.

Leprosy. It may be interesting to state that the site of St. James's Palace was anciently occupied by one of these leper-houses, and that the park adjacent formed part of the domain from which it derived its support, until Henry the Eighth, in his kingly wisdom, converted this ancient charity into the palace, as it still continues. Such was the charitable care of the suffering community in ancient times. But it is only within the last few years that special notice has been taken of these diseases by medical men, and special hospitals and special departments in hospitals established for their alleviation.

Character of the Skin. The soft yielding texture or integument forming the external covering of our bodies, well known by common designation as the skin, though apparently one membrane of evidently complex structure, in reality consists throughout its whole extent of three layers, which, besides performing the important office of protecting the parts beneath from injury, constitute at the same time the seat of the sense of touch and the organ of sensible and insensible perspiration; and we are here reminded of the expressive lines of Pope—

“In human works, though labour'd on with pain,
A thousand movements scarce one purpose gain;
In God's, one single aim can sit and produce,
Yet serves to second, too, some other use.”

The apparatus for cutaneous absorption, imbibition, as it is called more properly, the three layers, furnish also a locality for innumerable glands or bulbs, producing hair, and everywhere covering the body, adding so much to its softness and grace; a class of little cavities, which secrete the unctuous matters to lubricate the skin, called the sebaceous glands, and, finally, for the sudariparous or perspiratory glands.

Functions of the Skin. Yet, with so great a variety of offices and parts, the extent and services of this interesting membrane are not confined to the outer

surface only, for the skin is found to be continued inwards at all the openings of the body, and to become the mucous membrane of the mouth, nose, throat, lungs, stomach, and other organs; so that the cutaneous surface may be said, like a circle, to have neither beginning nor end, but forms one beautiful investing membrane for the whole body, inside and out, which so admirably accommodates its services to the various parts that perhaps no structure could be imagined more illustrative of Divine arrangement, by combining unity of purpose and design with diversity of functional offices, and so gracefully adapting itself to the different and varied movements of the body, without wrinkle or inequality, as to have furnished Burke, in his essay on the “Sublime and Beautiful,” with one of his happiest illustrations.

Sensitiveness of the Skin. Though the skin is so surprisingly yielding and delicate, it is well constituted to resist external agencies, which property is marvellously increased by education or habit; to the horny palm of the smith, for example, the dewdrop and the red-hot metal prove nearly innocuous in their action.

Yet so wonderfully sensitive is the organ of touch in the skin that in the blind, deaf, and dumb, it has furnished a medium of communication which in minuteness of perception has nearly rivalled, while it affords a substitute for, the lost senses.

Whilst thus the skin may be said to connect each of us with the external world, it affords at the same time the safeguard and protection of the parts within, offering, according to their several necessities, great density of texture for a shield or defence, as before instanced in the hands and feet, or a delicate and wonderful tenacity, as on the lips and other organs, where exquisiteness of sensation constitutes the prominent function to be developed.

The Fingers. The ends of the fingers may here perhaps present themselves as seeming exceptions to this statement, but when we speak of the anatomical arrangements of the skin we shall at once perceive increased cause for admiration of these facts, and wonder at the contrivance for admitting free exercise of the sense of touch in parts so thickly covered by cuticle.

Of the three layers or divisions of the skin the *first*, or outermost, that which meets the eye—the *scarf-skin*, or epidermis; the *second*, in which the coloring matter of the different human races is deposited, is called the *rete-mucosum*, or *malpighi* (after its discoverer, Malpighi); and the *third* is called the *true skin*, the *cutis vera*, *dermis*, or *chorion*.

The Cuticle. The cuticle, when separated by a blister or other means from the living body, is found in all races of men, blacks as well as whites, to be a diaphanous, elastic, white or greyish-white membrane, rather darker, however, in the negro races, and, from the grooves intersecting it, apparently reticulated, the outer surface being somewhat convex and polished from the oily matter thrown out upon it by the sebaceous glands or follicles, the inner surface concave, rough, and irregular, an appearance which, if regarded with slight magnifying power, is found to arise from numerous small points or processes like the pile of coarse velvet; these are the hollow, tube-like continuations of the cuticle dipping into the pores and inequalities of the rete-mucosum, the second membrane of the skin, and into the true skin or dermis. The third membrane, as it were, forms the medium of communication between all those parts and channels through which the hair, and sebaceous and sweat-ducts pass, each of these minute tubes or processes being like an inverted finger or a glove, the duct, hair, etc., perforating its apex something after that manner.

A Protecting Membrane. By a beautiful provision of nature the cuticle may be said to be sort of varnish, perfectly insensible, which protects the more delicate parts of the skin and the organ of touch from injury.

Were our bodies without this covering, not only might any noxious weed we crush in our progress produce lethal effects, but we could scarcely perform the common offices of life without risk. In our profession this protecting membrane daily and hourly asserts its preservative influence; with this safeguard

we can handle with impunity but only deadly poisons, but sources of contagion themselves.

Thus we see the advantage, nay the necessity, to our well-being of bearing about with us an inanimate exterior, and can admire the wonderful wisdom of the Creator in this external adaptation of our bodies to the world without.

We now come to the question, What is the soundest state or condition of the skin, or that which most contributes to it and thus its arm indicating a high state of health. It does not depend upon whether the person is of sanguine or bilious temperament, of ruddy or sallow complexion, but whether the skin exercises its functions in a proper manner. I will now endeavour to show you how it may.

The Management of the Skin. The conditions, therefore, necessary to maintain the skin in a sound and healthy state, to restore it when disordered, to second our efforts when engaged in treating some of the many eruptions to which it is liable, may be classed under three heads—

1. That the body should be, if possible, well and judiciously nourished.

2. That no undue tax or strain should be put upon the skin.

3. That the skin be put under proper rules of management as to general hygienic surroundings, diet, clothing and exercise. The more exercise we take in the open air the better for our complexions; we do not take half enough, lie especially.

Diet and Skin Health. Now with regard to diet I should like to say a few words, as the health of the skin is much influenced thereby.

In the first place, our food is in a double manner a source of warmth, by supplying the material requisite to balance the continual waste going on in the body, and, secondly, by conveying into the system those elements which by their chemical composition engender heat; and to ensure these results our food must be wholesome and sufficient, and must combine all the varieties, animal and vegetable, which are bestowed upon us, viz., the aqueous, the albuminous, the saccharine, and the oleaginous. The first is necessary, and enters largely into the component parts of our body; the second, from our animal food; the third, from the vegetable; and the fourth, from both the latter. Let me give you a good maxim: *Happy is the man who only eats when he is hungry, and drinks when he is thirsty.*

Periods of Taking Food. The periods of taking food usually adopted in our country, in accordance with convenience and recurrence of hunger, are those which are best suited for the purpose of health, viz., the morning meal, the mid-day meal, and the evening meal.

The morning meal, or breakfast, should be taken between 8 and 9; the mid-day meal, the dinner of our forefathers, the second breakfast of the French, the lunch of fashionable life, is generally, and should be, taken between 1 and 2 o'clock; and the evening meal, the supper of our forefathers, the dinner of the present day in fashionable society between 7 and 8 o'clock.

Among the ancient Greeks the three meals of the day were called the "ariston," the first, or morning meal, taken at sunrise; the "deipnon," the chief meal, dinner; and the "dorpon," the evening or sunist meal, supper.

The Athenians took meals as the French, and they called them "ariston" and "deipnon," excluding the "dorpon," and sometimes the "ariston" was regarded as luncheon, the prandium of the Romans.

Quantity of Food. As regards the quantity of food to be taken at all times, no doubt it is best to err on the side of moderation, and I have no hesitation in recommending too great a variety at a single meal, however much variation of diet may be useful. A variety of dishes is simply an injurious device for overloading the stomach. Before I commence referring to special articles of food, let me urge upon you the great importance of regularity of meals and sufficient time to eat them. Upon this rule depends to a great extent our health. Irregularity in this respect, produces, as you know, indigestion, flushing of the skin, and one of the most disfiguring eruptions, and that on

the face. It is not all red faces and red noses that proceed from strong drink, though many do.

The diet for anyone who suffers from an eruption should be fairly good; above all, the day should be commenced with a substantial breakfast of light food, but not with hot roast meat, as is the custom with some persons; the stomach is not able then to digest it. Fish, boiled bacon, eggs occasionally, cocoa or cocoatina, coffee for some, tea for some, for few persons are able to digest the same things—some coffee, some tea. Some take porridge, but my experience shows me it cannot be taken regularly south of the Tweed. It is much too heating in the south of England; indeed, I have seen eruptions caused by eating it, especially among children.

Beverages. Now milk is a mixture of the four staminal principles of food that I have mentioned before; in it, therefore, we expect to find a model of what an alimentary substance ought to be. Some cannot digest milk; then I recommend them to take soda-water with it. It forms a very suitable portion of our daily food, therefore.

Coffee. Coffee, if properly made, is a wholesome beverage, but it requires making. It, the berry, of two or three kinds, should be freshly roasted and ground, and thoroughly boiling water passed through it before it is required. Those of you who know this must know how vastly different it is to the stuff called coffee, as it is bought, and often mixed with that wretched drug chicory.

Tea. If tea be preferred, it should be made with some variety of pure black Ceylon, India, or China tea, not green. A correct infusion is made by pouring boiling water upon the tea and allowing it to stand from two to five minutes at the most. Let me urge you to try these methods, and I vouch you will not be disappointed.

Solids. For solids, variety is best—not eggs and bacon, bacon and eggs every morning, or eggs alone, as they are too luscious to take regularly. I take fish (not kippered fish) one morning, boiled bacon another, it is almost as good as cod-liver oil to weak persons.

Meat Eating. The rule is, therefore, our food should be fair in quantity and good in quality, but light. A fair amount of meat should be taken, but never in excess. The people of England are accustomed to eat far too much beef and mutton without variation, which only stimulates the skin to gross and unhealthy action and appearance. Servants, where so much meat is consumed in well-to-do families, make good patients to the doctors. All rich and heating foods taken in excess, such as roast pork, salt beef, veal, jugged hare, many soups, badly cooked pastry, shell-fish, new cheese, raw vegetables, dried fruits, sweetmeats, should be studiously avoided by those who have any tendency to eruptions; but even in health the skin often becomes red and irritable after such things.

Vegetable Diet. We should take a more mixed and vegetable diet; and let me tell you, ladies, that vegetarians, possess the finest complexions of any people in the world; not that I advocate vegetarian diet in itself alone. The tendency, as I said before, is to take too much red meat, and too often. We should take much more vegetable diet than we do, and more fish—that essential nerve and brain-nourishing food—some unadulterated bread, whole-meal bread and brown bread, once-cooked meat, potatoes well cooked, all sorts of green vegetables, marrow, celery, tomatoes, leeks, and others so little known, rice, farinaceous food, beans, peas, light puddings of all kinds.

All this has been most ably brought forward in the lectures on cooking at the last most successful International Health Exhibition. No person can expect to have a nice complexion who eats meat, beef, and mutton, day by day without variation.

Alcohol, Injurious. My attention has been lately much drawn to the fact that in my practice so many disfigurements of the skin are entirely due to drinking intoxicating drinks to excess, and amongst the upper ranks of society too; and, further, it is a painful fact to relate that there are 50,000 prisoners in our jails. Sixty per cent. of the inmates of our lunatic asylums are victims to its direful influence; and there are 1,000,000 paupers in our workhouses and elsewhere, and

plenty ready to follow them, only through excess in drink. I find more than 60 per cent. of the dreadful cases of eruption in my hospital are either brought about by its influence, or those eruptions that are either inherited or acquired are materially influenced to the bad by its abuse.

Spirits and Ale. Instead of the vile concoctions called spirits, and that wretched stuff which is sold as ale to our working classes scarcely ever unadulterated, if we could prevail upon them to take less intoxicating drinks, how much less we doctors should have to do. This advice applies to the upper as well as the lower ranks of society. A young American medical man, who had just come from the medical schools of Germany, visiting the practice of my hospital, told me that in the whole course of his three years' study and residence in Germany he never saw a drunken man or woman in the streets, or a woman enter a public house. I am sorry to say we cannot say this.

Sir Andrew Clark says: "Is it possible that the teaching of science or the dignity of our profession, any more than the calls of patriotism, humanity, love to our neighbour, morality, and religion, can prove that we are wrong when we advise those that come in contact with us, as patients or in other capacities, to abstain from the poisonous and pernicious use of alcoholic drinks?"

The Joy of Health. I venture to say to you that there is a certain joy of existence—a sense in which one feels what a pleasure it is to look, for instance, upon green fields and happy birds, to hear pleasant sounds, to touch pleasant hands, to know that life is a satisfaction. *This is a state which, in my opinion, is always injured in some way or other by excess in alcoholic drinking.* This is a state in which, sooner or later, the music goes out of tune, as regards its influence upon the health of our skin. Perfectly good health will, in my opinion, always be injured by alcohol—injured in the sense of its perfection and loveliness. The complexion soon loses its bloom and the countenance its cheerfulness.

Complexion and Cosmetics. A healthy and clear skin is the chief object of every untutored woman, and a point in connection with its care demands remark. It is the employment of cosmetics or powders for the complexion; are they harmful or not? This, in my opinion, depends entirely upon the nature of the applications employed. *Many of the lotions and drings used and advertised for the skin contain harmful and positively injurious substances, and I have seen numbers of instances where acne and other diseases have been caused by them.*

Cosmetics may be defined as substances which are intended for application to the skin with a view to improving its appearance. However they may be prepared, whether as washes, powders, or pastes, they carry out their objects in some of the following ways. By concealing the eruptions of the skin, or some cutaneous affection, or hiding a coarse skin or some local injury or scar; and frequently they are used, not with the object of hiding any blemish at all, but merely to add an artificial colour to the complexion or a whiteness to the neck, arms, or hands.

The best cosmetic is an absolutely pure toilet soap like Pears', which induces the natural conditions necessary to a healthy refined complexion.

Blooms. The Romans and Greeks appear to have been accredited with the power to enhance their personal charms with many and various "blooms" and cosmetics, and many years ago a list was published of the various perfumes that they used on such occasions: mint for the arms, palm-oil for the cheeks and breast, marjoram for the eyebrows and hair, and ground ivy for the neck. History relates that the French then became the most renowned perfumers in the world, inasmuch as it is related that Diana of Poltierre preserved her complexion to a good old age; and Anne of Austria, too, introduced a wonderful cream, which was used to whiten the hands and shoulders. In England we are mainly indebted to the patronage of Queen Elizabeth for the introduction of cosmetics.

Powders. There are some skins which are tender and fine, and which may be prevented from becoming rough and broken by the occasional dusting on of some

simple powder, such as starch powder, French chalk, or talc, with the addition of a little salamine powder or boracic acid. *But I should emphatically condemn all powders which contain preparations of mercury, arsenic or lead, so often used by fashionable ladies of the present day.* And such powders, as used to impart a bloom to the face (on which much galeaty, hot rooms, late hours, ices, stimulants, or sedatives show their mark), are undoubtedly injurious.

The skin is a beautiful but delicate membrane. It is easily injured by many causes, acting from within and without, and requires to be carefully guarded against many injurious influences. *With a little knowledge and a little trouble the existing beauty of the skin may be made more enduring, and the natural defects so far subdued and ameliorated that practically they cease to exist.*

Black Spots. Perhaps some of the commonest of the minor disfigurements of the skin are the small black spots which appear on the surface. These are accompanied with redness and flushings. They are seated below the scarf-skin, and in the surface of the true skin, and are due to congestion of the sebaceous follicles. The pallid or sallow complexion, so often seen, is similarly caused by a weak and insufficient action of the small vessels of the pores. All who take much interest in the preservation of the skin should consider that its health and beauty mainly depend upon the cleanliness and free action of these transpiratory pores. If these become choked up, and charged with foreign matter, it is obvious that the regular functions of the skin cannot be fulfilled, and the result must, sooner or later, show itself in an accumulation of black specks or deposits in the mouths of the glands in the skin.

It is important, therefore, in all derangements of the skin, to give no time in the application of suitable remedial treatment, as certain morbid conditions thus produced soon lead to the formation of coarseness and wrinkles, and when once produced are difficult to remove.

Wrinkles. Wrinkles, of all the enemies of a good appearance, are viewed with the greatest apprehension, and they are caused by a diminution of the fatty particles of which the skin is partly composed, especially under the eyes and at the corners of the mouth.

When this subcutaneous fat diminishes, the skin begins to fall into lines, and loses its smooth and even surface. No time should be lost in counteracting this alarming tendency, by the application of certain astringent preparations, or by massage or rubbing the wrinkle and the adjoining skin. This should be practised daily for a short time, and after a while much may be done to restore the smooth surface of the skin and a more youthful appearance.

Freckles. Freckles, though not so important to the appearance of the complexion as wrinkles, are very detrimental to good appearance. They are, as we mostly know, caused by exposure to the sun and wind, and are not constitutional or permanent when carefully treated.

We then have the pale, clammy, and greasy skin. This is a very unpleasant and inconvenient defect. It is due to an abnormal distension of the sebaceous and sudoriferous glands of the skin. The disfigurement may also be relieved by suitable treatment.

Free Transpiration. All clothing should be such as shall permit free transpiration from the skin, and, moreover, convey the transpired fluids from the surface; otherwise cold, irritation of the skin, and other bad consequences follow. And everyone is practically aware that a loose dress is much warmer than one which fits tightly. The explanation is obvious: the loose dress encloses a thin stratum of air, which the tight dress is incapable of doing. The maxim, therefore, is that we should *never wear our clothes too tight.* I notice many ladies in the present day and present fashion do so; but they will find what I say true when the really cold weather comes. They not only face themselves in too tightly, but wear too tight and too pointed-toe boots and shoes. If they only knew how serious a matter it is—destroying their lives and displacing all their internal organs, causing pale, sallow complexions, and the pointed-toe shoe

utterly destroying the shape of the foot in a few years. Suppose women, when they have got a husband, do not mind this, but the husbands do.

Woolens. Those whose skins are able to bear it find wool, or flannel, is the best material to wear next the skin (never red flannel, and I will tell you why presently), by reason of its absorbing and heat-retaining properties; to those who cannot, then fine linen is best. For the outer clothing woollen stuffs are by far the best, preserving the heat longer than other materials. There is scarcely any organ of the body that may not be affected by undue or irregular action excited in some portion of the surface circulation of the skin; how necessary, therefore, it is for our health's sake, as well as our skin, that we should be most careful what we put on. *I notice also that veils are far too much worn by women of the present day. They often conceal but do not preserve a good complexion.*

Baths and Bathing. If there is one thing we English pride ourselves upon more than another, it is upon the fact that we do more bathing than any other nation in the wide world. Judge for yourselves, those of you who travel. The limited quart of water is often a cause of no mild complaint.

But to the casual eye the subject is a pardonable one, that of looking at the fact with pride, but if we examine the position more carefully, we shall find our self-satisfaction is a little premature.

In these days, when the arts and sciences in their daily advance multiply the comforts and resources

and in truth be a cause of wonder if so essential a means of prolonging and maintaining the vigour of life should have been neglected as is presented by efficient public bathing establishments, where the fatigued workmen (for we are all workmen, or should be, to keep well) may gratuitously, or for a small sum, relieve himself of the vicissitudes of his labour. At the present time more attention, I am glad to say, is being paid to the subject in London and several large towns; but there is much room for improvement.

Public Baths. Public baths are being slowly established here and there; and it may fairly be calculated that these baths so built will end in restoring those sources of healthy enjoyment so well resorted to by our ancestors, for it may be observed that the origin and use of baths and bathing may be traced to the most remote antiquity, and were probably suggested to the ancient inhabitants of the world by the various mineral and thermal springs which are found in most countries. Thus we are told by Diodorus, who wrote on the subject 300 years ago, that every ancient nation of whom we have records, employed baths as one of the most powerful agents in the preservation of health and the removal of disease, and indeed with reason, for experience has failed to supply a remedy of greater efficacy on the human economy than a judicious administration of heat and cold.

Baths of the Ancients. If we look back to the days of fable and allegory, we find it affirmed that the first baths were consecrated to Hercules, and that Minerva prepared a vapour bath to refresh this hero after his extraordinary labours. Homer sung the praises of the bath in his *Odyssey*, as is testified by Pope. Hippocrates, the father of medicine, has also not failed to add admiration to establishments that were then becoming more common and useful. Plutarch and Josephus have left descriptions of the baths which adorned the towns in which they dwelt. From the testimony of Pliny we learn that the first public baths of the Romans were constructed in the year 444 by Apicius Claudius. These baths have preserved a character of simplicity and sobriety in perfect harmony with the manners of the day. The historian Justin mentions the fact of the importation of baths into Germany, Gaul, and Britain, and verifies the establishments in the vicinity of Roman remains scattered over this country vouch for the accuracy of his statement, whilst, spectre-like, they furnish silent reproof of the modern neglect of a sanitary practice to which our ancestors attached so much importance.

The Augustan Baths. The Romans in the time of the Emperor Augustus according to the reports of Vitruvius, attached gymnasia, or places appropriated to public games, to their

baths, and later the Emperors Nero, Vespasian, and Titus gave these edifices so much magnificence that it was observed they were more calculated to convey the glory of their founders to posterity than to prove of public utility. Indeed, to so great an extent had luxury and licentiousness usurped the natural and salutary purposes of public baths in the Roman Empire, particularly in Rome itself, that the early Fathers of the Church anathematised their use in the strongest terms, both in their discourses and in the Council of Laodicea, yet without subverting their abuses, which perhaps contributed in no small degree to the overthrow of that queen among nations, by the luxury, licentiousness, and effeminacy which they engendered.

Roman Baths. It is sincerely to be hoped that such a state of things may never again disgrace institutions so preservative in health and curative in disease as those we advocate; but it must be recollected that those institutions could contain their thousands of bathers at the same time, each bath being separate from the other, and that it was the practice of all ranks to bathe daily. Thus the baths of Dioclesius in Rome are said to have accommodated three thousand bathers, with a degree of luxury which to modern ideas would appear gorgeous in the extreme. After the dismemberment of the Roman Empire baths were again introduced into Europe from the East, where they still hold a rank second only in importance to the mosques.

Public Indifference. Is it that the beneficial experience of ages in so many civilised climes is not regarded? Or have the speculative and genius of our learned men and medical authorities been directed to more abstruse and therefore important objects of practical knowledge? The answer, if I feared, will be found in the indifference, nay, often absolute opposition, with which the British public too commonly meets individual efforts for its benefit. So accustomed are we to regard every new measure as a mere excuse for personal aggrandizement, that we commonly denounce the author and repudiate his recommendation. The Press nowadays holds in its hands the great power of making or breaking anything. But I will say it is now more disposed to favour any good cause than it used to be, and is more independent in its writings.

In no single instance has this statement been more conclusively verified than in London, so little attention being paid to appeals for means for the purpose made by men who are endeavouring to put before the public these great advantages, because they are a small body and I support special institutions.

A Great Safeguard. We are living in a time when the race for life is sharp, and sedentary occupations or over-indulgence in artificial habits of life predispose us for active physical exertion. It may, therefore, be taken for granted that appropriate bathing is one of the greatest safeguards against disease, especially of a zymotic character. The question suggests itself, cannot we re-acquire the immunity we are told the ancients enjoyed in this respect? We certainly have better houses; more attention is being paid to ventilation, drainage, and other sanitary improvements; according to the life statistics of the present day, actually four years is added to adult life, due, it is considered, entirely to our improved sanitary knowledge; and there can be no doubt that one great factor in personal health is "the frequent and thorough cleansing of the whole surface of our bodies," using plenty of water and a sufficient application of a fine emollient soap, like Pears', which soothes and softens the skin, besides being thoroughly cleansing.

I have endeavoured to show you that the principle of thermal and medicinal baths was fully understood by all the great nations of the world, and to these they were no doubt indebted largely for the excellence of their public health, which ceased as soon as bathing, through various causes, fell into disuse. There are obvious historical facts, which all who have any ideas of self-preservation, and have at heart their own and the public health, will do well to bear in mind. The microscopical and pathological science of the present day has taught us much about disease that was hidden from our forefathers.

The Romans, who were renowned for their luxurious and beautiful baths, prided themselves greatly on their

skins, especially the women. Why should not we do so?

Baths and the Skin. Baths act on and through the skin, and I will briefly touch upon the action of the bath upon the skin generally before I show you the special value of the various kinds of bath. The structure and functions of the skin have now been minutely and accurately explained to us by means of the microscope and scientific men, and from them we learn that the skin is composed of several parts: the outer or scarf-skin, which is being constantly cast off from our bodies in minute scales; but these, instead of falling away from our bodies, are retained on the surface by the clothing and become mingled with the perspiration, which unites together, forming a thin crust, attracting all sorts of particles of dust and foreign matter from the air, so that the whole body in the course of the day is covered with these particles, the consequence of which is, the pores of the skin become blocked up and its respiratory action prevented. In the second place, the skin must become irritated and damp and cold from the attraction of saline particles; as if any poisonous gases or infectious vapours find their way into the skin, they will find a suitable medium for transmission.

If, therefore, the pores be choked up, the elements of the transpired fluids will be thrown upon the system, and consequently removed by other organs than the skin, i.e., by the lungs, kidneys, and liver. Thus it must be obvious to us all that habits of uncleanness become the cause of consumption and other serious disorders of vital parts, and cutaneous eruptions and diseases of all kinds may be contracted.

With such grave considerations as these before us, bathing and washing become a necessity, and need no further argument.

Soap and Water. With regard to the water we bathe in, it necessarily holds a place which is spoken of as hard and soft. The softest water is distilled water, then river water, and lastly spring water. Hard water may be known by its property of curdling soap, but it may be rendered soft by adding to it a little potash or bicarbonate of soda. *The softer the water, the better it is for the skin.* Water has a natural repulsion for the oily matters given off by the skin. Soap, therefore, is necessary for their removal, and renders them easily soluble in water, hence it is an invaluable agent for purifying the skin. It is indispensable, indeed, for no other substance is so effectual. The purest and best oils are safe, and the soap already mentioned—that of Pears—is indisputably of flawless purity, as I have had occasion to professionally certify.

Soap and the Face. There is no reason why a little soap should not be applied to the face, although there is a very common impression among the profession as well as the laity that it should not be used there—that is, while soap is acknowledged to be useful and necessary to the skin of every other part of the body, on the face alone, which respects the rest of the surface in construction, the popular belief is that it should never be allowed. This is probably due to the possible annoyance caused by the soap getting into the eyes unless care be used. In direct opposition to this idea may be placed the fact that, in the treatment advised by most dermatologists where the sebaceous glands are disordered, as in seborrhoea and acne, great reliance is placed upon solutions of what is known as *sapo viridis*, a potash soft soap imported from Germany, whence this treatment originated, or even in the rubbing in of this soap itself.

Differences in Soaps. There are very great differences in soaps, and in their effects upon the skin, and as familiar extremes may be mentioned, on the one hand, the common yellow bar, or washing soap, and coarse soft soap, which are stimulating and very irritating to many skins, and, on the other, some of the best class of toilet soaps have little, if any, effect on the healthy skin except that of cleansing.

Requisites of a Good Soap. The requisites of good soaps are: First, that they shall not contain too much alkali, nor too little, just enough to saponify the fat, neither more nor less; secondly, that the fat from which they are made shall be good, pure, and sweet. For in the refuse sometimes employed for soap making

we may find decomposed matter; and cases are on record where pus globules were actually found in a soap which had caused and kept up a skin disease, and in another instance minute spicula of bone were found microscopically in soap which had produced an eruption on the face each time it was used for shaving. Thirdly, good soap must be perfectly mixed or, by preference, *boiled*, in order to produce the chemical process called saponification. The latter may be produced, to a certain degree, by cold mixture aided by pressure, but to make the best soap long-continued boiling is necessary. Fourthly, a good soap should be free from extraneous substances as largely as possible. Many of the cheaper soaps have clays and earths mixed with them to increase the bulk and reduce the cost; many are coloured, green, blue, red, etc., often with materials of very questionable value, and are scented with some of the strong perfumes, and of irritating character.

For all these reasons a good soap cannot be cheap, and great caution should be used to avoid those which are thrust upon the market, either as being very cheap or which are wrapped up showily, as these are pretty certain disguises for poor material. But a good soap, though it may cost more than common soaps, is the most economical.

"Medicated Soaps." A word may be added in reference to the so-called "medicated soaps" whose number and variety are legion, each claiming virtue far exceeding all others previously produced. The recounting of the varieties and vaunted virtues of these soaps would soon tire. Now all or most of this attempt to "medicate" soap is a *perfect farce*, a *delusion*, and a *snare to entrap the unwary and uneducated*. The healthy skin cannot be improved beyond health, and the diseased skin cannot be restored to health by any possible combination used in the form of soap that is employed by the laity.

"Soothing Soaps." Another class of soap, largely advertised and freely used, is what might be styled "the soothing soaps." As examples of these fancy soaps we have glycerine, honey, mallow, oatmeal, lettuce, and almond soaps, together with a host of others. Now these again are liable to adulteration, being too often made by unknown and irresponsible parties. At their best they can only be called harmless (but indeed they often are not that), and are in no way superior to a perfectly pure, carefully prepared soap without these supposed healing additions. In other words, soap is not and cannot be made healing, and where a healing application is required, it certainly should not and cannot be in the way of soap.

The Safest Soaps. The safest soaps to use are of course those that are the purest, the more expensive soaps of our best known manufacturers may generally be relied upon. There is, however, as I have said, *one soap* which stands quite above all question. This soap is Pears' Soap, which has first of all the recommendation from writers that it should be mentioned here, as *I can endorse all that has been written and said of it by the late Mr. Sturtin, Sir Erasmus Wilson, and Dr. Tilbury Fox*. It was through their instrumentality that, on account of its purity, Pears' soap was introduced into hospitals. It has obtained a world-wide reputation, and deservedly so.

In regard to the actual use of soap to the healthy skin, not a doubt can exist as to its value, for the greasy secretion and epidermal debris of the skin can only be removed by this means together with good friction. But, on the other hand, too frequent use of soap can, and frequently does, together with the water employed, cause actual disease of the skin. As an example of this we have what is known as the "washerwoman's itch," a distressing form of eczema of the hands, which is well-nigh incurable as long as the washing is persisted in.

As to the use of soap on the diseased skin, there is in general far more chance of doing harm with it than there is of doing good; for, while cleanliness is valuable or essential for health, too much washing can do much harm to many, if not most, skin diseases.

Eczema. The most common example of error in this regard is in the eczema of children—milk-crust or

tooth-rash, as it is sometimes called—where the mother will wash and wash the eruption in vain, using that and that soap in the hope of healing that which cannot heal, while a denuded and raw surface is continually deprived of the covering which is formed for the protection of the soft tissues beneath. The same is constantly done with certain ulcerative affections, as varicose ulcers, where cicatrization is impossible if the newly-growing, delicate, epidermal formations at the edges are removed by soap and water. These are but instances which might be multiplied, so that it may safely be said that the introduction of so many soaps has produced infinitely more harm than good.

Frequency of Ablution. In eczema of the scalp, both of adults and infants, I have seen the disease prolonged and spread, time and time again, by the unwise eagerness to wash. In these I allow the parts to be washed only by rule, that is, each time by special direction; perhaps in some cases it may not be permitted more than once a week, and then the part is to be rapidly dried, and the ointment or other dressing to be instantly applied. This is to form an artificial protection before the surface has had time to make its own protection in the way of an exudation from the surface. In this, as in most other rules of health, extremes should be avoided. As regards the frequency of ablution, the face and neck, from their necessary exposure to the atmosphere and the impurities which the latter contains, cannot escape with less than two washings in twenty-four hours; the feet, from the confined nature of the coverings, require at least one; the arm-pits, from their peculiar formation and secretions, one; the hands and arms as many as refined taste may dictate.

How to Wash the Face. Now let me advise you how to wash the face—few do it properly. *Fill the basin two-thirds full of fresh water; dip the face over it. It is in this stage that there may be danger, for there is no washing-glove like the hands; dip the face a second time, and thoroughly rinse it.* A little lemon-juice adds very greatly to the effect of this washing upon the skin of the face when added to the rinsing water.

Drying the Face. To dry the face a moderately soft towel could be used; a very rough towel is not desirable, nor a very thin one. A coarse towel will often produce excoriation on a tender skin. Such, then, is washing as intended for the purpose of cleanliness, but nothing is more refreshing than a thorough ablution, for as Thomson, in his poem on the "Seasons," has it—

"Even from the body's purity the mind
Receives a secret sympathetic aid."

The Wetted Sponge. The wetted sponge is one of the simplest and best methods of applying water to the skin of the weakly and delicate, and one by which the smallest extent of surface is exposed. The whole body in this way is quickly subjected to the influence of water, and to the useful process of consequent friction. A person of weakly constitution should commence a system of daily ablution in spring or summer, and by the winter he will be able to endure cold water without inconvenience; but this even should never be done without the doctor's sanction.

The Sponge Bath. The second form of ablution is by means of the sponge bath; the same precautions should be taken with this bath as the preceding as to the temperature and the constitution of the patient. Those who wish to pass the short time of life in good health ought often to use cold bathing. I can scarcely explain to you how much benefit may be had by taking cold baths with care. For they who use them (although perhaps growing old) have a strong pulse and a high complexion, are active and strong, their appetite and digestion are good, and all their natural actions are well performed. As Sir John Foy says, "They reach the very soul of the animal, rendering it more brisk and lively in all its operations."

The Shower Bath. Of the shower bath I shall not say much; it is only suitable for very vigorous constitutions, and should be advised by medical men with the greatest care.

Swimming Bath. The swimming bath, both in salt and fresh water, taken at suitable times of the year, is one of the most healthy and invigorating of all kinds of bathing, especially to the young. *Let me advise you, fathers and mothers, have all your children, girls as well as boys, taught to swim.*

There is one popular error about swimming in salt or fresh water—the young are apt to stay in the water too long. I have seen serious results occur from this.

The Warm Bath. When the cold bath is disagreeable to the sensations of the skin of the bather, it may be raised in temperature to taste, viz., to 75 or 85 degrees, to suit his feelings. It then alters its character—to the temperate, 75 to 85 degrees; tepid, from 85 to 95 degrees; warm, 95 to 98 degrees; hot, 98 to 105 degrees. To those who have passed the middle part of life, have dry skins, and begin to emaciate, says Darwin, "The warm bath, for half-an-hour, twice a week, I believe to be eminently serviceable in retarding the advances of age."

The Turkish Bath. The vapour bath, or Turkish bath, so valuable in many disorders of the skin, is next in order of precedence. The bather seats himself in a chair, or sits in a hot room, and the vapour is turned on gradually from 90 to 110 degrees. The vapour is breathed, and is thus brought in contact with every part of the lungs. The first sensation is one of irritation, with some slight difficulty of breathing; but soon the perspiration bursts through the pores and all becomes agreeable; the perspiration rushes out on to the skin. From this the bather goes into a tepid bath, remaining there for ten minutes. He then quits the bath and dries himself with warm towels. Sometimes cold effusion is added to this by the advice of the medical attendant.

With reference to cold bathing, Sir George le Fevre makes the following judicious caution: "*Do not wait until the body becomes cold before you plunge into the water.* It is in this stage that there may be danger, for the external excitement has passed away, and the body cannot resist the depressing influence of cold."

Effects of Bathing. Now, with regard to the physiological effects of bathing. When the body is moistened with the sponge or wetted with cold water, the skin immediately shrinks and all its tissues contract; as a result of this contraction the blood is thrown back on the internal organs and nervous system, which are stimulated by this flow of blood, causing a more energetic action of the heart and the blood-vessels of the skin. *This reaction is the prime object of all forms of bathing, and upon it depends the healthy action of the skin.* In order to increase this reaction various methods and manipulations are resorted to.

Shampooing. The operation of shampooing is a good one; as in the Turkish bath, many an imaginary ailment and stiffness of body or limb, many an eruption of the skin is caused to vanish by this means, when aided by skilful treatment. Indeed, in my experience, many so-called incurable eruptions will yield if treated rationally and carefully.

Baths, in the ordinary acceptation of the word, are the immersion of the body in a medium different from air, which medium is usually common water.

Soap Substitutes. Bathing has served both for cleanliness and pleasure, and has been practised by almost every nation.

The richer Romans used every variety of oils and pomades (smegmata); they scarcely had soap in those days. They used flowers of lentils, as used at the present time by Orientals. The most important instrument used was the astragalus, a curved instrument of metal, and used as a scraper.

Action of Baths on the System. That is, the action of heat and cold on the cutaneous surface through the medium of water.

It is generally supposed that water acts on the system by being absorbed by the skin. This question has been frequently discussed, but the great majority of observers believe that under ordinary circumstances little or no water or medicinal substance is absorbed into the system—it is merely a stimulant action imparted to the skin.

The powerful influence of water on the capillaries of the skin, and the mode and extent of that operation,

depend upon the temperature of the fluid in which it is immersed.

Baths have, therefore, to be considered according to their temperature. The cutaneous surface bears changes of temperature far much better than changes of temperature of water. For instance, air at 75 degrees, is perhaps too warm for the feeling of many, but a continued bath at that temperature is cold and depressing in like manner, a bath of 68 to 102 degrees acts as a stimulant, as, being a good conductor of heat, it suffices the perspiration. A temperature a few degrees below blood heat can be borne longest without any disturbance to the system.

Cold Baths. Cold baths act by refrigeration, and their effects vary according to the degree of temperature.

The effects of a cold bath at about 50 degrees are diminution of the temperature of the skin and of the subjacent tissues; the blood rises in temperature to nearly four degrees, soon subsiding, that is after the bath has been taken.

At first the surface becomes pale, and its capillaries contract. Then there takes place a reaction, bringing redness to the surface and increase of temperature. Very cold baths, i.e., below 50 degrees, cannot be borne long.

We should not lower the temperature of the skin below 9 degrees, as a further reduction may prove fatal.

Effects of Hydropathy. The effects of hydropathy depend upon the power of abstracting heat from the body, and of stimulating it by the application of cold water. Under the process of hydropathy the system is subjected to periods of excitement and rest. That is, persistent lowering of the temperature of the body, with capillary contraction and anæmia. This is succeeded by a period of reverse or local hyperæmia, accompanied by excitement of the vascular and nervous systems, and the processes of absorption and excretion are stimulated, with increase of perspiration. We now consider the effect of warm bathing at different temperatures.

Temid Baths. Tepid, 85 to 95 degrees. The bath at this temperature is only confined to the surface, or the peripheral extremities of the nerves, and does not extend to the central system, and consequently can be borne an indefinite time.

Warm Baths. Warm baths, from 95 to 100 degrees. In these the heat is propagated to the surface to the central system, causing reaction and increased surface circulation, giving slight stimulus for the renewal of tissue.

The Hot Bath. Hot bath, from 102 to 110 degrees. Here the central circulation and nervous system are more affected. The skin is congested, and the retained heat bursts out in perspiration.

A very hot bath, about 110 to 115 degrees, almost scalding, cannot be borne many minutes, causing violent reflex reaction on the heart and circulatory system.

Vapour baths produce profuse perspiration and action, cleansing the skin. They do not act so rapidly on the skin as the warm bath, and consequently can be borne longer and hotter; but a higher heat than 122 degrees cannot be borne comfortably.

Hot air baths differ from vapour baths in not impeding the perspiration, and these baths again induce more perspiration than the vapour baths.

Vapour Baths. Vapour baths, hot air, and many hydropathic processes agree in producing violent perspiration. Of perspiration: It is sensible and insensible; three ounces may be considered to be about the average thrown off in twenty-four hours, consisting chiefly of water; about one-third consists of urea and other excretory products.

In comparing the general effects of hot and cold bathing, it may be said, while the former tends to check the perspiration the latter favours it. It is said that cold baths, by the reaction they promote, increase the action of the gastric and other fluids of the stomach and alimentary canal, and warm baths rather serve to retard it.

As regards the use of baths simply for the promotion of health, it follows from what I have said that warm

baths are best suited for the delicate, the very young, and the old, cold baths for the strong and robust, when the powers of reaction are unimpaired.

Warm baths, according to their degree of heat, are useful in calming the nervous system, in neuralgia, in rheumatism, and gout.

Turkish baths are useful in the latter affection, and whenever it is desirable there should be more free action of the skin.

Cold baths, again, are useful when the skin and system require tonics, and it can bear the shock of cold affusion.

Injudicious Bathing. Long-continued warm baths are soporific, and have often by this action caused drowning.

The effects of too hot baths are swimming of the head, vomiting, fainting, congestion of the brain, and apoplexy.

It is, therefore, very evident that much caution should be used by people of weak hearts in not taking their baths too hot. Fat men and those disposed to epilepsy should not take them too hot.

Bleeding Risks. The risk in cold bathing is congestion of the internal organs, as often indicated by the lips and fingers turning blue; extremely cold baths should therefore be interdicted when there is a tendency to internal congestion, and they are always dangerous when the system is exhausted by fatigue.

The warm bath causes swelling and congestion of the capillaries of the surface in the first instance; when the stimulus is withdrawn the contraction takes place. A cold bath, again, first causes contraction of the capillaries of the surface, which is followed by their expansion when reaction sets in.

The reason why a man feels refreshed by a hot bath when exhausted, may be that the increased heat conveyed to him by the warm bath, helps the process of oxidation, and thus relieves the system.

Cold refreshes by exciting the functions, heat by necessarily relieving their action. The general result of these comparisons would show that warm are a milder remedy than cold baths, and are applicable often when the system does not possess power of reaction sufficient to make use of the latter expedient.

Now as to a few words of advice.

Time for Bathing. Whenever it is possible bathing should be over before 10 o'clock p.m., never bath when the stomach is loaded with food, or after much stimulants. The shorter the bath is, especially when cold and the bather cannot swim, the better—say five minutes. If he can swim, fifteen or twenty minutes is quite enough.

Bathing should not be practised more than once a day; when the body is very hot, not exhausted, it is advisable to bathe at once, not to cool. Care should be taken after vapour or hot-air baths not to get cold.

Baths for Skin Eruptions. The baths we usually prescribe in certain eruptions of the skin are the vapour and the simple medicated warm bath, which can be made to resemble in character most of the natural mineral waters. These baths admit not only of having the temperature raised or depressed at pleasure, but can be medicated with various drugs according to the nature and requirements of the case. They are used chiefly for the purpose of bringing about a healthy action of the skin, relieving irritable conditions, and allowing the more thorough application of drugs.

The simple vapour bath is a very valuable adjunct in many eruptions of the skin. The bather seats himself in a box (the cabinet Turkish bath) on a chair, or on a cane-bottomed chair surrounded by a blanket, with a spirit or gas condenser under the seat. The temperature can be raised or lowered at will from 50 to 120 degrees.

The Turkish bath is much the same in its process of action. The bather may remain in the bath twenty minutes to half an hour.

Take Care of Your Skin. Having now recounted to you all the various methods of diet, clothing, and bathing, which I know to be the best to promote a good complexion, it is your duty, I venture to say, to take care of your skin as you value the treasure of a good complexion and a healthy skin.

The Romance of the House of Pears

By CLEMENT K. SHORTER

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The story of the Pears' business goes back to the year 1789, when one Andrew Pears, the founder of the house, invented the soap which has long been of world-wide fame. He was the son of a farmer on the Lander Farm, near Melbury in Dorset, and coming up to London set up a small barber's shop in Gerrard Street, Soho, where the customary barber's pole indicated his profession. In addition to operating upon such customers as called upon him, he used to have his regular round of daily visits among ladies and gentlemen who wanted their wigs powdered or required other toilet attentions which came within his province.

He knew—no one better—how defective the toilet soaps of his day and generation were, and it was to remedy this defect that he bent his abilities to the producing of a soap that would enable him to perform his duties with greater comfort to his customers and more credit and convenience to himself. This was the *raison d'être* of Pears' Soap. And presently he discovered that he had "blundered better than he knew." The soap which served his own needs so well was equally efficacious with equal efficiency to the needs of whomsoever could be got to buy it.

But good old Andrew Pears, clever inventor as he was and proficient as he was in his calling, did not understand much about the science of selling. Indeed, the art of creating demand by advertising was hardly thought of at that time. Here and there, now and then, Mr. Pears was obliged to put out a modest announcement, informing the public of the merits of his new "transparent" soap, but these advertisements did not rise much above the level of the ordinary perfumery's trade circular. Still, the soap was a good, pure, honest toilet soap, far exceeding in true saponaceous merit the other soaps then on the market; and those who used it acknowledged this and commended the article; but this was hardly sufficient for the building up of a great prosperity.

Andrew Pears was shrewd, however, in his old-fashioned way, and watchful of his interests, and when he found that unscrupulous dealers were imitating—not the soap itself, for that was beyond them—but the wrappings, colour, and method of presentation, he thought he would upset their "knavish tricks" by simply signing each package with his own signature, actually written by himself with his own business quill. To imitate that would have been forgery, for which there was remedy enough, although there might be no redress in those days for the other offence. And so matters went on placidly and evenly, without the Thames or any other stream being set on fire by any Pears' pronouncement of awakening importance.

In 1835, Andrew Pears, who then for some years had been established in a shop, now pulled down, at 55, Wells St., Oxford St., and by this time was getting into years, decided upon taking his grandson, Mr. Francis Pears, into the business.

Transitions. And from that time onward the style of the firm has been "A. & F. Pears."

Andrew and Francis Pears continued together until 1868; then for several years more Francis Pears carried on the enterprise alone, keeping the business alive in a small way with an expenditure of some £80 per annum, until at last it had either to be brought into line with altered business conditions or drop out

of the running. The soap was there still, as good and as worthy of public patronage as ever, but that was nearly all that could be said about it. It had yielded a modest, but in no sense large income to its proprietors, and as they had manifested little disposition to force a larger market it seemed as if the splendid idea of the original Andrew Pears would ultimately fade from public notice. It was saved from this fate, however, by the introduction of young new blood into the firm in 1865, in which year Mr. Thomas J. Barratt and Mr. Andrew Pears (son of Francis, and great-grandson of the original Andrew Pears) became joint proprietors with Mr. Francis Pears with a total capital of £7,000. Francis Pears proposed to make the name of the firm "Pears and Barratt," but for advertising and other reasons Mr. Barratt objected.

This was the starting of the new Pears' era, and resulted in the gradual adoption by Mr. Barratt of two new business forces: that of publicity or selling power, and that of increased facilities of production.

The New Pears' Era. While Mr. Andrew Pears assumed the superintendence of the factory at Isleworth, Mr. Barratt at the London headquarters became the controlling spirit of the undertaking, and it was due to his resourceful initiative, and strong will, that the old enterprise was galvanised into new life and forced into the current of the time. While Francis Pears remained in the concern, however, it was difficult for Mr. Barratt to free himself and the business from the old-time influences. Nothing could entirely divert the mind of Francis Pears from the business methods under which he had been brought up, and he often looked with distrust, and sometimes with dismay, upon the progressive and aggressive ideas with which Mr. Barratt sought to win wider popularity for the good old soap. New suggestions were from time to time acted upon, sometimes they were not, Mr. Pears' frankly confessing his inability to follow them, and not daring too much for fear that he should lose all. New ideas entailed new expenses, and although Mr. Barratt never took up with a project in which he had not confidence, he was often unable to inspire the same confidence in the respected senior partner. As matter of fact, times of financial stress occasionally ensued, but Mr. Barratt was no less successful in coping with difficulties of this nature than with the promulgation and putting into operation of the new advertising features with which he meant to conquer the markets of the world for Pears' Soap.

"You may be right, but I have my fears," Mr. Pears used to say, so, in the end, with the object of making sure of something for himself for his

Retirement of Francis Pears. old age, while yet there was any thing left to realise upon, he finally retired in 1875, leaving £4,000 of his own capital behind him in the business as a loan, to be discharged by Mr. Andrew Pears and Mr. Barratt equally. This was not a too promising start, it must be admitted. A quite small capital and a loan of £4,000, upon which interest had to be paid, did not leave much margin for expensive operations. But Mr. Barratt believed in the soap, and in his own capacity to sell it, and never allowed himself to lose heart; so by careful financing and the exercise of much energy and thought, the business was gradually put on its feet, and Francis Pears' loan was repaid. It was in those years of struggle that Mr. Barratt was able to show that he possessed the true business in-

instincts which not only enable a man to achieve success, but also inspires confidence in others. Often it was this confidence that others had in him that was the means of giving the firm over a difficult financial period, when the prospect and promise lay in the future; but Mr. Barratt was always able to show a clear outlook devoid of complications. He saw what the business was, capable of under his direction, and inspired others also to a great extent, which fact bridged over many a financial crisis, and in time the enterprise became successful, and thenceforward its history was one of rapid expansion.

It was the advertising question which had puzzled Francis Pears. Its cost seemed a thing beyond recouping. He did not think of it as "bread cast upon the waters," but as to a large extent, money thrown away.

The Advertising Question.

It was really a matter that was out of the range of his thinking. In economies pertaining to management and organisation, Mr. Barratt was at one with him; but when it came to spending money on a well-thought-out system of advertising, Mr. Pears could not see eye to eye with his young partner. The latter, however, had studied the advertising field with great care, and making his own calculations, drawing his own conclusions, devising his methods, and throwing his whole energies into the work, he soon succeeded in convincing the public of the one great truth that he had convinced himself upon at the outset, viz., that as there was no better soap made or makeable than that of Pears, it was a worthy and an honourable work to devote himself to making that truth known to the world; not omitting from the purview, of course, the prospect of, at the same time, and as a natural result, building up a great business for the House of Pears.

It was a small business indeed. The Great Barratt first came into it. The Great Russell Street place and then the works at Isleworth only worked one or three times a week, and very few hands were necessary to the working. Mr Pears resided in the house adjoining, which he called "Lanadron," after the Cornish farm on which the first Andrew Pears had lived, and in this primitive fashion the manufacture of Pears' Soap was carried on in the early days of the partnership.

The only office of Messrs. A. & T. Pears, when Mr. Barratt joined, was a little room behind the shop at 91, Great Russell Street, Bloomsbury, not far from the British Museum, and the staff was a retail shopwoman. Mr. Barratt not only kept the books but did the travelling. The first cash book used by what may be called the new firm is still among the ancient treasures of the house. The entries are all in Mr. Barratt's own handwriting. He kept it for years. In its pages may be noted such items as "Expenses to Hastings, Eastbourne and Tunbridge Wells, £11.5.0." for a journey to three towns in search of orders. Economy and Pears' Soap were even then ideas of intimate association. Meanwhile, the works at Isleworth, where the soap was made, were being gradually brought into line by Mr. Andrew Pears, with progressive methods of production, and nothing was wanting but an increased demand to win an assured success. Mr. Barratt decided that the key to the world's markets was advertising, and he resolved he would give a new polish and a new power to that key.

Everybody in these days is so familiar with large scale advertising that it is difficult to comprehend how the publicity problem stood up. There were no large advertisers in the present-day sense, at that time. The newspapers carried only a very small number of advertisements, and few of any size. The leading business houses rather "looked down" on advertisers and advertising, and the papers themselves did little to encourage extension of business in this direction, while poster advertising was insignificant in quantity and poor in quality, indeed, the caution "Bill Stickers will be Prosecuted," was one of the most prominent. In Mr. Barratt's view, it was just as

legitimate and honest and proper to appeal to the public by the medium of a well-worded advertisement as it was to send travellers out to seek orders. Both methods were on the same level. Wherever the field was promising, Mr. Barratt had the courage to venture, but it was no haphazard, blindfold leaping in the dark with him. He studied the advertising outlook with a seriousness and a pertinacity that yielded much knowledge, summed if not a little strange and peculiar, and bringing him many curious experiences.

Advertising, however, was a rather expensive affair even forty-five years ago, and well-established as the Pears' little enterprise then was,

Strong Contrasts.

in its old-fashioned way, its capital was not large enough to admit of lavish expenditure—least of all any experiments—on publicity. Still, by dint of much thinking and some ingenuity, and backed by a strong determination, Pears' Soap managed to get into the full advertising "swim." What this meant cannot be better summarised than by this one simple statement: when Mr. Barratt joined the Pears' business it was quite a retail one on which perhaps in the eighty years or so of its existence not more than £500 all told had been spent in advertising; while not so very many years later, when the new advertising ideas were in full swing, Mr. Barratt spent as much as £250,000 in a single year on advertising in its various forms—each season bringing forth a bountiful crop of new Pears' press advertisements, new Pears' posters, new Pears' railway advertisements, and new everything. And so the old business, in alert and progressive hands, prospered; and in due time the modest building in Great Russell Street had to be "retired" or "superannuated"—for it is still sentimentally retained as part of the Pears' enterprise—and the marble palace and art gallery now forming the Pears' new quarters, in New Oxford Street came to be established, to which, however, it had been at 38, Great Russell Street, opposite the old shop there, whilst acres of factory buildings had been erected at Isleworth.

It was not until Mr. Barratt took the matter up and made his investigations that the true importance of Pears' Soap came to be known

The Newer Cult of Beauty.

to the public. When he told the story of its invention and demonstrated by expert and other evidence what were the great qualities of the soap, people who had never heard of it before were made to buy and use it, and once used its worth was made sufficiently manifest. Mr. Barratt proved to the world that after the introduction of Pears' soap, the cult of beauty entered upon a new phase. Up to that time, he clearly showed, toilet soaps had been of such inferior quality, and made of such crude materials, it was not to be wondered at perhaps that women should have resorted to charlatans, who professed to be able to make them beautiful with pastes, potions, washes, ointments, and what not. Nature had been woefully misunderstood. Pears' Soap helped to restore Nature to her rightful place in the hygiene of the skin. Every component of Pears' was absolutely pure, while in its combination it represented such an exquisite balance and harmony of saponaceous ingredients as had never before been realised. The skin responded to its every touch. It brought to bear a new emollient influence that worked for beauty all the time, and set up a natural action that induced and preserved natural beauty of complexion—the natural pink and white of perfect loveliness.

Then with the dawn of what may be called the era of natural beauty, an improved comprehension of the true conditions of beauty ensued. At first the movement was confined to a few ladies of the Court and Society, but when it became matter of common knowledge that good looks could be better preserved by Pears' than by cosmetics and other artificial preparations, the example was widely followed. Pears' thus became distinctly associated with the cult of beauty, and the most celebrated beauties of six generations have borne enthusiastic testimony to the fact that Pears' has been of unsurpassable service to them in the improving and maintaining of their perfect complexions.

Pears' Soap has held the leading position among

Grellfenghagen, R.I., Gordon Brown, R.I., R. Caton Wood, and many others. This production has won its way into popularity precisely in the same manner as Pears' Soap has done, by sheer force of merit. Some 300 tons of paper is consumed in a single issue of the *Annual*, and 150 pair-horse vans are required to deliver it. Another side of Pears' literary production is represented by *Pears' Cyclopaedia*, of which this volume is a copy of the latest edition, which brings the total issue up to 1,200,000 copies. It consists of 1,070 pages and twenty separate sections, and is universally pronounced to be the most remarkable shillingworth of useful literature ever produced. It is a work which is serviceable to all classes of the community—a book of daily utility for the home or the office—and a great storehouse of practical knowledge. Two or three editions are issued every year, each one being brought up to the time of publishing in every section.

All along Mr. Barratt held to one or two cardinal principles of advertising faith—first, not to claim impossible qualities for the article advertised, but to claim all that can rightly be claimed; and to that extent to insist and insist and insist by the strongest forms of publicity that can be devised. One of the forms that he always favoured was the artistic form. He was greatly helped by certain artistic instincts and tastes, which not only prescribed something of an artistic standard for his advertising appeals, but invariably induced him to employ more or less artistic line.

Mr. Barratt's Advertising Faith.

Lord Northcliffe in a public speech once paid Mr. Barratt the compliment of styling him "The Father of Modern Advertising from whom I have learned so much." Pears' Soap is bought by the public at immensely lower prices now than nearly £3,000,000 has been spent on advertising than when less than £500 was spent in advertisement.

In Mr. Barratt's early advertising days, art had hardly been thought of in connection with publicity. The pictorial poster of true artistic effect, and the illustrated advertisement which was to be drawn and produced by the best artistic talent, had not arrived. It is now the dominant note in the best advertising.

"I have heard it urged," said Mr. Barratt, one day to a *Daily Mail* interviewer "that an article that is largely advertised must be costly. Well, those who affirm these things know nothing about it, and certainly cannot have given the subject any serious thought, for the reverse is entirely the case. Their argument could only hold good if advertising produced no extra demand for an advertised article: and who would advertise at all if that were the case? It is one of the leading factors—the leading factor of all—in the economics of advertising, that successful advertising means such an increase of sale as not only enables production to be cheapened at every point but enables the quality of the article to be improved, if possible. This is entirely to the advantage of the consumer, and its advantage to the advertiser is that, although the profit on each single article taken by itself may be diminished, in the aggregation of things, and considered by the bulk, there is still an adequate profit left after advertising and all other expenses have been satisfied. The balance is on the right side both with producer and consumer, and at the same time, by the money which has been put into circulation through the Press and other channels, many industries have been benefited, and the sources of employment have been multiplied and augmented."

Good advertising cheapens Cost.

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Poets and Parliament. Sir Theodore Gordon Barratt discovered the secret of Helen's beauty in a golden casket; how he

"Eagerly the lid uncloses,

And lo! it is laid aslope,

Fragrant of the sweet roses.

Cake of Pears' Transparent Soap."

Among the parliamentary references to Pears' Soap, Mr. Gladstone's metaphorical allusion on a certain occasion when he wished to convey the impression of vast numbers. "They are as numerous," he said, "as the advertisements of Pears' Soap, or as autumn leaves in Vallombrosa." This, by the way, was the first debate in which Mr. Lloyd George took part.

A Pears' advertising idea once led to the passing of an Act of Parliament. In the early 'eighties French ten-centime pieces were in considerable circulation in this country and were accepted as the equivalent of English pence. Mr. Barratt saw an advertising opportunity in this, and imported 50,000 of the coins, had them all stamped with the word "Pears," and put them into circulation by the aid of commissionaires. It was a splendid run that was obtained for the money—while it lasted—but the Pears' pennies became so persistently numerous that at last a special Act of Parliament was passed making French coin illegal after a certain date. The Government bought up all the Pears' pennies and melted them down. Meanwhile Messrs. Pears had had their advertisement.

No wonder that with this brilliant and persistent advertising, the demand for Pears' Soap should have increased at such an amazing rate as to make it necessary greatly to enlarge the Isleworth factories, where Mr. Andrew Pears, always loyal to Mr. Barratt's forward policy, continued to direct affairs, and where Mr. Andrew Pears died in 1900. It was a satisfaction to know that there had never been a word of misunderstanding of any kind between the two.

Mr. Barratt was a firm believer in to-day, but a still firmer believer in to-morrow. The Pears' policy is always a forward policy. In advertising—that is, successful advertising—one business is with the future. Tastes change, fashions change, and the advertiser has to change with them. An idea that was effective a generation ago would fail if presented to the public to-day. Not that the idea of to-day is always better than the older idea, but it is different—it hits the present taste. Mr. Pears have had many what may be called extra successes—especially in pictorial and art advertising—generally they have been so good as to seem almost of perennial attractiveness. See John Millais's "Bubble" painting, for instance, for which £2,200 was paid, and certain other works, not unknown to fame and the map in the street, by Stacy Marks, Phil May and others—all these things were of special mark and of lasting influence. But when they are repeated, it is in some new form. At one time they are going their way through the Press, at another time contributing to the attractions of the National Gallery, the Street Hoardings, and at another flooding the magazines and periodicals in inset form. But in all these ways it is "to-morrow, and to-morrow, and to-morrow" that Pears have to be continually striving for in advance, and so it was, and so it may be supposed "to the last syllable of recorded time." And the good, honest soap that Andrew Pears invented in 1789 is now enjoying a world-wide popularity, thanks to a strong business policy that since 1865 has utilised advertising as a means of making the supreme quality of the article known over all the ends of the earth. It is this business policy, inaugurated forty-five years ago, which has made the name of Pears universal. Pears' business was then a small one with a £2,000 and a product little known; under the new system of operations have been multiplied a hundred-fold, and to-day it has a market value of over a million and fifty thousand pounds. Mr. Barratt brought the name of Pears out of obscurity, planted it in full view of the universe, and practically made it sell soap.

Clement Shorter

